

## Volume 14 - Issue 4, 2014 - Management Matrix

### Health: The Economic Growth Engine of the 21st Century



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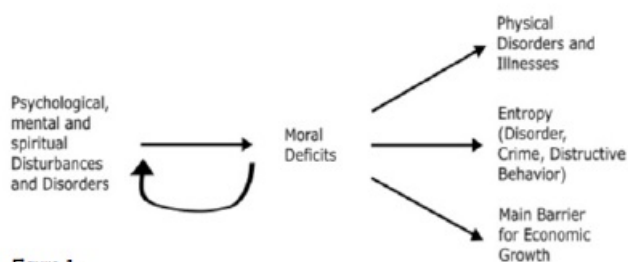
#### Key Points

- The economic and social development of the leading industrialised countries is significantly determined by economic cycles that last between 40 and 60 years.
- In honour of their discoverer Nikolai Kondratieff, these long waves are called Kondratieff cycles.
- A new long cycle, the sixth Kondratieff cycle began around the turn of this past century.
- This article describes why health will develop into a growth engine in the global economy thanks to this new Kondratieff cycle.

Is there a correlation between health and economic growth? Can the healthcare sector be an answer to the current weak economic growth in the leading industrial nations?

So far, the economic development of the industrialised nations has been disappointing during the 21st century. And the situation would be even worse, had the administrations not helped the economy by taking on enormous debt and had central banks not flooded the financial markets with practically interestfree money. The industrial nations are obviously not able to leverage their economies with the existing concepts.

The biggest barrier to economic growth is low productivity at the level of society as a whole. Too many resources are being lost on the societal level due to disorder, destructiveness and crime – due to the so-called entropic sector. Entropy is a term taken from physics that describes the disorder of a physical system. Here the term is used to demonstrate the global social disorder.



**Figure 1:**  
The Relationship between Moral Deficits – Entropy – Inner Health

Disorder has become a worldwide mega problem for the global economy and a mega destructive market. Worldwide money laundering has increased twentyfold from 1990 until 2009 and had almost reached 2,000 billion US dollars (1,568 billion Euros). Corruption and bribery are at a record high all over the world and in 2013 caused at least five percent of all economic costs (4,000 billion US dollars / 3,137 billion Euros). Patent protection and copyrights are systematically being ignored or evaded. Piracy on the world's oceans is increasing, making global commerce more difficult and more expensive. Annual losses from environmental damage make up about 10 percent of the world's gross national product. Cyber crime is growing by double digits, computer virus attacks and counterattacks are increasing and have led to a new type of warfare, so-called cyber warfare between companies, institutions and countries. Millions of people all over the world work for illegal organisations (the number of Russians, who are active in criminal organisations is estimated at 300,000). During their lifetime, up to 70 percent of women all over the world become victims of physical, psychological or sexual violence with partially permanent damage to their health. This list could go on and on.

If we add up the damages, losses and costs that accumulate every year in this sector, we get an amount of at least 14,000 billion US dollars (10,979 billion Euros) for the year 2006 (Nefiodow 2014). That was more than the United States gross national product. Based on our own

calculations, global entropy has increased to 18,000 billion US dollars (14,116 billion Euros) in 2013.

The entropic sector plays a key role in the global economy, because the enormous losses, damages and costs that incur year after year in this instance have turned this into the most significant barrier for the economic and social development. After all, the free market economy cannot function efficiently without a sufficient number of honest businessmen, public officials and politicians.

## Entropy and Health

What are the causes for the entropic sector? They are moral deficits. But these deficits can also be viewed from a different perspective; they can be seen as health deficits (see figure 1).

This becomes apparent if you draw a comparison with the behaviour of healthy people. A psychologically healthy person does not cheat. A mentally healthy person does not use drugs. A socially healthy person has a sense of community, advocates wellbeing of all people and does not harass others. A spiritually healthy person has a trusting relationship with God, strives for reconciliation, truth and peace and does not spread hatred and violence. Inner disturbances and diseases and the social misconduct caused by them are the deeper reasons for global entropy (see figure 1).

