

Modern World and Economic Interactions in The Light of The Science of Economics As Well As Finances and Accounting

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Abstract

Purpose: The purpose of this paper is to present the complexity of the modern world and the multitude of economic interactions that occur in it. The aim is to show to what extent managers make decisions in conditions of uncertainty using the achievements of economics and related economic sciences, i.e. finance and accounting. **Methodology Approach:** The paper uses a hypothetical-deductive method. It starts with a hypothesis, regardless of whether it concerns a single fact or an event, whether it expresses a general law or an even more general belief. Universal names (symbols, ideas) are used for the description. Each statement is a theory or hypothesis. There is a certain role of induction. The induction rules serve as the principles for validating scientific truths. **Findings:** The paper takes into account the latest achievements of the theory and the results of research conducted in recent years in the world in connection with changes taking place in the economy and society at the turn of the 20th and 21st centuries and still. Changes in the modern economy are given at several levels, mainly at the theoretical level by the science of economics and at the practical level by the applied sciences which include finance and accounting. At the turn of the 20th and 21st century, a new group of managers is being shaped on a global scale. Managers are hoped that they can agree on the interests of the company and other communities (local, national and regional), where these contradictions could lead to the crisis and all its negative consequences. The complexity of the modern world is expressed in the fact that capitalist economies are based on a foundation of debt. Borrowing is a condition for economic growth. Financial claims arising as a result of the interaction of consumers, producers, savers and investors in each economy are sustainable, provided that the expected future revenues are higher than the expected debt repayments. **Practical Implications:** Expectations regarding future financial flows are uncertain. Market conditions change unexpectedly. There are shocks in the economy and investors' expectations are changing. **Originality:** Even before 2020, the history of capitalism in the 20th and 21st centuries is marked by the sequence: debt, uncertainty, shocks. The deepening of financial connections brings inevitable problems, the solution of which requires collective and joint action by managers on a global scale.

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INTRODUCTION

The issue of the complexity of the modern world and explaining the nature of transformations occurring in it is still one of the central problems of economic theory. These transformations are deeply embedded in the structure and dynamics of the economy, which marked the last two decades of the 20th century and the turn of the 21st century, generally called globalization [Arrighi, Giovanni, 1999]. In this study, two assumptions are made: one on the existence of an economic man and the other on the fact that man acts rationally. The economic human model homo oeconomicus appears in economic theory and social sciences. This approach is contained in the works of Adam Smith, John Stuart Mill, and Vilfredo Pareto. The latter wrote: "From the nature of man, I chose a certain element, namely greed, ignoring other aspects of human nature, for laboratory purposes" [Pareto, 1994. pp. 277-278]. Pareto deconstructed man by isolating some of his features. His predecessors did the same.

The second assumption is about the rationality of human actions. For Weber, the concepts of rationality and rationality motives are treated to a greater or lesser extent axiologically or instrumentally. Irrational or irrational motives are also common. The problem being discussed is whether Weber overestimated the social role of rational elements and underestimation of the role of irrational elements. (For example, V. Pareto claimed). It is impossible to resolve this problem definitively because Weber gave these two categories a relative character, and he thoroughly argued that what at one place and time was or at least could have been rational, at other seemed irrational.

