Chapter 12

Joseph Schumpeter’s (1883-1950) Broader Picture and Health Issues

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12.1 Introduction

Can one and the same theory explain both, economic development on the one hand and societal consequences of economic development on the other? Joseph A. Schumpeter (1883 - 1950) provided an answer to this question in the seventh chapter, "The Economy as a Whole," of *Theorie der wirtschaftlichen Entwicklung* [*The Theory of Economic Development*], published in 1912.¹ He entertained the vision that innovation takes place in institutions and organizational structures, and because of the interrelationships between the different sectors not only affects the entire economy, but promotes the evolution of society as a whole. The key concept of his theory is "the entrepreneur," that is the agent, who has the capability to innovate and is willing to face and accept the possibility of failure. He was also interested in how sectors other than the economy proper provide a fertile "playground" for entrepreneurial talent that can end up in economic affairs.

Schumpeter tried to cover the interrelationships between the different sectors of the economy as the entrepreneurial initiative, not only the successful, but also the failed innovations, reverberate through all the sectors. Health issues are an example of phenomena which belong to all sectors at the same time. For this reason we see Schumpeter as an economist whose writings on economic, institutional and social development are relevant for health economics. We conceive of the discipline not as narrow, but as a broader social science based enterprise in scholarship.

In the introduction, a brief look at Schumpeter's life and work follows. In the next section, samples from the seventh chapter illustrate Schumpeter's approach to economic development. This approach has many so-called "filiations," an expression coined by Schumpeter himself.² Filiations to health will be discussed in section 12.3. A summary and conclusions follow in section 12.4.

It can only be speculated, why Schumpeter dropped the seventh chapter in the second edition of *The Theory of Economic Development* (1926). A hint can be found when looking at his biography. Born in 1883 in Triesch (Moravia) to parents who owned a textile factory, Schumpeter was familiar with that business environment when he studied law and economics at the University of Vienna.³ In 1906, he received his PhD in Law from the University of Vienna, and in 1908 the habilitation

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¹ Leipzig: Duncker & Humblot. This part of his work appears only in the first edition and has been omitted from later editions, as well as the 1934 English translation.

In 1919, Schumpeter served as a minister of finance in the socialist post-war government of Austria, but was dismissed in the same year. Thereafter, he became the chairman of a bank, but the crash of 1924 wiped him out financially and he was dismissed from his position as chairman of the bank. The motivation of Schumpeter's political and entrepreneurial activities, as well as the experience of World War I found its theoretical expression in several publications, the most important one being \textit{Die Krise des Steuerstaates} [\textit{the Crisis of the Tax State}] published in 1918.\footnote{Graz and Leipzig: Leuschner & Lubensky.}

In 1925, Schumpeter accepted a call to the University of Bonn as a professor of public finance where he also taught economic theory. In 1926, when the second German edition of his 1912 book was published, Schumpeter dropped the seventh chapter.\footnote{The decision followed after his experience of a finance minister and bank chairman which presumably made him much more cautious. John A. Mathews. 2002. "Introduction: Schumpeter's "lost" Seventh Chapter." \textit{Industry and Innovation}. Vol. 9, nrs. 1/2, pp. 1-5, see in particular p. 2.} When he was offered a professorship at Harvard University, he emigrated to the United States in 1931. Schumpeter remained at Harvard until 1949, teaching the main course in economic theory. In 1948, he became president of the American Economic Association. In 1950, he died in Taconic (Connecticut).

In the preface to the second German edition of \textit{The Theory of Economic Development} (1926, \textit{op. cit.}), Schumpeter himself gave a hint why he dropped the seventh chapter. He made the reader aware of a change in the character of his work. At Harvard University, this change in the character of his work became quite obvious. In his writings in the English language he only published what belonged to the core of the theory.\footnote{In his \textit{History of Economic Analysis (op. cit.)}, published posthumously in 1954, Schumpeter did not include interdisciplinary works. Studies of the Historical School have also been omitted, but this could have to do with the fact that the work was unfinished.}

This change in method occurred well before he emigrated to the United States in 1931. To Schumpeter, the criticism of his teacher Eugen von Böhm-Bawerk was an
important factor for dropping the seventh chapter. Böhm-Bawerk emphasized the need for economic theory to be based on empirical research in the way that both theory and research reinforce each other. In this process of refinement, theories have to be improved in order to lead to a better understanding of empirical facts, while at the same time, the systematic discovery of relevant empirical facts leads to better theories.