At this point, I would like to elaborate on the term health.

The World Health Organization (WHO) definition of health is a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity. In 1997 the Executive Board of the WHO provided some food for thought with a broader definition of health: "Health is a dynamic state of complete physical, mental, social and spiritual wellbeing and not merely the absence of disease or infirmity." This was once again highlighted in the 2005 Bangkok Charter for Health Promotion in a Globalised World: "Health is one of the fundamental rights of every human being and encompasses mental and spiritual wellbeing."

According to the WHO, terms like disease and health are no longer limited to the body. They are systems concepts. There are also sick souls; there are social diseases; there are sick families, companies and societies.

If you apply the WHO definition to the marketplace, we can distinguish between two sectors of the healthcare system (see figure 2):



Figure 2:  
The Health Value Chain of the Sixth Kondratieff  
Source: Nefedow 2014

## The Traditional Healthcare

Over the past two centuries, the traditional healthcare sector made tremendous progress. The history of medicine over the past two centuries was a real success story.

But this success story is about to end. Since the late 20th century, the new medical advances are no longer sufficient to adequately deal with the dynamics and complexities of modern life and its high demands on the physical, emotional and mental strength of human beings. As a result of these and other trends (e.g., longer life expectancy of people and the increasing social disarray), the number of diseases and costs in the healthcare sector continuously increase in all countries.

The traditional healthcare system does not provide health based on the definition by the WHO. It is not geared towards holistic healing, but mainly towards the treatment of physical diseases. It is not well prepared for the demands of the 21st century. What we call the traditional healthcare system today is in fact not a healthcare system at all. The correct label would be disease care system, since more than 95 percent of expenditures go towards the research, diagnosis, treatment, administration and management of diseases. In contrast, only limited means are available for prevention, preventive medical checkups and healing.

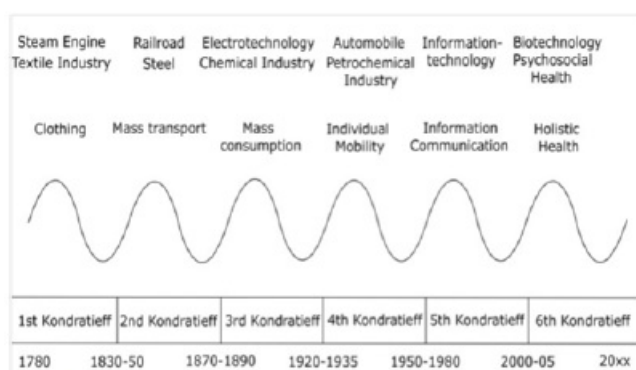
Dementia is one example. In 2010, the US federal health insurance programmes Medicare and Medicaid spent approximately 140 billion US dollars (109,8 billion Euros) to treat dementia, but only 0,5 billion (0,39 billion Euros) to research its causes (Coy 2012). A ratio of 280:1.

The most important source of economic growth in the industrialised nations is productivity. The low productivity level of the traditional healthcare sector is its biggest problem. The productivity is too low, because the costs caused by medical technology advances are not counterbalanced by the cost savings they produce (Schneider, Markus et al.); and because they – as mentioned before – are not geared towards healing, but rather the treatment of disease symptoms. As a result, costs keep increasing. In the meantime, global health expenditures are now 12,000 billion US dollars (9,466 billion Euros) and there are more and more sick people, more and more diseases despite high spending, despite more research, more pharmaceuticals and medical technology, an increasing number of doctors and other healthcare professions and ever more remedies and healthcare products.

How can those two barriers – big losses, expenses and damages of the entropic sector and the high costs and low productivity of the traditional healthcare system – be overcome? In the past, growth barriers were overcome by developing the new Kondratieff cycle.

