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GRADUATE SCHOOL OF SOCIAL SCIENCES
DEPARTMENT OF ECONOMICS
ECONOMICS PROGRAM
MASTER’S THESIS**

**THE FUTURE OF CAPITALISM FROM THE
EVOLUTIONARY ECONOMICS PERSPECTIVE**

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THESIS APPROVAL PAGE



DECLARATION

I hereby declare that this master's thesis titled as "The Future of Capitalism From the Evolutionary Economics Perspective" has been written by myself in accordance with the academic rules and ethical conduct. I also declare that all materials benefited in this thesis consist of the mentioned resources in the reference list I verify all these with my honour.

.../.../2020

Günsenin ALTINKAYNAK



ABSTRACT

Master's Thesis

The Future of Capitalism From the Evolutionary Economics Perspective

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The aim of this study is to examine the future of capitalism from the perspective of evolutionary economics, through a comparative analysis based on “The Engineers and the Price System” and “Capitalism, Socialism and Democracy” of Veblen and Schumpeter respectively, who are most important figures of the field of evolutionary economics. The speculation of both economists regarding the future of the capitalist system ground on technology. Industry and business dichotomy comes to the fore in Veblen regarding the future of capitalism. Veblen distinguishes the industry and business classess based on their instincts. For him, while the instinct of workmanship lies at the core of the industrial class, the predatory instinct lies at the core of the business class. Technology is continually shaping the industry class' habits of thought. In this context, for him, the overturn of capitalism depends on the industry class. In Schumpeter, however, what matters is the process of creative destruction. He built his theory on it. When the entrepreneurs' innovations are incorporated into the system, the circular flow is disturbed and a dynamic process starts. For Schumpeter, the capitalist system, which operates within the framework of innovation, will prepare its own end with its own successes, and hence it will be replaced by socialism. Ultimately, both reached the same conclusion in different ways. Besides, since the evolutionary method does not foresee a final term, it is irrational to claim that capitalism is the final one. Therefore, for both, capitalism is just a stage in evolutionary process.

Keywords: Evolutionary Economics, Capitalism, Veblen, Schumpeter.

ÖZET
Yüksek Lisans Tezi
Evrimsel İktisat Perspektifinden Kapitalizmin Geleceği
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Bu çalışmanın amacı kapitalizmin geleceğinin evrimsel iktisat perspektifinden incelenmesidir. Bunu yaparken evrimsel iktisat alanının en önemli iki figürü olan Veblen ve Schumpeter'in, "Mühendisler ve Fiyat Sistemi" ve "Kapitalizm, Sosyalizm ve Demokrasi" adlı çalışmaları temel alınarak karşılaştırmalı bir analiz yapılmıştır. Her iki iktisatçının da kapitalist sistemin geleceği ile ilgili spekülasyonları teknoloji temeline dayanmaktadır. Kapitalizmin geleceğiyle ilişkili olarak Veblen'de endüstri ve işletme dikotomisi ön plana çıkar. Veblen içgüdülere bağlı olarak endüstri ve işletme sınıfını birbirinden ayırır. Ona göre endüstri sınıfının temelinde işçilik içgüdüğü yatarken, işletme sınıfının temelinde yağmacı içgüdü yatmaktadır. Teknoloji sürekli olarak endüstri sınıfının düşünce alışkanlıklarını biçimlendirmektedir. Bu bağlamda, ona göre, kapitalizmin altüst oluşu endüstri sınıfına bağlıdır. Schumpeter'de ise önemli olan yaratıcı yıkım sürecidir. O teorisini bunun üzerine kurmuştur. Girişimcinin yenilikçi faaliyetleri sisteme dahil edildiğinde, dairesel akım bozulur ve dinamik bir süreç başlar. İnovasyon faaliyetleri çerçevesinde işleyen kapitalist sistem, Schumpeter'e göre, kendi başarılarıyla kendi sonunu hazırlayacak, bunun sonucunda onun yerini sosyalizm alacaktır. Sonuç olarak her ikisi de farklı yollardan aynı sonuca varmıştır. Ayrıca evrimsel yöntem nihai bir son içermediği için, kapitalizmin nihai son olduğunu iddia etmek anlamsızdır. Dolayısıyla her ikisi için de kapitalizm son aşama olarak değerlendirilmez.

Anahtar Kelimeler: Evrimsel İktisat, Kapitalizm, Veblen, Schumpeter.

THE FUTURE OF CAPITALISM FROM THE EVOLUTIONARY ECONOMICS PERSPECTIVE

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ABBREVIATIONS

BC	Business Cycles
CSD	Capitalism, Socialism, and Democracy
TED	The Theory of Economic Development



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INTRODUCTION

Capitalism is a system of political economy that, although its origins can be traced back to earlier centuries, emerged in the eighteenth century, took off in the nineteenth century and dominated the world in the twentieth century (Gideon, 2020). It has been the subject of lots of studies since its emergence as a system and still continues to be. A number of different questions were asked, among them the conditions that prepared its emergence, the dynamics that enabled it to operate, its future and the answers to these questions occupied the minds of many thinkers from different fields. One of the issues that concern us the most today is the future of capitalism. The evolution of the system in the past and future is a matter of debate and curiosity. While some thinkers argue that capitalism is the end of history, others assert the contrary. However, the capitalist system still exists today despite crises such as the 1929 great depression, the 1997 Asian crisis and the 2008 global crisis. However, this is not a guarantee that the system will continue indefinitely.

“Capitalism is confronting its own flaws, and the reckoning is not always pretty.” (Gideon, 2020: 9) These words are involved in *The Future of Capitalism*, the first issue of the journal of *Foreign Affairs* in 2020. Whether the capitalist system will be replaced by an alternative system is always a hot subject of debate and will continue to be discussed as long as the system exists. Undoubtedly two of the most important names that come to our minds when discussing capitalism are Veblen and Schumpeter. Their work has been seminal in this regard. This study questions the future of capitalism and the future of the system will be discussed within the framework of the views of these two evolutionary economists.

The aim of this study is to evaluate the future of capitalism by presenting the evolutionary economics approaches of Veblen and Schumpeter, the pioneers of the field of evolutionary economics, on the basis of technology. The reason why Veblen and Schumpeter are the subject of this study is that they are pioneers in this field, and besides, their influence still reigns. They both influenced thinkers who were the successors with the dynamic theories and interdisciplinary studies they established.

In the first part of the study, the transition of the concept of evolution from the discipline of biology to the discipline of economics will be discussed. For this purpose,

the emergence of the concept of evolution in the discipline of biology and its transformation into the modern theory of evolution with Darwin's studies will be traced. Besides, the mechanisms of the theory of evolution will be elaborated. In the final section of first part, the effects of the theory of evolution on the economics will be discussed in general and evaluated from the point of a group of economists affected by this field. A wide range of examination of the theory of evolution will make it easier for us to connect across disciplines.

The second part of the study will be devoted to the evolutionary economic views of Veblen and Schumpeter. This part will essentially provide the necessary instruments for the examination of the future of capitalism from their point of view of , which will be discussed in the third section. Firstly, Veblen's intellectual background will be addressed. Then his institutional economics will be examined and his criticism toward established economics will be mentioned. Instincts, which have an important place in Veblen's theory of economics, are also the subject of discussion of this chapter. Lastly, Veblen's historical approach is important for this part. Likewise, an intellectual background examination will be carried out for Schumpeter. Then the components that constitute his basic theory of economic development will be discussed. These components are instruments that are effective in Schumpeter's building a dynamic theory. Based on the static theory, the steps of his establishing a dynamic theory will be examined.

In the third and final chapter, the future of capitalism will be examined from the evolutionary technological perspective of Veblen and Schumpeter by using the instruments provided by the previous parts. The discussion about the future of capitalism will be based on Veblen's *The Engineers and the Price System* and Schumpeter's *Capitalism, Socialism and Democracy*. From the point of view of both the economic theory that Veblen founded with the Darwinist principles and the creative destruction theory of Schumpeter, history has no endpoint. In this section the way these economists handle capitalism in a dynamic framework will be examined and it will be shown that capitalism is an unsustainable system. According to Veblen, the dialectical relationship between engineers and absentee owners reconstructed by the evolution of technology is the force to transform the current system. For

Schumpeter, the creative destruction that is based on innovation is the factor that will transform the capitalist system. This part will reveal these respectively.

As a result, by making a comparative review of Veblen and Schumpeter's evolutionary approaches about capitalism, an evaluation of the forces that will transform capitalism on a technology basis will be presented. With this synthesis, it will be seen that both economists have reached similar conclusions on the future of capitalism in different ways.



CHAPTER ONE

FROM BIOLOGICAL EVOLUTION TO SOCIAL EVOLUTION

The theory of evolution has become very popular and controversial with Charles Darwin. Today, however, the theory of evolution is not only a topic in the field of biology. The theory of evolution is now seen in studies in the social sciences. One of these areas is economics. This section will cover the journey of the theory of evolution from biology to economics.

Most people often have inaccurate ideas about what evolution is. Evolution can be expressed in the most basic sense as *change*. But this change does not occur only quantitatively. It also includes qualitative changes. Evolution is concerned with the change of the whole system rather than the change of individual things (Skybreak, 2006: 11-12).

It would not be right to say that only living systems evolved. It can be said that non-living systems evolved under certain conditions. Examples of non-living systems evolving over time include tradition, culture, language, and so on. An important distinction between the evolution of non-living structure and the evolution of living structure is that the evolution of living structure is based on biological foundations (Skybreak, 2006: 11).

Here, firstly, a brief history of biological evolution and then its introduction in social sciences will be discussed. In addition to the history of evolution theory, it will be presented mechanisms of biological evolution that ensure the work of the theory of evolution. Then the reflections of the theory of evolution in social sciences will be studied. Finally, the development of evolution in economics, an important area of social sciences, will be examined.

1.1. BIOLOGICAL EVOLUTION

Evolution, which means change over time, is often used to refer to the evolution of living things. For The Oxford English Dictionary (1933), the term *evolution*, to unfold or open out, stem from the in Latin language *evolvere*, that applied to the

unrolling of a book. This word was initially used in English in 1647, unrelated to biology. From that day forward, it refers to any kind of progression, the beginning of which is simpler. Evolution was first used with related to biological terms in 1670 to define the changes observed in the ripening period of insects. However, in the edition of *The Origin of Species* in 1873, Darwin first used this term to define biological evolution. Darwin had previously used the word *descent with modification*, that is still an excellent pithy description of the evolution process (Ayala, 2016: 23).

Ridley describes evolution as a change in the structure and behavior of individuals across lineages. The organism forms at all levels can be changed from the forms of their ancestors during evolution. However, any biological change cannot be included in the definition of evolution. Not every developmental change of organisms can be called evolution. For this reason, the definition of evolution is called “change between generations” and developmental change is excluded from the definition (Ridley, 2004: 4). On the other hand, the concept of biological evolution expresses changing in lifestyles over time. It means that life is not a fixed, and is changing and diversifying in time (Ateş, 2009: 15).

Research topics for the theory of evolution, although related to each other, consist essentially of three different subjects: 1) the fact of evolution - which organisms are associated by common descent with modification; 2) the history of evolution, i.e., details of when the lineages were separated from each other and changes in each generation; 3) mechanisms and processes that bring about evolutionary change. The first point, the fact of evolution, is the most essential issue in among them. The second and third points go beyond the general affirmation that organisms evolve. So as to demonstrate how and why evolution occurs, the theory of evolution tries to illuminate the relationship between certain organisms and the cases of evolutionary history (Ayala, 2016: 24).

1.1.1. A Brief History

Darwin's ideas of biological evolution are one of the most revolutionary thoughts in the history of Western thinking. At least enough to compete with Newton's

physics theory. It was a challenge to the worldview based on Plato and Aristotle, which had prevailed until then (Futuyma, 2005: 4).

Although the evolutionary biology history began in 1859 with Darwin's seminal book, *On the Origin of Species*, its origins can be found in earlier times. The most critical assertion in Darwin's theory of evolution is that species are not fixed¹, yet one species evolve from one species to another. In the period when Darwin lived, the prevailing view was being shaped by the orthodox opinion. This view was that species were fixed. It does not mean that nobody questioned this view. Before Darwin, some naturalists and philosophers had already examined the evolution of species. Until Darwin, however, none of these could explain the change of species (Ridley, 2004: 7).

Grandfather of Charles Darwin, Erasmus Darwin, made some speculation about evolution in his work *Zoonomia*, or *The Laws of Organic Life*. But these could not be systematically developed and did not have a severe impact on subsequent theories. The great French naturalist Jean-Baptiste Lamarck was one of the most detailed investigators of evolution before Darwin. In 1809, Lamarck put forward the first comprehensive theory of evolution in his book *Philosophie Zoologique*, published in the year Darwin was born. Lamarck's idea of the evolution of species was quite different from that of Darwin and the theory of modern evolution (Ayala, 2012: 12). Lamarck argued that living organisms represent progress and that humans constitute the highest form. Organisms evolve from lower forms to higher forms over the ages, this process continues today and people are always at their peak. As organisms adapt to their environment through their habits, modifications occur. The use of an organ or structure strengthens it; non-use causes to obliteration (Ayala, 2016: 8).

According to Lamarck, the species descend from one form to another and continue infinitely. In Lamarck's system, lineages did not branch and extinct. Lamarck made two explanations about why species change. Lamarck's first explanation is that the underlying mechanism was a kind of *internal force*. This internal force is a kind of unknown mechanism that allows the organism to produce offspring with a small difference from itself. When variations accumulate over several lineages, the lineages can be visibly changed sufficiently to be a different species. The other mechanism is the inheritance of acquired characters. This theory, which was later called inheritance

¹ Fixed means unchanging.

of obtained traits, was rejected in the twentieth century. The term character is used herein to mean any distinguishable property of an organism. An organism can acquire new individual characters through their relationship with the environment. According to Lamarck, if these acquired characteristics are inherited to the offspring, new species may evolve (Ridley, 2004: 7; Ayala, 2016: 286).

In short, Lamarck's theory of evolution expressed that organisms changed slowly through the accretion of small differences throughout their lifetimes. Regarding this, Lamarck's famous example of why the neck of the giraffes is long can be given. To Lamarck, predecessor giraffes' neck had stretched to eat the leaves in the higher part of the trees. The offspring of these giraffes would have an insignificantly longer neck. These offsprings would also try to reach higher leaves. Therefore, giraffes acquired a new form. However today it is proved that Lamarck's thought is wrong. The reason why giraffes have a long neck is natural and sexual selection. Giraffes that have a long neck were more advantageous than the others, so that they could survive and inherited their genes to their offspring (Ridley, 2004: 7-8; Levins and Lewontin, 1985:30).

Charles Darwin is the founder of the modern evolution theory. On December 28, 1831, a short time after graduating from Cambridge University, as a naturalist at H.M.S. Beagle, he went on a world voyage that lasts until October 1836. Over the course of this trip, he had significant opportunities to explore local fauna and collect samples and he found the opportunity to go ashore and do long research. In these researches, he examined the local fauna and collected specimens (Ayala, 2012: 12).

He examined the fossilized bones of extinct mammals in Argentina. He observed a large number of finch species and also huge turtles that gave the island their name, in the Galápagos Islands (Ayala, 2012: 12). While working on the birds he collected from the Galápagos Islands, he saw that birds differed from island to island and realized that each specimen should be recorded. At first, Darwin thought that the finches on the Galapagos island were one species. However, it did not take long for him to realize that each island had its own species. He also obtained evidence that other species also varied from region to region. All this aroused his interest in the question of how different species were born in different places and times, or how some species disappeared (Ridley, 2004: 9). It was necessary to “create a theory to clarify the

mechanism of how species change.” This theory would explain how species change and why they are well created for living. In his autobiography, Darwin wrote that (Ridley, 2004: 10):

It was equally evident that neither the action of the surrounding conditions, nor the will of the organisms (especially in the case of plants), could account for the innumerable cases in which organisms of every kind are beautifully adapted to their habits of life a for instance a woodpecker or tree-frog to climb trees, or a seed for dispersal by hooks or plumes. I had always been much struck by such adaptations, and until these could be explained it seemed to me almost useless to endeavour to prove by indirect evidence that species have been modified. (Darwin, 1999: 108-109)

According to Levins and Lewontin, the force that causes these transformations needs to be explained in some way. The mechanism by which this force transforms species should be elucidated. There is a need for dynamics and kinematics to illuminate the transformation of variations. Darwin did exactly that. He proposed natural selection as the driving force behind this transformation and deduced this principle from the struggle for survival to meet the unlimited needs of individuals, despite the limited resources of nature (Levins and Lewontin, 1985: 31-32). In his autobiography, Darwin explained that the thought of natural selection as the device explaining evolution and adaptation was inspired by Thomas Malthus. Darwin explains his acquaintance with Malthus’s essay (Ayala, 2012: 32):

In October 1838, that is fifteen months after I had begun my systematic enquiry, I happened to read for amusement ‘Malthus on population’, and being well prepared to appreciate the struggle for existence which everywhere goes on from long-continued observation of the habits of animals and plants, it at once struck me that under these circumstances favourable variations would tend to be preserved and unfavourable ones to be destroyed. The result of this would be the formation of a new species. (Darwin, 1999: 110)

The Origin of Species was printed in 1859, which provided comprehensive evidence about the evolution of organisms, suggesting that natural selection is the key process that determines the direction of evolution. Darwin published several other books, including *The Descent of Man*, which gave an evolutionary narrative of human origins, and the *Selection in Relation to Sex* (1871) (Ayala, 2012: 13).

It is said that Alfred Wallace, completely independent of Darwin, discovered the natural selection process as a process of explaining the evolution of species. Although it is noteworthy that Wallace independently discovered natural selection, he was more interested in explaining the evolution of species than explaining the design.

Wallace thought that evolution continued for an indefinite period of time and was progressive. Darwin did not accept the idea that evolution should represent progress and did not think that it would eventually result in a morphological change (Ayala, 2016: 15).

One of the most serious problems faced by the theory of evolution was that there was not a theory of inheritance that was sufficient to preserve the variations that would have to act on natural selection for generations. Contemporary *blending inheritance* theories suggested that the offspring only yielded an average result among the properties of their parents. But Charles Darwin realized that blending inheritance theories could not explain the maintenance of varieties. Because distinctions among variant offspring would be reduced by half in each generation, it will quickly reduce the difference between each new variation (which can increase adaptation on its own) and already existing features (Ayala, 2016: 16).

Although Mendelism did not have a positive effect at first, it later led to the revival of Darwin's theory of evolution (Ridley, 2004: 14). Mendel's discoveries remained unknown until 1900. Indeed, it was not known much until they were rediscovered by some scientists working on these issues in Europe (Ayala, 2016: 14). It has been accepted as a general heredity theory since the 1920s, moreover it is also the cornerstone of contemporary genetics (Ridley, 2004: 14).

Mendelian genetics was what complemented the missing link in Darwin's theory. When Charles Robert Darwin published *The Origin of Species*, Gregor Mendel was conducting a range of experiments in the garden of his monastery. The analysis of these experiments and their outcomes is an instance of a masterful scientific approach of any standard. Gregor Mendel's *Experiments on Plant Hybridization* printed in German in 1866 formulated the principles of the hereditary theory, which is still valid today. Mendel's theory explains biological inheritance through inherited particulate factors (known as genes) that are inherited from each parent that is not involved in the lineage but separated in the generation of sex cells or gametes (Ayala, 2012: 53).

1.1.2 Mechanisms of Evolutionary Theory

Natural selection is one of the most critical mechanisms concerning evolutionary theory. Natural selection can be briefly characterized as the processes in that species adapt to their environment. In his work *On the Origin of Species*, Darwin (1859: 77-78) interpreted natural selection as follows:

Can we doubt ... that individuals having any advantage, however slight, over others, would have the best chance of surviving and of procreating their kind? On the other hand, we may feel sure that any variation in the least degree injurious would be rigidly destroyed. This preservation of favourable variations and the rejection of injurious variation, I call Natural Selection.

These variants are beneficial for organisms as they raise the possibilities of survival and reproduction. It means that these advantageous variations multiply over the generations at the cost of eliminating such less favorable variations. This process is called the *natural selection* process. The critical point here is that natural selection explains the design of organisms (Ayala, 2012: 23).

The essence of natural selection is the success or defeat of the reproduction rate of varieties of organisms. The organism with more appropriate variation will be able to adapt to the changes in its environment more easily and thus obtain more food and become healthier. Thus, this organism, which is more advantageous than the average, can leave more offspring. Otherwise, organisms with unfavorable variations will be able to obtain less food and be less healthy. Under these conditions, they will be able to leave less offspring (Bowler, 1976: 632). Natural selection can be referred to as multiplying alternative variations in different ways. What determines the usefulness of this process is that some organisms have these differentiations, increasing their likelihood of more prolonged survival or being more fertile. Throughout the generations, useful variations will be maintained and multiplied, and any injurious or less useful ones will be eliminated (Ayala, 2012: 24).

There are some requirements that must be satisfied for natural selection to work. Organisms produce more offspring than the limited resources available to survive. So they compete with each other. In other words, excessive fertility and struggle for survival are the prerequisites for natural selection. Natural selection generally requires four conditions:

- 1) **Reproduction.** Entities need to produce for creating a new generation. (Ridley, 2004: 74).
- 2) **Heredity.** “The offspring must tend to resemble their parents” (Ridley, 2004: 74).
- 3) **Variation.** There must be variations in the individual character among each of the population members. Variation increases or decreases depending on the degree of affinity. The variation will increase (decreases) as the degree of affinity decreases (increases). The variation is at the highest level among populations that have adapted to different geographical conditions (Çıplak, 2016: 259).
- 4) **Variation in the fitness of organisms.** Fitness is using as a technical term, in evolutionary theory, to describe individuals' survival capacity and to express the degree of contribution to the gene pool of next-generation by an individual relative to the population (Çıplak, 2016: 261; Ridley, 2004: 74).

If any character of a species meets these four circumstances, then natural selection automatically arise. If they cannot meet these, it does not. If the offspring do not inherit the parental traits, even though entities are reproduced, they cannot evolve through natural selection. Meanwhile, the four circumstances apply, more offspring will be left by entities that have higher fitness, and then this type of entity will rise in population (Ridley, 2004: 74).

Finally, natural selection ensures that the population adapts to its environment, but genetic drift, gene flow, and mutation can affect the population in a positive, negative or neutral way (Campbell and Reece, 2010: 450; Aktan and others, 2019: 15). One of the basic mechanisms of the theory of evolution is genetic drift. Genetic drift means a random change in the density of genes within a population. Mutations affect the structure of genes, while genetic drift affects the frequency, but not on the structure of genes. This is the difference between mutations and genetic drift. In short, mutations are related to random changes in genes, while genetic drift is related to random changes in the population. Accordingly, we can say that genetic drift is one of the mechanisms that attributed evolution to randomness (<https://evrimagaci.org/mutasyon-nedir-110>, accessed at 15.08.2019; Aktan and others, 2019: 15).

Gene flow is the process of the movement of genes from one population to another. Gene flow is also known as migration (https://evolution.berkeley.edu/evolibrary/article/evo_21, accessed at 15.08.2019). Because this gene flow appears when there is migration (https://www2.palomar.edu/anthro/synthetic/synth_6.htm, accessed at 16.08.2019). As a result of these transfers, changes in gene frequencies occur in the gene pools of populations. Because a gene that has not been present in the population before can be included in the population through migration. On the other hand, they may cause genes that do not exist. Alternatively, there may be increases or decreases in existing gene frequencies due to migrations (<https://evrimagaci.org/evrim-mekanizmalari-6-gen-akisi-goc-107>, accessed at 15.08.2019).

A mutation is a process of changing one gene into another. Hereditary variations occur through the process of mutation. What is essential for evolution is the elimination of unfavorable mutations through natural selection. Because organisms with these unfavorable mutations leave fewer offspring than organisms with favorable mutations. Therefore, favorable mutations have the ability to accumulate for generations. Mutation is a random process. This means that mutations occur regardless of whether organisms increase survival ability. Natural selection, on the other side, controls the harmful effects of mutation and ensures to expand beneficial mutations and eliminate harmful ones (Ayala, 2012: 25). These inherited changes are called *variations*, and non-hereditary changes are called *modifications*.

Evolutionary biologist Ernst Mayr made some observations related to the reasoning of Charles Darwin's natural selection idea. It has reached some conclusions with these observations. Ernst Mayr used the phrase "best adaptation to the environment" in explaining the results. This expression defines the concept of adaptation (Özsoy, 2012: 55). The term *adaptation* imply the better adaptation of the organisms to their circumstances by changes in any property that affect their chances of survival and reproduction (Futuyma, 2005: 248).

As can be seen from Darwin's passage, *the survival of the fittest* is another illustration of natural selection.

Variations, however slight (...) if they be in any degree profitable to the individual of a species (...) will tend to the preservation of such individuals, and will generally be inherited by the offspring . . . I have called this principle, by which each slight variation, if useful, is preserved, by the term of Natural Selection . . .

