

J. A. SCHUMPETER, A THEORIST OF INNOVATION AND A HISTORIAN OF ECONOMIC SCIENCE

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Abstract: *The paper commemorates the 70th anniversary of the death of Joseph Alois Schumpeter, the world-renowned economist of Czech-Austrian origin and creator of innovation theory. It analyses Schumpeter's work from the perspective of two aspects, complementing each other in his work: historical economic analysis and entrepreneurial innovation theory. The introduction reveals the genesis of his relation to enterprise, innovation, and the historical economics concept. The historical approach to economics appears in his scientific works at the time of his work at the European universities in Chernivtsi, Graz and Bonn, as well as in his later work at Harvard University. The paper also studies the rise of his innovation theory, first appearing during his work in Graz, Styria, and its gradual reflection in his professional work. The paper shows how these approaches merge in his economic teaching, which is very specific and includes both purely economic and technological and social aspects.*

Keywords: *J. A. Schumpeter, Innovation theory, Historical approach.*

INTRODUCTION

The aim of the paper is to commemorate a great Czech-Austrian economist, who was, in addition, endowed with highly appreciated legal historical, and sociological education. For that reason, Schumpeter could become probably the most renowned historian of the economic science. His significance and foresight in the area of future development of the economic science is testified also by the fact that, despite having no systematic mathematical education, he was, together with Irving Fisher, the founder and one of the chairmen of the American Econometric Society (Christ, 1983). He broadened the perspective of the economic science also into the field of applied sociology, initiating further development and influencing a number of students and followers. He is highly regarded and admired especially in the USA where he had eminent followers, a number of them Nobel laureates in economics. Besides, he is considered the founder of the innovation theory, in which entrepreneurs dynamically shift economic development by applying the results of technological research and development. His postulate of the so-called creative destruction found continuation in modern economic growth theories. He is also respected in Japan where, as Japanese scientists themselves admit, his innovation theory stimulated the Japanese technological and economic miracle. Although still underappreciated in Europe and his native country, he is regarded one of the largest economists of all times.

Josef Alois Schumpeter was born in an old entrepreneurial family in Třešť in Moravia. Since the Middle Ages, there had been a strong entrepreneurial environment, consisting especially of

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textile production – weaving, fulling, dyeing, but also silver mining and traditional agriculture, pond farming, and forestry. The entrepreneurial spirit had been brought there by the rich Münzmeisters of Kutná Hora, later ennobled Protestant entrepreneurs Venclíks of Vrchoviště, who were later the owners of the Třešť domain. After the destruction caused by the Thirty Years' War, the enterprise development continued during the dominion of the Styrian family of the Counts of Herberstein and in the 19th century during the reign of the Tyrolean family of barons of Sternbach. The Schumpeter family, whose members had repeatedly held the post of mayor, was of a mixed German-Czech origin. Since the Middle Ages, the community in Třešť had been characterized by ethnic and religious diversity: there was a strong Jewish business community, both Catholic and Lutheran German population, and Evangelical and later Catholic Czech majority.

The economic environment of the market town, which utilized the proximity of the rich royal mining town Jihlava for its sales, the entrepreneurial spirit of his ancestors, and also inherited genes undoubtedly influenced young Schumpeter and his future scientific orientation strongly. His great grandfather Josef Schumpeter founded the first textile factory in Třešť in 1832 and his grandfather Alois Schumpeter, with whom he was frequently in contact in his childhood, expanded the factory and innovated the production. His uncle Karel Schumpeter even expanded to foreign markets when he, together with the Jewish businessman Bethold Münch, founded the first textile factory in Serbian Paraćin, which produced Oriental cloths and supplied them to Turkey. Schumpeter's uncle Karel Schumpeter also contributed exceptionally to the economic development of the region when in 1899 he initiated the establishment of a joint-stock company that built a railway from Kostelec u Jihlavy through Třešť and Telč to Slavonice, later linked over the border to the Austrian railway from Fratres to Vienna (Shionoya, 1990).

Born on 8 February 1883, Josef Alois Schumpeter leaves Třešť for Jihlava with his mother at the age of four, after the death of his father. Later, they move to their relatives to Austrian Gratz. Then he is accepted for studies at the prestigious Theresian Academy in Vienna, which he graduates from with honours, and continues to study at the Faculty of Law of the Vienna university. However, during his studies at the Faculty of Law and Political Science, he already attends seminars of a renowned economist of Moravian origin, Eugen von Böhm-Bawerk (born 1851 in Brno, his ennobled great uncle was an economic administrator in the Kostelec domain in Bohemia), who was a representative of the so-called *Austrian Neoclassical School*. He graduates there in 1906 and gains a Doctor of Law degree, but his interest in further work of the Austrian School members (e.g. Carl Menger, a son of a Czech businessman from Cheb) brings him to deeper studies of economics in England with Alfred Marshall and Francis Edgeworth. Graduation from Theresianum, where the languages of instruction were Latin, Greek, Italian, and English, and profound knowledge of the law, political science, and history from his studies at Vienna university foreshadow his further direction in the economic science. By his scope of classical knowledge, he differed from his great contemporaries, the macroeconomically oriented J. M. Keynes or the mathematically oriented Irving Fisher.