In the case of the seventh chapter, Schumpeter felt that the readers were distracted from the underlying economic theory and concentrated their attention on those aspects of cultural sociology, which are also contained in the chapter. He was afraid that readers perceived the seventh chapter as an alternative to economic theory. In addition, he did not want to be associated with those economists, who were opposed to theorizing. For these three reasons, Schumpeter dropped the far-reaching chapter, but later, he returned to the topic. In his seminar on Pareto at Harvard, as well as in his book *Capitalism, Socialism, and Democracy* (1942), he made a new effort to formulate a unifying theory of development containing cultural and sociological elements. It can, however, reasonably be argued that other authors have better reached the goal of formulating a unifying theory than Schumpeter himself. Sombart or Pareto went beyond the confines of economic theory proper and therefore had a better framework for explaining what Schumpeter is insisting on explaining within - al is it a rather broad - economic paradigm.

### 12.2 Samples from the Seventh Chapter

In the seventh chapter, Schumpeter drew a rather broad picture. His goal was to formulate one single theory that explains both, economic development and its societal consequences. The arts, politics, the social and other related sciences should be covered by this unifying single theory. As expressed by the subtitle, *hypothesis non fingo*, he followed the deductive method. The subtitle was taken from Isaac Newton's *Principia Mathematica* (1713). "Newton's often-quoted dictum *hypothesis non fingo* ('I do not make fictitious assumptions') was intended to exclude any speculations concerning the causes of the mutual 'attractions' of cosmic masses." Karl Pribram. 1983. *A History of Economic Reasoning*. Baltimore and London: The Johns Hopkins University Press, p. 56. For a discussion of Schumpeter's intention, who dropped the subtitle in the second edition, compare Yuichi Shionoya. 1997. *Schumpeter and the Idea of Social Science*. Cambridge: Cambridge University Press, p. 164.

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more than a summary of the first six chapters of his book *The Theory of Economic Development* (1912, *op. cit.*). He compared his own theory of development with those of the classical authors, but in contrast to the first six chapters, the focus is on cultural and sociological aspects in order to explain the entire life of a country.\textsuperscript{12} The following samples from the seventh chapter refer to Schumpeter's criticism of the classical theory of development and to the alternative process of development he devised on this basis. Schumpeter envisioned the entrepreneur as the driving factor of development. In the seventh chapter, he is concerned with the repercussions that occur in all the different sectors in the economy. These repercussions, among other effects, can bring about the downward movements that typically accompany development.

The point of departure is a discussion of the classical, static theory of development. Static theory found that changes in the equilibrium were caused by outside factors, but did not provide a coherent theoretical explanation for the movement from one equilibrium to the other. Schumpeter distinguished between static theory leading to adaptation on the one hand and dynamic development on the other. The question of static theory was: "How, based on its entire circumstances of life, does a population reach a particular level of the economy?" In addition, he addressed dynamic development by asking: "How does any economy make the transition from one level to another level?" (2001, *op. cit.*, p. 94). He compared dynamic development to waves that do not oscillate around a given level, but where a transition takes place from one level to another. The transition from one level to the next is caused by innovations, carried out by entrepreneurs, who have the vision and courage to try out and push through new combinations, for example in the form of new products, new methods of production, or new types of organization.

According to Schumpeter, static activity itself changes the data of the economy; this was a characteristic of development, which has been overlooked by the classical theory. Schumpeter distinguished between the following changes in data: an increase in population; an increase of capital; progress in the method of production as well as in the economic organization of the industrial society; and development of needs. While Schumpeter considered the theory of the classics as commensurate with his own point of view, he did not think that the classics really explained the core of economic development. They rather remained on the surface or looked only at partial effects. This can be illustrated by the example of the consequences of a population increase, which is one of the examples of data changes mentioned above.\textsuperscript{13}


\textsuperscript{13} Since the seventh chapter is not generally available in English, I am quoting from my own translation.
In fact, there is hardly an economist who would not think of the increase of the population as a lever of economic progress. This is always the first issue to be identified when looking for the causes of economic development. It can be observed in the scientific literature as well as in popular discussions of daily questions. What is our response to this kind of argument? In particular one has to clarify the chain of effects consequent to a population increase. The first effect is a rise in the demand for luxury goods and a rise in labor supply. Within the economy, the influence of an increase in population can have no other consequences than those. The rise of the labor force brings about an increase in an original factor of production. This factor of production thereby becomes cheaper to the businessman. At the same time, it permits a higher level of production of goods in the wider economy. Even if the wage were to fall to unprecedented low levels due to an increase in labor supply, the total sum of wages generally will rise. Hence, there is no doubt about it that an increase in demand will ensue. Of course, the situation of the labor class could get worse. Therefore, the economic result achieved by an increase in population could be ambiguous. Nevertheless [476] one could still speak of economic development. The appearance of the economy has changed. In this, we try to make neither a judgment nor an evaluation of the progress. Now, it is important to know how the increase in labor supply will be allocated. Provided that the only change taking place is an increase in population and nothing else varies, and the supply of labor grows, then nothing much will change in the basic lines of the economic system of value. The additional supply of labor will be used for those purposes which have already been served by the existing supply of labor, and for those marginally less productive functions immediately adjacent to the present use. On the whole, the same static value system will be kept intact, except that those economic agents who can take advantage of the lower prices of labor will experience a higher degree of satisfaction of wants. This chain of events has already been analyzed in detail by the classics. In principle, it has been described correctly. The prices of products based mainly on labor will decrease. On the other hand, land rent will rise because the new laborers will demand more products from the same supply of land. In addition, other people will also be in need of more land, for instance, all those industrialists who are expanding their firms. The classics only thought of these effects both centering on the land rent increase. The evidence that the classics only thought of these effects and not others lies in the fact that they - and foremost Malthus, of course, - only saw the negative consequences of population increase over and beyond a certain level. And they were justified within the terms of their model, because if there were really no other effects than the ones described, then it would not take long before a dull pressure of the masses of workers builds up against the

