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Comparative Analysis of Juglar, Kitchin, Mitchell and Kuznets' Approaches to **Economic Fluctuations**

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Abstract

The concept of economic fluctuations is a phenomenon that began to gain popularity among economists since the 19th century with the capitalist system. Since there is no complete consensus on the definition of the business cycle, different definitions have been made. The ups and downs that occur in economic variables and affect every unit of the economy are expressed as economic fluctuations. The reasons for the emergence of economic fluctuations have been evaluated by various economic schools in different dimensions. These fluctuations, which were caused by the capitalist system itself before the Keynesian revolution and which were indispensable for the development of the system and economic growth, were later discussed from a broad perspective with the inclusion of expectations in the theory.

In this study, Clement Juglar, Joseph Kitchin, Wesley Clair Mitchell, and Simon Smith Kuznets' explanations of economic fluctuations will be examined comparatively in historical context.

Key Words: Business Cycles, Juglar Cycles, Kitchen Cycles, slump, the period of prosperity

Jel Codes: B, B3, B4, B15

INTRODUCTION

Different definitions of business cycles are considered by many economists. In general, however, business cycles are used to express fluctuations around the growth trend. The term "business cycle" is a process that repeats itself in the form of the fact that the level of prosperity that has been growing in many economies, especially in America, since the Industrial Revolution, has periodically divided and fallen, and then entered the recovery process

In the literature, it is suggested that there are four basic stages related to economic cycles. The first stage covers the period from the birth of modern economics to the middle of the 19th century. At this stage, discussions of cycles are usually carried out based on Say's law ("every good creates its own demand, so surplus production does not cause economic crisis"). The second stage emerged with the marginalist revolution towards the end of the 19th century and at this stage, a more general equilibrium approach is included. The third stage is in the period from the beginning of the 20th century to World War II, and the last stage, the fourth stage, is the revival of the general equilibrium approach and neoclassical economics in the post-World War II period, and the business cycles determine the course of the article from now on.

Although business cycles are expressed in different definitions, there are two basic periods that almost every

economist includes in his/her cycle, which are periods of revival and recession. During the boom period: The level of economic activity increases; the output of the country begins to increase, which means that more goods and services are produced, and therefore the demand also increases; the level of employment increases; As the income level increases, household spending also begins to increase; There is a significant decrease in interest rates, which greatly increases inflation.

In the period of recession, exactly the opposite of the first stage occurs: A decrease in economic activity is observed; fewer goods and services begin to be produced, and demand decreases; employment is drastically reduced; decreases in expenditures occur as incomes decrease; With the increase in interest rates, inflation also begins to fall.

In this article, I will first analyze Clement Juglar's approach to business cycles. In the second stage, Joseph Kitchin cycles, in the third stage, Wesley Clair Mitchell's approach to business cycles and stages, and finally Simon Kuznets cycles will be included.

Clement Juglar and Juglar Cycles

Juglar was the first economist to study the business cycle. He is also known as the economist who led the transition from crisis theories to business cycle theories (Besomi, 2005). In



the course of his research, Juglar discovered a total of 14 cycles that would have major impacts on the French economy.

The greatest contribution of the Juglar to the economy has been the "Juglar Cycles", which are named after him. The jugular cycle is defined as a Medium-length cycle, in which cyclical fluctuations in price, production, and processing occur throughout 8-11 years (Henri, 2013). Unlike other economists, Juglar rejected the idea that crises are extraordinary events, and perpetuated the idea that crises are part of the capitalist system. According to Juglar, "crises" are part of the natural movement of economic development, and if crises have a positive impact on economic activity, it is not because they are "productive" but because they allow some kind of natural selection and only strong firms and banks will survive in the aftermath of the crisis (Legrand&Harald, p.2). Without explicitly asserting that crises are positive, he shared the idea that they could not be avoided, that the economic system represented a mechanism of adaptation and could be seen as having a positive function in this sense. Juglar likened crises to diseases. According to him, crises can be predicted and mitigated, but they cannot be eliminated (Kaykusuz, p.30). Since Juglar's analysis of periodic crises is based on the idea that they arise from a period of prosperity, his approach has been considered a significant contribution to business cycles.