But the expression often used by Mr. Herbert Spencer of the Survival of the Fittest is more accurate, and is sometimes equally convenient. (as cited in Ayala, 2012)

For Darwin, *the survival of the fittest* is as a different idiom for natural selection. The term of *natural selection* refers to the process of survival and reproduction and this means that adaptation of organism to the environmental circumstances of life is explained by natural selection. On the contrary, *the survival of the fittest* focuses on the outcome of this process. The organisms with the fittest variations are the ones that are most likely to survive and adapt to the environment. (Ayala, 2012: 31)

The evolution theory relates to two actual populations, as opposed to potential ones. The first is the population of genotypes. It can be defined as the genetic heritage of the living organisms concerned. The second is the phenotype population, which includes those that affect *fitness* in each organism. These include physical aspects such as size or sight and patterns of behavior such as songs. It is assumed that phenotypic characteristics are influenced by genotypic characteristics but cannot be determined entirely by them. According to the modern theory of evolution, an organism can always be affected by its environment. The modern theory of evolution also admits the various learning experiences that shape the behavior of a phenotype, how it is taught by its mother, whether certain behaviors are rewarded in later life (Dosi ve Nelson, 1993: 10).

Evolutionary ideas were widely accepted after the 19th century. Before this century, the idea of change in natural and social systems was accepted. However, these changes were considered exceptional situations in a static world. There may be some changes in the world from time to time, but this is abnormal. There is a divine intervention in static nature. However, with the increasing discoveries of fossils, this view gradually began to be abandoned (Levins and Lewontin, 1985: 10).

In terms of the history of the theory of biological evolution, the study of fossils is important for Darwin to lay the groundwork for his ideas. Fossils are traces or remnants of past organisms preserved in rocks. Fossils are mostly found in sediments and swamps in the lower layers of the sea. The new ones cover the old ones and compress them into strata called rock layers. As a result of the studies on fossils, three basic trends emerged. These developments caused that Darwin was affected in the later periods (Campbell and Reece, 2005: 439- 440).

Catastrophism: Devised by the French scientist Georges Cuvier. Examining the rock layers in the region around Paris, Cuvier stated that the layers are deeper (older) and that the fossils are different from the current life. According to Cuvier, each boundary between layers corresponds to catastrophic periods such as floods or droughts. During such catastrophic periods, most of the living things that lived there were extinct.

Gradualism: Opposed to the theory of catastrophism, the work of other scientists supported gradualism theory. Firstly, in 1795, Scottish geologist James Hutton explained the geological features of the earth with the gradualism mechanism. According to this theory, a major change is the output of the accumulation of slow-running but continuous processes.

Uniformitarianism: Charles Lyell (1797-1875), one of the leading figures of Darwin's time, combined Hutton's theory of gradual change with his theory of *uniformitarianism*. According to Lyell, geological processes have not changed during world history. According to the thesis of uniformitarianism, the processes that have shaped the world in the present time have emerged and developed in the same way throughout the ancient geological ages.

The ideas of Hutton and Lyells had a strong influence on Darwin's thinking. For Darwin, if geological changes occurred as a result of slow and continuous activities, the world should have been much older. The age of the world was not 6000, as theologians claim. Later, he said, perhaps similarly, slow and subtle processes could have long-period effects on living organisms and create significant changes.

Darwin's *Origin of Species* comprises two important arguments. The theory of descent with modification is first of these. All alive and extinct species have derived, without interruption, from several common ancestors. The species that varied from the common ancestor were quite similar at first. However, differences accumulated over large time periods. So some radically differentiated from each other. Evidently, Darwin's understanding of evolution is quite different from that of Lamarck. In Lamarck, the concept of common ancestor has nearly no role (Futuyma 2005: 7). The second thesis in the *Origin of Species* is concerned with the causal mechanisms of evolutionary change. This is what Darwin called natural selection:

if variations useful to any organic being ever occur, assuredly individuals thus characterised will have the best chance of being preserved in the struggle for life;

and from the strong principle of inheritance, these will tend to produce offspring similarly characterised. This principle of preservation, or the survival of the fittest, I have called natural selection.

This theory is quite different from Lamarck's transformational theory (Futuyma, 2005: 7).

Darwin's theory of evolution indeed contains five independent theories. In his book *The Growth of Biological Thought: Diversity, Evolution, and Inheritance*, Ernst Mayr (1982:506-509) described these theories:

1) Evolution as Such

It is a simple suggestion that the features of the generations of organisms change over time. This idea was not actually Darwin's. But it was Darwin who convincingly presented the evidence for evolution. So, according to many biologists today, evolution is a fact rather than a theory.

2) Evolution by Common Descent

Common descent is quite different approach for evolution theory than Lamarck's approach. Charles Darwin was the first to suggest that all organisms were separated from common ancestors and that this process could be depicted as a tree.

3) Gradualness of Evolution

Gradualism essentially states that differences between different organisms develop through intermediate forms and small stages. The opposite view is that the big differences are made by saltation. Darwin insisted that evolution was completely gradual. Darwin's view has faced serious resistance. There were empirical and ideological causes of this. The concept of gradualism is not something that an essentialist can easily adopt.

4) Population Change

It is Darwin's view that evolution happens through changes in the proportion of individuals in a population with different hereditary properties.

5) Natural Selection

Natural selection was Darwin's important hypothesis that changes in the proportions of different individuals stem from differences in survival and reproductive abilities. Darwin's theory explained that there is a seemingly perfect order in the nature of living things, which organisms adapt to each other

and their environment. The theory of natural selection is Darwin's most revolutionary idea.

1.2. FROM EVOLUTION TO SOCIAL SCIENCE

According to Boulding, the evolutionary model consists of three stages: Stars and planets, rocks, water, etc. are produced by physical and chemical evolution. The starting point of biological evolution is DNA and forms living species. Social evolution begins with Homo sapiens. Although the economy is a part of social evolution, it is affected to some extent by physical and biological evolution (Boulding, 2013: 273).

Darwinian views are extensively acclaimed in biology science. However, we all know that human societies are also evolving. Is it possible that Darwinist principles in biology could be extended to the evolution of social entities? In the theory of evolution, organisms struggle for scarce resources for survival; similarly, firms, governments, and other social organization struggles for scarce resources. They adapt to their environment and change. Some succeed; others fail. Are these not parallel to the Darwinian processes (Knudsen and Hodgson, 2010: 1)?

The idea of evolutionism developed in the 19th and 20th centuries has found its place in many fields including anthropology, biology, linguistics, sociology, and thermodynamics. Inorganic evolution often involves change or order. In contrast, biological and social theories contain ideas of progress and development (Levins and Lewontin, 1985: 9). In this context, before mentioning the use of the theory of evolution in the economy, it is necessary to examine in which fields and by whom it is first used in the social sciences. After explaining these attempts, the place of the theory of evolution in economics will be discussed.

In 1869, German economist Hugo Thiel sent a little work to Charles Darwin entitled *On Agricultural Cooperatives*. This study examined Darwin's theory of evolution as encouraging individual competition in the economic field. Thiel requested Darwin to review and evaluate this little pamphlet. Darwin expressed his interest in the application of his theory to *moral and social problems*. In a letter to Thiel, he said:

“It did not occur to me formerly that my views could be extended to such widely different and most important subjects (Knudsen and Hodgson, 2010: 5).”

In fact, Darwin had previously hinted at these applications. In *The Descent of Man*, he estimated that natural selection works on language elements. Besides, Darwin described the application of Darwinist principles to political evolution by Walter Bagehot as remarkable. In fact, he asserted selection could work on ethical principles. Thus, it approved a type of group selection and implied natural selection of individuals as well as natural selection of individuals. However, Darwin never had a systematic application of socioeconomic evolution (Knudsen and Hodgson, 2010: 6).

Darwin’s assumption that his basic principles can be applied to evolving systems outside the field of biology implied that social phenomena need not be reduced to biological entities. The opposite way round, Darwin expressed that the principles of selection, variation, and inheritance have a wide range of applications. According to him, these principles were not limited to biology (Knudsen and Hodgson, 2010: 6).

Several years after Darwin published *The Origin of Species*, some scholars considered Darwin’s implication that selection, variation, and heredity have a broader field of application. On natural selection of ideas was studied by Willam James in 1880. The natural selection of ethical principles was studied by Samuel Alexander (1892) and Benjamin Kidd (1894). However, these scholars have failed to take into account the natural selection of social institutions. Hence, these early scientists, who attempted to apply Darwinist ideas to social evolution, failed to identify social units of replication and selection (Knudsen and Hodgson, 2010: 6-8).

In 1890, two authors who were unaware of each other’s work put forward the idea that there were social selection units in which Darwinist principles could be applied. Scottish philosopher David George Ritchie is one of these authors. In his book *Darwinism and Politics* (1889) Ritchie has specified that language and social institutions made it possible to transmit experiences completely independent of the continuity of race (Knudsen and Hodgson, 2010: 8-9).

When Ritchie published the second edition of *Darwinism and Politics*, he added a new article to the book. This article is one of the first consistent examples of Darwinist principles applied to the evolution of social institutions and organisms. According to Ritchie, languages, and institutions are a kind of social mechanism that

allows adaptations and information to be inherited. As well as the struggle between individuals, he also touched upon the struggle between *institutions, language, and ideas*. For him, the struggle process is not only between individuals in the society, but also there is a struggle between different kinds of social institutions such as *family, nation, firms and so* (Knudsen and Hodgson, 2010: 9). Thorstein Veblen was the second person to apply the principle of selection on traditions and institutions in detail after Darwin published *The Origin of Species* (Hodgson, 2003b: 9-10). In his seminal work *The Theory of the Leisure Class*, Veblen wrote:

The life of man in society, just like the life of other species, is a struggle for existence, and therefore it is a process of selective adaptation. The evolution of social structure has been a process of natural selection of institutions. The progress which has been and is being made in human institutions and in human character may be set down, broadly, to a natural selection of the fittest habits of thought and to a process of enforced adaptation of individuals to an environment which has progressively changed with the growth of the community and with the changing institutions under which men have lived.

Hodgson (1996: 697) divided the use of the term evolutionary economics into six subheadings:

- 1) Thorstein Veblen discussed evolutionary and post-Darwinist economies about a hundred years ago. In the tradition of Thorstein Veblen and John Commons, institutional economists often defined their approaches as *evolutionary economics*. They frequently emphasized the terms *institutional* and *evolution*.
- 2) Joseph Schumpeter interpreted the development of capitalist economics as an evolutionary process.
- 3) The Approaches of The Austrian School of Economics, represented by economists such as Carl Menger, Friedrich Hayek, and Joseph Schumpeter, has often been described as *evolutionary*.
- 4) In addition to what we have said, the work of other economists such as Adam Smith, Karl Marx, and Alfred Marshall is sometimes considered to have an evolutionary character.
- 5) The evolutionary game theory which has recently developed into mathematical economics has also been inspired by theoretical biology.
- 6) The term *evolutionary* is also attached to *complexity theory*.

Evolutionary arguments are not new for economics. Its origins can be traced back to the work of Malthus. Malthus wrote a short essay about the population in 1798.

For Darwin and Wallace, this essay was an inspiration for them to achieve the idea of natural selection, independently of each other. Malthus (1998: 4) in his essay on the population revealed two basic postulates:

- 1) First, that food is necessary to the existence of man.
- 2) Secondly, that the passion between the sexes is necessary and will remain nearly in its present state.

Malthus stated in this article that the human population is growing much faster than food sources. According to him, when the population cannot be controlled, the human population increases geometrically (1, 2, 4, 8, 16 . . .), while the food supply increases arithmetically (1, 2, 3, 4, 5 . . .). For him, this is the cause of poverty (Landreth and Colander, 2002: 115). Malthus (1998: 4) wrote: "Population, when unchecked, increases in a geometrical ratio. Subsistence increases only in an arithmetical ratio. A slight acquaintance with numbers will show the immensity of the first power in comparison of the second."

He stressed that some control mechanisms would be developed to keep the growth rate of food supply and the growth rate of human population equal. In this context he examined some checks. He first mentioned positive and preventive controls. Positive checks are disasters such as war, famine, and disease. These reduce the human population by increasing death rate. The preventive check involves lowering birth rates by postponing marriage (Landreth and Colander, 2002: 115). Malthus' work on the population emphasizes the concept of struggle. This emphasis has made it easier for Darwin to express the population principle as a driving force for natural selection (Bowler, 1976: 631).

In his book *The Origin of Species*, Darwin describes the struggle for living things as follows:

In the next chapter the Struggle for Existence amongst all organic beings throughout the world, which inevitably follows from their high geometrical powers of increase, will be treated of. This is the doctrine of Malthus, applied to the whole animal and vegetable kingdoms. As many more individuals of each species are born than can possibly survive; and as, consequently, there is a frequently recurring struggle for existence, it follows that any being, if it vary however slightly in any manner profitable to itself, under the complex and sometimes varying conditions of life, will have a better chance of surviving, and thus be naturally selected. From the strong principle of inheritance, any selected variety will tend to propagate its new and modified form. (Darwin, 2009: 4-5)

In 1858, naturalist Alfred Russel Wallace came up with the idea of natural selection independent of Darwin. Wallace's inspiration was Thomas Malthus (Ayala, 2012: 33). In 1891, Wallace (1985: 20) wrote:

At the time [February 1858] I was suffering from a rather severe attack of intermittent fever at Ternate in the Moluccas . . . and something led me to think of the positive checks described by Malthus in his "Essay on Population," a work I had read several years before, and which had made a deep and permanent impression on my mind. These checks—war, disease, famine, and the like—must, it occurred to me, act on animals as well as on man. Then I thought of the enormously rapid multiplication of animals, causing these checks to be much more effective in them than in the case of man; and, while pondering vaguely on this fact there suddenly flashed upon me the idea of the survival of the fittest—that the individuals removed by these checks must be on the whole inferior to those that survived.

After reading Darwin's seminal book *The Origin of Species*, Karl Marx wrote to his best friend, Frederick Engels, on 19 December 1860: "Although developed in the crude English fashion, this is the book which, in the field of natural history, provides the basis for our views." (Marx and Engels, 2010: 232) On January 16, 1861, he wrote to Ferdinand Lassalle: "Darwin's work is most important and suits my purpose in that it provides a basis in natural science for the historical class struggle." (Marx and Engels, 2010: 246-247) Engels, speaking at Marx's funeral, endorsed Marx's this view: "Just as Darwin discovered the law of development of organic nature, so Marx discovered the law of development of human history..."

In 1873 Marx sent a copy of the second German edition of *Das Kapital* to Charles Darwin. Darwin responded with a sincere letter to it (Runkle, 1961: 108):

I thank you for the honour you have done me by sending me your great work on Capital; and I heartily wish that I were more worthy to receive it by understanding more of the deep and important subject of political economy. Though our studies have been so different, I believe that we both earnestly desire the extension of knowledge; and this is sure to add to the happiness of mankind.

There are many antagonisms between Marxist theory and the Darwinist evolutionary theory. The idea of change that emerges from the process of natural selection between the population of widely varying units is quite different from the idea of the clash of collective groups involved in the class struggle in Marxist theory (Hodgson, 1994: 10). According to Marx, the process of historical evolving does not follow a slow process of change, as in the Darwinian theory of evolution. In his theory of socio-economic evolution, Marx thought that change is more revolutionary. So, in Marx, evolution contains a revolutionary character (Takay, 2009: 11). Since Marxists

see evolution as revolutionary, they find it more appropriate to use the word *revolution* than *evolution*. For them, because of the revolutionary nature of evolution, quantitative changes in nature must lead to a *qualitative leap* to reflect an accurate dialectical method (Runkle, 1961: 114). According to Angus Taylor, the Darwinist theory of evolution has been perceived by Marx and Engels in two different positive ways: (1) revealing the self-generating character of the universe, and (2) it provided a non-teleological approach to evolutionary change, parallel to its own way of studying (Taylor, 1989: 413).

It is claimed that there are some similarities between Marxism and Darwinism (Runkle, 1961: 120):

- 1) The struggle between species is similar to the conflict of social classes;
- 2) Evolving forms in life have resembled evolving forms in social structure;
- 3) Natural variation corresponds to production forces;
- 4) Natural selection coincides with dialectical economic laws.

However, these four affinities cannot be combined in a consistent analogy.

Another economist who touches on the idea of evolution in economic science is Alfred Marshall. In the preface to his book, *Principle of Economics*, Marshall wrote: “The Mecca of the economist lies in economic biology rather than in economic dynamics.” However, Marshall stated in the same book: “But biological conceptions are more complex than those of mechanics.” For this reason, Marshall preferred to use mechanical analogies (Marshall, 2013: xxv). Another reason why Marshall used mechanical analogies was that mathematics was useful in economics (Takay, 2009: 13). To Friedrich Hayek, economic evolution takes place gradually. The progress of the economy sometimes come to a stopping point or reverses due to political problems. However, its forward-looking progression is never sudden (Marshall, 2013: xxiv).

Veblen, one of the founders of modern evolutionary economics, is perhaps the most important in view of his contributions to evolutionary and institutional economics (Hodgson, 1994: 28). More than a century ago, Thorstein Bunde Veblen used Darwinist ideas to make the economy an evolutionary science (Hodgson, 2003b: 5). Thorstein Veblen has often expressed the need for an economy that includes *Darwinism*. For him, this was an attempt to create a *post-Darwinist* economic science. He saw his own work as a contribution to achieving this effort (Hodgson, 2004a: 344).

The article *Why is Economics not an Evolutionary Science* written by Thorstein Veblen in 1898 is in a sense a manifesto for evolutionary economics. However, Veblen never developed this theory satisfactorily (Rutherford, 1998: 463-464). Veblen's answer as to why economics is not an evolutionary science is as follows (Aktan, Yay and Yay, 2019: 21): "The economists have not had the materials for such a science [evolutionary economics] ready to their hand, and the provocation to strike out in such a direction has been absent." (Veblen, 1898: 394) The last sentence of the same article is as follows (Aktan, Yay S. and Yay T., 2019: 22):

Under the stress of modern technological exigencies, men's every-day habits of thought are falling into the lines that in the sciences constitute the evolutionary method; and knowledge which proceeds on a higher, more archaic plane is becoming alien and meaningless to them. The social and political sciences must follow the drift, for they are already caught in it. (Veblen, 1898: 397)

As can be seen from the passage above, according to Veblen, the social and political sciences have now entered an evolutionary path. And according to him, they must follow this path. With the words of Veblen, the tools that would lead the social and political sciences to an evolutionary path were now ready. These are Darwin's theory of evolution, which not only influences biology science but also affects other sciences (Aktan, Yay S. and Yay T., 2019: 22).

Like Marshall, Veblen thought that economics could find the most appropriate metaphor for biology rather than physics. According to Veblen, evolutionary metaphor had an important place to understand the process of technological development, especially for capitalist economies. He avoided developing a static analysis like Marshall. He established his own analysis as a post-Darwinian. According to him, instead of the idea of static equilibrium borrowed from physics, economics should include metaphors of evolution and change borrowed from biology (Hodgson, 1994: 20). There were two main reasons why Veblen was interested in Darwinist concepts and evolutionist metaphors, unlike neo-classics. The first is related to the concept of cumulative causality and its opposition to classical economics, which tries to make economics a static science. The other is to establish an analogy with gene and natural selection process in the social world (Hodgson, 1994: 20).

Veblen also viewed the history of the evolution of social institutions as human history. Human behavior was based on certain distinctive patterns common to all periods of history. In many of his work, Veblen described what he calls common

patterns of behavior as instinct (Hunt and Lautzenheiser, 2011: 318). According to Veblen, the difference between entrenched economics and evolutionary sciences is that for evolutionists, the system is free to pursue any direction, and for economists, the system tends to shift to the point of equilibrium. Hence, economists think that the economic system acts in a specific order, such as a law of nature, which leads to a normal equilibrium. In this context, what causes the system to move away from this equilibrium should be considered as *disturbing factor*. Veblen referred to this approach *standpoint of ceremonial adequacy* (Villena M. G. and Villena M. J., 2004: 589).

Another group that uses evolutionary thought in economics is the Austrian school of economics, which includes economists such as Carl Menger, Ludwig von Mises, and Friedrich Hayek. *On the Origin of Money*, which explains the emergence of money published by Carl Menger in 1871, reflects an evolutionary perspective. Because Menger's work is an attempt to understand the development of an institution. However, among the representatives of the Austrian school, Friedrich Hayek was the economist whose evolutionary aspect was most prominent. Hayek used the concept of evolutionary selection much more than others. He tried to establish parallels between evolution in natural life and evolution in society. Along with this, while Hayek recognise Darwin, he sees Darwinism as one of the stages of a long evolutionary line of thought (Hodgson, 2011: 3). There are three levels of evolution in Hayek's economy: 1) genetic evolution; 2) evolution of rational thought; 3) cultural evolution. Hayek is most interested in cultural evolution (Witt, 1995: 90).

Culture, he submits, "is neither natural nor artificial, neither genetically transmitted nor rationally designed. It is a tradition of learned rules of conduct which have never been invented and whose functions the acting individuals usually do not understand". For a certain part of his career, Friedrich Hayek endeavored to develop the theory of cultural evolution. According to Hayek's this theory, rules, norms, and practices develop in the process of natural selection, which operates at the group level. For this reason, groups with more effective rules and practices tend to grow, multiply and eliminate other groups. This theory is at the heart of Hayek's economic, social and political views (Angner, 2002: 695).

One of the most important representatives of evolutionary economics is undoubtedly the Austrian economist Joseph Alois Schumpeter. This is accepted by

scientists working in the field of evolutionary economics today. The Schumpeter effect is mostly seen in the studies carried out by evolutionary economists today. One of Schumpeter's major contributions to economic analysis is the attempt to explain the cyclical fluctuations in capitalism with the concepts of technological innovation and entrepreneurship.

Even if some economists tried to process Schumpeter's thoughts before, the real revival for his ideas and work had to wait until the 1970s. After the 1970s, interest in Schumpeter's evolutionary ideas had increased considerably. Later, a journal on evolutionary economics was established, which followed the Schumpeter tradition (Fagerberg, 2003a: 126). They stated their purpose as follows: "The Journal of Evolutionary Economics serves as an international forum for this new approach to economics. Following the tradition of Joseph A. Schumpeter, it focuses on original research with an evolutionary view of the economy."

Schumpeter mentioned five different types of evolution in his book *History of Economic Analysis*. The first form of evolutionism that he speaks of is the evolutionism of the philosopher. According to him, it is Hegel's philosophy that defines this process. The second form of evolutionism is Marxist evolutionism. Marxist form of evolutionism is independent of Darwin's. Then, thirdly, the evolutionism of the historian is emphasized. The fourth form is intellectual evolutionism. We can also call it the evolutionism of Condorcet and Comte. Condorcet worked more closely on the theory of social evolution associated with the Enlightenment in more detail than other thinkers. He referred to Darwinian evolutionism as the fifth and last form of evolutionism. Of the forms of evolutionism that Schumpeter mentions here, it is the only form of evolutionism that is related to biology. Darwinian evolutionism is based on Darwin (mainly) and Lamarck's views (Schumpeter, 1954: 435-446).

Schumpeter was aware of the importance of Darwin's work for science. He admired it and admired Darwin. In his book *Capitalism, Socialism, and Democracy*, Schumpeter wrote: "The essential point to grasp is that in dealing with capitalism we are dealing with an evolutionary process. It may seem strange that anyone can fail to see so obvious a fact which moreover was long ago emphasized by Karl Marx." (Hodgson, 1994: 28; Schumpeter, 2003: 82)

According to Fagerberg (2002), Joseph Schumpeter, one of the foremost evolutionary economists, disapproved attempts to base economic analyzes on the metaphors established with Darwinism. Schumpeter stated in *Business Cycle* (1939): “Although this term is objectionable on several counts, it comes nearer to expressing our meaning than does any other.” (Schumpeter, 1939: 83) What Schumpeter wanted was to analyze the dynamics of the development of capitalism as an evolutionary process based on fundamentally rooted perspectives in economics. As put forward by Darwin and approved of many scientists, changes in biology can be defined as a sufficiently slow and stochastic process. But this does not apply to the social sciences. It can be stated that the changes in the social field have a faster, more cumulative and more conscious character compared to biology. For this reason, a different theoretical framework is needed in the social sphere than in the biological sphere (Fagerberg, 2002: 4-5).

Schumpeter’s approach can be considered as a combination of the approaches he encountered during his student years in Vienna. These approaches can be classified as Marxism, German historical school of economics and neoclassical approaches. In this context, Schumpeter acquired his dynamic perspective from Marx, his historical specificity from historical school and his micro-based approach from neo-classics (Fagerberg, 2002: 10).