METHODS

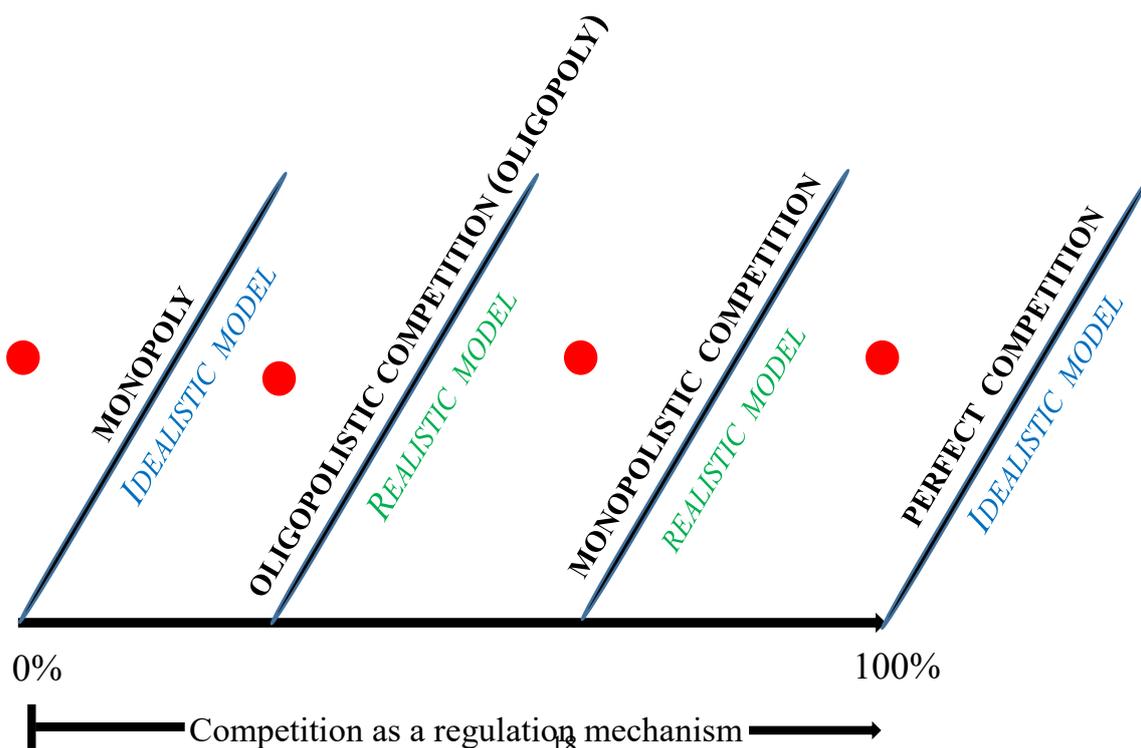
The considerations presented in this study are in line with the instrumentalist concept of the theory, which aims to generalize the data of experience and observation and allows making predictions [Musiał 2018, pp. 19-41]. In this approach, theory performs functions mediating the study from facts to forecasts. The criteria that make this concept theory attractive are the effectiveness and usability of the results. Managers mainly value instrumentalist theories of economics because of their usefulness in making decisions.

Theoretical framework for discussion

According to most theoreticians from different schools of thought, modern capitalism can be better understood when its structure is tested according to specific criteria.

Classification of market structures

Figure 1. Classification of market structures



The main advantage of the cited figure 1 of the analysis is the proposal of four main segments of consideration. Putting them together in the context of the functioning of the economy and showing mutual interactions and dependencies in the economic system can help generate detailed research that does not lose sight of the entire economic system.

Figure 1 distinguishes two types of models. They are idealistic and realistic models. The first type of economic models includes excellent competition and monopoly (pure monopoly). Realistic models include oligopolistic competition (shortly: oligopoly) and monopolistic competition. Contemporary economy is analyzed through the prism of these last two models. Typical oligopoly market structures characterize the functioning and interactions within corporations (international, transnational) and they determine the direction of development of the modern world.

In considering the complexity of the modern world and the nature of economic interactions, let us try to look from the point of view of two theoretical concepts offering different ways of interpreting economic patterns. Neoclassical economics and institutional economics differ in the ways of economic reasoning, the categories adopted, and the scientific laws put forward by each of them.

Considering only general differences, it should be pointed out that neoclassical theory is based on the logic of economic choice and will consider the problem of allocation [Robbins, 1932]. Institutional theories study the economy in terms of exchange and coordination [Coase, 1937]. It remains unknown whether both approaches can be integrated in a theoretical sense, it is known that both theoretical approaches help each other to keep in touch with reality and this happens at the price of some theoretical inconsistencies. It should be noted that in the neoclassical model its basic logic of equilibrium cannot be exposed to destruction.

