

ECONOMIC CYCLES AS A TOOL FOR ANALYSIS OF THE GLOBAL POLITICAL SITUATION

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***Abstract:** The article examines the possibility of applying the analysis of economic cycles used in stock market trading as a tool for analysing the global security environment. To the cycles of Kitchen, Zhuglar and Kuznets, the big waves of Kondratiev were added. The dynamics of integral development, as a tool for analysing the global security environment, are derived. Based on the analysis of the different types of cycles, a general forecast for the expected development was made.*

***Keywords:** economic cycles, security environment, development, large Kondratiev waves, Kitchen cycles, Juglar cycles, Kuznets cycles, integral cycle of development*

INTRODUCTION

Since ancient times, humanity has identified the presence of cyclicity in most forms of social relations. The reasons for this are that multiple factors appear that act in similar directions and activate forces multiplying their influence. Over time, they reduce their impact by slowing down their respective processes, and later even have a negative impact. [1] There is a remarkable regularity to this and can therefore be used as a tool for analysis and informed decision-making in the respective fields. [2]

The economy is the foundation on which all aspects of the social development are built - social sphere, culture, science, etc. A high degree of correlation is also observed between the state of the economy and the security environment in all its dimensions, but here we will focus on the global political framework in which all other processes take place.

I. THE ANALYSIS OF ECONOMIC CYCLES AS A FORECASTING TOOL

Economic cycle analysis is a well-known tool used in stock market trading, mainly in swing trading.

Kitchin cycles are short-term economic cycles with a typical period of 3-4 years. They were defined in the 1920s by the English economist Joseph Kitchin, who defined them as short-term cycles with fluctuations associated with world gold reserves. In modern economic theory, the mechanism for generating these cycles is associated with time delays (time lags) in the movement of information, which influence the decision-making of commercial firms to change production.

Firms respond to improving market conditions by full capacity utilization. The market becomes saturated with goods and after a while excessive stocks begin to form in the warehouses. A decision is to be made to reduce the load on production capacity due to the excess supply over demand. The delivery time of this information, naturally causes delays due to data observation and reaction time. In addition, there is a time lag between the decision and the actual reduction in capacity utilization. Finally, there is another time interval between when the level of utilization of production capacity begins to decline and the actual dissipation of excess stock of goods in warehouses. [1]

Unlike the Kitchin cycles, within the Juglar cycles we observe fluctuations not only in the level of utilization of existing production capacities (and, accordingly, in the volume of commodity stocks), but also fluctuations in the volume of investments in fixed capital. These are medium-term economic cycles with a typical period of 7-11 years. They are named after the French economist Clément Juglar. In contrast to the Kitchin cycles, within the Juglar cycles we observe fluctuations not only in the level of utilization of existing production facilities (and,

accordingly, in the volume of commodity stocks), but also fluctuations in the volume of investments in fixed capital. As a result, there are time lags between investment decisions and the construction of the relevant production facilities, in addition to the characteristics of Kitchin cycles. Further additions include; delays between facilities construction and their commissioning date, as well as between the drop in demand and the closure of the respective production facilities. These circumstances determine that the characteristic period of the Juglar cycles is significantly longer than the characteristic period of the Kitchin cycles. Cyclical economic crises/recessions can be seen as one of the phases of the Juglar cycle.

Four phases are distinguished in the Juglar cycle, in which some researchers delineate subphases:

- recovery phase (start and acceleration sub-phases);
- phase of rise, or prosperity (sub-phases of growth and overheating, or boom);
- recession phase (sub-phases of collapse/acute crisis and recession);
- phase of depression or stagnation (sub-phases of stabilization and displacement).