After the study stay in England and legal practice in Cairo, Egypt, he returns to Austria and in Leipzig, 1908, publishes his first extensive publication in the style of the Austrian Neoclassical School called *Das Wesen und der Hauptinhalt der theoretischen Nationalökonomie* (Schumpeter, 1908). This book serves for Schumpeter's habilitation at the Vienna university. After habilitation, in the autumn of 1909, J. A. Schumpeter gains a position of a professor of political economy at the Faculty of Public Administration and Law of Frans Joseph University

in Chernivtsi (Czernowitz), the capital of the Ukrainian region of Bukovina, then part of the Austro-Hungarian Empire.

LITERATURE REVIEW

In the Czech Republic, the work of J. A. Schumpeter is studied from the perspective of its dynamic conception of economic cycles caused by innovations by Sirůček (2016) within his analysis of the long Kondratiev waves theory in relation to the present globalisation. He clarifies economic cycles as the impact of fluctuations caused by unevenly distributed entrepreneurial innovations. A brief analysis of Schumpeter's teachings and their position within economic science is presented by Holman (2017), who regards him, due to his thorough classical education and a wide overview, a strong and unique individuality independent of other schools of economy and trends. The relationship of Schumpeter and the Austrian school is analysed by Klaus (2008), who also highlights his importance in the analysis of the history of economics. Storožčuk and Djačuk (2011) analyse the origins of Schumpeter's innovation theory and his scientific research at the Czernowitz University, the centre of Austro-Hungarian Bukovina before the World War I. A complete bibliography of Schumpeter's work, including reviews, is presented by Hedtke (2004) within Schumpeter archive held on the website. Shionoya (2006), who also studied the history of the Schumpeter family in Třešť, regards him as one of the founders or inspirators of evolutionary economics. The relationship of sociology and economics in Schumpeter's work was studied by Swedberg (1991), who appreciates his complex approach within social sciences. The latest compendious capture of the life and work of J. A. Schumpeter was carried out by Allen (2017), who refers to the magisterial and paradoxical Schumpeter and claims that his work is equalled in its monumental significance only by his personal trials and tribulations.

RESULTS

The first work that contains both Schumpeter's approaches to scientific research is the book *Theorie der wirtschaftlichen Entwicklung* (The Theory of Economic Development), that opened a door to the international academic world for him. As Schumpeter himself mentions in the introduction to its English translation by Redvers Opie, he started to conceive it in Czernowitz and finished it after moving to Styrian Gratz. Here, he teaches at Karl-Franzens-Universität (University of Graz) and at Technische Universität Graz (Graz University of Technology). Compared to the static concept of Walrasian equilibrium on the market, the book arrives at a dynamic concept of economy when the equilibrium is only one of the possible states and moving towards the static equilibrium is regularly deflected by dynamic market forces, represented by the behaviour of entrepreneurs-innovators (Sirůček, 2016). This new Schumpeter's dynamic concept of economics appears in the period of revolution in theoretical physics and the new dynamics in the form of Planck's quantum theory and Einstein's special theory of relativity appear on the scene, implying the scientific advancement and technological development of the industry in the 20th century. In the Schumpeter's definition of the dynamic conception of the capitalist market economy, the entrepreneur-innovator plays the central role. By combinations (as Schumpeter originally called innovations) of production factors, i.e. by 1) new goods production, 2) new production method introduction, 3) new market acquisition, 4) new raw material or mineral acquirement, and 5) organisation change or obtaining monopoly, this dynamically acting entrepreneur can then decrease production costs and make profit. On the other hand, an exceptional success of an innovating entrepreneur attracts also the other entrepreneurs not only in the same field but also from other industries, where the demand conversely decreases due to the negative development of factors. The arrival of both groups of

these entrepreneurs, who have the necessary financial capital, leads to a boom of the innovated field, and, multiplicatively, of the entire capitalist economy. After some time, however, these innovations are exhausted and the whole cycle is repeated in the capitalist economy at a new, higher level. In the book, Schumpeter does not omit his historical approach, when in Chapter III, devoted to capital and credit, he evaluates the risk in innovation funding. He compares it to the Greco-Roman *foenus nauticum*, nautical interest, that an Antique investor required when funding a hazardous sea voyage to find new markets. Next in Chapter V, devoted to the relation of capital and interest, he writes about the Antique (Aristoteles) and medieval conception of the interest (Schumpeter & Opie, 1934). Schumpeter's thoughts on the profit of entrepreneur-innovator presented in the work are newly discussed by Nordhaus (2004).