Clement Juglar was one of the first to call for an economic cycle theory. When he decided to write an article to investigate the causes of the commercial crises that occurred in Europe and the United States in the 19th century and to point out their consequences, he was indeed seen as the founder of the modern approach to business cycles. The Juglar Cycles were described by Juglar in his 1862 work "Des Crises Commerciales Et de Leur Retour Periodique en France, en Angleterre et Aux Etats- Unis" (Commercial Crises and the Return of Trade Crises to France, England, and the United States) (Kartal, p.39). In this work, Juglar examined the credit and deposit accounts and coin reserves of the banks of the USA, England, and France, the 3 largest states of the period in trade and industry, since 1800, and thus concluded that the crisis was a part of capitalism. Juglar always proceeded from observations and quickly sought to understand the origin of periodic crises. According to Juglar, certain causes and circumstances can be misleading, because none of the various causes can explain the periodicity or synchronization observed in fluctuations in economic (Legrand&Harald, p.3).

While trying to find common ground in all economic crises, C. Juglar concluded that what triggered the crisis was the expected and largely speculation in the trade and industrial sectors during periods of expansion (Altunal, p.5). According to him, "the main symptoms that appear in crises indicate a period of great prosperity". Periods when the prices of land, houses, and all commodities are high lead to the emergence of crises. In this case, people start spending on their income instead of saving, thinking that they will earn more in the future. Juglar argued that wars, revolutions, changes in tariffs,

and other factors that had an impact on trade also had an impact on the crisis.

According to Juglar, one of the main factors creating the crisis was the current instability in the banking system. Although the main problem with banks is seen as a surplus of monetary emissions, the correct thing is the credit surplus, which is called "abuse of credit," Juglar said. According to him, the efforts of banks just to keep the discount rate constant is utter madness. However, raising the discount rate is only a factor, not the main cause of the crisis. The main problem here arises from the distorted ratio between capital and credit.

To analyze the instability in the banks, Juglar examined bank accounts and bank reports and found "something" more fixed. In the period between 1800 and 1862, the deposit accounts of banks in the USA, France, and England first increased excessively and then experienced an extreme decrease. This situation recurred steadily throughout the period (Foster, 2015).

Juglar, who reiterated the idea that the crisis came immediately after the period of prosperity, stated that only a few years ago, exports and imports increased greatly, then suddenly there was a great decline, all circulation stopped and a crisis broke out. In such cases, he argued, the amount of money that was abundant only a few months before the crisis suddenly fell, the loans given by the banks were recalled, and the borrowers panicked to sell their assets, and as a result, the market value of the goods fell rapidly.

According to Juglar, the capitalist system has a standard operating process that never changes. According to this process, the liquidation process is followed by a period of prosperity again. Then, a new crisis occurs. After the crisis, a new period of liquidation emerges and a new period of prosperity begins. According to the Juglar cycle, the functioning period of the prosperity period lasts for 6-7 years, the crisis period lasts for a maximum of 15 days, and the liquidation period continues for 2-3 years. However, the main issue that Juglar cared about was not the duration of the periods, but their universal repetition and follow-up.

Juglar, applying his analysis on money and financial markets, claimed that the credit system created in the markets during the welfare phases dragged the countries into crisis (Morgan,

Joseph Kitchin and Kitchin Cycles

Joseph Kitchin was born in England in 1861. Kitchin (1861-1932) was a statistician and businessman who analyzed American and British interest rates and other data. In 1920, Kitchen discovered a short business cycle of about 40 months. His discovery led to other theories of the business cycle by economists such as Nikolai Kondratieff, Simon Kuznets, and Joseph Schumpeter. Kitchin published his first article on business cycles in 1923. Joseph Kitchin states that economic factor movements follow each other in large and small cycles in his article "Cycles and Trends in Economic Factors". The movements of economic factors, which are mainly based on price or volume, consist of the following (Kitchin, p.10).