Schumpeter wanted to put forward a theory of economic evolution as a complement to the theory of static equilibrium developed by Walras and other important economists. It was not intended to produce substitutes to the theory developed by others. With the term evolution, he meant qualitative, economic change through innovation. In Schumpeter’s own words: “The changes in the economic process brought about by innovation, together with all their effects, and the response to them by the economic system, we shall designate by the term Economic Evolution.” (Fagerberg, 2002: 11; Schumpeter, 1939: 83)

There are two other important people in terms of evolutionary economics. These are Richard R. Nelson and Sidney G. Winter. The book, titled *An Evolutionary Theory of Economic Change* published by Sidney and Winter in 1982, is a milestone in the emergence of evolutionary economics as an economic school (Aktan, Yay S. and Yay T., 2019: 32). As pointed out by Hodgson (1996), the term *evolutionary* was

not widespread in economics before the publication of the seminal book *An Evolutionary Theory of Economic Change* by Richard Nelson and Sidney Winter (Hodgson, 1996: 698).

Nelson and Winter wrote in the first paragraph of the preface of this vital book that this book represents the culmination of their work: “We began this book over a decade ago. Our discussions of the promise and problems of evolutionary modeling of economic change date back years before that. For both of us, this book represents the culmination of work that began with our dissertations.” (Nelson and Winter, 1982: vii)

In their work, Nelson and Winter criticize the assumptions of Neo-Classical economics on the grounds that socio-economic change makes it difficult to understand. According to them, even in the most flexible forms, it is not correct to use static equilibrium analysis. This makes discipline blind to the phenomena associated with historical change (Nelson and Winter, 1982: 8). If the aim is to analyze economic change, the weak assumption that actors are rational must be rejected (Alparslan, 2019: 114).

In the same book, the authors state that they have developed three basic concepts in order to analyze economic change from an evolutionary perspective. The first of these concepts is the concept of *organizational routine*. The second concept is *search*. And finally, the third one introduced as the *selection environment* (Nelson and Winter, 1982: 400-1).

For them, the term *routine* is preferred to refer to the regular and predictable behavior of firms. Organizational routines cover many different things. Some of these include; technical routines related to production processes, detailed procedures, various investments and policies, R & D, and so on (Nelson and Winter, 1982: 14).

According to Nelson and Winter, these routines from evolutionary economics perspective plays the role that genes play in the Darwinist theory of evolution. In this sense, these routines can be defined as information store for the firm. Routines, like genes, ensure that information is maintained and inherited for a long time. Routines are crucial to the survival of firms in the competitive selection process. It is also an important criterion in the determination of the fitness of a firm (Hodgson, 2003c: 357).

The second concept *search* refers to the concept of mutation in biology. They used the term search to refer to organizational activities that may lead to modification

of organizational routines (Nelson and Winter, 1982: 400). The research is about the solutions that the firm has created for its purposes based on previous experiences. While some of these solutions will be abandoned, others will be included in organizational routines (Alparslan, 2019: 115).

An analogy has been established between the concept of *selection environment* and *natural selection* in the theory of biological evolution: “Market environments provide a definition of success for business firms, and that definition is very closely related to their ability to survive and grow.” (Nelson and Winter, 1982: 9)



CHAPTER TWO

ECONOMIC THOUGHT OF VEBLEN AND SCHUMPETER

2.1. VEBLEN

2.1.1. Current Affecting Ideas of Veblen

According to Theodor Adorno, there are three springs that have influenced the formation of Veblen's thought adventure. The first and most significant of all is American Pragmatism. A second source is an old form of positivism that is the school of Auguste Comte, Herbert Spencer, and St. Simon. And finally, he asserted that the third source was Karl Marx (Adorno, 1997: 75-76). Dugger (1979: 424), on the other hand, finds the origins of Veblen's intellectual resources in the German School of Historians, pragmatism, Darwinian evolution, behaviorism and marxism. Joseph Dorfman considered Veblen more in a biographical context. He tried to address the intellectual roots that had an impact on Veblen, but he did not classify them systematically (Edgell and Tillman, 1989: 1004). In an article they wrote, Edgell and Tillman (1989: 1003-1004) listed the genealogy of Veblen's thoughts as follows:

- 1) In German economics and philosophy, Kant from the German idealism, Schmoller from the historian school.
- 2) British empiricism, especially Hume.
- 3) Pierce and John Dewey, from American Pragmatism.
- 4) Karl Marx.
- 5) Evolutionary thinkers like Darwin or Spencer.

And others; W.G. Sumner, John Hobson, Charles Fourier, St. Simon, John Rae, Norwegian Lutheranism, psychology (specially William James), and anthropology (Franz Boas and Edward Tylor).

Here, the main currents that explicitly affect Veblen will be discussed. In this respect, the German historical school and American pragmatism will be discussed.

2.1.1.1. The German Historical School

The science of economics has often analyzed society in a static structure. Society is not handled as an evolving mechanism. For this reason, the starting point of the German historical school is that the economy should be more concerned with the evolution of society. This starting point is valid for every period of the German historical school: the older, the younger and the followers (such as Sombart or Weber) (Hultén, 2005: 170).

The German historical school, spearhead by Gustav Schmoller, was trying to create a method of social science involving both values and facts (Dugger, 1979: 424). Schmoller is one of the main sources of institutional movements. According to Schmoller, institutions and organs should also be given importance when investigating (Chavance, 2009: 4).

Schmoller and the younger historical school have had a major impact on Veblen's intellectual repertoire and, more generally, on American institutionalism (Chavance, 2009: 10). In his essay on Schmoller, Veblen stressed that Schmoller aims to address the origins and variation of institutions in a Darwinian way (Veblen, 1901: 81). Veblen appreciated him because Schmoller addressed institutional events in terms of how and why they occurred rather than how or what they should be. Schmoller, on the other hand, thought that the individual could not be a unit of analysis reflecting a holistic perspective. In this sense, Veblen and the German school were in favour of analysis, an expression of a more holistic approach to economics (Dugger, 1979: 424-425). Another important point for Veblen is that the historical school skeptically approaches the understanding of *homo economicus* of mainstream economics. However, Veblen criticizes the historical school for making a simple description of industrial development instead of sequencing data and proposing a real economic theory. Veblen tried to develop a systematic evolutionist theory in a different way (Chavance, 2009: 10; Kızılkaya, 2001: 18).

2.1.1.2. American Pragmatism

Veblen has criticized the economic human understanding of neoclassical and the Austrian school in a sarcastic way. However, Veblen has provided a new framework for this. It is accepted that Veblen made use of American pragmatism and social and psychological sciences in shaping the framework of social thought. In this sense, the three names that influenced Veblen are Charles Peirce, William James, and William McDougall (Almeida, 2015: 2; Twomey, 1998: 433).

Inspired by American pragmatics, Veblen formed a theory about human nature. According to him, man is not a pile of desires. Rather, man is a consistent structure of his habits and propensities. To him, human nature is a combination of acquired habits and irreducible instincts. These acquired habits involve more of a social dimension than a personal one. From Veblen's point of view, understanding habits is crucial for understanding society and economy. His main matter, therefore, was about how social habits came into being (Twomey, 1998: 434).

During his student years at John Hopkins, Veblen was a student of Pierce. He had attended some of his classes. Although Veblen did not partake in Pierce's methodology, he was influenced by his scientific and philosophical view. In particular, it strongly influenced Veblen's ideas about evolutionary processes (Almeida, 2015: 3; Dyer, 1986: 21). According to Dyer (1986: 22), Pierce's views on the nature of science are a good source for interpreting Veblen's scientific views. In this context, firstly Pierce's logic of inquiry and secondly his *musement* concept should be considered. Veblen's concept of *idle curiosity* is likened to Pierce's concept of *musement* (Almeida, 2015: 3; Dyer, 1986: 31; Liebhafsky, 1993: 742). Dyer (1986: 30) also says that Veblen emphasizes the creative aspect of Pierce's method of scientific inquiry. According to him, the main point in absorbing the philosophy of science of Veblen is to know this.

2.1.2. Veblen's Institutional Economics

The foundations of Institutional economics were laid by Veblen, Commons, and Mitchell. It is accepted that the beginning of institutional economics began with

Veblen's article *Why is Economics not an Evolutionary Science?* published in 1898. The emergence of institutional economics took place in the United States in the twentieth century as a reaction to the abstract and deductive methods of neoclassical economics (Şenalp, 2007: 49). The term *institutional economics* was first introduced by Hamilton in the general congress of the American Economic Association in 1918. Moreover, Hamilton has put institutional economics against the value theory representing traditional economics since Adam Smith (Hamilton, 1919). Walton Hamilton argued that institutional economics can bring together economics by showing parts that are relevant to the whole (Hogdson, 2000: 317).

Institutional economics, unlike other theories, says that institutions have to be taken into account in economic science. According to them, institutions are not only structures that should be examined by disciplines such as politics, sociology, and history. In this respect, institutional economics differs from other economic theories. Those who incorporated the institutional approach into economics, or those who developed it, were groups that are positioned against traditional economics. These currents were the American Institutionalists and German Historical School (Chavance, 2009: 1).

In the book *Institutions, Institutional Change and Economic Performance* Douglas North describes institutions as the rules of the game in a community. And then expresses more officially, they are the rules and constraints that are created by people themselves and shape the interaction of people. Institutional change has an active impact on the ways in which societies evolve over time, it shapes them. It, therefore, plays a key role in understanding historical change (North, 1990: 3).

In the article *The Limitations of Marginal Utility*, Veblen (1909: 626) described the institutions as follows: "That is what is meant by calling them institutions; they are settled habits of thought common to the generality of men." According to him, the fact that economists accept these institutions as unchanging and given limits their work clearly. Under given institutional circumstances, an economic research that deals only with basic human nature (such as hedonism) movements can only achieve static results (Veblen, 1909: 628-629). Veblen has also described the institutions as follows in *The Theory of the Leisure Class*: "Institutions are products of the past process, are adapted

to past circumstances, and are therefore never in full accord with the requirements of the present.”

According to the neoclassical approach, as Chavance states, markets are the most fundamental theme of economic science. Accordingly, they think that the individual is rational, they act from the idea that the individual is calculating and observing the benefits. They focus on the idea of equilibrium and deal with the problem of efficiency. They almost ignore institutional structures and do not take into account historical processes (Chavance, 2009: 1). However, According to Hodgson (1994) (as cited in Chavance, 2009: 2), in the last twenty years of the twentieth century, many changes occurred in the relations between economic theories. *The New Institutional Economics* emerged, revealing the importance of institutions by addressing property rights or *modes of governance*. Otherwise, an innovative movement, such as evolutionary economics, emerged. According to Chavance (2009: 2), these changes have a historical context. The recent major institutional changes in the capitalist order, the transformation of the socialist economies as a result of the crisis, the differentiation between developing countries and so on. In this context, the concept of equilibrium and the *ceteris paribus* hypothesis are insufficient to analyze all situations.

2.1.3. An Evolutionist Economic Program Outline

Veblen’s article *Why is Economics not an Evolutionary Science* that is published in 1898 is an investigation into why economic science does not have an evolutionary nature. This paper is also a manifest call to make economics an evolutionary science. In this article, Veblen tries to reveal the differences between neo-classical economics and evolutionary sciences. In particular, he emphasizes that economics must be a *process* and *causality* science. According to Rutherford (1998: 463), this article by Veblen was a poignant criticism of the state of economics. In Veblen’s view, economics is in need of rehabilitation. Economists shut their ears for calls to become modern science (Veblen, 1898a: 373-374). In this respect (based on Veblen’s interpretation), it can be thought that economics is a science that has fallen behind its time. In this regard, this article was also a call for the reconstruction of the

economy. In other words, he thought that an evolutionary economy, which is an expression of *economic life process*, should be substituted for such an economy (Rutherford, 1998: 464). However, this article that is introduced in 1898 is only an outline of the evolutionary economics program. Veblen tried to develop this program in his first three books. These books are *The Theory of the Leisure Class* (1899), *The Theory of Business Enterprise* (1904), and *The Instinct of Workmanship* (1914) (Rutherford, 1998: 464).

While it is not certain that Veblen tried to construct his social theory very close to Darwinian natural selection, there is no doubt that he tried to establish an evolutionary model away from teleology (Rutherford, 1998: 465). According to Veblen, the rejection of teleological tendencies in Darwinian theory provided the basis for the social sciences to attain a modern or post-Darwinist scientific structure (Hodgson, 2003a: 87).

Darwin thought it was inappropriate to explain natural phenomena depending on the design. Instead of this, attention should be paid to physical or *efficient* causes that have had an impact on events for a long time (Hodgson, 2004b: 179). In this context, in Darwinism, causal explanations are at the forefront. The relationship between things is explained based on causality. According to Darwinism, every phenomenon has a causal explanation. Spiritual, transcendental or miraculous things are ignored. The results are always based on the sequence of causality (Hodgson, 2004a: 344).

The concept of cause is often understood as certain factors that have an effect on anything. However, four kinds of causality were classified by Aristotle. These are formal, material, efficient and lastly final. Among these causalities, the *efficient* cause coincides with the concept of causality in modern thought. *Final causality*, or put it differently *sufficient reason* has a teleological character. In other words, it is a purpose or intent that determines its direction. Today, this distinction can be seen among natural sciences and social sciences where there are sufficient causal incentives in human intentions and aims (Hodgson, 2004b: 176-7).

From the point of view of modern natural sciences, it is not possible to be a cause that does not physically involve the transfer of matter or energy. All causes should include the transformation and displacement of matter and energy. In this

context, all real causes can be expressed as materialistic reasons, because they meet these conditions (Hodgson, 2004b: 177). According to Darwin, the simple mechanisms of cause and effect could have led to very complex results. The condition of this is the concept of causality that involves matter and energy transfer (Hodgson, 2004b: 179).

The conception of evolution, where cumulative causality is central, can be seen most often in Thorstein Veblen's work (Takay and Özel, 2008: 5). The principle of causality, the main principle of Darwinism, was adopted by Veblen. For him (Veblen, 1898a: 375), "Any evolutionary science ... is a close-knit body of theory. It is a theory of a process, of an unfolding sequence." However, classical economists do not provide a theory based on the process, in addition to this, they offer a theory that is distant to *evolutionist habit of thought*. For that reason, they can not meet the criteria of evolutionary science (Veblen, 1898a: 376). According to Hodgson (2004: 345), there is much evidence that Darwinism is understood by Veblen from the point of sequential causality. An example from an article by Veblen (1907: 304) published in 1907 is:

in the Darwinian scheme of thought, the continuity sought in and imputed to the facts is a continuity of cause and effect. It is a scheme of blindly cumulative causation, in which there is no trend, no final term, no consummation. The sequence is controlled by nothing but the vis a tergo of brute causation, and is essentially mechanical.

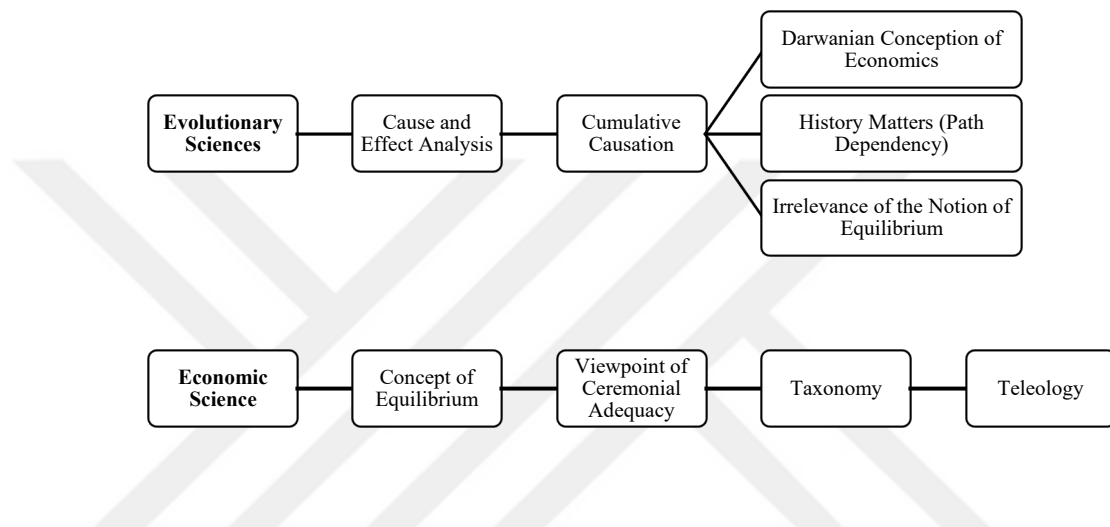
Anderson (1933: 602) states that Veblen has the idea that science requires an evolutionary view. According to him, Veblen claims that the modern science demands that the explanation of things be explained on the basis of cause and effect, and that causal explanations do not have an initial point and endpoint, it is realized in an infinite sequence.

In the explanations of Veblen (1898a: 375-376), the main distinction between evolutionary and pre-evolutionary sciences lies in a spiritual attitude and perspective. It also relates to a detailed investigation of the causal relationship among facts in a fundamental difference between the two generations. Regarding this, Veblen (1898a: 376) said: "The modern scientist ... asks the question, Why? he insists on an answer in terms of cause and effect." *Sense of truth*² of previous generations of scientists can not be satisfied with *formulation of mechanical sequence*. For them, the basic term used to systematize information is *natural law*. Eventually, this gives a spiritual attitude to

² They find the explanation of things in the laws of nature. Causal explanations do not satisfy them.

the causal relationship (Veblen, 1898a: 378). “ The objective point of the efforts of the scientists working under the guidance of this classical tradition, is to formulate knowledge in terms of absolute truth; and this absolute truth is a spiritual fact.” (Veblen, 1898a: 378)

Figure 1: Veblen’s Distinction Between Evolutionary Sciences and Economics



Source: Villena M. G. and Villena M. J., 2004: 590

Veblen also supports the idea that economics must have an evolutionary character by comparing analogies borrowed from different disciplines. According to Veblen, the analogy of *forces in equilibrium* borrowed from the science of physics seems problematic at many points in economics. For example, it is not appropriate to mention the static state of production and consumption or of money in circulation. In order to attribute a realistic nature, sciences are characterized as evolutionary. This evolutionary nature is situated at the opposite end of the economics that includes taxonomic character (Veblen, 1899a: 122-123).

In the words of Hodgson (2008: 401-402), Veblen understood that Darwinism had three fundamental themes. These are;

1. A sustainable or sustained variation needs to be among the organisms of the population. Regardless of whether these variations are random or purposeful,

it is important to know that the natural selection mechanism will not work without variations.

2. The other important principle concerns the existence of an inheritance mechanism. Stated in other words, it is a mechanism in which the properties of the individual through many generations can be transferred to the offspring through heredity.
3. The third mechanism is natural selection, which is related to leave greater number of offspring of better-adapted organisms.

Darwinist terms were not used by Veblen solely for a metaphorical purpose. Moreover, from Veblen's point of view, social and economic systems developed consistently with Darwinist concepts such as variation, heredity, and selection. He did not believe that Darwinist theory was limited to nature. It should also be applicable to socio-economic systems. The distinction between natural and social evolution lies in the selection units and the details of evolutionary processes (Hodgson, 2008: 403-4). According to Rutherford (1998: 463), in the beginning, Veblen's efforts to establish a modern economy that based on evolutionary view affected some scholars, but ultimately, it was a failed program.

2.1.4. Criticism of Neoclassical Economics

Neoclassical economists have been the subject of criticism in many of Veblen's works. Veblen has accused neoclassical economics of not being a modern, evolutionary science. According to him, the sciences can be divided into before and after Darwinism. Modern sciences, especially natural sciences, have a Darwinist character in this sense. According to him, however, the social sciences are behind their time as we mentioned earlier.

According to Hunt and Lautzenheiser (2011: 320), Veblen's central criticism of neoclassical economics was that he addressed human nature and institutions in a non-historical context and attempted to express them from a simple perspective. Neoclassical theory is one and the same as Jeremy Bentham's view of utilitarianism, according to Veblen. Neoclassical economists have dealt with everything in terms of rational, egoistic, utility maximization. So they could not explain anything.

2.1.4.1 Criticism of Homo-economicus³

According to Veblen, although there have been terminological changes in the orthodox (established) economic system since Smith, the preconceptions and assumptions have continued essentially the same (Landreth and Colander, 2002: 341). The same assumption that traditional economics uses throughout this process is that there is a harmony in the market, or, as Veblen put it, the *meliorative trend*. It is possible to see this meliorative trend in the *invisible hand* known as a constituent of Adam Smith's natural order. This trend can also be seen in the natural price concept. On the other hand, this belief shows itself in the concept of equilibrium of orthodox theory and again in their concept of utility expected from the long-term perfect competition market. According to Veblen, their concept of equilibrium contained a normative character. Without relying on any evidence they believed that any equilibrium in the market would produce socially beneficial results (Landreth and Colander, 2002: 341).

One of the most important reasons for Veblen's criticism of established economics is that they shape human nature within the framework of the concept of rational economic man. This framework has been discussed and explained in detail since Veblen. The basic assumptions of this framework are still valid in traditional economic studies. Traces of rational economic man psychology can be traced back to ancient Greek. However, Jeremy Bentham and Thomas Hobbes made the clearest statement (Twomey, 1998: 435).

Jeremy Bentham (18th-century British philosopher) was the first to introduce psychological hedonism (Elliot, 2006: 111). In the first chapter of his book *An Introduction to the Principles of Morals and Legislation*, Bentham (2000: 15) said: "Nature has placed mankind under the governance of two sovereign masters, pain and pleasure. It is for them alone to point out what we ought to do, as well as to determine what we shall do." 19th century marginalist economists used this psychological hedonism to develop utility functions (Twomey, 1998: 435).

³ Economic Man

The 17th century British philosopher Thomas Hobbes received psychological egoism. Robert Shaver says that psychological egoism is the ultimate goal of every individual to pursue their own welfare and self-interest (Shaver, 2019).

This rational choice framework, created under the influence of Bentham and Hobbes, was easily transferred to the economy with the optimization tools of mathematics and physics (Twomey, 1998: 435-436).

In this context, a concept which Veblen insistently emphasizes on in his reckoning with neoclassical economics is the concept of *hedonism*. Since classical economics, the individual has been formalised around hedonist concepts. That is, man is assumed to have a given nature: passive and stable. In the words of the Veblen (1898a: 389), “The hedonistic conception of man is that of a lightning calculator of pleasures and pains (...)” According to Veblen, man is not a pile of desires, but an output of his tendencies and habits. In this respect, economic efficiency is not the fulfillment of given desires (Veblen, 1898a: 389). However, marginal utility theorists always conceive of human beings as individuals who act rationally against problems. They do not take into account any other basis of human behavior other than rationality (Veblen, 1909: 622-623).

For Veblen, in line with what is said about human nature, Adam Smith may well be categorized as a moderate utilitarian (Veblen, 1899b: 410-411). Because the basis of Adam Smith’s economic reality comprised of god design, teleological order (Veblen, 1899b: 412). The statement that people are guided by an invisible hand does not, in Veblen’s interpretation, actually mean Adam Smith’s application to an intervening god. His guidance is not to intervene. It has created an established natural order since the beginning. This natural order is to serve the welfare of man. In economic theory, people are considered selfish. The economic human being is a part of the natural order and his selfish trade conception contributes to general prosperity (Veblen, 1899b: 396-397).

From the Darwinian point of view, Veblen (1898a) (as cited in Takay and Özel , 2008) asserts that man is an active subject of evolutionary processes and that it is therefore not the right approach to regard man as a constant thing. Moreover, human action is a trigger force for social and institutional changes.

2.1.4.2. The Static Nature of Neoclassical Theory

Another point that has been ruthlessly criticized by Veblen is the static nature of neoclassical theory. Marginal utility theory is essentially a theory of value. For this reason, it is included in the theory of distribution. Although it is tried to apply the marginal utility principle to the fields of production and consumption, returning to the distribution area. Within this limitation, marginal utility theory has a static character. They do not present any theory of motion, they are interested in setting values to a given state (Veblen, 1909: 620).

They have not revealed anything about the origin, development, and changes of phenomena in economic life. The reason why they cannot put forward anything about *dynamism* is that their theories are surrounded by teleology rather than causal terms. It is important to examine technological change in order to understand the progressive modern phases of economic life. But marginal utility theorists were not interested in this (Veblen, 1909: 620-1). “The infirmity of this theoretical scheme lies in its postulates, which confine the inquiry to generalizations of the teleological or *deductive* ⁴order.” (Veblen, 1909: 622)

2.1.4.3. Criticism of Natural Rights-Natural Law

The work of the Physiocrats has been shaped within the framework of the preconception of “Natural Rights”. In this context, physiocrats have established a starting point for the procedure that determines the work of sequent economists (Veblen, 1899a: 125-6). In this sense, according to Bateria, classical economists have always interpreted causal relations by linking them to the existence of natural law. They were more interested in the deductive method rather than Darwinian cumulative causal processes. For this reason, they have been subjected to serious criticism by Veblen (Bateira, 2010: 33).