In 1912 Schumpeter abandons theoretical economics and starts focusing on the social aspect of economics. For the first time, he also turns in more detail towards the history of economic science when he publishes *Epochen der Dogmen – und Methodengeschichte* (Economic Doctrine and Method). There he analyses the economic thinking of great minds of Antiquity (Plato, Aristoteles) and the Middle Ages (Thomas Aquinas, Albert Magnus, Duns Scotus), whose work he could read in the original. He deals in detail with the thoughts of great philosophers and economists of the modern age (i.e. Hobbes, Bentham, Locke, Hume, Quesnay, Adam Smith, Mill, Ricardo, Malthus, and Marx) and concludes by an analysis of the thoughts and opinions of founders of various trends of the neoclassical school (Jevons, Menger, Wieser, Marshall, Böhm-Bawerke, Pareto, Walras). At the end, he returns to his reflections on the capitalistic society development, mentioning Juglar, the author of one of the economic cycle theories, which he later engaged in himself in his scientific work (Schumpeter, 1954). In his work, he endeavours to define the relations between economic theories and social sciences, showing deep knowledge of works and ideas of philosophers and economists from Antiquity to the present.

After a break caused by the World War I when he deals with the theory of the state finance and published anti-war memoranda (Hedtke, 2004), Schumpeter continues in his professional orientation at the social aspect of economics. At that time, in 1919, he published his for a long time last extensive scientific work *Sociology of Imperialism*. In the book, he responds to the impact of imperial efforts of monarchies on the political, economic, and social world order. Again, he goes far back into history and analyses ancient and medieval empires, and examines in detail British imperial policy after 1688. He arrives at a conclusion that the absolutist monarchies are outdated and the development is moving towards a modern capitalistic state that uses free trade and free capital movement. His penchant for social economics continues when he examines social classes that become the bearer of economic progress under the given conditions. Based on an examination of the functioning of the economy of the ancient empires (Egypt, Persia, Assyria, Rome, the Carolingian Empire), he characterizes the economies of these absolutist states as warring economies that would have collapsed if further territories had not been exploited (Schumpeter, 1919). Here, Schumpeter returns to his innovation theory, pinpointing the innovating entrepreneur as the stimulus of the economic growth of the capitalist society, as opposed to absolutist empires. He states, foreshadowing the concurrent *path dependency* theory of the institutionalist school (North, 1990), that the economy of a national state and the level of its development are influenced by the social structure of the society and by cultural tradition.

In 1927, Schumpeter publishes another extensive work, which links the social and economic aspect of the social sciences, called *Social Classes in Ethnically Homogenous Environment*. The work, which Schumpeter highly appreciates personally, builds on his previous publication

Sociology of Imperialism. Once again, Schumpeter uses the historical approach to deal with the topics of the origin of the antique nobility (Byzantium, Mongolia), the medieval nobility in Norman southern Italy, the Saxon nobility in Germany, and the aristocracy in England. The analysis continues with the topic of the origins of ownership (capitalistic) class in France and England (Schumpeter, 1955). In the work, Schumpeter summarizes the causes of the rise of social classes, one of the basic causes being the tendency towards innovations. If a successful innovation occurs, the innovator succeeds, which influences the overall success of his family and gradually of the entire social class his family belongs to.