14 It is well-known that within the reach of Malthus' influence the pessimistic concept is predominant. But even from the point of view of Malthus one should admit that the movement of the population is a driving force of development, even if this force could possibly lead to poverty and devastation.

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prevailing organization of production. [477] By a decrease in the wage and an increase in the prices of foodstuffs the situation of the workers would get worse in two ways: on the one hand this scenario would doubtlessly lead to the consequences as described by Malthus. And on the other hand, it is also beyond doubt that only the landowners would realize a substantial improvement in their situation.

But something else can happen, too. The increase in population can be an incentive to reshape the economy, and this new form of the economy could lead to an improvement for the increased number of people in comparison with the lower level enjoyed by the former smaller number. This is exactly what we observe in reality. Therefore, one has to refer to yet an additional group of effects. The fact that the classics restrict themselves to the consideration of the first group of effects shows better than anything else that they restrict themselves to static considerations. They did not imagine that there could be an alternative concept to the static economy. But then it becomes clear that other effects can occur only, if the economy is not simply passively adjusting to the increase in population; if it does not only behave in a static way, but if it responds actively. In other words, if a development in our sense comes forth. Nothing else shows better that our theory is finally based on and is a refinement of that of the classics. In order for this other group of effects to appear, the economy has to take on new forms. These effects do not automatically happen, but have to be caused by the mechanism described above. 15 Due to the wage decrease, the entrepreneur may find it easier to undertake some particular tasks and, hence, he might undertake reorganizations. If not, if no such creative activity exists, then nothing else happens indeed but that dull pressure on the entire economy. This is yet another example that illustrates the fruitfulness of our distinction between static and dynamic [478] economic activities.

Schumpeter considered the reasoning by Malthus as one-sided that an increase in population through a chain of reactions in the end will lead to a shortage in food. According to the economic classics such as Malthus (1803), the health states and mortality of a population strongly depend on economic conditions. 16 Malthus' 15 Schumpeter here refers to the mechanism of entrepreneurial activity, described in chapters 2 - 6.

16 Thomas Robert Malthus, 1803. An Essay on the Principles of Population. New edition by Patricia James for the Royal Economic Society. 1992. Cambridge: Cambridge University Press. In his essay, first published in 1798, Malthus proposed a basic description between population growth and income leading to the so-called Malthusian trap. "According to Malthus, when population size is small, the standard of living will be high, and population will grow as a natural result of passion between the sexes. When population size is large, the standard of living will be low, and population will be reduced by either the "preventive check" (intentional reduction of fertility) or by the "positive check" (malnutrition, disease, and famine).
prediction was that population growth would come to a halt, either intentionally, or due to the rise of poverty leading to malnutrition, bad health, and high mortality. In contrast to this view, Schumpeter held that an increase in population can lead to less poverty and better health if "something else" happens. Repercussions on population growth could take place, but they require the creative activity of an entrepreneur.  

According to Schumpeter, the classics arrived at their one-sided conclusions, because they focused on static analysis and did not take dynamic considerations into account.

Schumpeter agreed with Marx who held that "capitalism stamped populations out of the ground." He stated that a particular increase in population would have been much smaller, if the economic space for new people had not been created before. Similarly, he considered innovations rather a consequence of economic development than its cause. In the same way, he thought that not the satisfaction of needs would cause new needs, but that development itself causes new needs by way of rising expectations. Consequently, in a dynamic setting equilibrium cannot be achieved, and if an equilibrium is achieved anyway, then it has to be seen as a force against dynamic development and can only be of a short-term nature. Long run development then consists of a string of consecutive partial shorter periods of development. Therefore, economic policy plans can only be made in the short term.

According to Schumpeter, the larger, secular movements cannot be determined economically. One has to look at other factors such as social and cultural aspects in order to describe development in the long run. Here, a concept becomes important that lies very much in the cultural and social sphere of the economy, that of the entrepreneur. Schumpeter distinguished between entrepreneurs and other agents. Those agents, whose behavior can be regulated and who will prosper under regulation, "differ substantially" from the entrepreneurs, whom he saw as the motor of economic development.