Kitchin fluctuations are also called Stock or Inventory Fluctuations (Inventory cycles) by being associated with changes in stocks (Brenfenbrenner et al, p.186).

a) Small Cycle – On average 3 years in length. Small cycles differ significantly from the average. In this cycle, a cycle below average is followed by another cycle that is above average, and vice versa.

b) Large Cycle or the so-called trading cycle – usually the sum of two and rarely three small cycles. They are around 8 years on average and sometimes vary in the interval of 7-10 years. When large cycles consist of two small cycles, their ideal duration is 6 years. When it consists of three small cycles, it is 10 years on average.

Fundamental movements or trends that are largely straight-line movements - Although these cycles are not rhythmic and cyclical, they depend on the total amount of money in the world changing.

The cycle discovered by Kitchin is believed to be explained by time delays in information movements that affect commercial firms' decision-making. Companies start to produce more to maximize their profits in the period of economic growth. In this case, capacity utilization rates also increase. After a while, this situation results in an increase in the number of products in the market. Demand decreases, prices fall, and manufactured goods accumulate in stocks, which warns entrepreneurs that they need to reduce output. However, this process takes time, and companies continue to produce goods at the same speed without interrupting production. That's why there appears stock excess, and destocking demands extra time.

As a result, at the end of this cycle in which there is less demand, stock excess and prices fall, a new phase, that is, a new business cycle begins, in which demand and production increase again and prices rise. Kitchin examined the periods of recession that existed in capitalism not only from the perspective of an economist but also from the point of view of a businessman and handled business cycles at the micro level (Kaykusuz, p.34).

Business Cycles According to Wesley Clair Mitchel

Wesley Clair Mitchell (1874-1949) is known for his experimental work on business cycles in economics. Mitchell expressed his views on business cycles with his "Business Cycles" in 1913, "Business Cycles: The Problem and it's Setting" in 1927, and "Measuring Business Cycles" published in 1946 with Arthur Burns. In his work "Business Cycles", Mitchell used many empirical data and analytical tools to explain business cycles (Gordon, p.101-107). In this study, he analyzed many statistical data from the USA, France, England, and Germany between 1890 and 1910, such as commodity prices, loans, trade volume, and banking transactions available in the country. In the same work, he added that the periods of prosperity-crisis-depression-boom of business cycles are regularly repeated.

Mitchell - Revival from the Depression Phase (Boom Phase), Although Mitchell emphasized in his studies that cycles have a repetitive feature, he also specifically stated that each cycle has its feature. He reaffirmed this in his "Business Cycles" with the idea that "history repeats itself, but always with differences." He began his first analysis of business cycles with the transition from the depression phase to the boom phase. According to Mitchell, after a certain period, the depression phase creates conditions that cause business activities to increase. In his 1946 work "Measuring Business Cycles", Mitchell defined business cycles as follows (Dinar, p.142)

Business Cycles: It is a type of fluctuation in the total economic activity of nations that organize their activities in the form of commercial ventures in general. A cycle of expansions occurring at the same time in many economic activities is followed by a general stage of recession, constriction, and boom, which is similarly combined with the expansion phase of the next cycle. This sequence of changes is repetitive but not periodic. The duration of business cycles varies from 1 year to 10 or 12 years. Cycles cannot be divided into shorter cycles of similar size.

According to this definition, Mitchell pointed out the recurring nature of cycles but also asserted that this recurrence does not occur in the form of periodic regular fluctuations. Mitchell argued that the reasons for business cycles are in the logic of the system's functioning, as opposed to external factors. In this context, he argued that business cycles are a type of fluctuation in the economic activity of nations that carry out their activities under the conditions of commercial enterprise economy, and that business cycles are specific to capitalist economies. In this period, insufficient credit demand due to low-profit rates leads to a decrease in the cost of credit and the ease of credit allocation by increasing bank reserves. These conditions will sooner or later lead to the formation of a period of boom in the economy.