Economic equilibrium is not only the equation Supply (price) = Demand (price), $[S(p) = D(p)]$, but a complicated relation in which on both sides of the equal sign there are moments of forces expressing the structure of supply and the structure of demand. Each component strength depends both on the resources and desirable resources, as well as on the expected rate of profit and the expected interest rate. Thus, this relationship depends on the producer's sensitivity to the desire to maximize profit, the insensitivity of the consumer to the possibility of loss of income. Economic equilibrium is a relationship dependent on both objective and subjective factors, on deterministic and random, on knowable and unknowable, and therefore always at a greater or lesser risk.

The position of the elite in the structure of the state

The term manager, the term used by James Burnham, is commonly used to refer to people who manage businesses without having them.

Empirical research in the 500 largest US corporations conducted on a sample of 8,300 leading managers allowed to believe that there was a numerical increase and an increase in the role of groups of managers in 1962 compared to 1928. Without going into details: in the post-war period, competition for candidates for managerial positions outside the possessing layers. The development of the higher education system and the extension of the recruitment base for studies, including business-school universities, increased the percentage of managers in large corporations whose fathers did not belong to the business elite.

Using the theory of the Vilfredo Pareto elite, one can distinguish, as he did, "(...) two layers in society: the lower layer, the non-elite class, the upper layer, which is divided into two: the ruling elite, the non-governing elite" [Pareto 1994, p. 279.]. The criterion for including someone in the elite are not individual abilities or merits but belonging to the upper class and participation in governance.

The issue of the elite is good to consider from two cognitive perspectives, adopting two criteria: the positional criterion, allows to isolate the upper layer; functional criterion, allows to analyze the elites due to their role in the political and economic system.

Gaetano Mosca, the abovementioned Vilfredo Pareto, and James Burnham are considered precursors of the elite theory. In the interpretation of the latter, the power elites replaced due to the direction of development of modern societies, managerial elites, selected based on education and expert knowledge. It was a concept announcing the takeover of power by a new layer - managers managing the economy and state administration.

The position of the elite in Poland in the first decade of the 21st century is presented in Table 1.

Table 1. The position of the elite in the structures of the state

Institutional category	Positional elite
Policy	
Office of the President	The president and ministers of the Chancellery of the President of the Republic of Poland
Government administration	Prime Minister and members of the Council of Ministers and the management of major state agencies
Parliament	Marshal of Parliament
Economy	
500 largest production and trade enterprises. Major shareholders	Major shareholders
The largest banks and insurance companies	Presidents and members of supervisory boards
Judiciary	
Supreme Court (SC)	
Constitutional Tribunal (CT)	Presidents and judges of the SC, CT, SAC
Supreme Administrative Court (SAC)	
Army	
General Staff	Military Commanders (generals)
The Catholic church	
Leadership of the Polish Episcopate	Primate, bishops
Media	
TV stations	Owners, managers of TV stations with the highest viewership
Press	Owners, editors-in-chief of the most widely read titles
Radio	Owners, managers of the most-listened stations
Social organizations and associations	
Trade unions	Leaders of the largest trade union headquarters
Business organizations	Leaders of major employers and entrepreneurs' organizations
Science	
Higher education institutions	Rectors of universities
Polish Academy of Sciences and other scientific institutions	Management of the Polish Academy of Sciences and other scientific institutions

Source: Jasiński, Krzysztof, 2013. *Kapitalizm po polsku. Między modernizacją a peryferiami Unii Europejskiej*. Warszawa: Wydawnictwo Instytutu Filozofii i Socjologii Polskiej Akademii Nauk, s. 131.

Presenting figure 2, an attempt was made to look at the process of forming elites in the structures of the state in Poland in the first decade of the 21st century. The following types of elite categories within these structures were listed, namely: (1) politics, (2) economy, (3) judiciary, (4) army, (5) Catholic Church, (6) media, (7) organizations and associations social, (8) science.