This [Seventh chapter] is an attempt to present a theoretical analysis of

The Malthusian model implies that, in the absence of changes in technology or in the availability of land, the size of the population will be self-equilibrating. Further, increases in available resources will, in the long run, be offset by increases in the size of the population. Countries with superior technology will have denser populations, but the standard of living will not be related to the level of technology, either over time or across countries." This implication is referred to as Malthusian trap. Oded Galor, David N. Weill. 2000. "Population, Technology, and Growth: From Malthusian Stagnation to the Demographic Transition and Beyond." The American Economic Review. Vol. 90, No. 4, pp. 807-828. Compare p. 807.

17 Wolfgang Stolper, 1988, op. cit., p. 70.
18 Schumpeter, 1912, op. cit., p. 102. Compare translator's note 13, p. 143: "The remark about whole populations stamped out of the ground comes from the Communist Manifesto."
19 Wolfgang Stolper, 1988, op. cit., p. 70.
development, of its mechanism, in the form of a scheme to which the facts of development would generally conform. We look first at a general cause for the changes in the fundamental structure, i.e. in the level of the circular flow. We locate this cause in the fact that - as we expressed it - new combinations get driven through. We saw that when new combinations are carried through this can be attributed to the actions of a particular type of economic agent whom we called an "entrepreneur." The behavior of the entrepreneur differs substantially from that of other economic agents, who fit into the scheme devised by static theory to account for the economic activities of people. Finally we learnt about the different means with which the entrepreneur, in our sense, drives through the new combinations in the different organizational forms of the economy, through which he selectively channels the economy in new directions. These means have in common that with their help the agents of the static economy will be forced to serve new functions. The particular character of these means gives its stamp to the economy and thereby gives it a particular form. They are the principal distinguishing features of the different organizational forms - to a much higher degree than the aspects normally cited.

In Schumpeter's vision the entrepreneur, by carrying out an innovation and taking the chance to fail is the driving force of the process of economic change which in turn changes society. The entrepreneur is an entity that carries out and implements "new combinations." They may take the form of introducing new products, new methods or processes, identifying new markets or sources of supply, or creating new types of organization. More generally, any entity that can bring about new combinations, for instance, organizations, or even entire firms in Schumpeter's approach can serve the role of the entrepreneur. This holds not only for market processes, but also for those in politics, administration, the nonmarket-nongovernment sector, and society as a whole.

There are interdependencies between the sectors, which Schumpeter illustrated with the example of a physician. From an economic point of view, a physician in the traditional style with no capital equipment, just his acumen, experience, and judgment (and probably his family relations such as many dependents) is to be considered a worker. The underlying economic model has three factors of production: land, capital, and labor. This spirited, but impecunious doctor falls into the category of labor from that classical point of view. Sociologically speaking though - sociology was a new discipline that has been founded shortly before the seventh chapter was written - this very same, gifted physician is an entrepreneur, thinking about new therapies, but also about his own well-being and that of his dependents.20 For instance, the physician from an economic point of view belongs to the factor labor, but from a sociological point of view he does not. He is a professional, which is reflected in his social status and prestige and not necessarily in his economic well-being. He cannot share the class consciousness of a proletarian worker, but he

cannot join the Viennese opera ball, either. He is the owner of his own means of 
production and latently an entrepreneur. These means of production are not 
alienable; they have no market value, but can be the basis for entrepreneurial 
capital, for instance a clinic. In Schumpeter's own words, introducing the notion of 
the social pyramid, this reads as follows:

The social pyramid does not consist in economic building blocks. 
Economically, a successful physician has to be classified as a worker. 
Socially, however, he does not belong tout court to the working class. 
[Schumpeter, 1912, op. cit., p. 528]

Of course, he becomes a Schumpeterian entrepreneur only, if he implements "new 
combinations" such as new therapies, treatments, medicine and the like. The 
medical profession and this may be an important policy conclusion, lends itself to 
entrepreneurship and may become a fertile cradle of innovation. The physician, by 
necessity, has to contend with both, risk and uncertainty: risk in the therapeutical 
outcome, uncertainty in his diagnostic work.

In contrast to Marx, Schumpeter saw next to the division of labor and capital the 
"social pyramid" as an important factor explaining the development of an economy. 
In capitalism, the entrepreneur has to hold a high social position in order to create a 
position of power, but entrepreneurship is not tied to capital ownership. The position 
of the entrepreneur is of a short-term nature and cannot be bequeathed to other 
persons.