For the Physiocrats, the laws of nature must be respected. In Quesnay’s words, these laws are fixed and are the best. In addition, it always acts to maximize the welfare of the human species. Veblen (1899a: 126-7) has wrote, “Conformity to these “

⁴ Emphasize is added.

immutable and unerring “ laws of nature is the test of economic truth.” This law tends to come to a final point and works in a spiritual way (Veblen, 1899a: 126-7).

The main fact here is not the existence of any causal effect, but the purpose that nature tends naturally. In short, the laws of nature have a teleological tendency to maximize the welfare of the human species. This is the foundation of the economic truth. For this reason, nature is the ultimate condition in physiocrats (Veblen, 1899a: 127-30).

When these “logical premises” used by the Physiocrats are examined, it turns out that this natural system has a high-level animistic character (Veblen, 1899a: 131). Animism is defined by Veblen (1899a: 141) as follows: “The animistic preconception enforces the apprehension of phenomena in terms generically identical with the terms of personality or individuality.”

2.1.5. On The Human Nature

Unlike the orthodox tradition, Veblen did not think that man was a rational and calculating entity. He tried to take man in a Darwinian sense. In doing so, he attached great importance to the concept of instinct.

The view that the laws of nature were intended to maximize the welfare of society was very superficial and meaningless to Veblen. In his view, man is more complicated being caused by certain instincts. What shapes human is instinctively behaviors and habits. In this context, people are curious creatures looking for ways to come up with new things as their nature requires. They are a product of their tendencies and habits (Ekelund and Hebert, 1997: 412).

According to Veblen, what constitutes people’s tendencies and preconceptions are the material conditions in the environment in which they live (Ekelund and Hebert, 1997: 412). The nature of the tendencies indicates “final and definitive” hereditary characteristics (instincts) (Weed, 1981: 380). In contrast, as Veblen puts it, habits refer to an individual’s cumulative analysis of past experience under traditions and material conditions (Veblen, 1898a: 69).

In short, what constitutes the basis of the worldview is based on the specific conditions in which individuals exist. And therefore it is based on technology. They form the relationship between people and things (Ekelund and Hebert, 1997: 412).

2.1.6. Institutions

The formation and development of institutions were realized by the complex interaction of different levels of evolution. The temporality of evolution is also an important factor here. The deepest level is instincts and hereditary tendencies (Chavance, 2009: 12).

Veblen (2007: 126) touched upon what institutions are in the eighth section of the “Theory of the Leisure Class”: “The institutions are, in substance, prevalent habits of thought with respect to particular relations and particular functions of the individual and of the community...” Conditions and strong institutions over a certain time frame favor one character type over another, allowing it to survive. In addition to being a selective adaptation process that shapes dominant trends, institutions also guide life of human, and interpersonal relationships (Veblen, 2007: 125).

According to Veblen, the conditions that exist today create the institutions of tomorrow by changing or strengthening the mental state transmitted from the past. In this way, habits of thought are taken over from the past. Institutions cannot be in full harmony with the present since it is an outcome of the past process (Veblen, 2007: 126-127).

Veblen evaluates institutions from two viewpoints. First, he emphasizes, from psychologically, the habits of thought and life. Secondly, from a social perspective, they are the usual methods for maintaining the life of the community (Mayberry, 1969: 316). These institutions react to stimuli created by conditions and therefore change over time. In short, it influences the thinking of the circumstances, and this proceeds by making changes on the institutions taken over from the past. This is an adaptation process (Veblen, 2007: 126). These habits of mind that people inherit from the past tend to maintain their situation unless they force any change in circumstances. Therefore, according to Veblen, these institutions are indicative of conservatism. Its

basic qualities are inertia compared to the state of change (evolution of society) (Veblen, 2007: 127).

In Veblen's words, social evolution is "a process of mental adaptation." This mental adaptation is achieved by individuals under conditions that cannot tolerate traditional ways of thought. In other words, the adaptation of institutions and traditional views to change is essentially the response to external pressure. This is about how open individuals are to external pressure. (Veblen, 2007: 127-128).

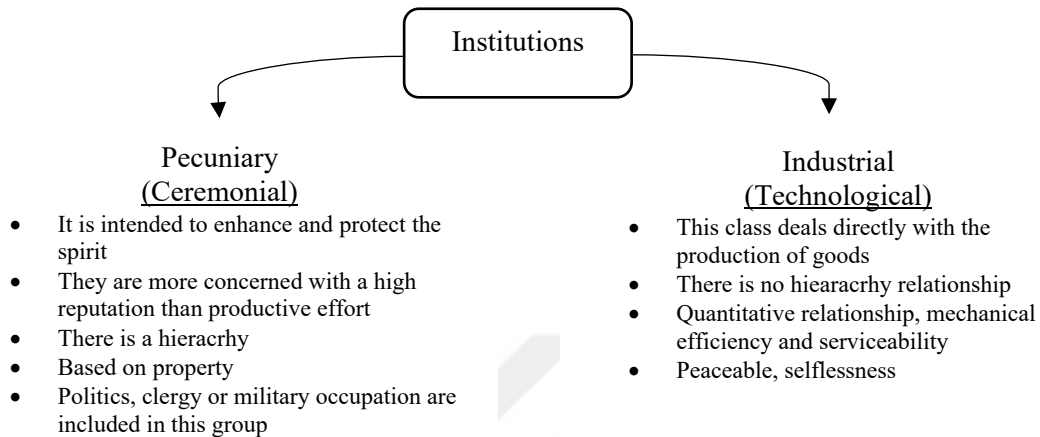
Each community can ultimately be regarded as an economic mechanism. Economic institutions form the structure of this mechanism. These institutions are the methods used by individuals to realize their material lives. With the increase in population and the development of people's knowledge and skills to use nature, results from known methods of effectiveness cannot be obtained. That is, the distribution of resources does not have the same effect as it used to have. An improvement in technical methods requires at least some individuals in the community to change their life habits. Their attempt to reconstruct the usual way of life of the past arises in particular from the necessity of obtaining their lives. In other words, it results from material exigencies. Therefore, according to Veblen, the forces that necessitate reorganization in the institutions of the community are predominantly economic forces (Veblen, 2007: 128-130). In this context, it is thought that the formation of the institutional structure derives from the organization of the material life created by the productive forces shaped in the process of technological development (Gürkan, 2007: 241).

Veblen divides institutions into two opposing groups. These are *ceremonial institutions* (imbecile) and *dynamic technological institutions*. The first of these institutions is conventional institutions that resist change. Contrary to the former, the second institution is a technical institution that triggers change. These two institutions are the subjects of social conflict that will determine the future institutional structure (Ekelund and Hebert, 1997: 415; Gürkan, 2007: 242; Veblen, 1918: 25).

Veblen has also divided institutions into two categories in "The Theory of Leisure Class": for him, institutions can be separated as the pecuniary and the industrial institutions. It can be said that this distinction is valid for employment. In this context, while the first group includes employments that are ownership and acquisition, the second group includes more productive employments such as

production and workmanship. Pecuniary employments especially are interested in to conserve predatory abilities and spirit (Veblen, 2007: 150-151).

Figure 2: Classification of Institutions in Veblen



Source: Based on Veblen, 2007

2.1.7. Instincts

When it is asked which primary factors have formed these institutions, the answer that Veblen has given to us is human instincts. For Veblen, instincts are “prime movers in human behaviour” (Veblen, 1918: 1). The distinguishing characteristic of an instinct is defined for the specific purpose it drives. So what separates one instinct from the other is that each wants to achieve a different purpose or goal (Mayberry, 1969: 316).

For Veblen, these instincts are divided into instincts for the benefit of society and instincts contrary to group interests (Chavance, 2009: 35-36). The basis of the inter-institutional conflict lies in these instincts. These are peaceable instincts and predatory instincts. The first instinct is directed to behavioral tendencies that can improve the conditions of social material life. The other instinct is the behavioral tendencies that prevent the increase of material welfare (Gürkan, 2007: 244).

Predatory instincts also have a status quo that resists institutional change. By maintaining existing thinking habits, they resist institutional change (Baş Dinar, 2015: 162). It is, therefore, the origin of traditional institutions. On the other hand, peaceable

instincts are the source of dynamic technical institutions, which are the fundamental elements of change (Gürkan, 2007: 244). While studying dynamic instincts, Veblen mentions three interrelated instincts; instinct of workmanship, parental bent, and bent of idle curiosity (Gürkan 2007: 244).

2.1.7.1. Instinct of Workmanship

Veblen especially saw the instinct of workmanship and idle curiosity as the source of dynamic technological institutions (Ekelund and Hebert, 1997: 414). Therefore, instinct of workmanship is one of the most important factor for Thorstein Veblen. For Veblen, man is "... an agent seeking in every act the accomplishment of some concrete, objective, impersonal end.". Because of this reason, while man confirms effective working, abhors for futile effort. While man perceives that serviceability and efficiency are virtuous, incapacity and waste are not. And Veblen wrote, "this aptitude or propensity may be called the instinct of workmanship" (Veblen, 2007: 16). Veblen (1898b: 192) wrote in an article: "What meets unreserved approval is such conduct as furthers human life on the whole..." From Veblen's point of view, in this sense, the instinct of workmanship is an effective instinct that carries community life further. Throughout an evolutionary process, before a predatory life becomes evident, man's life has evolved to preserve the instinct of workmanship. According to Veblen, the archaic people were members of a solidarity-based group. In these societies, hence, the instinct of workmanship has been the dominant inclination (Veblen, 1898b: 194). Even if the conditions of life change, it stays with the people, just the way of expression is changing (Mayberry, 1969: 315). As stated before, efficiency is approved in accordance with the rules of conduct shaped by the instinct of workmanship, while inefficiency is disgusting. In the sense of economic success, futility and inefficiency are hated. In this context, the instinct of workmanship conflicts with inclinations developed against serviceability effort (Veblen, 1898b: 189, 190, 196). It is more about improving the welfare of society or group.

On the other hand, for Kızılkaya (2001: 71), Veblen's concept of the instinct of workmanship is similar to ideas in the early works of Marx. According to Marx, in production, man distinguishes himself from the object while working. On the other

hand, the object and human are reunited during consumption. By consuming the products produced, the physiological process of the metabolism that creates and supports life is completed. In this way, Marx stresses that work is an integral part of human nature. According to Marx, the capitalist system undermines this creativity of working. In this context, Marx's ideas are similar to Veblen's instinct of workmanship.

2.1.7.2. Parental Bent

One of the central instincts of human nature for Veblen is the *parental bent*. This tendency is far more extensive than about children (Veblen, 1918: 26). People who have this parental bent are not only worried about their own children but also are worried about the community or race in which they live (Mayberry, 1969: 315). "Virtually all thoughtful persons," writes Veblen (1918: 26) , "will agree that it is a despicably inhuman thing for the current generation wilfully to make the way of life harder for the next generation (...)" It is also the social solidarity in the reproduction of material life and the tendency to justly share the product (Gürkan, 2007: 244). Considering Veblen's critique of concepts such as egoism, utilitarianism, and hedonism, it can be thought that parenting instinct is positioned against them. According to Davis (1980), Veblen did not work on normative elements that regulate society, such as Durkheim, but instead of this, he gravitated toward an ambiguous humanism and cosmopolitanism. This social solidarity had been addressed at an international level by Veblen. If it was addressed at a national level, that instinct would disappear (as cited in Kızılkaya, 2001: 73).

2.1.7.3. Bent of Idle Curiosity

It can be said that idle curiosity is complementary to these propensities. This instinct is the underlying propensity in the pursuit of scientific knowledge by understanding and interpreting material reality (Gürkan, 2007: 244). In the words of Veblen (1918: 85), idle curiosity is that the people insistently "*want to know things*" about world reality. In other words, "idle curiosity" is the psychological origin of

scientific knowledge. It is also the source of designs in the world of religion and metaphysics (Mayberry, 1969: 317).

Veblen thinks people have a variety of reactions to the environmental conditions they live in. Some of them become habitual, while others create useless activities. According to Veblen, idle curiosity emerged in this context. People can make some explanations by observing their environments curiously. Some of this information that is expressed through observation may be beneficial for people, while others do not provide any benefit. Veblen calls this information *idle*. According to the social phases of humanity, the information revealed by this idle curiosity also differs. In the barbarian period, scientific knowledge was revealed through myths and legends, and in the modern period, it was transformed into the development of production (Kızılkaya, 2001: 71-72).

Veblen's focus on the instinct of workmanship was not only because it was the most important instinct. According to him, the instinct of workmanship also connects other instincts such as idle curiosity and parental bent (Wolozin, 2005: 728-729). Ultimately, the combination of these instincts creates habits of thought (Mayberry, 1969: 317).

2.1.7.4. Predatory Institutions

According to Veblen, changes may not always lead to the creation of creative tendencies in humans, but may also lead to predatory tendencies (Kızılkaya, 2001: 73). Veblen (2007: 146) wrote in *The Theory of Leisure Class*: "The salient characteristic of the barbarian culture is an unremitting emulation (...) between classes and between individuals." This emulative discipline prefers generations that have as few peaceful features as possible. In other words, Veblen bases the predatory institutions on the tendency to emulate.

It was the instinct of workmanship that gave people esteem during the peaceable era that has the instinct of workmanship. In this context, a comparison aggrandized *instincts of workmanship* of individuals and gave them esteem. But over time, esteem has gained an institutional structure (Kızılkaya, 2001: 73). Indeed,

Veblen turns his attention to esteem conception here (Weed, 1981: 73). Veblen (1898b: 197) worded as follows

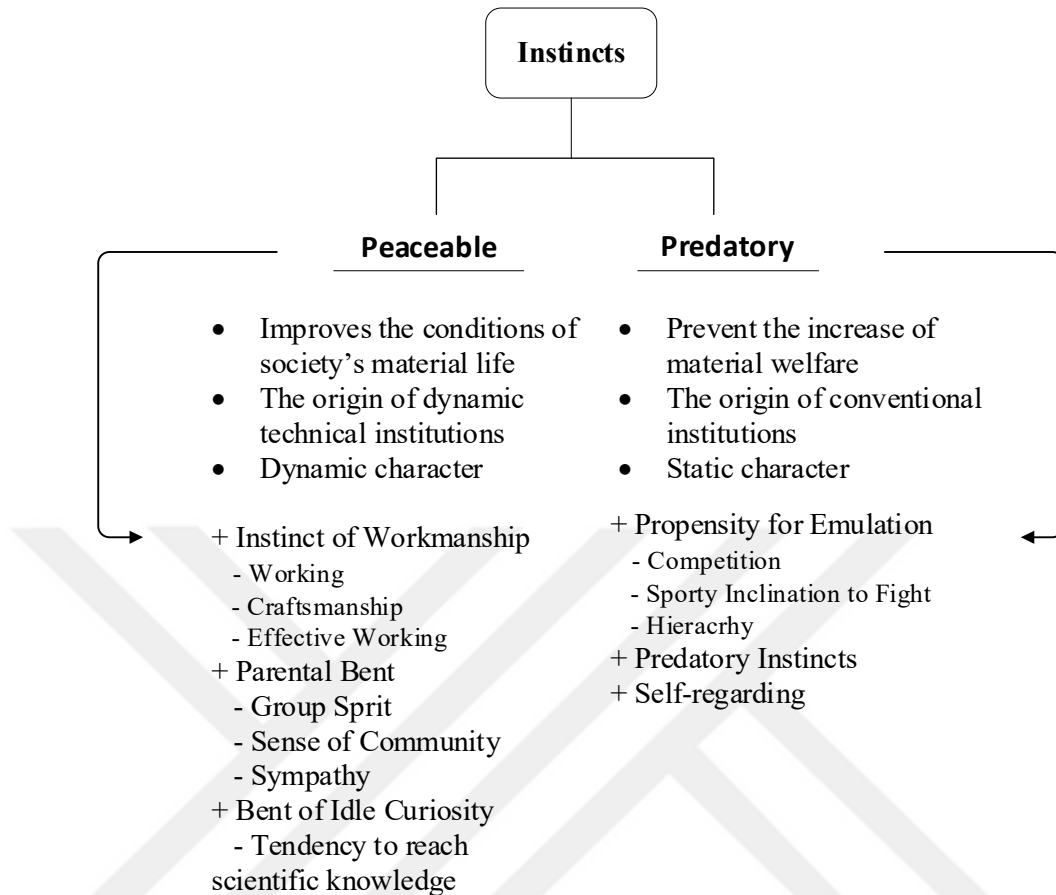
“The visible achievement of one man is, therefore, compared with that of another, and the award of esteem comes habitually to rest on an invidious comparison⁵ of persons instead of on the immediate bearing of the given line of conduct upon the approved end of action.”

The framework for gaining esteem tended to an invidious comparison between individuals. The underlying criterion is the power that the actor can demonstrate. Thus, the objective of the action is to provide evidence of power. This is the most important institutional feature of predatory instincts (Weed, 1981: 73-74). As material wealth became possible, the criterion of esteem began to be associated with ownership (Kızılkaya, 2001: 74). On the other hand, for Veblen, the underlying motive of the ownership is emulation. “The possession of wealth confers honour; it is an invidious distinction.” The possessions are now seen as evidence of the owner’s power over others rather than as evidence of war (Veblen, 2007: 59-60).

In Veblen, the class that engaged in productive and efficiency works constitutes the overwhelming majority of society, on the contrary, the predatory class constitutes a lot fewer. These (predatory class) are upper classes; business owners, clergy, managers, lawyers and so on. In this respect, according to Mitchell (2001: 392), Veblen’s predatory type is similar to the types in the works of Marx, Galbraith and Schumpeter. These are the bourgeoisies, the new class and the entrepreneurs, respectively.

⁵ An invidious comparison is a process of valuation of persons in respect of worth (Veblen, 2007: 27).

Figure 3: Classification of Instincts in Veblen



Source: Based on Baş Dinar, 2015, Chavance, 2009, Gürkan, 2007, Veblen, 1918, Veblen, 2007

2.1.8. Historical Approach

Veblen argues that historical change is cumulative in the realization of the evolution of culture. In the meantime, it occurs in accordance with the evolution of habits of thought. Veblen's main argument about the evolutionary change approach is that some environmental conditions are more conducive than others to the expression of behavior and thoughts arising from the instinct of workmanship or the instinct of predatory. Veblen had described four different stages of evolution in which technology, habits, instincts and institutions are intertwined. These four different periods are the peaceable era, the predatory or barbarian era, the handicraft era, and lastly the machine age (Cordes, 2005: 4; Edgell, 1975: 273).

2.1.8.1. Peaceable Era

During the peaceful period, industrial endeavors were the main factor for the livelihood and survival of the community. Due to the low level of technology, there was no surplus for the group members to fight. The worry of getting a living discourages predation. That is why the instinct of workmanship has shaped the institutions and culture. Therefore, it can be said that this period made technical progress in the conditions of material life. As a result, there is a pursuit of efficiency in this period (Cordes, 2005: 5; Edgell, 1975: 273; Jensen, 1987: 1042). According to Veblen (1898b: 198), when the group was small and the conditions for a transition to barbarian life did not exist, the emulation among the group members was mainly related to industrial efficiency.

2.1.8.2. Predatory Era

For Veblen's (2007: 11) viewpoint, the shift from the primitive savage community to barbarism (from peaceful life to predatory life) has arisen gradually. Conditions for the emergence of a predatory life are as follows:

- 1) The peoples must have a predatory lifestyle, such as warfare or hunting.
- 2) Subsistence must be sufficient to exempt a particular segment of society from working.

When these conditions are fulfilled, the predatory life replaces the workmanship (Edgell, 1975: 274).

Developments such as the increase of technical knowledge, the development of the use of tools and the formation of the social division of labor have led to the creation of surplus in the society. These, in turn, encouraged greed and forced seizure in society. This is the development of the first stage of predatory life (Cordes, 2005: 5). In this fighting phase of development, aggressive attitude and exploit become important. The dominant vital interests of the group give place to sagacity and power, and other things that serve the life of the group remain in the background. Aggression becomes the guiding goal of the group and people's actions are judged by the stance of the fighting man. To put it briefly, dignity is based on exploit (Veblen, 1898b: 199).

When the predatory culture completes its development, a distinction emerges between employments. The scope of the exploit tradition has expanded and there has been an increase in its continuity. Then the efforts related to this have started to be seen as valuable and respectable. Other employments have been trivialized (Veblen, 1898b: 199-200). In this context, according to Veblen, fighting and hunting become the task of physically powerful men in such a predatory group. Women do the remaining worthless jobs (Veblen, 2007: 15). To summarize, things that require exploit or heroism, such as hunting and warlike, are precious, honorable and noble. On the other hand, jobs that require efficiency, such as industrial production, are worthless and degrading.

2.1.8.3. Handicraft Era

The stage following the predatory culture was the handicrafts era. The age of handicrafts began to appear towards the end of the feudal period. And this period extended to the 18th century. That is, it covers a period of approximately 5 or 6 hundred years (Murphey, 2001: 241). The era of handicrafts refers to the revival of cultural preconceptions favorable to peace and industry (Plotkin and Tilman, 2011: 128; Veblen, 1918: 298). In the handicraft phase, the instinct of workmanship again reveals its effect (Cordes, 2005: 5; Edgell, 1975: 273).

During this transition period, the development of handicrafts was accompanied by the itinerant traders and industrial cities (Veblen, 1918: 232). The main actor of this period is essentially independent craftsmen. These crafters were responsible for producing and marketing their own products. In this context, they carried industrial and material concerns (Murphey, 2001: 241).

In Veblen's point of view, the system of handicrafts necessitates a conventional understanding of mechanical forces and processes from the point of manual workmanship (Cordes, 2005: 5). With the rise of workmanship, production and trade increased and ultimately population rose. The order of life, conducted by creative craftsmanship, has prompted to a mechanical cause and effect understanding. And in this way, it influenced the advancement of science. As the scale and expenses increase due to the development of technology, the amount of capital needed for the

organization of production must increase. Correspondingly, the expansion in trade raised the importance of market relations, in which the system of the price⁶ gets to the forefront. Therefore, a progressive distinction between the employments sprang up at the end of the stage of the handicrafts. In other words, there has been a differentiation between material or pecuniary and industrial employments. The quality of the work (the task of getting a living) has turned into work for profit rather than productivity (Edgell, 1975: 275). As a result, Veblen stated that the companies embodied two opposing sides. The first group is engaged in productive industrial activities such as engineers and technicians, while the second group is businessmen that have means of production (Rutherford, 1984: 338).

2.1.8.4. Machine Era

In Veblen's historical approach, last in the classification of the periods, the machinery age can be mentioned. Towards the end of the 18th century, with the industrial revolution, the era of machinery started (Murphey, 2001: 241). Otherwise, in the handicraft phase, free competition among the crafters led to the emergence of the machine phase of the era (Edgell, 1975: 275). Veblen states that this period is also referred to as the era of factory order, as the stage of capitalism or free competition, and moreover, the period of large-scale industry or credit economy. From a technological perspective, according to Veblen, the discourse that best characterizes this period is the epoch of *machine industry* or *machine process* (Veblen, 1918: 299).

The beginning of this period essentially began with remarkably technical means of production. These tools were so widespread to owned and conducted by *masterless* crafters. As mechanization or industrialization developed, ownership or possession of the means of production was separated from the operation. Machines' operation became the field of wage labour and owners are highly specialized in production and distribution. Based on these, a class structure has appeared as workers and owners. Owners are completely distanced from productive and efficiency

⁶ With the development of the price system, new accounting techniques have also appeared. Thus, statistics have developed and scientific development has progressed (Murphey, 2001: 241).

processes. On the other hand, workers are engaged in fully productive processes (Murphey, 2001: 241-242).

Therefore, this age can be expressed as conflict or tension between the instinct of workmanship and predatory instinct. Serviceability industrial habits and institutions are dominated by business activities. From Veblen's point of view, the opening of the machine age meant for the end of freedom of common workmanship. After this turning point, the price system, which is a predatory institution, dominated the workmanship or industry, which Veblen cares very much and examines in depth (Edgell, 1994: 97). In brief, Veblen emphasized that the machine age had a predatory character, but ultimately it was temporary (Edgell, 1975: 277).

Veblen had examined the evolutionary history of humanity in-depth, based on the instinct of predation and workmanship in various historical periods. In doing so, he abstained from making a clear prediction of the future, unlike Marx, in which he criticized the theory of change with a non-Darwinian teleological character, while acting in accordance with the Darwinian pedigree (Edgell, 1994: 97). According to Veblen, any of these two opposing instincts can prove its superiority in the long run. But this is a blind estimate. However, he argues that the future belongs to one of these two forces (Veblen, 2011: 162).

2.2. SCHUMPETER

One of the main actors of evolutionary economics is Joseph Schumpeter. His work plays an important role for the subsequent evolutionary economists. In this context, economists such as Nelson and Winter who claim to be Schumpeter's successors define themselves as post-Schumpeterian.