### What is a Kondratieff cycle?

Kondratieff cycles are economic fluctuations averaging about forty to sixty years. They are triggered by groundbreaking innovations, which are called basic innovations to distinguish them from other innovations. When we summarise the existing studies, so far, six Kondratieff cycles were empirically determined from an economist's point of view (see figure 3):



**Figure 3:**  
The Six Long Waves of Economic Development  
Source: Nefiodow 2014

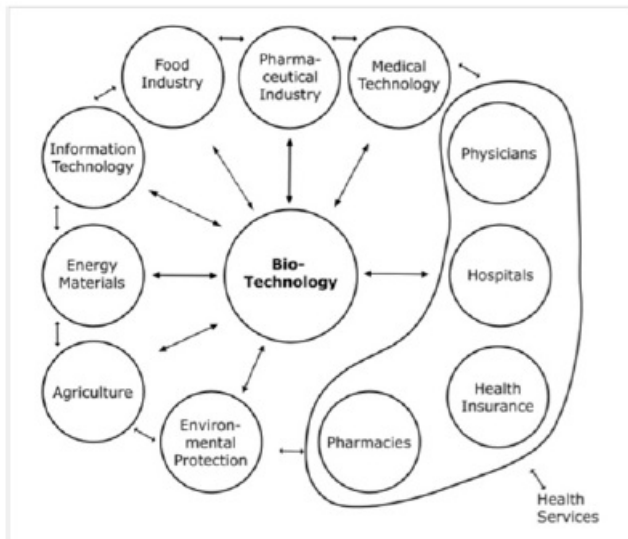
The 1st Kondratieff cycle begins towards the end of the 18th century. The trigger is the steam engine. The most important application takes place in the textile industry.

The 2nd Kondratieff is the era of big steel and the railroad. Two major new industries develop during the 3rd Kondratieff: the electrotechnical and the chemical industry. The 3rd Kondratieff ends with the world economic crisis of the late 1920s and early 1930s.

The 4th Kondratieff was supported by the automobile and the petrochemical industry. This long cycle drew to an early close due to the massive crude oil price increases of the 1970s.

The 5th Kondratieff is carried by modern information technology. No other technology was able to even remotely exhibit comparable economic dynamics and widespread effect during the second half of the 20th century. This cycle ended with the global recession of 2002-2004. Simultaneously, the sixth Kondratieff began. This long cycle is in its early stages, but is not able to fully develop primarily because of the two mentioned barriers.

The healthcare economy is the carrier of the new, sixth Kondratieff. The weak economic growth in the industrial nations can be overcome by its promotion and extension.



**Figure 4:**  
**The Biotechnology Value Chain**  
**Source: Nefiodow 2014**

### The Newly Emerging Second Healthcare Sector

The main carrier of the sixth Kondratieff will be the new emerging healthcare sector (see figure 2). Biotechnology holds a special position (see figure 4). It is not just a brandnew technology, it is one of the two basic innovations of the sixth Kondratieff, because it will improve productivity in handling physical diseases, it will reduce costs significantly, it will improve our competence in avoiding diseases and our competence in healing.

Naturopathic treatments, complementary and alternative medicine belong to the new value chain (see figure 2). They have expanded for many years and now play an important role. There is still immense healing potential hidden in this area and a large market for all players in the healthcare system.

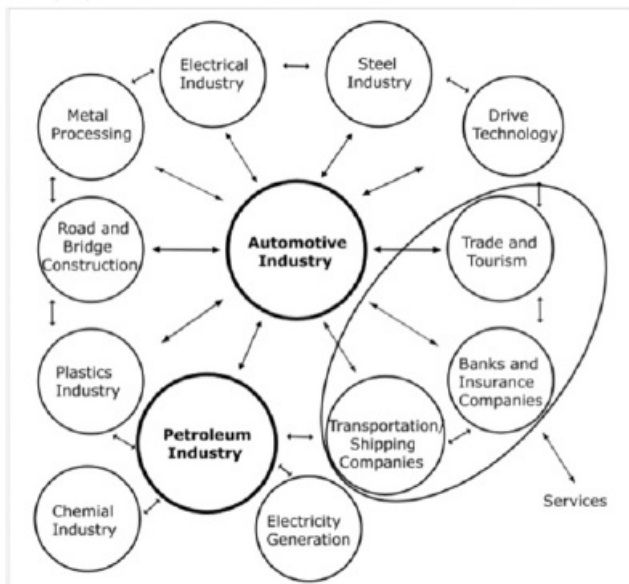
Big portions of environmental protection are also a part of this new value chain. When you take a closer look, most environmental protection measures only serve the environment at first glance; protecting the health of human beings is the stronger motive.