His position as entrepreneur is tied to his performance and does not survive 
his energetic ability to succeed. His position as entrepreneur is essentially 
only a temporary one, namely, it cannot also be transmitted by inheritance: a 
successor will be unable to hold on to that social position, unless he inherits 
the lion's claw along with the prey.21 The company, the goods which are 
present in the company, are just the dead shell of the [entrepreneur's] driving 
impulse. [Schumpeter, 1912, op. cit., p. 529]

In the seventh chapter, Schumpeter discussed the repercussions of innovation 
outside the sectors, where the entrepreneurial initiative was taken. Not only the 
successful, but also the failed innovations have such repercussions, which 
reverberate through all the sectors. Economic development is not only characterized 
by upward effects, but also accompanied by downward movements. Adversely 
affected are those sectors, firms, and their accompanying institutions, which are 
substituted by successful innovations. Entire professions will disappear, while others 
need to be developed including the institutions, which they need for their prosperity. 
Schumpeter described the adverse consequences of growth and expansion as 
follows:

21 Here, Schumpeter is using a powerful metaphor. He refers to the company and 
the assets of the company as "prey", and the "lion's claw" as the entrepreneurial 
capability that generated the company in the first place.
The movement described is just one of two, the upward movement. Its counterpart is the downward movement in the situation of many economic agents. The downward movement is anchored in those static processes of production, which are particularly hurt by the price decrease, apart from the case that means of production as a consequence of development have to be delivered more cheaply than before. We have [502] already discussed this in the chapter on crises. There, we have also seen that the strongest of these effects, even if they are steady, are attached to particular periods in time.²²

Old forms of management and outdated production processes, all goods of a longer duration of life now will also for this reason be devalued - and not only by the increase in costs of the upswing period. This hurts all static firms more or less and will only exceptionally be compensated by repercussions. Therefore, the static economic agents suffer as producers get further and further pushed back. Also, often the leaders of yesterday belong to that case. They often fall in their position almost to unimportance. This process would also take place in case of an immediate response, but it is made worse by the fact that the most immobile economic agents do not respond fast enough and not thoroughly enough to it. Often, this is through a lack of intelligence and means. The craftsman cannot imitate any technical process, the owner of horse-driven carriages cannot open a second railway line next to the one which destroys his business. Often, there is also a lack of inclination. The skilled master of his own business might not be willing to turn into a factory employee, the factory owner might not want to become a salaried manager of a large company, even if this were the proper thing to do. Therefore, the prosperity or despair of economic agents is often inseparably connected to a certain type of management or method of production. The decline of that particular type of technology of production and management will necessarily bring about the decline of this type of economic agent. In the exchange economy, this gives a special character to the replacement of the not so suitable [ways of doing things, methods, etc.] by the more suitable. The inevitable debasement of what has been existing before therefore appears in a different light as compared to the current state reached by development.

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So, a process of stunting, a decline in status and class of wide circles goes hand in hand with the upward movement. A lot of frictional profits disappear, which, however have only been a consequence of deficiencies in the mechanism of competition, but to which the economy had adapted and which have been the basis for many a person’s livelihood. By development, entire layers of society lose the ground under their feet. Certainly not suddenly, but slowly. Through generations, the people in question live a poorer and ever

²² In principle, these would be the periods of liquidation. But many of these effects are slow in pushing through. Hence, it is more realistic to say that these are the periods which appear together with the periods of liquidation. They differ from the latter with respect to the length of time; their phenomena are broader, but less intense in violence.
poorer life with ever more bleak hopelessness. Slowly, they lose the moral and intellectual level, the more so, the darker the economic prospects around them are becoming. Their firms become poorer and poorer, tumble into ever more unfavorable situations, become breeding grounds for social grievances and fall into the hands of ever more despicable public persuaders. These companies dry up and decay. Compared to the magnitude of development as a whole, an alien observer would hardly pay attention to these phenomena. The losses are only the reverse side of development. They result because the services which have been the basis of economic life for those economic agents, are now being performed in an improved, better way. Even the pain which these losses cause, have their function in the faster removal of the outdated, in the incentive towards activity. But those people who participate in the drama themselves, and those who are close to them, have a different point of view. They would still be of a different opinion, even if they thoroughly grasped the nature of the process, which is all too often not the case. They cannot close their ears to the cries of those about to be crushed, when the wheels of the new era roll over them.

This decline in status and class of many companies has, of course, an unfavorable effect on wages and rents. Moreover, the agents of these companies are either workers or people who live off rent, so that the devaluation either falls on wages or on the rents of land. If we still do not see this, then this is because those particular workers and landowners do not easily communicate their decline to the others [504]. In this respect, they rather form a special group. They are more strongly attached to outdated modes of company leadership than the others.

In the seventh chapter, the analysis of development is broader than the standard Schumpeterian view as espoused in his later book on Business Cycles (op. cit.). Sociological and cultural factors such as the "social pyramid" and the physician as entrepreneur are no longer part of the explanation.