The book *Business Cycles*, published in 1939, was conceived as a continuation of the 1911 Theory of Economic Development. It has a distinctive subtitle “A Theoretical, Historical and Statistical Analysis of the Capitalist Process”. Here, Schumpeter continues developing his innovation theory in a much more conceptual way. He again highlights his concept of an unbalanced economy, different from the neoclassical school. He arrives at a definition of the four basic economic cycles that disturb the equilibrium – boom, recession, depression, and recovery. The historical approach is manifested in this work as well, especially in Chapters 6 and 7 (Historical Outlines I and II), where Schumpeter analyses the development of the capitalistic society in Great Britain, Germany, and in special detail in the USA after 1780 to prove that cyclical development is the basic attribute of capitalistic economy. In the topic of the innovation theory evolution, he unfolds his view of the dynamic conception of the capitalistic economy development, now in relation to cyclic waves of its development, and builds on works presented by Kondratiev, Kuznets, Juglar, and Kitchin. In Chapter 4 he already talks about the innovation theory, he distinguishes between the concepts of invention and innovation, and defines their relationship. He presents the idea of clustering and time cumulation of innovations, which upset the considered transition to a static state of equilibrium in economy, which leads to a period of conjuncture. The depression stage is then considered an adaptation to the already exhausted previous innovations (Schumpeter, 1939). When explaining the cyclical development of economy, Schumpeter applies the historical approach again: each period of the economic cycle in history always has a specific cluster of innovations. We can find inspiration by this work in the modern Neo-Schumpeterian theory of growth (Aghion, Howitt, 1992) and in publications dealing with the so-called evolutionary economics (Fagerberg, 2003; Aghion, Festré, 2017).

His work *Capitalism, Socialism and Democracy* from 1934 is already characterized by an interdisciplinary approach and we can see that it unites all the three Schumpeter’s research methods – historical, sociological, and theoretical economic view. To provide the context of contemporary economic theories dealing with innovation, we can mention that in the relatively short Chapter 7, Schumpeter defines the process of creative destruction. He considers it a phenomenon inherent in capitalism, related to qualitative changes that occur in economy as well as in biological evolution (Schumpeter, 2004). In the next part of the work dealing with the topic of monopolies the author comes to a conviction that innovations occur more often in monopolist structures than in the economic fields where free competition prevails. Large and economically strong companies have easier access to finance and can innovate on a larger scale than small and medium-sized companies. A monopoly can also protect itself better against innovative product imitation and keep the technological lead for a longer time (Sirůček, 2016). The European Union cohesion policy, in fact, adheres to this Schumpeter’s thesis by supporting financing programmes to promote innovation especially for the segments of small and medium-sized companies and micro-companies. As for the author’s historical approach to the topic, it is applied in detailed analysis of the capitalist society evolution.

The culmination of his scientific work is the posthumously published monumental work *History of Economic Analysis*, presenting the genesis of economic science development from antiquity to the present. It is not possible to briefly cover all the topics, thoughts and reflections contained in this work of 1322 pages. One of the basic topics permeating the work is the relation of economics and psychology, economics and philosophy, and economics and sociology. As for the content, the historical analysis is done consistently in the phasing Schumpeter used in the previous works. The five parts contain the economic analysis methodology, history of economic doctrines from the antiquity to the economic modern era, the analysis of economic knowledge evolution from the beginnings of capitalism in 1776 – 1870, the development in 1870 to the World War I onset in 1914, and the analysis of economic schools in the modern capitalistic era from 1914 to Schumpeter's present day (Schumpeter, 1994). To this day, the book is rightly considered a foremost work in the field of research on the economic thinking evolution.

FUTURE RESEARCH DIRECTION

Another part of Schumpeter's scientific interest was the area of monetary economics and banking. Future research should therefore be directed towards the analysis of his scientific approach to the role of money in the economy. This topic permeates his scientific work. His book *Das Wesen des Geldes*, planned for publication in reaction to Keynes's theory of capital and interest but only published posthumously in 1985 with an English translation called *Treatise on Money* published in 2014 (Schumpeter, 2014), was to become the climax of his monetary theory. Further research should deal with the question of how his work reflected the theoretical foundations of monetary economics, influenced by the Austrian School and Schumpeter's post gradual studies with Alfred Marshall, his teaching of monetary economics and banking at the University of Bonn and at Harvard University, and this practical experience with investing in the financial market in Vienna and with managing private Austrian banks–Biederman Bank and Kaufman Bank.

CONCLUSION

The work of Josef Alois Schumpeter is characteristic by its wealth of thoughts. It combined deep education, an undying desire for knowledge, practical experience, and possibly also the inherited gift of his family for the enterprise. The above analysis demonstrates that his historical approach, based on his in-depth knowledge of history in the areas of economics, political science and law, blends in all his major works with the practical knowledge of the entrepreneurial environment functioning, enhanced by Schumpeter's contacts with top executives of the Japanese, European and American industry. Through the synergy of both the approaches, his innovation theory gradually evolved and was refined in accordance with the economic wave theory in the conceptually conceived book *Business Cycles*. The culmination of the multidisciplinary conception of his economic understanding of history can be found in his work *Capitalism, Socialism and Democracy*, which, apart from both the above-mentioned aspects, includes also an original sociological approach. Both his work and his approach to scientific research and study of the topic inspired his numerous famous students, Nobel laureates in economics, and his followers from the field of new, modern schools of the economic thought.

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