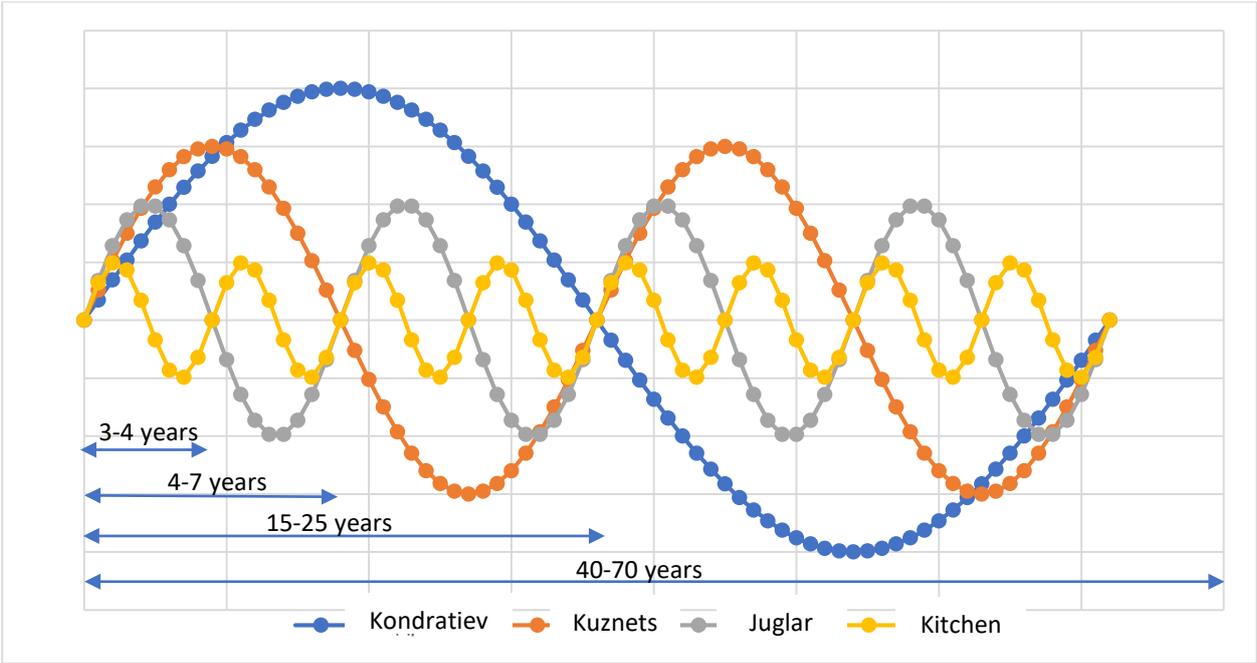


Fig. 1 Distribution of Kondratiev, Kuznets, Juglar and Kitchen cycles

The phases of uplift (peak) and depression (bottom) are traditionally close to the extremum of the sub-phases - the Kitchin cycles. (See Figure 1)

Kuznets cycles (rhythms) last approximately 15-25 years. They are called Kuznets cycles after the American economist Simon Kuznets, who associated these waves with demographic processes, in particular with the influx of immigrants and construction changes, so he

called them "demographic" or "construction" cycles. Currently, a number of authors consider Kuznets rhythms as technological, infrastructural cycles. Within these cycles, massive modernization of core technologies takes place.

Kondratiev waves is a concept introduced by sociologist economist Nikolai D. Kondratiev. He observed that agricultural products and copper prices were subject to long-term economic cycles, which he believed were the result of technological innovation and periods of evolution. These are cycles lasting from 40 to 70 years, also known as "super-cycles", "K-waves" or "long waves". [3] Since the 18th century, economists have identified five waves, with the first occurring during the invention of the steam engine and lasting from 1780 to 1830. [4] The second cycle – from 1830 to 1880 .was caused by the development of the steel industry. The increase in rail transport supported the mass transportation of both people and goods, leading to rapid economic growth. The third cycle is from 1880 to 1930. It is characterized by the fact that it is the first wave caused by the practical application of scientific knowledge. The use of electricity is spreading massively. Innovations in the chemical industry enable the mass production of goods. The fourth cycle, from 1930 to 1970, was based on the growth of the petrochemical industry. The growth of the petrochemical industry is also supporting the growth of the automotive market. The cycle ended when the Organization of the Petroleum Exporting Countries (OPEC) increased the price of crude oil in the 1970s, triggering a recession. The fifth cycle began in the 1970s and was caused by the introduction of computer-based information technologies. Industrial society is beginning a transition to an information society, which in turn has lead to the peak of globalisation. In this cycle, the information technology sector becomes the main driver of economic growth. . [5] This cycle is said to have ended around the beginning of the 21st century. [4] Many economists believe that we are in the sixth Kondratieff wave, which began around 2005. The technologies fuelling the development of this cycle are genetics, artificial intelligence, and pharmaceuticals and healthcare. The drivers of economic growth will be improved productivity and addressing health problems.