Similarly, in his later works the analysis of entrepreneurship differed from that of his earlier works. Shortly before his emigration, Schumpeter described the entrepreneur not only as a theoretical concept, but also as a concrete actor who could bring about structural change. Even later, Schumpeter did not distance himself from these

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23 The standard Schumpeterian view is as follows: innovating entrepreneurs are the initiating agents of change. Due to the herd like behavior of imitators and adaptors of the innovation, investments in new technology, etc. occur in clusters spreading through the economy and speeding up the process of development. The old equilibrium is left and evolves in a new equilibrium at a higher level. Innovations occur in rhythms which suddenly and vigorously push the process of development out of equilibrium and, later on, swing back to a new equilibrium. Compare Joseph A. Schumpeter. 1929. "Der Unternehmer in der Volkswirtschaft von heute." (The Entrepreneur in the Modern Economy) In: Strukturwandelungen der Deutschen Volkswirtschaft. Editor. Bernhard Harms, 2nd. ed., vol. 1, Berlin: Reimar Hobbing, pp. 303-326. Reprint: Wolfgang F.
contributions, but referred to his own earlier work, for instance in the following reply to Arthur H. Cole: "In his presidential address at the 1946 meeting of the Economic History Association, Professor Arthur H. Cole leveled an indictment at economic analysis of the "theoretical" type to the effect that it has neglected throughout the phenomena of economic change." In the footnote (1), the editor, Bernhard Harms, wrote: "This article was probably written in 1946 in response to a suggestion by Arthur H. Cole, who at this time was planning a research center in entrepreneurial history." In his later works, Schumpeter described entrepreneurship as a narrower concept, focusing on large scale entrepreneurship. As becomes obvious in the seventh chapter, Schumpeter was in his earlier works also concerned with small-scale entrepreneurship such as the physician as an entrepreneur and the entrepreneurship by organizations and other such entities. He also saw entrepreneurship in relation to structural change.

In Schumpeter's early analysis of economic development, not only economic aspects are important, but also social and other factors. In order to illustrate this, he gave the example of a successful physician. The health sector is an example, where other but economic considerations are important as well so that a pure economic analysis cannot be applied. The analysis has to be open so as to take other but economic variables into account. Cultural, social, and ethical aspects have to be included. In the seventh chapter, the emphasis is on the origins of change on the one hand, and the reverberations of this change through all sectors of the economy, polity, and society. All sectors are somehow affected, yet each differently.

12.3 Schumpeter on Health: many "Filiations"

Schumpeter tried to cover the interrelationships between the different sectors and the processes of change as they start in one sector and reverberate through all the others. Health issues are a prime example of phenomena which belong to all these sectors at the same time. For instance, the AIDS epidemic, in particular in Sub-Saharan Africa, as it affects a particular age group (young, educated males) has severe repercussions in the management echelons of business firms, the civil service, and the officer core of the military. This translates into repercussions in

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An example is the development of a city as devised by Oppenheimer. He proposed to build a healthy city by forming cooperatives for housing and credit unions. Schools and houses had to be built so that the living environment was healthy and this posed new demands on architecture. Compare chapter 11.
politics and in cultural life. Any policy directed at the epidemic has to be implemented so as to take into account all these repercussions. An isolated approach such as focusing only on the medical condition and an effective pharmaceutical innovation is insufficient.\(^{28}\)

In his early work, Schumpeter proposed a different way of causation than the classical economists. An example is the explanation of a population increase and its consequences. The standard Schumpeterian explanation based on his later writings would be that innovating entrepreneurs through increases of productivity create life chances for more people. In the seventh chapter, he stresses the obverse line of causation. He held that the increase of the population was possible, because the economic room for it was already there. Entrepreneurs took advantage of this economic room. As a consequence, new combinations have created more employment opportunities and made it thus possible to feed more people.

In Schumpeter's early approach to economic development, progress in medicine is one aspect of those new combinations which create more supply and, according to Say's Law (supply creates its own demand), more demand. More advanced therapeutical possibilities even create more demand in traditional forms of care. More people find employment and hence, more people can be absorbed in the growing cities, leaving the countryside, where the "new combinations" have not yet arrived, and where the social activity remains in a previous stage of development. This issue is relevant for the World Health Organization (WHO) and the Food and Agriculture Organization (FAO) stance on population control based on a Malthusian theory (compare footnote 16). Economic development, notably if it is homegrown, creates many new lines of work and gives rise to demand for labor. It also increases the production of food supplies. On the supply side it increases the opportunity costs of having and rearing children. In developed countries, children are luxury goods and not necessities as in developing countries. Therefore, an increase in the cost of raising them can even lead to an increased demand. Instead of imposing physical means of birth control, a Schumpeterian approach would emphasize growth and economic development.\(^{29}\)

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\(^{28}\) An example of a step in this direction is the Nordrhein-Westphalian report on health goals to be implemented in between 2005 and 2010. Next to goals directed towards improving medical conditions, it contains structural goals such as health promotion and preventive measures among youths, attenuating factors that lead to illness in a working environment and strengthening the responsibility in particular of chronically ill patients. Compare: Birgit Fischer. 2005. *Gesundheitsziele NRW – 2005 bis 2010*. (Health Goals NRW). Ministerium für Gesundheit, Soziales, Frauen und Familie des Landes Nordrhein-Westfalen.