In the first half of the 20th century, through the econometrics revolution, neoclassical economics rebuilt its dominance against the struggle of institutional economics. Joseph Schumpeter, himself an orthodox economist, has shown resistance to this new orthodoxy. In this respect, he was a mainstream economist who challenges the principles of the equilibrium paradigm (Freeman and Louca, 2001: 42-43).

Freeman and Louca (2001: 42) base Schumpeter's first theoretical writings on two roots: The first is J.B Clark, who has studies on static equilibrium analysis. Clark

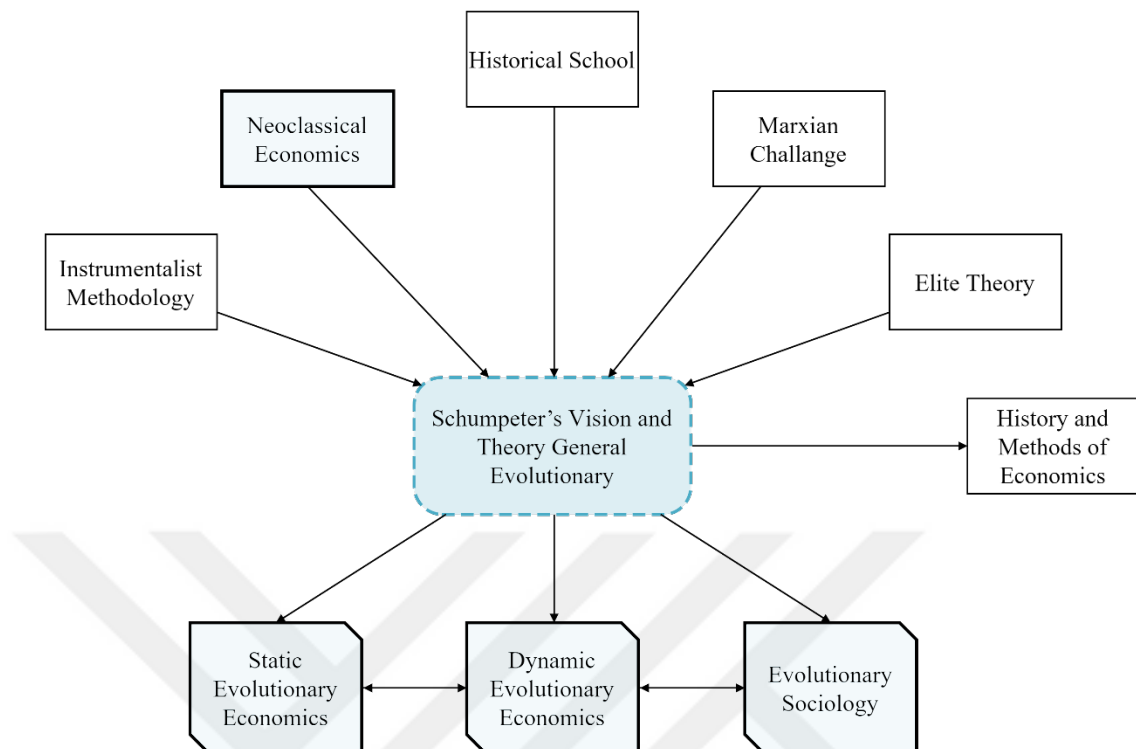
is an economist who has become aware of the limits of static equilibrium analysis. His aim was to overcome these limits. In this respect, the main purpose of the Schumpeterian program was to provide a dynamic counterpart to the static Walrasian schema. The second thing that had an impact on Schumpeter was the increasing emphasis on historicalist arguments and the discussion of Methodenstreit.

2.2.1. Intellectual Combination of Schumpeter

Schumpeter's intellectual progress essentially involves two opposing sides. This is an encounter of equilibrium economics and evolutionary economics. That is, a method clash between the neoclassical school and the historical school. Marshall was offering a dual remedy to this problem. At first, he drew a portrait for the economy that two basic approaches were complementary, similar to the fact that theoretical physics was a complement to experimental physics. Then he stated clearly that as it shifts from the equilibrium paradigm towards evolutionary economics, the importance of historical evidence increase while the role played by formal theories decreases. Although it appears from Schumpeter's books that he agrees with Marshall's views on many points, he has expressed his aims more assertively (Andersen, 2009: 35).

- 1) Schumpeter thought that in the workings of a particular economic structure, with regard to historical and statistical evidence, the Walrasian equilibrium economy rather than the others (Marshallian or Austrian) were valid.
- 2) Second, he wanted to create a theoretical ground for evolutionary economics. He wanted to do this as a complement to the work of the historical school focused on historically economic evolution.
- 3) Finally, Schumpeter thought that evolutionary sociology was what he needed to explain the economic and social processes of capitalism.

Figure 4: Schumpeter's Intellectual Combination



Source: Andersen, 2009: 36

According to Andersen (2009: 35-36), Schumpeter has shaped its evolutionary ground around four different contributions. It can be seen these contribution from the figure:

- 1) Neoclassical Economics
- 2) Historical School
- 3) Marxian Challenge
- 4) Elite Theory

As a fifth, it can be said that he used instrumentalist methodology to interpret the results of his work. As shown in the figure above, Schumpeter's evolutionary economics encompasses not only evolutionary dynamics, but also evolutionary statics and an evolutionary sociology (Andersen, 2009: 35).

2.2.2. Is Schumpeter an Evolutionary Economist?

Schumpeter is considered to have a significant impact on evolutionary economics. In this context, evolutionary economists such as Nelson and Winter call their work as “neo-Schumpeterian”. But there are some economists who are out of this view. Hodgson, who has important studies in the field of evolutionary economics, deals with two crucial aspects of Schumpeter’s work: The first of these is Schumpeter’s extreme admiration for Leon Walras and the choice of general equilibrium analysis as the starting point of the theory of economic evolution. This is inconsistent with the dynamic nature of evolutionary economics (Hodgson, 1993, as cited in Takay, 2009: 67). According to Hodgson has stated, secondly, Schumpeter uses the concept of evolution in a very general way only to express change and development. Hence, the Darwinian evolutionary process is excluded. In addition, this situation reduces the importance of biological metaphor in economics (Hodgson, 1993: 146).

According to Kelm (1997), Schumpeter’s views and arguments about equilibrium analysis do not diminish the value of his contributions in the field of evolutionary economics. Ultimately, Schumpeter acknowledged that the Walrasian equilibrium economy, characterized by a stationary state without endogenous changes, has limited use. Although the general equilibrium economy does not contain endogenous change, endogenous change is one of the most fundamental features of capitalism. In this context, the general equilibrium economy can not go beyond methodological fiction.

Another criticism about Schumpeter was that he excluded Lamarckian and Darwinian evolutionary processes from his work (Kelm, 1997: 106). As stated by Schumpeter, evolution in the general sense involves all phenomena of the non-stationary economic process. In a narrow sense, it is defined in terms of continuity of rates and the concept of growth within the unchanging structure of institutions and technological environments together with all the facts of the non-stationary economic process (Schumpeter, 1986: 930). Although there is no Darwinian mechanism in Schumpeter’s description of the concept of evolution, this does not mean that he excludes Darwinian processes. He used the evolution concept to refer to the reverse of

stationary. Hence, the evolutionary process is an endogenous process of change (Kelm, 1997: 107).

Schumpeter described the model appropriate for economics as the science of physics. Nevertheless, he denied the inclusion of mechanical concepts such as equilibrium in economic science. Moreover, Schumpeter was primarily an economist interested in understanding the nature of change. According to him, the processes of development in capitalism should be clarified by industrial mutation rather than equilibrium analysis (Freeman and Louca, 2001: 42, 48). Schumpeter (2003: 83) expressed:

“industrial mutation—if I may use that biological term—that incessantly revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one. This process of Creative Destruction is the essential fact about capitalism.”

Indeed, Schumpeter’s statement, as one who denies the importance of biological metaphors, represents an exception. Although the term *industrial mutation* is quite exceptional, it has been studiously chosen to express the disequilibrium character of evolution (Freeman and Louca, 2001: 48-49).

Hodgson (1997: 132-3) asserts that a comparison must be made between Schumpeter and other evolutionary economists in an article he wrote in response to Kelm. According to him, Schumpeter’s work, which does not include any Darwinian mechanism and does not endeavor to implement the Darwinian theory in evolutionary economics, is quite different from that of other evolutionary economists. As an illustration, Thorstein Veblen tried to establish his works based on Darwinian ideas. Armen Alchian made clear use of natural selection and other Darwinian opinions. Hayek and Kenneth Boulding took advantage of evolutionary ideas. Nelson and Winter expressed their approach as Lamarckian. From this perspective, it is quite problematic to read Schumpeter’s works from an evolutionist perspective.

It is important to note that Schumpeter has positivist tendencies. In his time, positivist tendencies rather than biological metaphors were very popular in the social sciences. Schumpeter, like other theorists, was influenced by the intellectual climate. Like many intellectuals of his time, he saw metaphors as literary ornaments. The theory should be based on facts rather than metaphors (Hodgson, 1997:134-5).

2.2.3. Schumpeter's Theory of Economic Development

Schumpeter's second book, "The Theory of Economic Development," published in 1911, could be said to be his "Magnum Opus". This classic book by Schumpeter is highly influential in understanding the nature of modern economics and the mechanisms of innovation. Moreover, it is a fundamental book in understanding financial and economic crises (Bazhal, 2016: 3). In addition to all these, Croitoru (2012: 137) states that because of this seminal work of Schumpeter, he has a reputation as a prophet of innovation. This book, on the other hand, is the most basic book in which Schumpeter's idea of evolution can be traced. However, due to Schumpeter's cautious approach to evolution word, the theory has become widespread as the *Theory of Economic Development* (Öcalan, 2012: 12).

In the early part of the nineteenth century and in the interwar term, the prevailing thought among economists was related to the theory of business cycles. At those times, however, the examination of economic fluctuations and crises was a significant subject in many countries (Hagemann, 2003: 47). Schumpeter was one of the economists who tried to explain the main factors that caused economic fluctuations. From his book TED (1911) to his two main works, BC (1939) and CSD (1942), he essentially explored the dynamics of growth and cycle (Langroodi, 2017: 1).

2.2.3.1. Static and Dynamic Dualism

Schumpeter has always stated that his own theoretical system is basically based upon static and dynamic distinction. In his view, in all aspects, the dynamic is entirely different from the static one. The economy's significant results until now are restricted to static analysis. Therefore, different from others, he wanted to limit himself on this regard. Although he focused on the analysis of equilibrium, which contained a static quality, he consistently took on a dynamic viewpoint while establishing his theories of economic development and business cycles. In this respect, Schumpeter undertook the

distinction associated with dynamics and statics that put forth by John Stuart Mill⁷ in the economic literature (Hagemann, 2003: 54).

The existence of factors affecting the state of dynamic equilibrium in the economic system was accepted by Classical economists. But, in their view, these were indecisive elements, in other words, transitory exceptions to the rule. Sooner or later, the economy tends to move to the state of stationary. Conversely, the stationary state also existed in Schumpeter's analyses. But he employed it only as a crude model in his analysis. It had no normative meaning to him. So he continued not to acknowledge the presence of static equilibrium (Wolfson, 1958: 31).

Schumpeter takes an approach that puts the dynamic competitive process at the heart of capitalist economic development. In this sense, Schumpeter's dynamic analysis of the competitive process is what makes him different from mainstream economists. What causes this dynamic process is the continuous change of technology. Therefore, an equilibrium point cannot be reached where the profit is maximized. On the other hand, technical change is related to changes in market structure. (Bloch, 2000: 344-345; Öcalan, 2012: 13).

Although technology can be included in established economics analysis, until recently technology has not been the primary matter of mainstream economists. However, even if the technology is included in the analysis in established economics, the only thing that has changed is the new equilibrium point. For them, technology has no impact on the structure of competition. In Schumpeter, the opposite is true. So the structure of competition is affected by technological changes (Bloch, 2000: 345).

After discussing these views of Schumpeter, it can be said that his ultimate aim is to explain the dynamic elements and functioning of the stages of capitalist development. In this context, Schumpeter states the economy in two different situations. While the first of these represents a static economy that does not tend to

⁷ The foundations of these two concepts laid out by Schumpeter are based on Mill's work, the *System of Logic*, unlike the science of physics. In this work, the concept of static emphasizes stability, while the dynamic approach expresses progress. On the other hand, more obvious source of Schumpeter's dichotomy is seen in J.B.Clark's work. A discussion of Clark and Böhm-Bawerk's on the notion of capital attracted Schumpeter's interest, and Clark's work served him to overcome the exclusion of economic evolution analysis from the neoclassical analysis. That is, it was effective in Schumpeter's getting out of the neoclassical axis. Clark's artical *The Future of Economic Theory* and his book *Distribution of Wealth* contains pioneering thoughts on static and dynamic approaches. Although Clark contributed to the neoclassical approach, he argued that it was essential to move economics into the field of dynamic sciences (Andersen, 2009: 55).

change, the other represents a dynamic economy in which change can be observed. In static analysis, “equilibrium” means that the economy is in a state of absolute rest. In dynamic analysis, “equilibrium” represents the “absence of structural changes”. Schumpeter uses a static model to explain the dynamics of the capitalist economy, which he thinks has a dynamic structure (Gürkan, 2007: 252; Öcalan, 2012: 13; Özel, 2010 : 193).

From a dynamic analysis point of view, it is not possible to achieve equilibrium in a state of structural change. As for the reasons that disturb the equilibrium, while the source of this is external factors according to static analysis, for dynamic analysis, it is internal factors. On the other hand, the equilibrium is stable in the static approach, but not in the dynamic approach (Özel, 2010: 175).

According to Shionoya (2005: 140), although Schumpeter clearly distinguishes economic development from the steady-state, he does not exclude the static model from his analysis, as he thinks he cannot analyze economic development without the economic static model. At the base of Schumpeter’s static model lies the neoclassical equilibrium theory. Schumpeter’s static model is associated with economic equilibrium under particular conditions. However, given the time factor, it implies a steady-state or a circular flow that reproduces itself from year to year (Shionoya , 2005: 140). According to Andersen (2009: 55-56), Schumpeter may want to define theoretical economics as two independent fields, as in the following formula:

$$\text{Theoretical Economics} = \text{Statics} + \text{Dynamics}$$

$$\text{Statics} \approx \text{Neoclassical Economics}$$

$$\text{Dynamics} \approx \text{Evolutionary Economics}$$

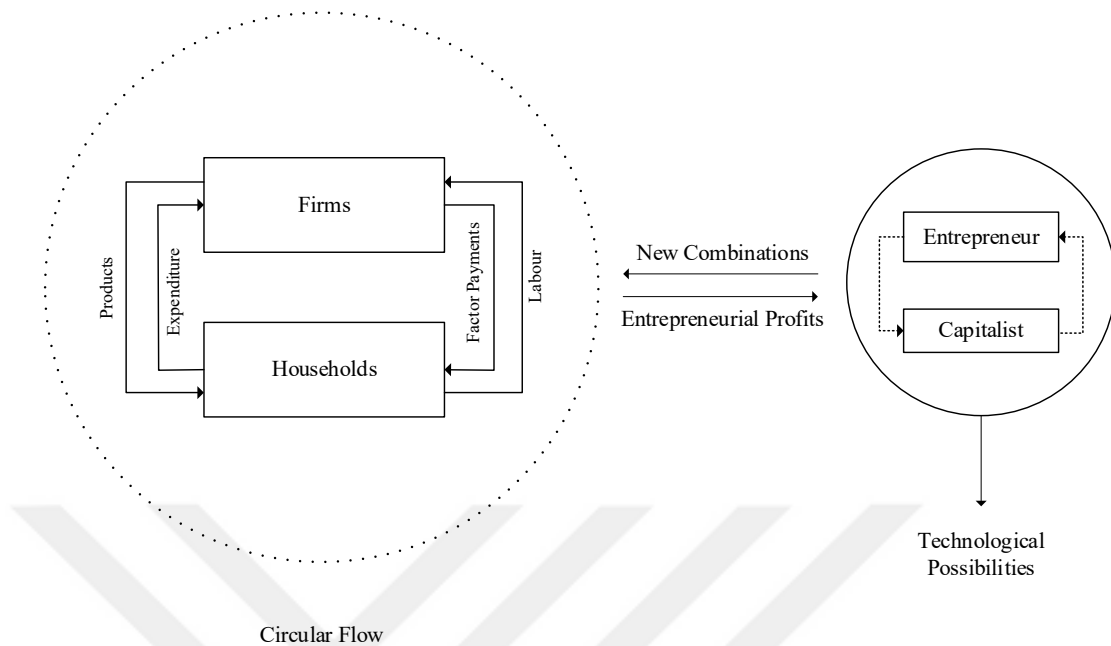
2.2.3.2. Circular Flow

According to Schumpeter, the concept of equilibrium, which dominates the economic life of the twentieth century, is essentially a starting point. The expression used by Schumpeter to express this notion of equilibrium is “circular flow”. Its prominent feature is that economic life routinely acts in the context of past experiences; there is no force to change the status quo (Hébert and Link, 2006: 594). In other words, the circular flow is the representation of a stationary equilibrium state

or of perfect competition (Hagedoorn, 1996: 885). In the assumption of perfect competition, the costs for each firm are equal to income and the price is equal to the average cost. On the other hand, net profit equals zero and there is no saving, investment and unemployment. In the circular flow economy, this stationary equilibrium reproduces itself every year within the same system. With Schumpeter's analogy, this situation can be likened to blood circulation (Hagedoorn, 1996: 885; Lagroodi, 2017: 3). In circular flow, Schumpeter stated that the same products are produced the same way every year. In his book TED, Schumpeter wrote: "For every supply there waits somewhere in the economic system a corresponding demand, for every demand the corresponding supply." (Schumpeter, 1949: 108) In other words, as this quote shows, Schumpeter states that the economy is stationary and that supply and demand are always in equilibrium (Lagroodi, 2017: 3).

Capitalism, by its very nature, can be characterized by an infinite continuity of change. It is never stationary. Neoclassical theory, by contrast, is not interested in such a change, only questions a new state of equilibrium after the change. However, Schumpeter, despite his criticism, does not reject the theory of equilibrium. This static theory (on the basis of circular flow) forms the basis for his dynamic work. In Schumpeter's model of economic development, the static structure of economics was attempted to be complemented by dynamic economic change. This basic structure of Schumpeter is shown in Figure 5 (Velde, 2004, 105).

Figure 5: Schumpeter's Model of Economic Development



Source: Velde, 2004: 106

The left part of figure 5 shows the “circular flow” of the economy. According to this, the economy is either in equilibrium or trying for it. As mentioned above, Schumpeter says in “circular flow” that supply always creates demand (Say law), or that supply and demand are equal to each other. Under these circumstances, there is a market for all goods and circular flow is closed. In such a case of steady-state, the behaviour of all actors in the model is routine. On the other hand, the entrepreneurs mentioned by Schumpeter are not in question here (Poon, 2007: 2; Velde, 2004: 105-106). The right side of figure 5 shows the symbiotic relationship between capitalist and entrepreneur. Accordingly, this relationship triggers change in the routine life of the “circular flow”. In the second part, producers play a leading role and Schumpeter defines production here as new combinations (Velde, 2004: 106-107).

2.2.3.3. Economic Development

In the light of all this, for Schumpeter, development is something completely different from the tendency to move towards equilibrium or from the circular flow.

Development “is spontaneous and discontinuous change in the channels of the flow, disturbance of equilibrium, which forever alters and displaces the equilibrium state previously existing.” In this sense, the theory of development is nothing more than the treatment of these phenomena and processes (Schumpeter, 1949: 64).

For Schumpeter (1949) (as cited in Öcalan, 2012: 15), what needs to be understood from development are changes that are spontaneous and internal. Development cannot be mentioned unless there is a change occurring internally or in cases where there is only adaptation to a specific data. On the other hand, growth cannot be called development because it quantitatively expresses only the change of data in the economy. Part of the change in economic life stems from the change of data. But what is really important is the change that comes from the system itself, that is, the internal change. This change that is within the system can change the equilibrium point in a way that no longer reaches a new equilibrium point.

Schumpeter also (1949: 66) wrote: “Development (...) is (...) defined by the carrying out of new combinations.” In order to realize the new combinations, some production means are provided from the old combinations. Therefore, the realization of new combinations involves the different employment of means of production that exist in the economic system. Using different methods to produce the same or new products is to combine forces under our control. That is, development is based on using existing resources efficiently in different manners and using them to do new things. The improvement of old combinations with small but continuous adjustments is not development. It is just a change or growth. New combinations, according to Schumpeter, occur *discontinuously*. In this case, phenomena portrayed by development happen (Schumpeter, 1949: 66-67). Schumpeter (1949:66)’s concept of development involves five cases:

- 1) The introduction of new good
- 2) The introduction of a new method of production
- 3) The opening of a new market
- 4) The new source of supply
- 5) The new forms of industrial organizations

The introduction of a new good mentioned in the first article refers to a product that consumers do not know or the improvement of the quality of an existing product.

Regarding the new production methods stated in the second article, Schumpeter refers to methods that have not yet been tested with experience in the relevant field of production. According to him, this does not have to be scientifically based on a new discovery. It may also exist through commercial use of a good in a new form. Third, Schumpeter mentions the opening of a new market. This is a market in which certain branches of production have not entered before, regardless of whether the market is already present or not. In relation to a new supply source, it is not important whether this source is already available or not. And lastly, Schumpeter mentions a new industrial organization (Schumpeter, 1949: 66).

For Thanawala (2006: 355-356), as we can see it from Schumpeter's own method of economic development, it can be evaluated his contribution to models of development economics on three aspects. First, his distinction between economic growth and development can be mentioned. According to him, economic growth is a wholly quantitative measure. There are no qualitative phenomena involved here. It includes things such as an increase in wealth or an increase in population. On the other hand, economic development is different than economic growth. What is at stake here is not quantitative measures, but qualitative changes in the economic process. Qualitative change occurs by realizing new combinations with existing means of production. Second, the provision of credit for entrepreneurs is highlighted as the initiation of the development process. The credits provided by capitalists to entrepreneurs provide the means of production necessary for them to realize new combinations. Third, Schumpeter discusses the role of the entrepreneur.

2.2.3.4. Internal Factors of Change

Schumpeter divides the cause of economic fluctuations into two parts: shocks affecting the economy from outside and processes of change produced by the system itself. However, he wants to put aside the external factors affecting the economy because he wants to grip deeper causes. That is why he is most interested in what is internal to the economic system (Love, 2017: 142-143). According to Schumpeter (1939: 73), the internal or endogenous change factors that drive the capitalist system

are, respectively, changes in the taste and preferences of consumers, changes in the quantity of the factor of production, and changes in the ways of supplying of goods.

Schumpeter (1939: 73) says that “consumer tastes and preferences” are negligible. Because all changes in consumer tastes are shaped by producers. In other saying, consumers cannot create a new demand by changing their tastes or preferences, but rather, it is entrepreneurs or producers that create change in the preference of the consumer. His assumption is essentially consistent with activities such as product marketing or advertising used in the creation of demand for a good in contemporary economies (Love, 2017: 143). In this respect, the process of change of the economic structure is independent of consumer decisions (Gürkan, 2007: 253). Therefore, neglecting it does not invalidate the general framework (Schumpeter, 1939: 74).

The second thing mentioned by Schumpeter is the increase in production factors or efficient resources. At first glance, an increase in the means of production can be seen as the driving force of the internal economic change process. Considering that the physical environment is constant, in Schumpeter’s view, any increase in productive resources leads to an increase in the population and in the producers stock of goods. But these are not independent variables. They are affected by other economic conditions. Any increase in these variables does not cause a change in the economic system (Schumpeter, 1939: 74-75). On the other hand, while the quantitative increase in the means of production also causes economic growth, it does not lead to a qualitative change. Because any change in the means of production in quantitative terms is nothing more than a change in the rate of production (Gürkan, 2007: 253).

Schumpeter built his development theory entirely on “changes in the methods of supply of goods”. Ultimately, Schumpeter’s theory of development is a supply-side approach. “According to him, only change at any stage of the supply process of goods due to innovations can result in a qualitative change in the structure of the economy.” (Gürkan, 2007: 253)

2.2.3.5. Three Component in Economic Development

Innovation as the driving force of economic development, entrepreneurs as the trigger of creative destruction, and bank credits as the necessary means of innovative

investments or initiatives are the three basic building blocks of Schumpeter's theory of economic development. As Schumpeter has often repeated, economic development requires new combinations of efficient means of production. In this respect, entrepreneurs as carriers of innovation and bank loans as tools of innovation are important (Hagemann, 2008: 229). In short, Schumpeter's theory of economic development consists of three components: innovation, entrepreneurs and bank credits. These three elements will now be examined separately.

2.2.3.5.1. Innovation

The first of the three components is innovation. Innovation has often been important for economics. But this was not the case before Schumpeter surrendered the importance of innovation. He identified innovation as the main function of entrepreneurship. In other words, he succeeded in making innovation and innovator one of the three most significant components together with credit and profit maximization (Ruttan , 1959: 597).