Mitcell-Boom Phase to Prosperity Phase, In the early stages of the boom period, wages lag far behind the price of goods. This leads to significant increases in profit margin per unit. Mitchell argues that this situation is related to the fact that the labor market adapts more difficult to new economic conditions in proportion to the commodity market. First of all, where unions do not exist, workers have no idea how much employers can pay. Where unions are active, unions tend to make long-term contracts. For this reason, Mitchell argues it is later that labor markets adapt to changes in economic conditions. While the economy expands during the prosperity period, the increase in wages lags behind the increase in the wages of the workers as well as the increase in the cost of living. Workers do not demand a higher increase in wages, as they are not fully aware that the cost of living has increased due to the increase in wages. Moreover, a large proportion of fees are set by longer-term contracts. At the beginning of the prosperity period, prices are still determined based on these old contracts. Therefore, the increase in wages during these periods lags far behind the increase in prices. This would be a strong factor in the revival of the level of economic activity. Mitchell argues that, on the contrary, in times of depression, the decrease in wages lagged behind the decline in prices. On

this level, the weakness of the labour market in adapting to changing economic conditions relative to commodity markets means that the current increase or decrease in wages lags behind the increase or decrease in prices, respectively (Dinar, p.152)

According to Mitchell, the increase in the physical trade rate due to the increasing demand in the boom phase of the economy brings about an increase in prices. Price increases brought about by demand in certain sectors of the economy create a general mood of optimism in the economy. This situation causes entrepreneurs' profit expectations to increase and the economy to enter a boom phase. The current spread in economic activity is not limited to sectors where companies with increased demand have forward and backward connections. This boom is accompanied by a wave of optimism. The economic evaluations of economic decisionmaking units turn positive as a result of this wave of optimism, which in turn increases the demand for investment and credit by entrepreneurs.

In summary, the main indicators of the prosperity period can be shown as optimism spreading in the market, increasing profitability, a large part of the companies making new investments, and increasing prices.

Mitchell-From the Prosperity Phase to the Crisis Phase, Mitchell argues the process that leads to the transition from the period of depression to the period of prosperity will inevitably lead to the transition from the period of prosperity to the period of crisis. While commercial enterprise is developing in a balanced manner, some conditions that ultimately give rise to the period of prosperity in the economy also create the conditions for leaving the period of prosperity to a new period of crisis. One of the most important factors creating these conditions is the relative increases in the costs of the commercial enterprise. Since the old contracts are valid in the initial stages of the prosperity period, the old cost conditions are valid at the production stage. However, when the old contracts expire, the new contracts are prepared based on higher costs based on the current economic situation. In this case, significant increases occur in cost elements such as labor costs, raw material costs, borrowing costs, and rent, which are now valid in the economy (Dinar, p.154)

Another factor that causes a period of prosperity to turn into a period of crisis is the tension between investment and money markets. At old interest rates, the current supply of funds cannot cope with rapidly inflating demand. As a result, there is a shortage of capital in the market. Supply is limited by the reserves held by the bankers against their expanding liability. Full employment and active retail trade largely cause money to remain in active circulation.

On the other hand, Mitchell puts forward the idea that interest rates rise faster than the prices of goods during a period of prosperity. The large rate increase in interest rates both reduces the expected profit margin and limits the volume of trade that develops during the period of prosperity. As a result, many projected initiatives are canceled (Dinar, P.156

When the peak of the prosperity period is reached, profitability begins to decline in a significant part of the companies. The reason for this is that foreign resource costs have started to increase along with input costs, and the prices of the goods sold by the companies have increased at the same rate. As we approach the end of the period of prosperity, the prices of manufactured goods increase greatly, resulting in decreases in sales. Thus, many new companies join the caravan of companies whose profitability is decreasing. Businesses start selling the assets they have in their hands because they cannot pay the loans they take. As a result of the sale of all assets, the entry into the liquidation period begins. The beginning of the liquidation process shows that the crisis period has been entered (Kaygusuz, p. 37-38).