In the present study, the most important role is assigned to the elites in the sphere of economy. They are managers of 500 largest enterprises as well as banks and insurance companies. The classification presented in figure 2 could be developed by introducing further criteria of division, differentiating the elites according to education, income, wealth, the structure of consumption of luxury goods, functions performed in organizations, the way of professional promotion.

The new role of managers in the economy at the turn of the 20th and 21st centuries and until now

In the 1940s, James Burnham [Burnham, 1941] introduced the concepts of managerial revolution. It was adopted as an announcement of the takeover of economic power for the economy by a relatively small group of top-level professional managers managing large listed companies. At the end of the twentieth century, the announcement and management of other people came true, and the decision to allocate economic resources and technical resources was made by managers. Socio-economic transformations in Central and Eastern Europe have expanded the area of uniform economic order and leveled the economic conditions in market structures. As a result of these trends, there was a numerical development of the group of managers.

It can be stated that in the 1960s about 650,000 people held managerial functions. In the last decade of the twentieth century, this number increased to 2.5 million. They increasingly have almost identical qualifications around the world. In the United States, 250,000 people complete management studies annually and 70,000 2-year MBA postgraduate studies. It is believed that they provide the highest level of managerial qualifications. Tens of millions of people around the world participate in various courses and training in the field of management, accounting, finance, personnel management and others [Banaszak 2006, p. 59].

The process of dynamic development of the numerous groups of managers means that this social group is fuzzy, in which many individuals participate partially, to some extent. Like all other groups of growing importance in the history, managers are the social layer. open recruitment, quickly involving representatives of other social and professional groups who are characterized by the strongest pursuit of success. Although the educational forms of managerial courses and training are manifold. By contrast, managerial training and training programs around the world are almost identical.

At Harvard University, the following subdisciplines are taught within the discipline of economics: history of economic life, history of economic thought, history of finance, economic history, history of business, history of capitalism, history of political economy.

At Harvard University, Professor Emma Georgina Rothschild - Sen, director of the Center for History and Economics at this university and Professor of History and Economics at the University of Cambridge has a large share in the development of the discipline of economics. Following science in the modern world is reflected in implemented specializations. At the business management school, there are two aspects of the Chinese economy: China in the global economy, Chinese economic change and reforms. At that school of law, run for many years by Aaron Director (Milton Friedman's brother-in-law), who lived for 102 years, research into the legal system in China is underway. Milton Friedman is one of the leading experts in the history of monetary systems. In modern economics, the idea of money in economic theory is developed by Professor Nikolay Nenovsky [Nenovsky, 2009].

The University of Chicago Business Management School offers the following specialization subjects: introduction to future trade, international monetary relations, American economic and business history, economics of real estate, China in the global economy, Chinese economic transformation and reforms, price creation and industrial organization. The University of Chicago School of Law offers managers the following: international and comparative employment law, international and comparative family law, international finance, international sales transactions, introduction to Chinese law, prospects of law and justice, business and law, children's summer institute, international arbitration.

Stanford University (Stanford, USA) broadened knowledge in the field of financial mathematics by four areas of economic inquiry. The field of Financial Mathematics covers the following scientific disciplines: mathematics, statistics, science management and engineering, economic analyzes and politics, including microeconomic analyzes, econometric methods, applied econometrics and economic research. Economics includes the following scientific disciplines: introduction to financial accounting, international financial markets and monetary institutions, econometric time series, problems of dynamics in economics.

It can be seen from the above that financial mathematics has been enriched by such areas of economic inquiry as: financial accounting, problems of international economic relations or econometric approach to time series and presentation of economic phenomena and processes in their dynamics.