Innovation is considered by Schumpeter as the driving force of economic dynamics and competition. Moreover, according to him, innovation is the center of economic change that leads to creative destruction (Śledzik, 2013: 90). Innovation, as Schumpeter (2003: 83) points out, is an industrial mutation process that continually changing the economic structure from the inside, continually exterminating the old one, continually building new one.

For Schumpeter (as cited in Fagerberg, 2002: 15), innovation is the new combination of existing resources and equipment. This combinatory function is defined by Schumpeter as the entrepreneurial function. He saw the central dynamics of capitalism as entrepreneurship that changed the economic system from the inside through innovation processes (Stoelhorst and Hodgson, 2014: 519). According to him (Schumpeter, 1947: 151), the function of the entrepreneur is to do new things or to do what already exists in a new way. Innovations in this regard are the

“means of new combinations of existing factors of production, embodied in new plants and, typically, new firms producing either new commodities, or by a new, i.e. as yet untried, method, or for a new market, or by buying means of production in a new market.” (Schumpeter, 1928: 377)

In his book *Business Cycles*, Schumpeter (1939: 87) described innovation through the production function. The production function explains how the amount of production changes when the relevant factors change. If a change is made in the function's form instead of the quantity of factors, then it can be said that there is an innovation. In that case, innovation can be expressed as establishing a new production function.

As mentioned earlier, Schumpeter turned his direction to innovation changes in the supply method of goods to explain the internal changes in the economy (Love, 2007: 144). With the change in the methods of supply of goods, Schumpeter not only points to innovations in production techniques, but also to product design, marketing, and managerial and organizational innovations (Gürkan, 2007: 253). In other words, innovation is the creation of economic structures that can be converted into money or commercialized (Wilf, 2019: 19). The mentioned economic structures may include:

“Technological change in the production of commodities already in use, the opening up of new markets or of new sources of supply, Taylorization of work, improved handling of material, the setting up of new business organisations such as department stores – in short, any “doing things differently” in the realm of economic life (...)”

According to Schumpeter, all these are examples of what we mean by the term innovation (Schumpeter, 1939: 84).

Schumpeter also emphasized that there is a significant difference between *invention* and *innovation* (Fagerberg, 2002: 15; Love, 2017: 144; Shinoya, 2005: 191). Schumpeter (1939: 84) states that the concept of innovation is not synonymous with the concept of invention. And he says that the meaning of the latter concept signifies something far from the meaning of innovation. He states that a scientific novelty is not necessarily for innovation. While often inventions are the cause of innovation, the way to do new things can be new methods to reorganize existing things and this does not include an invention (Love, 2017: 144).

For Schumpeter (1949: 88), unless an invention is applied, it is of no economic importance. Putting a development into practice is completely distinct from inventing it. This is something that requires more different types of capabilities. Moreover, Schumpeter's rejection was not only the idea that innovation depends on invention but also claimed that in terms of the social process, the production of innovation and the production of Invention were quite different (Ruttan , 1959: 597). In this context, while

innovations are social activities fulfilled in the economic field and for a commercial purpose, inventions can be realized anywhere, regardless of economic intentions (Fagerberg, 2002: 15). So innovation is more associated with commercialization. The invention represents the first emergence of an idea (Fagerberg, 2003b: 3).

The reason for Schumpeter's attempt to make this type of distinction between concepts, according to Fagerberg (2002: 16), is evident. What he wants to achieve is to differentiate the concept of innovation from other counterparts and create a vocabulary that will make it easier to focus on innovation. Schumpeter says the transformation of new combinations into innovation can be made possible through bank credits at the initiative of an entrepreneur. Therefore, in Schumpeter's theory, the mechanism that enables the entrepreneur to innovate is financing through the bank credits (Öcalan, 2012: 20).

2.2.3.5.2. Bank Credits

Innovative pioneer entrepreneurs need credits given to them by banks to create new combinations or to carry out their investment activities. In the evolutionary process of capitalism, credits become a quality native to capitalism. According to Schumpeter, it is necessary not to confuse the banker with the trader. They create purchasing power for entrepreneurs. Credit creation by banks is a necessary condition for innovations and therefore for development. But even so, they have an inactive role in the production of business cycles (Hagemann, 2008: 231).

The credit supply provided by banks moves in a procyclical manner to the demands of entrepreneurs. Credits have a significant positive impact on economic development. In the credit theory of Schumpeter, the assumption that existing resources are at full employment in the cyclical flow means that reallocation of some of these resources must be made in order to realize new combinations by entrepreneurs (Hagemann, 2008: 231).

Schumpeter calls the transfer of created purchasing power to the innovative entrepreneur as credit. But according to him, this is not the transfer of existing purchasing power. This includes the transfer of purchasing power for the new period of development (Schumpeter, 1949: 106). In this way, savings in Schumpeter's theory necessarily become component of his theory (Hagemann, 2008: 231).

From the perspective of Schumpeter, the most important subject of credit theory is banks. Even if they do not have an effect on the capital increase, they have an indirect effect on the increase of production through intermediation operations. In this context, in the capitalist system, they are crucial to economic development (Öcalan, 2012: 21).

According to Schumpeter (1949: 102), no other than the innovative entrepreneur become indebted as part of his economic nature. Apart from the entrepreneur, at least in principle, no one needs credit. In order to become an entrepreneur, Schumpeter stated that they need credit, or put it differently, a temporary transfer of purchasing power to realize new combinations. This purchasing power is not supplied from the previous period. If entrepreneurs can not get the purchasing power, they can not become entrepreneurs. In other words, being an entrepreneur may require being indebted first.

Schumpeter (1949: 103) says also there are other reasons to be in debt. But what needs to be grasped is that the credit in question here is not a fundamental factor in the economic process. He then gives consumptive credit as an example of this type of credit. This type of credit taken for consumption is not part of the economic nature of the individual. In the same way, a credit taken to ensure the continuity of a business' production also can be cited as an example of this. It is called as consumptive-productive credits and according to Schumpeter's understanding of economics, it is not a natural element of the process.

Credits in cyclical flow are referred to by Schumpeter (1949) as current credit (as cited in Öcalan, 2012: 22). Current credits are taken to ensure the continuity of an existing business, as opposed to making new investments. In particular, current credits are taken to meet their wage payments. This type of credit is not the cause of economic development, but the result of a period that is the successor to the period of development.

2.2.3.5.3. Entrepreneur

In this part, we come to the third factor which is important for Schumpeter's analysis. According to him, even if these three factors are in a body, the third factor,

namely entrepreneurship, constitutes the fundamental basis of the theory. Schumpeter defines the entrepreneur in TED as follows: “The carrying out of new combinations we call **enterprise**⁸; the individuals whose function it is to carry them out we call **entrepreneurs**⁹.” (Schumpeter, 1949: 74)

If entrepreneur is considered in a broad sense, entrepreneurs are not just independent business people in an economy, they are everyone who can perform the function that Schumpeter was mentioning about when describing the concept. Even if they are employees of a firm such as administrator or executive board member, they can be included in the entrepreneurial concept if they are able to perform the entrepreneurial function. On the other hand, Schumpeter expresses that our concept is in the narrower sense. In the narrow sense, entrepreneurship does not include all managers who can only run a founded business. It just involves those who really fulfil this function (Schumpeter, 1949: 74-75).

In addition to these, Schumpeter (1949: 75) also states that entrepreneurs and capitalists do not express the same thing. There are two important distinctions between them. First, there is a close relationship between capitalist and entrepreneur. But in spite of this, they have different functions in the innovation process. Schumpeter sees capitalists as bankers who provide credit to entrepreneurs. This credit is provided to entrepreneurs to create innovation. As a reward for this, the banker gets interest, while the entrepreneur makes a profit (Gürkan, 2007: 257). On the other hand, the second distinction is about taking on risk. The person who takes the risk is never an entrepreneur. If the enterprise fails, the person who pays the price is the lender. In other words, he is a capitalist. Even if the entrepreneur finances himself, he pays the price of the risk not as an entrepreneur but as a capitalist. It is not the entrepreneur who takes direct economic responsibility for the failure of the enterprise, even if he puts his name at risk (Schumpeter, 1949: 137).

Pre-Schumpeter economists simply described the entrepreneur as the person who commanded production and trade. The person who was described as an entrepreneur was probably the owner of the capital. Schumpeter, however, expressed the entrepreneur considerably differently from his predecessors. In Schumpeter, an

⁸ The emphasis added.

⁹ The emphasis added.

entrepreneur is a person with a functional attribute who is only interested in innovation-related ventures. Furthermore, according to Schumpeter, the entrepreneur may not be the main owner of the capital (Śledzik, 2013: 92).

As it is well known, the entrepreneur has a fundamental importance for the economic development theory developed by Schumpeter. Because the entrepreneur is the *persona causa* or the driving force of economic change. In this connection, he is responsible for the development and fall of capitalism. For Schumpeter, economic development is the product of a dynamic process. In other words, economic development is a process that disrupts the status quo. Based on this, his entrepreneur also is a disequilibrating force (Hébert and Link, 2006: 594).

The role of an entrepreneur, as Schumpeter (2003: 132) points out, is the renewal of the production system, either by using a new invention or by using an untried technical opportunity. When we say new technical opportunities, it is necessary to count the production of a new good, the production of an old good with new production techniques, the finding of new raw material resources, and the restructuring of an industry.

As Swedberg (2008: 189-190) points out, there are some differences about the entrepreneur between the first edition of the Theory of Economic Development in 1911 and its 1934 English translation. In the 1911 edition of the book, Schumpeter considers the entrepreneur a complete "Man of Action". This man of action embodies the characteristics of a dynamic person. "(...) he describes him as someone who does not accept reality as it is." For instance, if there is no demand for any good, the man of action is the person who created this demand, who can make the people want this good. He is always energetic and can overcome obstacles.

Another important point is that Schumpeter considers the role of ideas as insignificant while carefully emphasizing the practical part of entrepreneurship. Schumpeter thinks that being an entrepreneur is inadequate to know how to do things in different ways. According to him, there is a small minority that knows how to do things differently. But in this minority, a small part is capable of realising new combinations. What is important to him is to face the dangers that come from being able to do things, not in our minds, but in reality. Therefore ideas are poor. But in the 1934 edition, it seems that he has renounced his these views (Swedberg, 2008: 190).

Table 1: Properties of Dynamic and Static Persons

Man of Action	Static Person
Dynamic	Static
Breaks out of an equilibrium	Follows an equilibrium
Does what is new	Rekurs what has previously been done
Leader	Follower
Active	Passive

Source: Swedberg, 2008: 191

In the 1934 edition of TED, Schumpeter eliminated radical ideas that a point of equilibrium would never be achieved. Instead, he stressed that the economic equilibrium was moving discontinuously from one equilibrium to another (Swedberg, 2008: 191).

According to Andersen (2009: 269), Schumpeter has also defined the entrepreneur in negative meanings in order to overcome certain things. Eliminating the framework of classical economics concerning the entrepreneur, he emphasized that the entrepreneur is not a risk-taker or capitalist. He stated that entrepreneurs are not members of a profession, in terms of emphasizing that they do not have routine jobs, like certain professional groups. In another respect, he stressed that they were not the inventors of the innovation being carried out. Andersen (2009: 270) has listed it as follow, the entrepreneur is

- 1) not the capitalist,
- 2) not the bearer of the risk,
- 3) not the director of a firm,
- 4) not the part of a profession,
- 5) not administered by consumers, and
- 6) not the inventor.

CHAPTER THREE

THE FUTURE OF CAPITALISM FROM THE PERSPECTIVE OF VEBLEN AND SCHUMPETER

3.1. THE CAPITALISM FROM VEBLEN'S TECHNOLOGICAL PERSPECTIVE

*“The works of the roots of the vines, of the trees, **must be destroyed to keep up the price**, and this is the saddest, bitterest thing of all. Carloads of oranges dumped on the ground. The people came for miles to take the fruit, but this could not be. **How would they buy oranges at twenty cents a dozen** if they could drive out and pick them up? And men with hoses squirt kerosene on the oranges, and they are angry at the crime, angry at the people who have come to take the fruit. A million people hungry, needing the fruit- and kerosene sprayed over the golden mountains¹⁰.”* (Steinbeck, 1939: 476-477)

In the December 26, 1992 issue of *The Economist*, it was announced that with the destruction of communism, a universal consensus was reached that there was no longer an important alternative to free-market capitalism (Hodgson, 1995: 575). Interestingly, the common point these ideas have reached is that this is “the end of history”. Francis Fukuyama claimed that the liberal form of government was the end of history (Hodgson, 1998: 2). In the article “The End of History?”, Fukuyama says: “What we may be witnessing is not just the end of the Cold War, or the passing of a particular period of postwar history, but the end of history as such”. In other words, it is the ultimate point of “human ideological evolution” and the universalization of “liberal democracy” (Fukuyama, 1989: 4). In this context, the purpose of this section is to examine whether capitalism is the last link in the “ideological evolution of humanity”. Is capitalism really the end of history? Or does this idea ignore many other important variations? In light of all this, the future of capitalism will be discussed from the perspective of Veblen’s work.

According to Layton (1962: 64), one of the most interesting predictions in the history of social sciences is Veblen’s thoughts on the “Soviet of Technicians”. For Veblen, the engineers class is the class that has the highest possibility of being a revolutionary class. The reason for Veblen’s emphasis on engineers stems from his

¹⁰ The emphasis added.

basic theory. In particular, it is based on his concept of “instincts” (Layton, 1962: 64). For Veblen, instincts are “prime movers in human behaviour” (Veblen, 1918: 1) or “innate and persistent propensities of human nature” (Veblen, 1918: 2). Veblen portrayed history as a dialectic between two opposing instincts (Layton, 1962: 64). As explained in the previous section, these are the instinct of workmanship and predatory instinct. While the instinct of workmanship provides an increase and efficiency in the material prosperity of the society, the predatory instinct tries to prevent it and strive to maintain the status quo. In this context, Veblen emphasized that there was an inevitable struggle between business and industry (Layton, 1962: 65). As technological development progresses, the struggle between classes with different habits of thought becomes severe (Papageorgiou and Michaelides, 2013: 12). For him, while businessmen represent predatory instincts and pecuniary habits, engineers and industrial and technical workers represent instinct of workmanship. Business people’s “ulterior end sought is an increase of ownership, not industrial serviceability.” (Veblen, 2011: 21). Therefore, businessmen undermine the production process by sabotage for pecuniary purposes (Layton, 1962: 65). On the other hand, engineers and technicians with the instinct of workmanship have a mechanical efficiency (Papageorgiou and Michaelides, 2013: 12).

Before 1919, Veblen did not emphasize the engineers class very much. According to him, since they were consistently exposed to the machine process, technology would essentially affect the thinking of the working class. Engineers were only one of the elements of the working class. With the year 1919, however, Veblen started to focus on engineers. He studied the structure of engineering and made distinctions between engineers. For example, Veblen identified differences between consultant engineers and production engineering or younger engineers and older engineers (Layton, 1962: 65). His main goal was to reveal the conflict between engineers with instincts of workmanship and finance captains with predatory instincts and to evaluate the possibility of engineers to develop a “Soviet of Technicians” by forming a class awareness.

3.1.1. The Danger of a Revolutionary Overturn

Veblen (2001: 4-6) started his book “The Engineers and the Price System” by examining the etymological origin of the word “sabotage”. Likewise, this concept has been frequently used in the rest of the book in the sense of undermining the production system. The word is derived from the “sabot”, which means French wooden shoes. It was used for the first time by union-member French workers to describe passive resistance movements. Over time, the word has gained a general meaning in daily language and has become a part of delaying, obstructing, and slowing down actions. However, in a real sense, sabotage refers to a “system of industrial strategy or management” in the industry and “is used to secure some special advantage or preference, usually of a businesslike sort.”

In the early stages of the machinery industry, the business world did not interfere with the increase in production capacity. Production capacity and productivity have steadily increased. Production per capita has likewise shown a steady increase. The increase in the capacity of industry in this period was due to technological progress, the increase in natural resources and the increase in population (Veblen, 2001: 20-21). Allowing for increased production capacity coincides with the period before the spread of mass production. The production volume in the machinery industry was still controllable as it was insignificant. Therefore, there was an environment to increase production capacity. Firms active in the industry had a market that could increase production. Such a market also prevented excess stock risk because the production capacity of the machinery industry was not capable of exceeding market capacity. Where these conditions apply, a free competitive production would be possible (Veblen, 2001: 23-24).

However, this situation began to decline from the mid-19th century. The production volume of the machinery industry exceeded the market capacity. Therefore, an environment in which free competition is possible has gradually begun to disappear. The focus of firm executives has been “financial purposes”. Businesslike management of industry also turned its face to corporation finance (Veblen, 2001: 23-24). Due to corporate financing, perfectly competitive production has shifted to “conscientious withdrawal of efficiency” basis. Most importantly, in this process, companies began

to restrict the amount of production in such a way as to bring the maximum net gain (Veblen, 2011: 24-25). In other words, the beginning of the period in which sabotage activities intensified was the period in which industrial capacity increased.

Intensified sabotage activities require experts who can do this job. So the process has been reduced to a routine controlled by well-trained experts in the field of corporate finance. This specialization has weakened the business people's relationship with technology. Because they started to think about everything in terms of price and profit, they became unable to evaluate real performance over time (Veblen, 2001: 26).

"They have been losing touch with the management of industrial processes, at the same time that the management of corporate business has, in effect, been shifting into the hands of a bureaucratic clerical staff. The corporation financier of popular tradition is taking on the character of a chief of bureau." (Veblen, 2001: 27)

According to Veblen, undermining industrial forces in order to benefit certain individuals would cause the system as a whole to be disrupted and the productivity to be reduced. On the other hand, politicians are at work to deflect the system's workforce in the name of some countries' interests. Finance leaders also plan to deflect all sorts in favour of vested interest (Veblen, 2011: 35).

"So it happens that the industrial system is deliberately handicapped with dissension, misdirection, and unemployment of material resources, equipment, and man power, at every turn where the statesmen or the captains of finance can touch its mechanism; and all the civilized peoples are suffering privation together because their general staff of industrial experts are (...) required to take orders and submit to sabotage at the hands of the statesmen and the vested interests." (Veblen, 2001: 35)

Veblen states that there are two political lines that management can use in relation to production control:

- a) Protection of profitable prices by limiting production,
- b) Protecting the profits by reducing the costs created by the increased production

According to him, even if both options are used, the first way is generally preferred. Because it involves less risk. On the other hand, production processes are getting more and more complex. Therefore, choosing this way is more attractive because it does not require full knowledge of the industrial process (Veblen, 2001: 27-28). Veblen lists the waste and prevention of businesslike management of industry as follows (Veblen, 2001: 67-68).

- a) Not employing of financial resources, equipment or manpower,
- b) Salesmanship (Unnecessary increase in sales places, advertisements, sales representatives, very fancy packaging, increase in the number of brands),
- c) Production of goods of excessive imitation,
- d) Sabotage

The new industrial order consists of interconnected mechanical processes. The culmination of this industrial order is the twentieth century. Its functioning depends on the mechanical sequences. There is always *mass production* in their targets. Therefore, mass production is under the control of production engineers (industrial expert, technologist). The operability of the system depends on the unification of production engineers around a common understanding. Production engineers plan and control the production stages in detail (Veblen, 2001: 34).

One consequence of this situation, as mentioned earlier, was that production was reduced and left below production capacity. According to Veblen, there are basically two reasons for this: First, in the new industrial order, with the increase in production capacity as a result of advancing technology, the need to maintain a profitable price in favour of commercial *Vested Interest* arose. This need for preservation has led to further reduction of production. Secondly, as a result of the advancement of technology, the volume of technical and special information needed to be acquired has increased. This has led the finance captains to lag behind in the technical field. Finance captains, whose technical knowledge is limited, therefore preferred to cut production rather than reduce costs (Veblen, 2001: 39). However, Veblen states that experts (technologists and engineers) constitute the General Staff of the industrial system. The industrial system cannot operate without the intervention of these experts. The industrial system “is a mechanically organized structure of technical processes designed, installed, and conducted by these production engineers.” Since the welfare of people depends on the efficient operating of the industrial system, it is appropriate that the industrial system should be under the control of these experts. Therefore, these experts should not be restrained. But *absentee ownership*¹¹

¹¹ *Absentee ownership* which refers to property owners who do not come to work, is beautifully depicted in John Steinbeck’s cult book *The Grapes of Wrath*:

represented by investment bankers¹², considering their own commercial profits, continue to limit industry experts (Veblen, 2001: 44).

3.1.2. Technologists and Conflict Between Employee and Employer

Veblen says that workers, like employers, have a unity of power and represent self-interest groups. Both sides struggle for their own interests. They conduct their negotiations accordingly. There is nothing disruptive about these negotiations between workers and employers with a unity of power (Veblen, 2001: 48-49). According to Veblen, it is a figment of the imagination to believe that any labor organization can take over and govern the industrial system (Veblen, 2001: 56). Veblen claimed that technologists are slowly beginning to have class consciousness. According to him, engineers came together and started to ask the question “what about it?” (Veblen, 2001: 45). This group is not a group that acts in line with commercial interests like the other two groups. “They are, at the same time, numerically and by habitual outlook, no such heterogeneous and unwieldy body as the federated workmen, whose numbers and scattering interest has left all their endeavors substantially nugatory.” (Veblen, 2001: 50) About the future of the system, Veblen says:

(...) such a thing as a general strike of the technological specialists in industry need involve no more than a minute fraction of one per cent, of the population; yet it would swiftly bring a collapse of the old order and sweep the timeworn fabric of finance and absentee sabotage into the discard for good and all (...) (Veblen, 2001: 51).

Veblen said that the danger of such overturn is unique only to advanced industrial countries (Veblen, 2001: 59).

And it came about that owners no longer worked on their farms. They farmed on paper; and they forgot the land, the smell, the feel of it, and remembered only that they owned it, remembered only what they gained and lost by it. And some of the farms grew so large that one man could not even conceive of them any more, so large that it took batteries of bookkeepers to keep track of interest and gain and loss (Steinbeck, 1939: 317).

¹² Veblen states that industry captains have over time been replaced by investment bankers. *Since and so far as this shift out of the nineteenth century into the twentieth has been completed, the corporation financier has ceased to be a captain of industry and has become a lieutenant of finance; the captaincy having been taken over by the syndicated investment bankers (...)* (Veblen, 2001: 41-42).

3.1.3. Conditions of Change

Veblen stresses that the displacement of Vested Interest is based on some difficult circumstances. According to him, the foundation of a civilisation depends on the people having a settled mind structure. Societies often perceive the established order as the only reality that must be. In this context, absentee owners are controlling the economic realities (Veblen, 2001: 100). Although there is a deep conflict of interest between the public and Vested Interest, it is not possible to displace Vested Interest with any popular uprising. Despite all the conflict of interest, the society maintains a respectful attitude to *absentee owners*. They are conscientiously sensitive to the decline of property owners' profits (Veblen, 2001: 66-67). In order to realise a revolutionary overturn, it firstly requires eliminating this respectful attitude of the people towards businessmen (Veblen, 2001: 93).

In essence, the danger of a revolutionary overturn is the question of whether the right of approval should pass from Vested Interest to technicians. Now, expert technicians with the necessary knowledge and equipment are the main factors for the sustainability of the industrial system. The General Staff of the industrial system is formed by these people. As vested rights are lost, material welfare will pass to the control of technicians. Veblen's review is mostly applicable to countries that have advanced in the field of industrialization. In this context, he evaluated the situation in terms of the United States. For him, "the chances of anything like a Soviet in America, therefore, are the chances of a Soviet of technicians." On the other hand, he said that the emergence of such a formation is a remote possibility (Veblen, 2001: 82-83).