According to Mitchell, the crisis process can be moderate or cause very severe panic. Due to their inability to fulfill their responsibilities, the bankruptcy situation of some companies spreads to other entrepreneurs in the economy and worsens the situation of entrepreneurs who are connected in the form of credit chains. For this reason, there will be a general idea in the economy that debts cannot be repaid, and this will put the economy in a panic mood.

Mitchell-From the Depression Phase to the Boom Phase, The crisis period dominated by financial pressure will also

reveal the conditions for a new boom period in the economy. However, this boom in economic activity is not long-lasting. This is because this boom is essentially based on the completion of orders received in the previous period of prosperity, the completion of work that has been started but not completed, or the use of large quantities of materials at hand. These works, which emerged as an extension of the expansion period, will eventually be finished and then there will be no adequate orders to ensure that production and trade reach an adequate level. As a result, economic activity will enter a period of serious depression. The Depression period will gradually spread throughout the economy, and as a result, consumer demand will decrease significantly, with workers losing their jobs, past savings, and different types of family incomes decreasing (Kaygusuz, p.39).

After all this process, some readjustment processes will ensure that the crisis is gradually overcome. The reduction of some operating costs due to falling raw material and bank loan prices, the increase in the productivity of the labor force for fear of losing the jobs of the workers, and the efforts of entrepreneurs to find more active and efficient methods will have a great impact on overcoming the depression period. At the same time, overall costs will be further reduced as entrepreneurs increase their austerity measures; factors such as low sales figures of other entrepreneurs, falling rents, opening up reborrowing opportunities to repay loans, erasing bad debts and recapitalization of the enterprise will lead to some developments that will reverse the bad economic situation.

This reduction in costs will lead to a renewed increase in demand for goods. But according to Mitchell, such a change doesn't happen immediately, it usually happens a year or two after the depression. The overstocks from the prosperity period are gradually depleted and new production goods are needed to meet the current consumption. This boom will become increasingly intense and spread throughout the economy. The boom of economic activity will slow down the steady downward trend in prices. The repayment of old debts, the depletion of overstocks of goods, the reorganization of weak enterprises, and the increase in the lending capacity of banks will eliminate financial difficulties and as a result of all this, a boom of economic activity will occur. Some accidental situations can activate this process suddenly. However, even if there are no such accidental events, economic activity will revive and bring price increases, causing the economy to move to a new boom phase (Dinar, p.160-161)

Mitchell- Reasons for the Emergence of the Business Cycle

According to Mitchell, after explaining the instabilities in the economy as mentioned above, he continued to think that some policies could be developed in the economy that could reduce the effects of the depression. In addition to these policies, although it is not possible to eliminate fluctuations, the destructive effects they cause can be reduced. In this context, keeping the money in circulation under control and restructuring the banking system are among Mitchell's main policy recommendations. At the same time, Mitchell emphasizes the need for national planning to eliminate uncertainties about economic life and for economic processes to operate more efficiently and smoothly.

According to Mitchell, the state can reduce the impact of the instabilities caused by capitalism on the welfare of society in economic life through its interventions. In this respect, the state can prevent instabilities in the economy by looking at economic indicators with appropriate monetary and fiscal policies.

Another suggestion that Mitchell continues to make is that the restructuring of the banking system can turn banks into institutions that can respond more quickly to the needs of the market, thus eliminating the liquidity crisis that arises in times of crisis. The structuring of the banking system will give control over the mechanism of operation of the monetary economy.