\(^{29}\) There is support for Schumpeter's theory of innovation driven development on the basis of Cameralism and the Althoff system (compare chapters three and nine). The Cameralists were population oriented and treated people as a wealth of the small states. A closer look at the Althoff system showed that Althoff, an entrepreneurial bureaucrat of the Ministry of Culture, facilitated the
Schumpeter's approach is more complex than a simple type of causation. This can be illustrated by looking at the following example of a simple type of causation: "... it can reasonably be argued that the increase of population in the 19th century was due to progress in medicine, and that it exerted immense economic and political pressure and was a major driving force behind the introduction of mass production systems." (Peukert, op. cit., p. 81). Here, progress in medicine is directly related to an increase in population and an improvement of the economy. One could even say that it is not so much medical progress, but economic advances which lead to the growth of the population and better health. While Schumpeter accepts this argument as a simple type of causation, his approach is more complex. Medical progress can be a necessary condition for population increase, but it is certainly not a sufficient condition. Sustained population increase is possible without improved health states of the population, but improved health states can lead to population decline as we currently witness. The mere ability to reproduce does not explain the choices people make in having children. Since children can be luxury goods, improved fertility and a higher income can lead to population decline.\textsuperscript{30}

In contrast to standard analysis in health economics, a Schumpeterian approach discovers a pan plea of entrepreneurs in health care trying out "new combinations" for diagnosis, treatment, and coping with adverse medical conditions. There are entrepreneurs among the various participants in the health industry, physicians and other health care providers, patients, the pharmaceutical industry, providers of health insurance, manufacturers of health products, etc. By looking at the different actors in the field of health products and services, a wide entrepreneurial potential comes to mind.

Some patients are more capable than others and can better cope with a handicap. They find new ways of doing things, of organizing themselves, perhaps gadgets that help them to better function within the social and cultural environment. Those patients behave just like an entrepreneur as described by Schumpeter.\textsuperscript{31} State

immense medical progress taking place in Prussia. He devised ingenious ways to finance medical research, identified creative and able professionals and promoted their careers.


\textsuperscript{31} For a discussion of the patient as an entrepreneur see, for instance, Auke Leen, "Competitive Producers and Consumers do not Need the Government: Pricing a Real Novelty Cannot be Deceptive." 2000, G. Meijer, W. J. M. Heijman, J. A. C. van Ophem & B. H. J. Verstegen. Editors. The Maastricht Isini-Papers, Vol. II. If we let the health industry turn to the market, we find that certain services can be provided in a cheaper way. Leen has argued that this is partly due to the entrepreneurial potential of the consumer. In our case, the consumer is a patient. Schumpeter did not make the same argument. He also saw entrepreneurial potential in government policies.
How can entrepreneurial potential of patients be recognized? There is a problem in interpreting empirical data, if two distributions have different means, but overlap considerably. For instance, a sick older person may be more capable than a healthy young one, if the older person started out at a higher level of capability and maybe has learned to cope with the illness. The older, but "entrepreneurial" patient might still be fit for some kind of employment. While those people belonging to the entrepreneurial group are not in need of much support, those of the less capable group could be offered employment or educational programs that would help them to better cope with reality. Preventive measures would include the identification of groups at risk. Special attention should be given to those groups in society which are adversely affected by economic change.

Schumpeter wrote that two firms or two individuals are at the same point, but one is moving upward and the other one is going downward. The costs they face will be different as the upward moving company has able and flexible employees and the other one does not. What looks at the outset to be similar or almost the same can be radically different because one institution has entrepreneurial potential and the other goes by routine and will fail. The relevance for public health administrations and new corporate forms which can embody entrepreneurship is obvious. Many concrete proposals can be readily derived.\(^{32}\) A policy that is directed towards an average company such as an average hospital, will fail as other qualities count and these are sometimes those of the outsiders who show entrepreneurial talents. All these conditions have a political dimension and only economic and political entrepreneurship combined holds out hopes for sensible solutions. This is the central message of Schumpeter's seventh chapter with respect to the issue of health.