According to Veblen, while technicians are indispensable for the industrial system to continue in a way to increase material welfare, it is not the case for Vested Interest and absentee owners. According to him, the conclusion to be drawn here is

the material welfare of all the advanced industrial peoples rests in the hands of these technicians, if they will only see it that way, take counsel together, constitute themselves the self-directing General Staff of the country's industry, and dispense with the interference of the lieutenants of the absentee owners. Already they are strategically in a position to take the lead and impose their own terms of leadership, so soon as they, or a decisive number of them, shall reach a common understanding to that effect and agree on a plan of action. (Veblen, 2001: 84)

Veblen stresses that in the case of a possible Soviet of technicians, Vested Interest and absentee owners will not be sent off by force, but will leave by themselves. These bargainings have already begun according to him. For Veblen, the aim of the new administration, which will replace the dominant groups, is to address the previous shortcomings. So these technicians will have a technological quality. The most inadequate points of the industrial system are related to the distribution of resources and the employment of manpower. These are the issues to be addressed first (Veblen, 2001: 87-88). On the other hand, there is no chance to overturn without good preparation. In this sense, Veblen talked about two basic preparations (Veblen, 2001: 94):

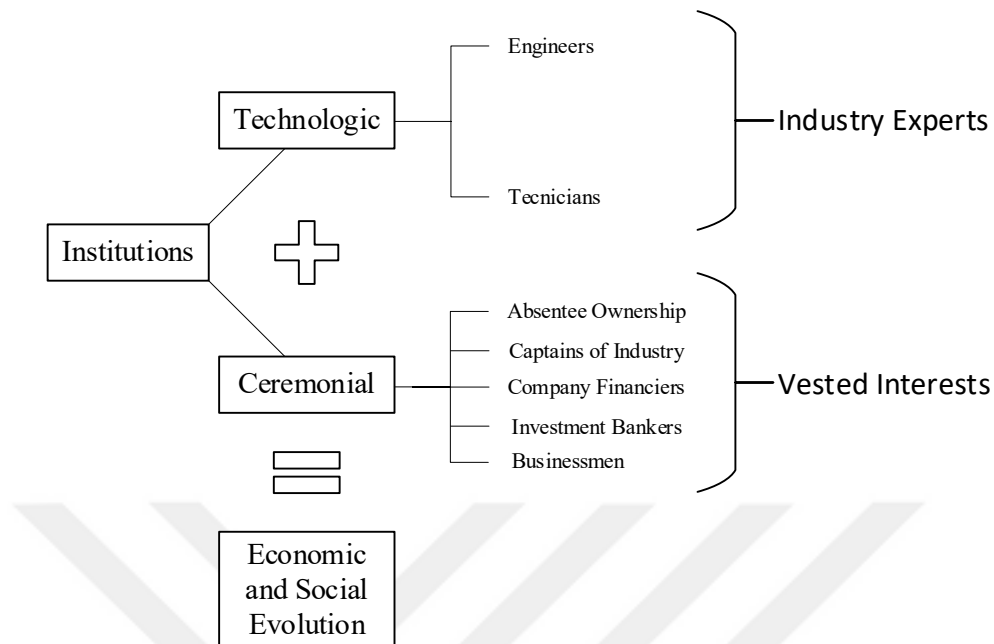
- a) “An inquiry into existing conditions and into the available ways and means; and”
- b) “the setting up of practicable organization tables and a survey of the available personnel.”

Above all, although there is a danger of revolutionary overturn, the Vested Interest and absentee owners are still safe. It will take too much time for the situation to change (Veblen, 2001: 94).

3.1.4 A Brief Evaluation

Economic and social change is considered by Veblen as an interplay of technological institutions and ceremonial institutions. Veblen identified these institutions with specific groups. For Veblen, the absentee owners, captains of industry, company financiers, investment bankers and businessmen belonged to the ceremonial institution. Technological institutions, on the other hand, included engineers and technicians. Transactions related to the machinery process and industry management were one at the beginning. This was the precondition for maximum production, which raised social welfare. But when the financial goals of businessmen became dominant, these two functions were separated (Ekelund and Hebert, 1997: 420).

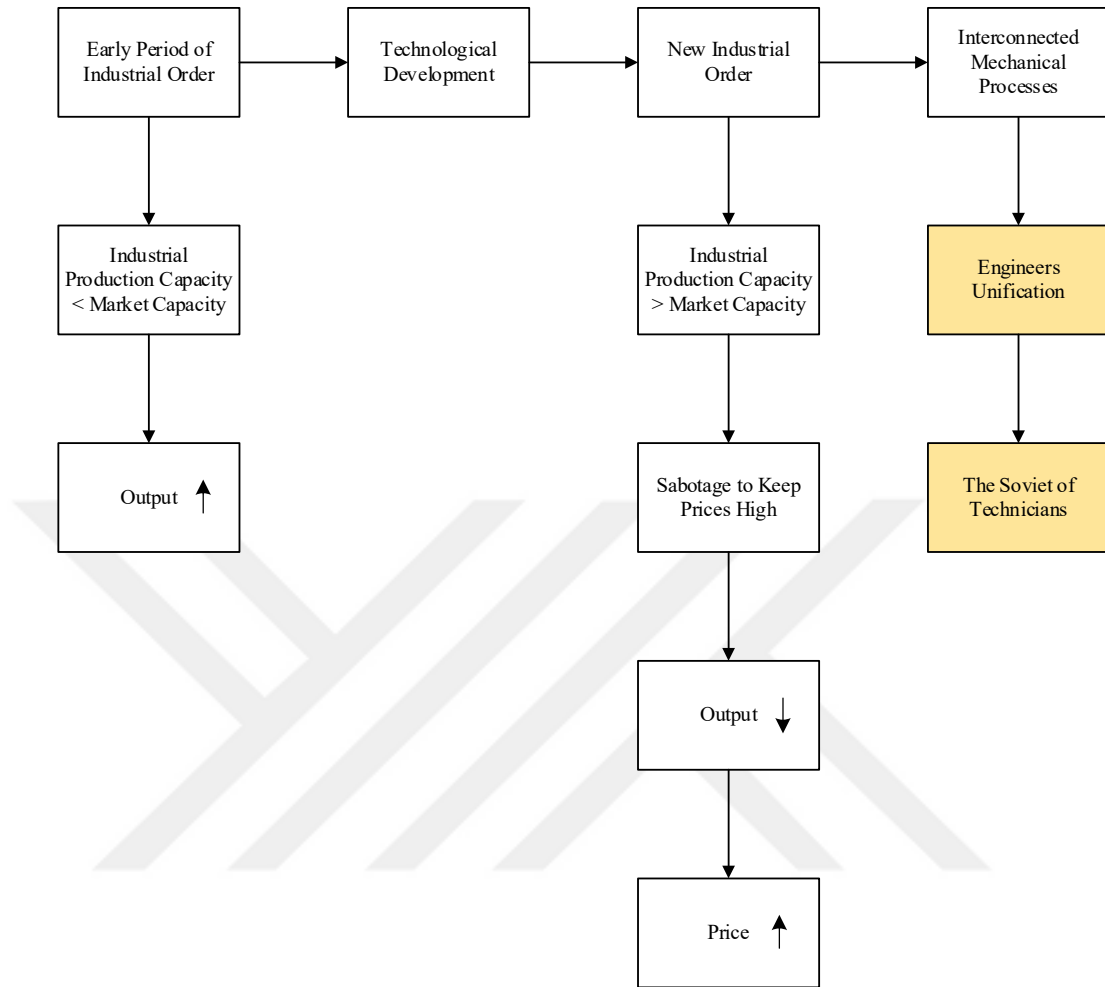
Figure 6: Technologic and Ceremonial Groups in Veblen



Source: Based on Ekelund and Hebert, 1997 and Veblen, 2001

Mainly, as mentioned, the businessmen's goal was to keep their total profits at the highest level (Ekelund and Hebert, 1997: 420). The transition from the old industrial order to the new industrial order in the mid-19th century increased production capacity. Therefore, businessmen sabotaged the production system in order to keep prices high. Industry experts, on the other hand, had a different mental attitude. Because they were close to the machine process, they were interested in real performance. They, therefore, intended to maximise real output (Ekelund and Hebert, 1997: 420-421). Industry experts have become increasingly indispensable, according to Veblen. As can be understood from the figure 7 below, the unification of these individuals may be in question. Because Veblen has an evolutionary point of view, this idea is not clear in him. Only some speculation can be made about the future. In this sense, the unification of expert individuals could give rise to a Soviet of Technicians. But for Veblen, this is not a situation that can happen in a short period of time.

Figure 7: The Stages of Industry



Source: Based on Veblen, 2001

3.2. THE CAPITALISM FROM SCHUMPTER'S TECHNOLOGICAL PERSPECTIVE

3.2.1. Creative Destruction Theory: Mark I and Mark II

For Andersen (2004: 2), although Schumpeter termed his notion of creative destruction in the late stages of his career, it may also be described as the title of the theory of economic evolution that he established during his academic life. This concept, whose origins date back to Nietzsche, was first named by Schumpeter as *creative destruction* in CSD. By the authorities, Schumpeter's concept of creative destruction is classified as Mark I and Mark II in two different ways. The model,

named the Schumpeter Mark I, was developed by Schumpeter in his book TED. On the other hand, the Schumpeter Mark II model was introduced in Schumpeter's last book, CSD (Fontana and others, 2012: 2).

In Mark I, the role played by firms and entrepreneurs in innovative activities is quite important. Technology easily integrates into the system because of low entry barrier. In this context, entrepreneurs who come to the industry with new thoughts and innovations start new enterprises that challenge the established companies. They constantly interrupt existing production and distribution methods, thereby eliminating rent related old innovations (Breschi, Malerba, and Orsenigo, 2000: 389; Fontana and others, 2012: 2). Hence, the Schumpeter Mark I is characterized by creative destruction with participants with successful innovation replace the old ones (Breschi, Malerba, and Orsenigo, 2000: 389; Fontana and others, 2012: 2; Malerba, 2005: 382). In Mark II, however, there are obstacles to entry for entrepreneurs, and the system is dominated by big established companies. Big companies construct obstacles to entry of new entrepreneurs and small companies due to their superiority in certain areas, such as their knowledge in certain technological fields, their superiority in R & D, their having various financial resources (Breschi, Malerba, and Orsenigo, 2000: 389). Thereby, the Schumpeter Mark II is characterized by *creative accumulation* with the dominance of big well-established companies and existence of strong obstacles to entry for new innovators (Breschi, Malerba, and Orsenigo, 2000: 389; Fontana and others, 2012: 2; Malerba, 2005: 382).

Thus, according to the Mark I model, while economic evolution is described as a result of the competition of individual entrepreneurs and established firms, in terms of the Mark II model, economic evolution is defined as the result of the innovative oligopolistic competition of established firms (Andersen, 2013: 10).

The emergence of the Mark I and Mark II distinction in Schumpeter's creative destruction is due to the transformation of his idea of entrepreneurship over time. In TED, Schumpeter examined the 19th-century European industrial system. The corporate system he interested during the Austrian years consisted of many small firms. So one of the most important factors that shaped his Mark I is the corporate structure of the place through which part of his life passes. On the other hand, in the first half of the 20th century, the effects of the characteristics of American industry on

Schumpeter appear in CSD. He has encountered a different corporate world in the US than in Europe. It was not small firms with entrepreneurs who dominate the industry in the US, but large firms with R & D departments. Accordingly, this distinction is critical in Schumpeter's thoughts on the entrepreneur (Landström, 2005: 34-35; Malerba and Orsenigo, 1995: 47).

In the process of economic evolution, the Schumpeter Mark I may evolve into the Schumpeter Mark II over time. In the early stages of the industry, when information changes rapidly, uncertainties are quite high, and obstacles to entry into the industry are very low. Innovative firms are the most important entrepreneurs and are the principal component in the industrial dynamic. As the industry develops and technological changes follow well-defined trajectories, things like economies of scale, obstacles to entry, financial resources begin to become important in the competitive process. Thus, large companies with monopoly power become the main actors in the innovation process. So this process may result in the evolution from Mark I to Mark II (Breschi, Malerba, and Orsenigo, 2000: 389; Malerba, 2005: 382).

Schumpeter's work can be classified on the basis of Mark I and Mark II as follows:

Table 2: Schumpeter's Core Works

1912	Theorie der wirtschaftlichen Entwicklung ¹³	It represents the essence of Schumpeter's Mark I analysis.
1934	The Theory of Economic Development: an inquiry into profits, capital, credit, interest and the business cycle	Schumpeter focuses on Mark I modelling of economic evolution by concentrating on entrepreneurial function.
1939	Business cycles: a theoretical, historical, and statistical analysis of the capitalist	In this book, Schumpeter offers a Mark I theory waveform economic evolution that is used for a cursory examination of

¹³ The Theory of Economic Development

	process			two hundred years of capitalist economic evolution.
1942	Capitalism, Socialism and Democracy			In this book Schumpeter offers a Mark II analysis of capitalist evolution.

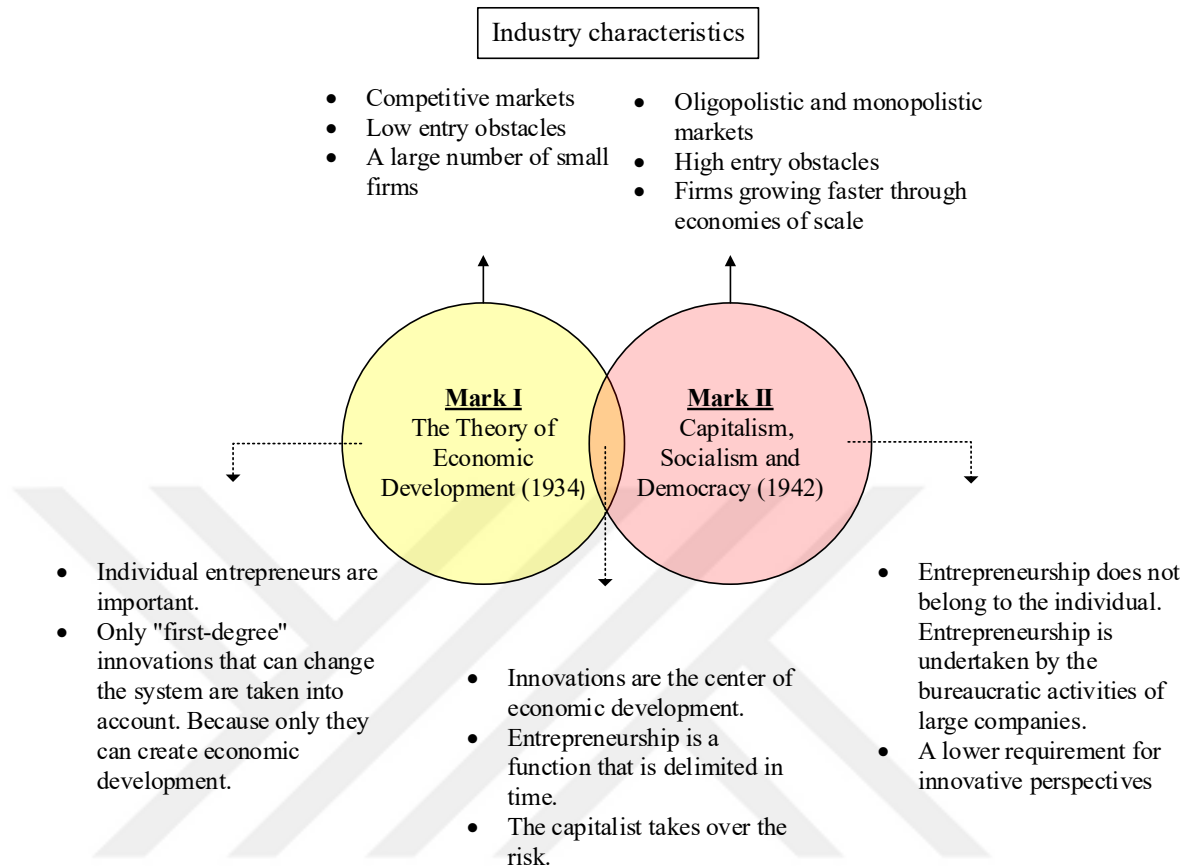
Source: Andersen, 2013: 12

As can be seen from the table above, the year 1942 marks the transformation of Schumpeter's concept of creative destruction. Because Schumpeter's conception of creative destruction is different in CSD than in earlier periods. The effects of corporate structure in the US on Schumpeter can be observed during this period. On the other hand, it seems that the backdrop of Mark I was formed mainly in the 1912 period. In following years Schumpeter developed it.

As can be understood from the figure 8 below, Mark I and Mark II have similar characteristics, although there are differences. In this context, innovation is central to economic evolution or development in both. Risk-takers are always capitalists. On the other hand, as mentioned earlier, individual entrepreneurs have an important place in Mark I, while innovation in Mark II is tied to the bureaucratic institutions of large corporations.

Conditions in the industries that Schumpeter addresses in both books are different. In mark I, addressed at TED, there is a competitive market, barriers to entry are low and there are lots of small firms. On the other hand, in the Mark II discussed in CSD, the competitive market is replaced by monopolistic markets, while monopolistic firms make it difficult to enter the industry.

Figure 8: Schumpeterian Mark I and Mark II Regimes



Source: Landström, 2005: 35

3.2.1.1. Creative Destruction (Mark I)

The concept of creative destruction may also be addressed in separate forms, out of the context offered by Schumpeter. Andersen assessed creative destruction in terms of Schumpeter, Sombart and Simon. This concept literally means destruction, which is creative. Werner Sombart used it this way. In his book *War and Capitalism* he said: “from destruction a new spirit of creation arises”. On the other hand, Herbert Simon, differently from Sombart’s point of view, thought that creative destruction changed the routine behavior patterns and thus threatened companies’ chances of survival. To Simon, companies follow traditional routines as long as things go well. But in cases like competitive pressures, they launch innovative research for better

routines when things don't go well. If they succeed, they abandon traditional routines, so they can protect the existence of their company (Andersen and others, 2006: 5). On the other hand, Schumpeter Mark I can be explained within the framework of the Schumpeter's basic concepts that are discussed earlier in the second chapter. Because the concepts we are handling with are mostly those that Schumpeter has shaped in his TED book.

Creative destruction, for Schumpeter, can also mean disruption of the circular flow (Fikirli and Çetin, 2017: 33). As it is well known, in Schumpeter's view, evolution or development is a different state from the circular flow. As in the circular flow, there is no static state that tends towards equilibrium. Development or evolution occurs spontaneously and discontinuously (Schumpeter, 1949: 64). It is innovation carried out by the entrepreneur that disrupts the circular flow. With the introduction of innovation into the system, it passes to a dynamic development process from the static state. Therefore, according to the circular flow, the current equilibrium state is broken down and a new equilibrium state is formed (Fikirli and Çetin, 2017: 32).

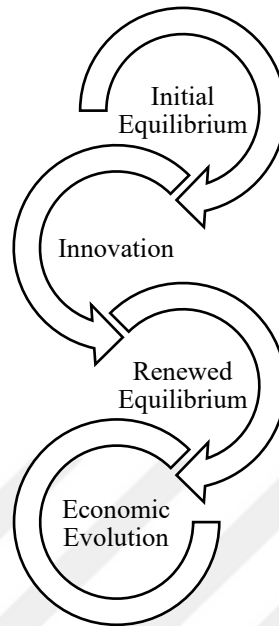
The award of an entrepreneur who has made a successful innovation is the entrepreneur profit. That is his driving force. But the economic award or profit, by its very nature, ends sooner or later. In short, economic profit is temporary. Others who see the high profits achieved through successful innovation begin to crowd the industry. These participants try to imitate this innovation as imitators. The entrepreneur's high profit turns into normal profit over time. Thus, entrepreneurs begin to search for different innovations. So the sector shrinks until a new innovation takes place (Fagerberg, 2002: 13-14; McCraw, 2007: 255). This is the process of creative destruction in Mark I. In the case of new innovation, the same process begins again. Because innovations do not occur continuously, Schumpeter had stressed that development is discontinuous.

As is seen, Schumpeter's model of creative destruction displays a different character than other thinkers'. Creation in Schumpeter is an independent process. It is not a structure that responds adaptively to shortages and other pressures. In Schumpeter, priority has been given to innovation that is carried out by the entrepreneur. This process is then followed by innovation that has come into force in the economic system disrupting routines. Then old patterns of behavior are replaced

by new ones. Andersen pointed out that Schumpeter's concept of creative destruction is more associated with economic evolution (Andersen and others, 2006: 5). Creative destruction, according to Schumpeter, follows a designated route in the economic evolution program. Within the framework of this plan, the revolutionising of routine economics occurs in the following series of events (Andersen, 2004: 3; Andersen and others, 2006: 6; Günar, 2018: 156):

- Initial equilibrium: Analytically it is the starting point and an economic system in which routine behavior is exhibited. Economic agents operate in conventional ways from year to year. The system is in a state of equilibrium.
- Innovation: The initial equilibrium point is broken by the innovative entrepreneurship of a small number of individual entrepreneurs. This makes an improvement in the economy. The system starts to revive economically, but then gradually the impact of innovations on the system disappears. Innovations are exhausted and it becomes difficult to innovate under conditions that are not in equilibrium.
- Renewed equilibrium: Sooner or later, innovations are insufficient to revive the economy. Economic downsizing exacerbates the process of competitive creative destruction. In this process, old firms are eliminated by the system, while firms that abandon traditional routines survive. Thus a solid and renewed routine system emerge.
- Evolution: The process of economic change or evolution as a process of creative destruction involves a series of equilibrium and innovative equilibrium disturbances. In this process, the economy changes and shifts to another point of equilibrium. Accepted economic behavior patterns disappears. In other words, this process produces radical socio-political reactions that will change its future functions.

Figure 9: Creative Destruction Process in Mark I



Source: Andersen, 2004: 3; Andersen and others, 2006: 6; Günar, 2018: 156

3.2.1.2. Future of the Capitalist System (Mark II)

“Can capitalism survive? No. I do not think it can.” Schumpeter began the second book of *Capitalism, Socialism, and Democracy* with these words. And then he stated that it was his own personal opinion. It is not *yes* or *no* that matters to him. What is important in sociological predictions is these thoughts themselves. In this context, Schumpeter advised the reader to keep these in mind when reading the book. In any case, it is not possible to prove hypotheses and theories like an *Euclidean* proposition (Schumpeter, 2003: 61).

Schumpeter (2003: 61) clearly articulated his thesis on the future of capitalism in the second book of CSD. The thesis he is trying to explain is not that capitalism will collapse as a result of economic chaos, but that the success of capitalism will bring about its replacement by socialism a result of refuting its own social institutions and thus preparing conditions of an inevitable self-destruction. In this connection, while his arguments differ from those of Marxist writers, the conclusion he reached is the same. Schumpeter says that it is not necessary to be a socialist to achieve this result.

And then gives the following example: “If a doctor predicts that his patient will die presently, this does not mean that he desires it.”

According to Schumpeter (2003: 82-83), the point that needs to be grasped is that when capitalism is mentioned, we need to know that it is implying an evolutionary process. The system of capitalism never exhibits a stationary character. Because by its nature, it is an economic method of change. The reason why capitalism has an evolutionary nature is not only due to the progress of economic life in a changing social and natural environment. They are precisely important. However, even if these changes, such as wars and revolutions, cause industrial changes, yet they are not its main driving forces. This evolutionary character does not also arise from capital or population growth or the monetary system. These factors do not constitute the first reasons. The primary drive that puts and maintains the capitalist mechanism in motion springs from the new consumers goods, the new methods of production or transportation, the new markets, the new forms of industrial organization that capitalist enterprise creates.” However, for Schumpeter, on the one hand, the market system has a very dynamic structure and the capacity for expansion is just as high, but on the other hand, these processes are the main reason for the disequilibrium and failures of the system. This seems to be a paradoxical situation in the economic system (Özel, 2015: 37).

3.2.1.2.1. Effects of Capitalism on Welfare

In CSD, Schumpeter focused on the welfare-enhancing effects of capitalist civilization. Based on data from between 1868-1928, it extended the coefficient of growth produced during that period to future years as a *projection*. He expressed his ideas about the situation of the poor, income distribution, wages, benefits of the capitalist system, and social developments.

According to Schumpeter (2003: 65-67), the welfare-enhancing effect of capitalism is undeniably clear. He said that, as Marx and some other economists have said about income distribution, there is out of the question that the rich will be richer and the poor will be poorer because of capitalism. On the other hand, there is no need to draw a pessimistic picture about wages; because, based on the calculations made

from the general statistics, he claimed that after 1978, capitalism would renew its own success and improve even the situation of the poorest.

There are no doubt some things available to the modern workman that Louis XIV himself would have been delighted to have yet was unable to have—modern dentistry for instance. (...) Queen Elizabeth owned silk stockings. The capitalist achievement does not typically consist in providing more silk stockings for queens but in bringing them within the reach of factory girls in return for steadily decreasing amounts of effort.

As can be understood from the above passage, Schumpeter thinks that capitalism has very positive effects on low-income groups. This development is for the benefit of the masses.

The problems such as child labor, long working hours, families sharing a one-room mentioned in Marx's *Capital* and in the works of many other economists are no longer in question in capitalism. Because, according to Schumpeter (2003: 70), this is not surprising considering the development possibilities of capitalism.

For Schumpeter (2003: 67), one of the analyzes that best illustrates the character and mechanism of capitalist development is the long fluctuations in economic activity. Therefore, all these economic changes depend on an *industrial revolution*. Schumpeter (2003: 68) has identified cyclical waves from the periods 1780-1790, 1840-1850, 1897-1911. According to him, the revolutions in these conjunctures periodically change the existing structure of the industry. As a result, new production methods come into production, new goods are consumed, new forms of organization emerge and new raw materials are obtained. These revolutions seriously increase consumer goods, even if they cause some problems at the beginning, they eventually increase consumption and prosperity. When these consumption periods are analyzed, it can be observed that the consumption-oriented goods increase in each period. This raises the living standards of the masses. In this way, the capitalist mechanism plays a role in promoting the welfare of the masses of the people.