Another policy proposal of Mitchell's is related to making plans at the national level. In this sense, he stated that through national planning, both economic freedoms would be protected and the welfare level of people could be improved. Moreover, thanks to national planning, economic life can be made more predictable by eliminating some of the coordination disorders in capitalism.

Mitchell pointed out that with the increasing difficulty and complexity of economic life in capitalist economies, the failure of private enterprises to ensure coordination between economic activities is increasing. All that happens will cause the severity and damage of the cycles that occur in the economy to increase even more. Therefore, Mitchell believes that planning at the national level is necessary to reduce the severity and effectiveness of these cycles.

Simon Smith Kuznets and Kuznets Cycles

In his work, Kuznets emphasized the importance of making multiple observations, the limitation of simple models based on a single phase of historical experience, and the complexity of the underlying economic data. According to Kuznets, for economic data to provide a healthy model, they must include information on population structure, the nature of labor, state structure, trade, and markets. In particular, based on the statistical series he had compiled, Kuznets argued the part of economic growth that could be habitually explained by the accumulation of labor and capital was too small. Moreover, he examined cyclical variations in growth rates, now called Kuznets cycles ((Samuelson, p. 241), and their links to key factors such as population. In 1971, he made a comparative analysis of the economic developments of nations with retrospective comparisons of national accounting systems and received the Nobel Prize in Economics.

The biggest contribution the Kuznets made to the economy was the Kuznets cycles that bear his name. Kuznets cycles, described by Simon Kuznets in 1930, are a medium-term economic cycle that is claimed to have a duration of 15-25 years. Kuznets associated these cycles with demographic processes, particularly migrant inflows/exits and the changes in construction density they caused, hence the designation of demographic or building cycles/oscillations (Bernard et al, p.4). Kuznets cycles have also been interpreted as infrastructure investment cycles (Brenfenbrenner et al, p. 186). Kuznets(1961), together with his assistant in his work "Capital in the American Economy: Its Formation and Financing", showed that consumption and income increased at the same rate in the United States during the period in question and that the ratio between saving and investing was around 12.5% of national income. Kuznets was one of the first economists to prove from statistical data that business cycles can be so long-term. Kuznets criticizes theoretical work based on simplified assumptions and the idea that capital and labor are sufficient factors for economic growth. Instead, he states that the parameters of knowledge, technology, skills of the population and labor force, trade, markets, and government structure must be taken into account to explain growth.

In his analysis, Kuznets dealt with the volume of all kinds of production and price, industrial income, movements in national income and long fluctuations in economic activities, cyclical movements, which is business cycle analysis, and on the other hand, he saw development as an irreversible process of industrial and national income development, which develops in the stages of economic growth and is characterized by significant structural changes, and studied on

Conclusion

As can be seen, each of the above-mentioned economists has examined and interpreted business cycles from a different angle. Although the ideas pursued by economists are similar, they have different aspects. The main differences of these cycles are related to time. Each economist pointed out that his cycle consisted of different durations and examined it from different fields.

Clement Juglar examined the crisis through bank accounts and bank encaisses, arguing that cycles occurred throughout 8-11 years. The Juglar also supported the idea that crisis was a natural part of capitalism.

The cycles discovered by Joseph Kitchin covered about 40 months. It is believed that Kitchin cycles are explained by time delays in information movements that affect the decision-making of commercial firms.

Wesley Clair Mitchell is famous for his empirical work on business cycles. Mitchell's business cycles range from 1 year to 10 or 12 years. Mitchell adapted the business cycles to the mechanism of operation of capitalism and tried to explain them in different periods. Mitchell has been one of the economists who has covered business cycles most comprehensively. He discussed the labor market in general in business cycles and analyzed how it essentially changed over the periods in question.

Finally, in Simon Smith Kuznets, business cycles consist of a cycle of 15-25 years. Kuznets analyzed the cycles mainly on the demographic processes in the countries and examined the effects of changes in the demographic structure on the economy.

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