The wellness industry, fitness studios and health tourism have expanded strongly. Companies increasingly have come to realise that employee health has become a strategic weapon.

Two additional protagonists in the new emerging healthcare sector are psychotherapies and spirituality/religion, which can help in reducing entropy. Psychotherapies could effectively contribute to entropy reduction, if – as established in our book – they could reduce the theoretical deficits (Nefiodow 2014). Unlike the situation in spirituality where its effectiveness has been scientifically proven. Many studies prove that religious beliefs have a healing effect on the body, soul and spirit. Raphael Bonelli of the University of Vienna and Harold Koenig of Duke University in the US have analysed all studies that were published between 1990 and 2010 on the relationship between health and religion, and concluded that there is a positive correlation between Christian faith and health in 74 percent of these studies (Bonelli and Koenig 2013).

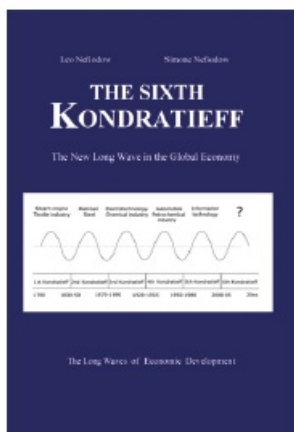
### The Kondratieff Cycle as an Economic Engine

To understand why the sixth Kondratieff is going to take on the role of economic growth engine, the example of the fourth Kondratieff is meant to demonstrate how this type of growth engine is built and how it works (see figure 5).



The basic innovation that triggered the fourth Kondratieff was the automobile. Two large new industry sectors developed from its commercialisation: the automotive industry and the petrochemical industry (see figure 5). During the fourth Kondratieff, they were the most important private employers and the largest investors in research, development and production. For more than half of a century they significantly defined economic growth, and as leading industries, they affected the economic system like a locomotive affects a train: they put all wagons of the train in motion.

If we stay with the image of a train, the individual wagons represent the sectors of the economy, which benefited from the automobile. This included highway, bridge and road construction companies, steel and tyre manufacturers, manufacturers of fuel power stations and gas-fired power plants as well as countless suppliers of metal, electric, electronic and plastic parts. Numerous service providers were also a part of the "wagons" of the train: gas stations, car dealers, repair shops, transport companies, banks, insurance companies, tourism and the leisure industry. All of these "wagons" built a global network of suppliers, customers, retailers and users, which created millions of new jobs. And the entire train in motion illustrated— metaphorically speaking – the fourth Kondratieff. In those countries where the automobile and petrochemical industry boomed, full employment was the result. Every fifth job in the U.S.A. and every seventh job in Germany became dependent on the car during the fourth Kondratieff. The health care sector will take on a similar role as a growth engine during the sixth Kondratieff.



## Conclusion

We explained that the sixth Kondratieff is a health-related cycle. A detailed analysis of the current growth barriers and growth potential in fact shows that the healthcare system, when it is geared toward the needs of the 21st century and extended to the human being as a whole, can lead to a strong and sustainable upswing (Nefiodow 2014). Outside of the healthcare system there is presently no other candidate, through which industrialised nations can achieve full employment. This means that for the first time in history, the focus of economic and social development is not on a machine, a chemical process or hardware technology, but rather the human being with his physical, mental, psychological, social, ecological and spiritual needs, problems and potential. We leave the growth patterns of previous Kondratieff cycles behind. Now the human being takes centre stage. This is the message of the 6th Kondratieff: the healing of man is the best programme for the future.

Published on : Sat, 8 Nov 2014