II. INTEGRATION OF ECONOMIC CYCLES. INTEGRAL DEVELOPMENT CURVE. GLOBAL SECURITY ENVIRONMENT POLICY FRAMEWORK.

The data presented in Figure 2, portrays the nesting of the Kondratiev, Kuznets, Juglar and Kitchen cycles into each other. If we integrate the aggregate effect of the action of the four cycles, a curve is obtained that describes the dynamics of social development sufficiently accurately. Thus, in 2008, we entered the middle of the last phase of the fifth Kondratiev cycle - winter. 2007-2008 is a turning point. This is the year in which the process of dismantling the old world order began. This is the year the "renaissance" of history began. Two important events

characterize this moment. First of all, it is the global economic crisis caused by the bursting of several bubbles in the most powerful economy at that time - the USA. Secondly, the three-day war between the Russian Federation and Georgia, with which Russia demonstrated that it is ready to defend its interests, even at the cost of war.

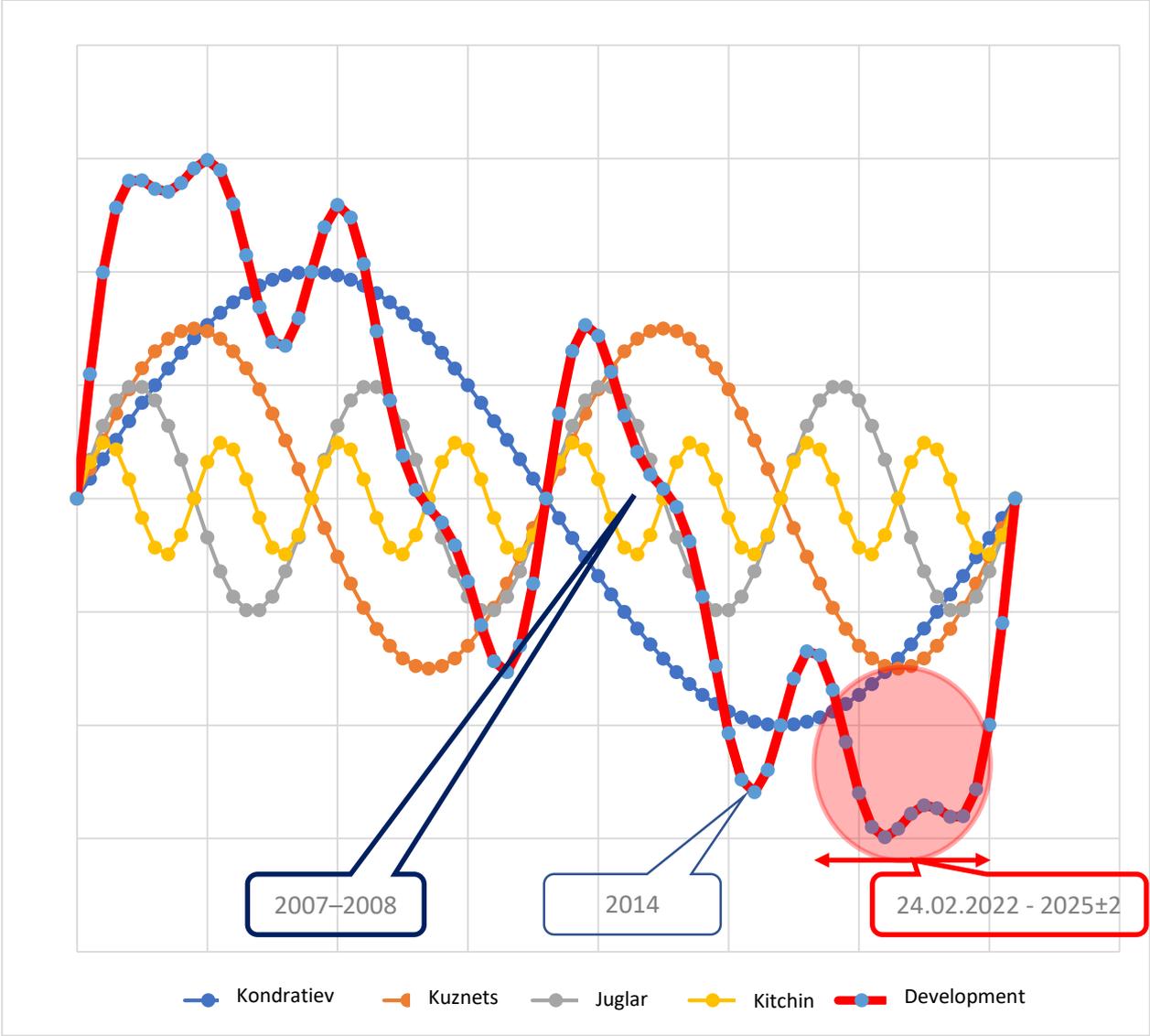


Fig. 2 Distribution of Kondratiev, Kuznets, Juglar and Kitchen cycles, source - interpretation based on data from [6] [7]