Applications of economic knowledge of managers in the functioning of financial institutions

The events of 1998 and 2007 put into question the optimistic forecasts of economic development to which a group of managers owes their expansion in recent years. The crisis on the financial markets of Asia, Russia and South America in 1998, followed by downward adjustments to the expected economic growth in the US, Europe and Poland, led to undermining the optimism of economic development, led by managers. A similar tone had the crisis of 2007 - 2008 focused on events on the US financial market, mainly on the so-called derivatives.

Robert Merton and Myron Scholes received the Nobel Prize in Economics in 1997 for their work on derivative valuation methods. They believed in valuation models that a year later led to the collapse of

their Long-Term Capital Management hedge fund. Nassim N. Taleb writes that Merton and Scholes used - as he put it - "(...) suspicious mathematics of the bell curve, they managed to convince themselves that this is a great science, and at the same time they did - as he described - suckers from the entire establishment financial". [Taleb, 2000 p. 44.].

Managers are highly paid. Grażyna Musiał and Mirosław Lubszczyk say that managers in the US and Great Britain have particularly high income. They think so based on the reading of Thomas Piketty's book 'Capital in the 21st Century'. They point out that "The Anglo-Saxon phenomenon is an increase in the income of high managerial staff in the financial and non-financial sectors. The problem is different in Sweden, Germany, and Japan. The above prompts to undertake research on the reasons for these differences and their justification" [Musiał, and Lubszczyk, 2019, pp. 96 - 97.].

Krzysztof Jajuga says in depth about the applications of economic knowledge in the functioning of financial institutions. He claims that "The main source of this situation is the lack of sufficient financial education. (...) managers lack quite elementary knowledge about financial instruments. (...) managers should constantly deepen their financial knowledge. These councils are rarely used, mainly due to excessive self-assessment of their skills by managers" [Jajuga, 2016. p. 35.]. Carefully studying the main author's studies, Robert Merton notes his participation in the discussion on the impact of mathematical models in finance when it comes to their practical applications in the past, now and in the future [Merton, Simons, Wilkie 1994.]. This impact is quite limited since the complex real world is difficult to map in mathematical models.

Explaining the expansive role of money

In monetary policy, as in a mirror, one can read actions taken without the owners of the means of production (owners of capital). The important reasons for the moves being made in the economy are not obvious. Monetary policy reveals the effects, not the causes of what is happening in the deepest layers of economic life. The development of the credit system created cash surrogates in the form of timely means of payment. Credit and non-cash transactions under specific legal provisions relieved the cash circulation, but at the same time opened channels for additional cash flow and the possibility of manipulation. Unconventional monetary policy can increase inequalities in society, financial institutions become beneficiaries of the policy, but the rest of society does not use it.

Collateralized Debt Obligations (CDOs) operate according to the principle proposed by Wall Street's financial "engineers". Hedged debt financial instruments known as CDOs have been split into parts depending on the risks involved. The simplest CDOs have only three tranches: equity (equity), mezzanine (Mezzanine), senior (senior).

The senior tranche is considered the safest, properly risk free. Holders of preference tranches were the first to receive money and the last to lose. This structured financing system is based on very shaky foundations. It depends on the idea of its creators: a group of uncertain low-quality mortgages were tied into a homogeneous package of mortgage-backed securities of the same rating and then the package was divided into tranches, with the senior tranche receiving the highest rating.

From the 2020 perspective, it is not difficult to see the dangers of this type of financial innovation. Sharing and shredding credit risk and transferring it to many entities scattered around the world have introduced complex and illiquid financial instruments to the system. These products became so complicated and fancy that their value could not be assessed by traditional methods. Financial companies valued them based on mathematical models and not - as they should - market prices.

The above mechanism is known. On the other hand, it is less said that fraud was particularly strong in the financial services industry due to the way employees are remunerated. The salary of brokers and bankers working in investment banks, hedge funds and other companies offering financial services was not based on a traditional salary, but on a system of annual bonuses, the amount of which depended on their results. The financial sector's contribution to the US gross domestic product increased from 2.5% in 1947 to 4.4% in 1977 and to 7.7% in 2005. Today, finance companies generate over 40% of the revenues of the largest S&P 500 companies, and their share in total market capitalization doubled by around 25%. In 2008, at least every \$ 13. paid in the US and as a salary was intended for employees from the financial sector, while after World War II, only every \$ 40 in total salary of all employees went to this industry.