As Schumpeter (2003: 83) points out, between 1760 and 1940, a worker's budget did not only grow on the basis of variety and goods, but also on the basis of quality. While switching from a typical farm production to contemporary mechanized agriculture and from the charcoal furnace to our own type of furnace, watermills were replaced by turbines, and post coaches were replaced by planes. The opening of new markets or foreign markets, the transition from craft workshops to large enterprises,

etc. shows the same industrial mutation¹⁴ process that constantly revolutionizes the capitalist system from within. With the words of Schumpeter, “incessantly destroying the old one, incessantly creating a new one.” And “this process of Creative Destruction is the essential fact about capitalism. It is what capitalism consists in and what every capitalist concern has got to live in.”

For Schumpeter (2003: 83-84), this fact concerns the problem we are dealing with in two points. First, the efficiency of the capitalist system should not be assessed for a specific time, but over a long period of time. Secondly, since we are faced with an organic process, trying to explain what is happening in a particular part of it may reveal some of the qualities of the mechanism. But such an analysis will never allow us to reach more general conclusions. Therefore, “it must be seen in its role in the perennial gale of creative destruction”. Otherwise, it is necessary to accept the correctness of a hypothesis that is impossible to understand and that there is a permanent lull. However, everything arises from the state of constant change. “In other words, the problem that is usually being visualized is how capitalism administers existing structures, whereas the relevant problem is how it creates and destroys them.”

3.2.1.2.2. Limits of the Perfect Competition Market and Monopolization

Schumpeter (2003: 77-79), based on Alfred Marshall and Knut Wicksell, make mention of *perfect competition market*. Marshall and Wicksell inherited the following from the classical view: “(...) in the case of perfect competition, the profit interest of the producer tends to maximize production.” Schumpeter specifies that $MC = P$ can be detected in their analysis. That is to say, firms “will produce as much as they can without running into loss.” This situation is named perfect competition. However, according to Schumpeter, the implementation of perfect competition is quite restricted. In this respect, we are faced with a model that has monopolistic quality. This is a model that never fits perfect competition.

However, according to Schumpeter (2003: 78), classical economists considered monopolistic situations as an exception. They thought it would disappear

¹⁴ According to Andersen (2004: 2), with the use of the term mutation, Schumpeter does not express a leap in the characteristics of the entities in accordance with biology at the micro level. He uses the concept of mutation synonymous with macro level transformations.

over time. None believed that perfect competition was an exception. However, given the situation dominated by monopolies or oligopolies, practical difficulties arise in most of the theses proposed by the classics. This is especially true for the concept of general equilibrium. Because in oligopoly situations there is no stable equilibrium in reality. There is a continuous state of struggle between firms. “Under the conditions envisaged, equilibrium (...) no longer guarantees either full employment or maximum output in the sense of the theory of perfect competition.” (Schumpeter, 2003: 79-80).

Schumpeter pays special attention to this competitive situation. Traditional thoughts about the competition should be set aside, according to Schumpeter (2003: 84). At the heart of creative destruction is competition. However, the competition that Schumpeter is talking about is not price competition, but innovation competition (Öcalan, 2012: 30).

According to him, considerable competition takes place in large enterprises that eliminate small scale enterprise. Because small scale enterprises are tightly linked to cost prices. It can never compete with businesses that can sell at the price it gets (Schumpeter, 2003: 85-86). According to Schumpeter (2003: 89), this type of businesses

are aggressors by nature and wield the really effective weapon of competition. Their intrusion can only in the rarest of cases fail to improve total output in quantity or quality, (...) both through the new method itself and through the pressure it exerts on the preexisting firms. But these aggressors are so circumstanced as to require, for purposes of attack and defense, also pieces of armor other than price and quality of their product which, moreover, must be strategically manipulated all along so that at any point of time they seem to be doing nothing but restricting their output and keeping prices high.

These businesses are slowing progress by behaving in this way. Schumpeter (2003: 96) stresses that this mentioned struggle is, essentially, nothing more than a process of creative destruction.

3.2.1.2.3. Self-Destruction of Capitalism

In the CSD, Schumpeter described the scenario of the future of capitalism in the chapters *Crumbling Walls* and *Growing Hostility*. Henrekson and Jacobsson (2001: 334-335) classify the scenario of transition from capitalism to socialism as follows:

- 1) The majority of innovations will be done in big corporations.

- 2) Big corporations will be increasingly dominant in the economy.
- 3) New and smaller companies will play a diminishing role in the economy.
- 4) The concentration of ownership will expand in the progress of time.
- 5) The general public, not least the intellectuals, will grow progressively hostile against capitalism.
- 6) Socialism will ultimately replace capitalism.

Schumpeter covered the destruction of entrepreneurship, the elimination of protective strata, and the disintegration of the institutional framework, respectively, in the chapter *Crumbling Walls*. According to him, these stages are very important in the self-destruction of the capitalist system. Therefore, these stages will be discussed in order.

3.2.1.2.3.1. Disappearance of the Entrepreneurial Spirit

Although capitalism has a dynamic structure and thrives through the activities of individual entrepreneurs, Schumpeter (2003: 131) predicts that sooner or later a period of stagnation will appear. Capitalism will weaken too much, entrepreneurs will be deprived of activities, income and interest will drop dramatically, and the bourgeois class that is dependent on interest and income will face the process of extinction. Businesses will take on a bureaucratic quality in this process. The essence of the word, socialism will automatically emerge.

In the previous section, it was mentioned that the function of the entrepreneur is to make new inventions or to carry out new combinations. But Schumpeter says that this function of the entrepreneur will begin to lose its importance over time. Because innovations that are contrary to the usual systems will become easier to be realized than before. Technical progress will be carried out by experts working on order basis. The romantic commercial adventures of the former entrepreneurs will be replaced by the research of bureaucratic expert staff (Schumpeter, 2003: 131). Thus, economic progress is not dependent on individuals but is automated. Bureau work and commissions replace the activities of individual entrepreneurs (Schumpeter, 2003: 133). Indeed, progress can make itself *mechanized*. Moreover, this both undermine

economic progress and hinders personal entrepreneurship (Schumpeter, 2003: 131-132).

In other words, capitalism, by its own rationalization and bureaucratization, sets the research and development *institutionalization* of monopolistic firms instead of the creativity of Schumpeter's *übermensch* (superman) entrepreneur. Reducing innovation to a routine run by experts of these large firms will lead to capitalism losing its dynamic. Conducting research and development activities that require large costs only by large firms is a process that excludes the entrepreneur as a result, although it ensures that all possibilities of mass production are used (Özel, 2015: 42).

Schumpeter (2003: 133) offers an example of military service, emphasizing that victories used to be seen as the personal success of generals, but now the work of committees destroys these personalities. The detailed calculations of the results replace the sixth sense and therefore do not require generals or chiefs. Exactly this applies to the entrepreneur in the field of economics. He is an ordinary clerical officer, who, like many others, can easily be replaced by someone else.

To sum it up, he tends to automate progress with his own achievements. For this reason, Schumpeter (2003: 134) reaches the conclusion that capitalism will crumble under his own success. Giant firms equipped with bureaucratic procedures will eventually eliminate the existence of the entrepreneur.

3.2.1.2.3.2. Destruction of the Protective Strata

Just as the destruction of individual entrepreneurs weakens capitalism, the gradual destruction of the protective strata and institutional framework leaves capitalism politically vulnerable (Bottomore, 1990: 38). Many institutions of the feudal system have been destroyed by capitalist evolution. According to Schumpeter, this destruction took place in three ways; artisans, lords and peasants. The artisans are oppressed under the competitive pressure of the capitalist system. The other two classes were destroyed by political means. They have been integrated into the system by capitalism. In political terms, this development means that the bourgeoisie gets rid of dependency. But above all, these barriers to destruction also had a protective function (Schumpeter, 2003: 135). According to Schumpeter, there was a common and

dependent (symbiosis) living space between the bourgeoisie and the aristocracy. While the bourgeoisie supported the aristocrats economically, the aristocrats made the bourgeoisie politically dependent on itself. The kingdom, the army, the church, etc. was living with the income created by the capitalist system. But it was the people of the feudal society who formed the skeleton of the structure. State offices were filled by aristocrats. They also ruled the army. When necessary, they worked for the interests of the bourgeoisie. However, this whole structure began to lose its effectiveness with capitalist evolution or creative destruction. The relationship between these classes was destroyed (Schumpeter, 2003: 136).

The continuity of the dynamism of capitalism depends on the activities of *charismatic* individuals rather than people with a static character such as industrialists or merchants (Özel, 2015: 41). In Schumpeter's sense, the bourgeoisie was a class that was rationalist and non-heroic or non-charismatic (in the Weberian sense). Also the bourgeoisie, "There is surely no trace of any mystic glamour about him which is what counts in the ruling of men." (Schumpeter, 2003: 137) According to him, the bourgeoisie can achieve political successes in a protective framework that does not consist of bourgeois elements. This indicates that the bourgeois must have a protective strata (Schumpeter, 2003: 138).

The capitalist process eliminated this protective strata with its psycho-social qualities along with the economy. It did not give the bourgeoisie the opportunity to have such an institution. This capitalist process, along with the king, eliminated other political steps, such as villages and guilds. In other words, capitalism has destroyed its own support by eliminating the previous structure (Schumpeter, 2003: 139).

3.2.1.2.3.3. Collapse of the Institutional Framework

The elimination of individual entrepreneurship by the capitalist process also has significant effects on other institutions of the system. It damaged the most important institutional foundations of capitalism (Basılın, 2011: 67). So, in Schumpeter (2003: 139)'s view, after destroying the institutional foundations of feudal society, capitalism began to undermine its own institutions as well.

The evolution of capitalism, apart from small industrial and commercial enterprises, destroys the institutions of large enterprises such as *property* and *free contracting* (Schumpeter, 2003: 140-141). Schumpeter (2003: 141) thinks the nature of ownership has disappeared. According to him, the property is no longer under the control of the original owner. The structuring of these businesses is in the form of salaried managers, big shareholders and small shareholders. Schumpeter says the first group has an exact employee attitude. Even if the second group is in a continuous relationship with the business, it does not act like the business owner. The third group has no concerns other than a small source of income.

Therefore, those who have a share in the business do not struggle for the future of the enterprise in economic, political and physical aspects like their real owners (Schumpeter, 2003: 142). As a result of the process, the entrepreneur will stop identifying himself with the company and the connection between the success of innovation and climbing the steps will be broken (Lakowski, 2002: 155).

The same applies to freedom of contract. Contracts are no longer individualistic; they are anonymous and have a bureaucratic quality. From labor contracts to all contracts, not all can be qualified as individualists. Thus, the evolution of capitalism pushes into background the institutions that system needs (Schumpeter, 2003: 141).

3.2.1.2.3.4. Social Climate and Rising Hostility

Another important factor in the devastation of the capitalist system is the atmosphere of hostility created by capitalist evolution against its own social order. The bourgeois cannot respond to these attacks of rationalist thought against the fundamental values of their system, remains passive. As the protective walls weaken, hostility also increases. This climate of hostility causes entrepreneurs and capitalists to lose their effectiveness. In this context, Schumpeter attributes the formation of this climate of hostility to the existence of a group capable of organizing and managing. According to him, it is the intellectuals who constitute this class. Capitalism raises this class, which creates social unrest, by its own facilities. Capitalist developments uplift intellectuals to a better position. Capitalist development offers cheaper books,

newspapers and brochures, increased resources, increased leisure time, improved living standards, and reduced prices. Another factor is the development of educational opportunities and the ease created especially in higher education. Developments in the field of education lead to an increase in the number of intellectuals. The task of intellectuals is essentially to express and organize discontents. Labour movements are also inevitably provoked by intellectuals. They make significant contributions to unionism as well. Hence there is a direct relationship between the fluctuation in the number of intellectuals and anti-capitalist measures (Schumpeter, 2003: 143-155). As a result, “this hostility increases (...) with every achievement of capitalist evolution.” (Schumpeter, 2003: 153)



CONCLUSION

The word *evolution*, which means *change* in its most basic sense, became popular with Charles Darwin's theory of evolution in the nineteenth century. This theory was a bold challenge to the world view based on the essentialist ideas of Aristotle and Plato up to that time, and to the Orthodox belief system of the period, which considered the species fixed. In this regard, Darwin's thought is revolutionary. Before Darwin (Erasmus Darwin, Lamarck etc.), there were people working on evolution, but these studies failed to clarify the problem of changing species. The modern theory of evolution developed with Charles Darwin's studies. Darwin pointed to *natural selection* as the mechanism that triggered the change of species. On the other hand, Wallace is said to have discovered natural selection independently of Darwin. But while Wallace thinks evolution is progressive, Darwin says evolution doesn't have to represent progress. The missing piece of Darwin's theory of evolution, the part about heredity is completed by Mendel's genetic laws (Ayala, 2012; Ayala, 2016; Futuyma, 2005; Skybreak, 2006).

The theory of evolution, which was a field of study in biology originally, has influenced other disciplines over time. Not only living organisms are subject to evolution, but non-living structures are such as tradition, languages, cultures and many others subject to an evolutionary process. In this context, it is not surprising that the theory of evolution influenced the social sciences. Regarding this, Kenneth Boulding says that evolution has three stages: physical and chemical evolution, biological evolution, and social evolution that started with homo sapiens. Even though a group of thinkers among them Hugo Thiel, Walter Bagehot, William James have tried to apply Darwin's principles to social sciences in various fields from language to ethics, the evolution of social institutions have been neglected. Scottish philosopher David George Ritchie, for the first time, has consistently applied Darwinist principles to the evolution of social institutions and organisms in his book *Darwinism and Politics* (Boulding, 2013; Knudsen and Hodgson, 2010; Skybreak, 2006).

Although many other important economists speak of evolution and Darwinism, mainly Veblen and Schumpeter have been pioneers of the field of evolutionary economics. Veblen had persistently argued that economics had to become an

evolutionary science. He also used Darwinist ideas in his own work to create a *Post-Darwinist* economic science. In this context, Veblen's article *Why is Economics not an Evolutionary Science?* is a manifesto for evolutionary economics. According to Veblen, economics finds the most appropriate metaphors for itself in biology rather than physics. Evolutionary metaphors are important for understanding the technological development process. In addition, Veblen specifically avoided developing a static theory and constructed a dynamic theory. Schumpeter established a dynamic theory just like Veblen. But he developed his theory of economic evolution as a complement to the static theory developed by Walras and other economists. His dynamic theory is not a substitute for static theory. Schumpeter says that the most important factor in understanding capitalism is to grasp that it is an evolutionary process. In this respect, it is understandable that he attached importance to evolution. Consequently, many of today's evolutionary economics studies are based on Schumpeter (Fagerberg, 2002; Hodgson, 1994, 2003b, 2004; Rutherford, 1998, Schumpeter, 2003).

According to Veblen, economics is a science that had fallen behind its time. It was not compatible with the criteria of modern science. Economics must be a science-based on processes and causality and must be purified from teleology. In this context, neoclassical economics must be reevaluated. To this end, Veblen subjected neoclassical economics to severe criticism. He had severely criticized neoclassical economics in terms of assumptions on human nature, its failure to develop a dynamic theory, and concepts of natural right-natural law. Neoclassics have shaped human nature within the framework of rational economic man. But Veblen emphasizes that man is not a "lightning calculator of pleasures and pains". People may not always be rational about problems. From an evolutionary point of view, it is not correct to see people as such a calculator of pleasure and pain. Veblen paid much attention to the concept of instinct while emphasizing human nature. According to him, it is mainly instinctive behaviors and habits that shape man. The preconceptions and tendencies of people are shaped in the material environment in which they live. Habits are the cumulative results of the individual's experiences under material conditions. According to Veblen, the reason why neoclassical economists could not develop a dynamic theory is that they set up their theory in a teleological framework instead of

causal sequences (Ekelund and Hebert, 1997; Hodgson, 2003a; Hunt and Lautzenheiser, 2011; Rutherford, 1998; Veblen, 1898a). Similarly, Schumpeter, albeit being an Orthodox economist, was skeptical of the assumptions of established economics. The equilibrium paradigm had been one of the issues criticized by him in this sense. Although he focused on the equilibrium paradigm, he adopted a dynamic perspective while establishing the theory of economic development. Thus, he put the dynamic competition process at the heart of capitalist economic development. To him, the most important element in the dynamic process was technology. Representative of the established economic thoughts did not give the necessary importance to technology (Freeman and Louca, 2001; Hagemann, 2003; Bloch, 2000; Öcalan, 2012).

These two economists have taken different paths when dealing with the operation of the capitalist system and speculating about the future of the system. However, this does not mean they do not share similar points. Looking at their work, both think that the capitalist system includes an evolutionary dynamic process. But their ways of handling are different from each other. While Veblen emphasized human nature, instincts and institutions, Schumpeter mostly focused on tools such as entrepreneurs, innovation and bank loans. On the other hand, while both mentioned about the change of the capitalist system, they agreed that technology was the main driving force. In this framework, it is understood that they have built a dynamic theory. Although they both think that the evolutionary process is an open-ended process, Schumpeter seems to be clearer about the future of capitalism than Veblen. Based on a Darwinian approach with state that there is no purpose in evolution Veblen avoided the idea of a *final*. However, he also underscored as a possibility of the *Soviet of Technicians*. On the other hand, although Schumpeter did not support socialism, thought that capitalism would evolve into socialism as a result of its own success.

As Schütz and Rainer (2015) pointed out, both Veblen and Schumpeter used various tools in their work. Their studies were interdisciplinary. They were not just interested in the economy. They became more of an integrative social scientist. However, while building their evolutionary theories, they focused on different disciplines, although they were multifaceted. While constructing his theory, Veblen placed a particularly Darwinian approach to the foundation. In this respect, he was influenced by biology. In addition, Veblen also attached importance to anthropology

and psychology and used them in his studies. Schumpeter, on the other hand, paid more attention to sociology and history. This does not mean that they have given importance only to these disciplines, when weighed on a scale of values, these are the disciplines that they are closest.

Technology has an important place in the social evolution understanding of both Veblen and Schumpeter. The deterioration of the current situation or the status quo and its replacement by a new situation occurs when the technology disturbs the old system. In this sense, technology is a disturbing factor for the equilibrium situation and conventional habits of thought. When considered from Veblen's point of view, institutions express prevalent habits of thought. What lies at the heart of these institutions is instincts. Changing the dominant trends of the period or the current situation requires institutions to change. At this point, Veblen argues that the force to change institutions is the current conditions. Any change in current conditions means an improvement in the technical knowledge and skills of the community. In this context, there are some effects of changes in conditions on the community. Technical changes enable some people to abandon the habits they have inherited from the past, and replace conservative institutions with new institutions. So, in Veblen, social evolution is “a process of mental adaptation”. The change of institutions is a response that is given to external pressure. The determinant of this process is technology, which is “a joint stock of knowledge and experience” (Veblen, 2001, 2007). When it is looked from Schumpeter's perspective, evolution or development is a process that disturb the status quo. In terms of the *circular flow* that is expressed by Schumpeter, equilibrium is a starting point. That means there are no forces that disrupts the status quo. This means stationary state. It is possible to get rid of this situation only by development. For Schumpeter, innovation is the driving force of economic development. Innovation is the main function of entrepreneurs. Entrepreneurs conceive *creative destruction* through the innovation they realize. This means the demolition of the old one and the construction of the new one. So the main reason for the change in Schumpeter, too, is technology (Hagemann, 2008; Hebert and Link, 2006; Ruttan, 1959; Schumpeter, 2003; Śledzik, 2013).

A result obtained from here is that they both view technology as the trigger for change, but Veblen considers technological change as *continuous*, while Schumpeter

asserts it is *discontinuous*. For Veblen, technology “is a joint stock of knowledge derived from past experience, and is held and passed on as an indivisible possession of the community at large.” (Veblen, 2001) Technology develops through information passed from generation to generation. Therefore, technological change is continuous in Veblen. Schumpeter, on the other hand, is the opposite of Veblen. According to him, “the new combinations appear discontinuously” (Schumpeter, 1949). Technological innovation depends on the creativity of the individual entrepreneur, not on society as in Veblen (O’donnell, 1973: 205).

Veblen’s and Schumpeter’s depictions of the businessman are quite different from each other (Ferrarotti, 1999: 244-246). Veblen portrays a distinction between the *captain of industry* and the *captain of finance* in relation to the businessman. According to him, the captain of the industry was an active actor from the industrial revolution until the late 19th century (Aydın, Takay, and Ozer-Imer, 2018: 25). The captain of industry, a representative of the early industrial order, does not prevent production or trade through sabotage since “he is (...) community-minded” (Ferrarotti, 1999: 244). However, when “shift out of the nineteenth century into the twentieth has been completed”, the captain of industry has been replaced by the captain of finance: “the corporation financier has ceased to be a captain of industry and has become a lieutenant of finance” (Veblen, 2001). As opposed to the captain of industry, the finance captain is the one who undermines the production in favor of his own interests. On the other hand, according to Schumpeter, the businessman is neither a captain of industry nor a captain of finance (Ferrarotti, 1999: 244-246). The businessman is a creative entrepreneur. In Schumpeter, the entrepreneur is the person who creates innovation (Schumpeter, 1949). Therefore, not every businessman is an entrepreneur either. To him, entrepreneurship is a quality that a small minority have. The entrepreneur is a dynamic character who breaks the status quo with his innovations and causes creative destruction. In this sense, he is the driving force of economic change (Hébert and Link, 2006). The only point where Veblen and Schumpeter overlap as relevant to entrepreneurs is the captains of industry that Veblen sees as the pioneering entrepreneurs of the early industrial order and Schumpeter's creative entrepreneur (O’donnell, 1973).

Both Schumpeter and Veblen projected that the capitalist system would be replaced by an alternative system as a result of the dynamic process of change that was the propulsive force of the capitalist system. For them, this revealed with regards to an ideological change (Schütz and Rainer, 2015: 18). Regarding the future of the capitalist system, Veblen evaluated some possibilities in his books *The Engineers and the Price System* and *The Theory of Business Enterprise*. While evaluating the capitalist system, Veblen speaks of a rift between business management and industry management. According to him, developing technical facilities had led to increased production capacity. Therefore, sabotage has been used to protect high prices. This required the emergence of an expert class in finance. For him, the captains of industry of the early industrial period, therefore, left their place to the captains of finance over time.

From the point of Veblen, the most determining indicator of changing capitalist system is the standardization and institutionalization of the machine process. Veblen asserts that as the machine process becomes standard, it will lead to changes in the behavior of individuals (Schütz and Rainer, 2015: 18). “The machine throws out anthropomorphic habits of thought. It compels the adaptation of the workman to his work, rather than the adaptation of the work to the workman” (Veblen, 2011: 310). Even though Veblen thought that these changes in the technological process increased the general welfare of the society, according to him this predominance of the machine process caused a class struggle between the businessmen and the technologists (Schütz and Rainer, 2015: 18). The change in the habits of thought of the classes engaged in the industrial affairs, is the dead-end of capitalist evolution (Schütz and Rainer, 2015: 19).

For Veblen, a revolutionary overturn is about the transfer of the right of approval between Vested Interest and technologists. It is not possible to displace Vested Interest with a popular uprising. In order to be a revolutionary overturn, firstly, it is necessary to eliminate the respectful attitude of the people towards businessmen and to make good preparation. In this way, absentee owners and their representatives can be left on their own. As the vested rights are lost, control of material welfare will pass to technicians. The technicians who make up the General Staff are the most important actors who will play a role in the future of capitalism for Veblen. It is up to them to form a *Soviet of Technicians* that can replace capitalism. According to him, technicians are gradually beginning to have a class consciousness. Although Veblen is

cautious about this issue, he stresses that such a chance is possible. He even thinks that these negotiations¹⁵ have started. However, even if there is such a chance, it is obvious that it will take a very long time.

On the other hand, Schumpeter emphasizes that capitalism will evolve into a different system. In his view, capitalism will self-destruct with its own success and leave its place to socialism. Schumpeter thinks that the driving force of the capitalist system is the innovations carried out by entrepreneurs. But he claims that over time, individual entrepreneurs will lose their influence as a result of bureaucratization and rationalization. According to him, when the existence of monopoly companies reduces innovation to routine through R & D departments, individual entrepreneurs will not be needed and the system will lose its dynamics. Besides destroying feudal institutions, capitalism undermines its own institutions such as private property and freedom of contract. Another factor that will be effective in the destruction of the capitalist system is intellectuals. Capitalist evolution created these enemies with the facilities it provides. Schumpeter states that intellectuals will be the spokesperson for increased discontent. They will also play an important role in unionization activities. In summary, it can be said that either individual creative entrepreneurs' lose of their effectiveness or the weakening of institutions and the increase of intellectual environment will be effective in replacement of capitalism by socialism.

¹⁵ They are beginning to draw together on a common ground of understanding, as men who are concerned with the ways and means of tangible performance in the way of productive industry, according to the state of the industrial arts as they know them at their best (Veblen, 2001: 47).

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