Figure 2 shows that the world has now entered the sixth Kondratiev cycle. In the period 2012-2014, for example, there was an increase in dynamics in the development of technologies related to artificial intelligence (State-of-the-Art Mobile Intelligence: Enabling Robots to Move Like Humans by Estimating Mobility with Artificial Intelligence, 2018) With so called Maidan in Ukraine and the annexation of Crimea to the Russian Federation in 2014, we can also accept the beginning of the destruction of the unipolar world dominated by one hegemon. This can

clearly be connected to the local minimum in 2014. from the integral curve of social development in figure 2. There are clear indications, analogous to previous historical events, of entering the end of the fifth cycle and the beginning of the sixth cycle of Kondratiev. The crisis at the beginning of 2022, related to the military actions in the Northern Black Sea region, is depicted by entering the next local minimum of the development curve. Following the above cyclical reasoning, we can expect deterioration and instability in the global security environment in the period from 2022 to no later than 2027.

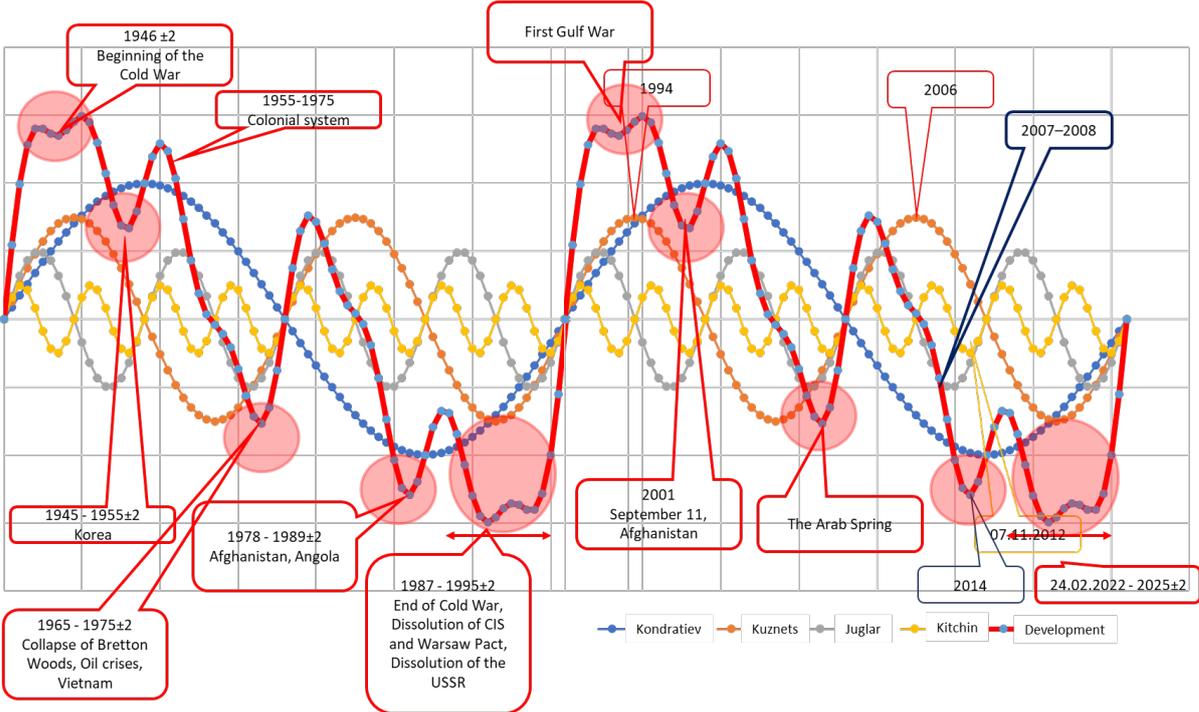


Fig. 3 Distribution of the last two integral development curves and the main crises in their scope

CONCLUSION

Economic cycles are an inalienable feature of the capitalist economic system. Historical analysis shows a connection between their integral influence and significant historical events related to crises not only of an economic nature, but also affecting the global security environment. Therefore, their analysis and their integral influence can be used accurately enough to predict crises in global political relations, hence the political framework of the security environment, i.e. not if, but what is the general trend and when these crises are expected to occur.

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