Goodwill management - creation of financial results by managers

In the era of globalization, there is a new approach to capital in accounting science. In theory, monetarist views were adopted, and views based on labor-based theory of value were rejected. This theory holds that the source of value is work. According to monetarism, or more broadly, according to neoliberalism, money is a source of wealth.

According to classical economics, the reason for the increase in the amount of money in circulation is the increase in the value of goods and services. Money is the result of this process. The law of money

circulation explains this process. The monetary stance contradicts the law of money circulation. Proponents of this position argue that the money supply is a factor that affects economic growth. So, they exchange cause and effect. Recognition of the highlighted role of money protects the interests of managers in the banking sector and on financial markets. An outstanding American economist, Paul A. Samuelson (1915 - 2009) Nobel Prize 1970, wrote the following: "Through the activities of banks, one can increase the money supply and sometimes lower it, more or less arbitrarily" [Samuelson, and Nordhaus 1995, p. 153.]. Banks influence by regulating the money supply the volatility of prices, interest rates and exchange rates.

The monetary explanation of the expansive role of money in economic processes is characteristic of an international accounting system constructed for the purposes of globalization processes. These needs are expressed in the requirements that formulate international accounting standards for managers. These standards are designed to develop investor information.

In the complex reality of the 21st century, making investment decisions requires extended information compared to that offered by the current accounting system. In the new accounting system, an enterprise is treated as a set of contracts between external parties, for example lenders and investors, between internal parties, such as managers and employees. Accounting has become a reflection of the enterprise's activity expressing the contracted arrangement of economic forces. New tools have been introduced in accounting that more accurately reflect multidimensional economic processes in order to select and make the right decisions, mainly investment ones.

The fair value category was introduced in the valuation of the company's assets, which may represent the current value, not the cost of acquiring assets. In the center of the accounting problem field is not the price at which the company's assets were purchased, but the price that can potentially be obtained when selling a given component. Residual capital includes not only capitalized but also forecasts. The company's goal has been to maximize net assets, and value management has become paramount. Managers create the company result, not read it. Event management has been converted into value management [Accounting Act 2019 (Journal of Laws 2019, Item 351)].

CONCLUSION

The issue of the complexity of the modern world and explaining the nature of transformations occurring in it is still one of the central problems of economic theory. These transformations are deeply embedded in the structure and dynamics of the economy.

A fundamental theoretical and practical question arises about the limit of complexity of international economic relations due to possible interactions taking place in them. A rational answer to this question is not possible if the causes of the growing negative factors in the global economy of an economic and non-economic nature are not considered.

The turn to unregulated global markets leads to a crisis of the social legitimacy of modern capitalism.

The financial system is a kind of oligopoly investment banks that benefit most from it. The opacity of financial operations helps them to collect money from investors who lack adequate economic knowledge. Most of this money reaches bank employees, not their shareholders' accounts.

Extremely rapid development of the financial sector also had significant social costs: inventiveness and creativity moved from the manufacturing industry and other traditional industries on Wall Street. As the research of Thomas Piketta showed, from the 1970s the financial sector attracted an increasing number of intelligent, highly educated employees. As wages increased there, graduates of elite universities and MBA studies went to Wall Street. Of the students graduating from Harvard University surveyed in 2007, 58% of men entering the labor market intended to work in financial or consulting companies. There are too many financial engineers in the United States, and too few mechanical and IT engineers.

Innovations introduced to accounting science have changed the nature of rational management. Rational resource management is no longer dominant. The new accounting approach is about the rationality of creating goodwill.

Games associated with manipulating the value of money have been introduced into economic processes. Detachment of economic processes from real social processes can cause social conflicts and shocks in financial markets.

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