Instead of facilitating entrepreneurship, regulations can prevent entrepreneurial initiative. Examples are medical malpractice suits. As Epstein has pointed out, “a strict liability rule could make a physician or hospital attentive to the treatment of those patients that come into their care, but it has (empirically) the greater vice of leading physicians and hospitals to withhold services in the first place. They do not believe that they can charge in fees enough to cover what they must pay in damages for instance, in the areas of care for the homeless, care for the elderly, and for those who have difficulties adjusting to technical progress, care for people who are windfall losers of system change, people who immigrate through the prostitution circuit, people who immigrate through the drug circuit, people who suffer long-term consequences due to incarceration and the socialist regime, people who suffer long-term consequences because of malnutrition in their early years of childhood, people affected by anabolic substance supported sports programs, people with psychic trauma as a consequence of secret service activities in the family, and finally people drafted for work in contaminated sites with no adequate protective clothing. In all these cases, a middle of the road industrial firm will not be a successful player.
and defense costs.\textsuperscript{33} Physicians and hospitals face medical malpractice suits in case of bodily harm done to patients. In being careful to avoid a malpractice suit, they cut their potential for innovation.

The pharmaceutical industry focuses on innovations. For instance, the case of Thalidomide and its repercussions illustrate that innovation can be a highly charged political matter. Thalidomide which caused a major medical, but also social and political crisis, is basically an effective medication for sleeping disorders with few side effects. If, however, prescribed contra indication to pregnant women, it can lead to a major disfigurement of the fetus. The case led to a regulatory wave, and only in recent years Thalidomide has reestablished its strong reputation. Here, the entrepreneurial uncertainty could not be contained, whereas the risk could be contained through regulatory and prescription instructions. Each innovation carries some residual uncertainty; events (positive or negative) nobody had imagined would ever happen.

Frank H. Knight's (1885-1972) distinction between risk and uncertainty is of major importance here. Knight emphasized the distinction between risk, which is insurable, and uncertainty, which is not. This is why risk can be regulated, but uncertainty cannot. Risk relates to recurring events whose relative frequency is known, while uncertainty relates to unique events whose probability can only be subjectively estimated. Insurance companies exploit the law of large numbers in order to reduce the risks. They pool the individual risks by setting a price that is based on the relative frequency with which an event in that particular group happens.\textsuperscript{34} "Knight observed that while the entrepreneur can "lay off" risks much like insurance companies do, he is left to bear the uncertainties himself."\textsuperscript{35} Schumpeter developed the role of the "entrepreneur" as an actor who creates uncertainties in the first place, but who is able to transfer this uncertainty into risk. To the bank, which lends money to the entrepreneur, his undertakings represent a risk, not an uncertainty.

The intricacies of the Thalidomide case are that the risks associated with the correct medication were well contained. The catastrophe ensued as a consequence of the unforeseeable, uncertain and wrong medication. Strangely, little research is available into what caused this peculiar prescriptive behavior.

In this section it has been illustrated that despite scant direct analysis on health and


\textsuperscript{34} Health insurances are regulated. As a consequence, "risk pooling" is no longer possible. Health insurances are not allowed to charge fees according to marginal costs. In the presence of asymmetric information, we face the problem of moral hazard. Health insurances are limited in charging marginal costs - this has an effect on entrepreneurship on the side of the patient.

health economics, the early Schumpeterian view on entrepreneurship and the interrelations between economic, social, and cultural change offers a new perspective to study health issues. A summary and conclusions follow.

12.4 Summary and Conclusions

The seventh chapter of Schumpeter's *Theory of Economic Development*, omitted in 1926 from the second edition, is not only a summary of the first six chapters, but also contains new elements which Schumpeter subsequently worked out in later works. By formulating one single theory, Schumpeter wanted to explain economic development and its societal consequences. The arts, politics, the social sciences, all these fields should somehow be covered by this unifying single theory. According to Schumpeter, the source of development lies in internal dynamics facilitated by entrepreneurial initiative.

Economic change is driven by internal dynamics which creates the room for innovations. The entrepreneur recognizes this room and by creating recombinations can take advantage of it. The same principle of internal dynamics accounts for all other sectors of the social system. There are interdependencies in entrepreneurial activity. From the point of standard economic theory the physician is a worker, but for Schumpeter's theoretical purposes he has to be considered an entrepreneur. This is reflected in his social status and prestige and not necessarily in his economic well-being.

In health economics, it is important to distinguish among different groups of people. Current health care policies do not seem to take different levels of individual entrepreneurial capability into account. Regulation is necessarily based on the principle of equality and tends to treat every case in an equal manner. This makes it difficult to distinguish between the subjectively different cases and backgrounds, notably when they look objectively similar.

A consequence of a comprehensive regulatory scheme is that there is hardly a niche for small-scale entrepreneurship. Yet, at the same time we can observe some great innovations in health care, for instance the cloning of embryos for stem cell research. It is a paradox that on the one hand, we see entrepreneurship in the health care market based on leading-edge research, but on the other hand we find that small-scale entrepreneurship is more or less subdued. A large portion of potential technological change, that part caused by small-scale entrepreneurship, is thus stifled by regulation.
References


