



STEFANIE KISGEN (Ed.)

# LEADERSHIP – TRANSDISCIPLINARY WRITINGS

DEDICATED TO  
PROF. DR. DR. H.C. WERNER G. FAIX  
ON THE OCCASION OF HIS 70<sup>TH</sup> BIRTHDAY



SCHOOL OF INTERNATIONAL  
BUSINESS AND ENTREPRENEURSHIP  
STEINBEIS UNIVERSITY

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## **Imprint**

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# **TOWARDS A HEALTH ECONOMY POLICY – A CONSOLIDATED ECONOMIC AND HEALTH POLICY APPROACH**

**A SOLUTION FOR SUSTAINABLE ECONOMIC GROWTH, STABILITY,  
AND WELLBEING**

# INTRODUCTION

The individual, in a similar way with the collective health and wellbeing status, is influenced not only by health policy measures, but also by almost all interventions in other policy areas, such as environmental protection, transportation policy and this is even more evident in economic and social policy. On the other hand, healthcare or health policy measures have a direct and indirect impact on other policy areas, that by no means is limited to policies such as those that relate to the consumption of tobacco or drugs, but also, and most importantly, to policies that relate to labour productivity and macro-economic aggregates, such as employment and growth.

Furthermore, other parameters such as the population or demographic dividend<sup>1</sup>, that refer to the growth in an economy that is the result of a change in the age structure of a country's population, along with the health dividend, that is captured through the Social Impact of a medical intervention<sup>2</sup>, require further attention, given that they significantly contribute to economic growth and health of the population.

This article examines the relationship between health policy and economic policy.

Typically, when one refers to either economic or health policy, these are treated and considered as separate policies, that are associated with distinct and completely different goals. This approach, however, tends to neglect the economic impact of health and healthcare policy measures, as well as the influence they exert on the economic status, and respectively, the impact of economic policy measures on the level of health and healthcare policy measures.

The key question that is addressed in this paper is to assess a hybrid system that is based on health policy and economic policy objectives. In other words, the main issue examined is if the individual goals connected to these policies share a common basis as to their expected policy outcomes.

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<sup>1</sup> POLICY Project, Futures Group. Project funded by the U.S. Agency for International Development (USAID) under Contract No. HRN-C-00-00-00006-00, beginning July 7, 2000. POLICY is implemented by the Futures Group in collaboration with the Centre for Development and Population Activities (CEDPA) and Research Triangle Institute (RTI). The views expressed in this paper do not necessarily reflect those of USAID. [http://www.policyproject.com/pubs/general-report/demo\\_div.pdf](http://www.policyproject.com/pubs/general-report/demo_div.pdf).

<sup>2</sup> The Social Impact provides a new and more holistic perspective on the value of a medical innovation. It quantifies the incremental health benefits of an innovation over time. Its methodology, according to WifOR Institute, provides an instrument which quantifies the absolute increase of potential productive time, valued according to value-added effects, of both paid and unpaid work, that arise from the use of medical innovations.



Connecting certain objectives, places the Health Economy<sup>3</sup> at the center of interest, as a leading sustainable growth sector, where economic policy goals can consolidate, and could even enhance the economy's capacity to achieve the stated economic goals, or at least the main ones.

The authors argue that one of the prerequisites for sustainable policy actions is that the interdependencies among different policy areas should be accounted for, and by no means these shall be ignored, and present compelling reasons that support a joint policy approach for economic and health policies.

Initially, the main elements, individually of health and economic policy, will be addressed separately, and following that, in a separate chapter, their interconnections and strong linkages will be demonstrated.

A distinction is made between health and healthcare policies, although both terms are often used interchangeably when policy measures are qualified. In our approach, healthcare measures include policy interventions and actions that directly influence health expenditures, medical services and products, while health policy measures include a more general set of actions that have an impact on health and wellbeing.

Hence, in our understanding, policy interventions, such as abolishing cigarette smoking or promoting the consumption of healthier food or even environment protection measures, such as the reduction of fine dust are health policy actions and not healthcare policy measures in the strict sense.

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<sup>3</sup> The Health Economy is defined as a distinct but heterogeneous economic sector that is comprised by core and ex-extended areas of activity, represented by various subsectors, all having a common characteristic of promoting health. In the sub-sectors of the core area, the health expenditure that are related to products and services are measured by surveys and then quantified. The extended area includes the quantification of products and services of other subsectors, that are not captured in health expenditure surveys, although they also promote health (Federal Ministry for Economic Affairs and Energy (BMWi), 2017. "National Health Account for Germany. Summary of the Research Project of the Federal Ministry for Economic Affairs and Energy, Berlin" – Gesundheitswirtschaft. Fakten & Zahlen. Ausgabe 2016'. Berlin. [https://www.bmwi.de/Redaktion/EN/Publikationen/national-health-account-for-germany.pdf?\\_\\_blob=publicationFile&t=5](https://www.bmwi.de/Redaktion/EN/Publikationen/national-health-account-for-germany.pdf?__blob=publicationFile&t=5)).

# 1 RECENT EVIDENCE OF THE CHANGING TREND IN CONSOLIDATING ECONOMIC AND HEALTH POLICY

## 1.1 THE "ASSESSMENT OF EU FISCAL RULES WITH A FOCUS ON THE SIX AND TWO-PACK LEGISLATION" REPORT

In August 2019, the EU published a report entitled "Assessment of EU fiscal rules with a focus on the six and two-pack legislation".<sup>4</sup> In this report, the EU fiscal framework, with a focus on the six and two-pack legislation, was carried out against three main criteria:

- (1) ensuring the long-term sustainability of public finances,
- (2) stabilizing economic activity in a counter-cyclical fashion, and
- (3) improving the quality of public finances.

We will focus on criterion (3) and argue that there is a need to further elaborate on the quality of public funding and that this predominantly should involve health sector related expenditures.

The report, with reference to this point, concludes that the composition and efficiency of public spending matters for the overall quality of public finances, and our contention is that by setting health sector policy goals, we could improve the quality of public finances so that they would lead to growth and better health and wellness.

Furthermore, with regards to this same criterion, the report contends that quality of public finances also has a direct effect on the design of the EU fiscal policies.

There is hence some evidence that further efficiency gains could be achieved in some countries, and that fiscal rules, for instance, could indirectly affect the quality of public finances, by changing the composition of public expenditures.

However, interestingly so, the report touches only upon the education sector and suggests some ways that education could be assessed as a sector that impacts long term efficiency and productivity gains, thus treating education as an investment.

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<sup>4</sup> [https://ec.europa.eu/info/publications/assessment-eu-fiscal-rules-focus-six-and-two-pack-legislation\\_en](https://ec.europa.eu/info/publications/assessment-eu-fiscal-rules-focus-six-and-two-pack-legislation_en).

To the contrary, expenditures in other sectors, including those of the health sector, are treated as consumption, implying that these expenditures are also treated as cost factors and not as investments that could promote efficiency, productivity, and overall economic growth and wealth.

In particular, because of the contribution of the Health Economy to economic growth and employment, that will be presented in the following chapters, the authors contend that activities of the health sector must also be considered rather productive than consumptive.

## 1.2 THE G20 CALL TO ACTION ON HEALTH & DEVELOPMENT

Recently, a Call to Action was published, ahead of the 2<sup>nd</sup> G20 Joint Meeting of the G20 Finance and Health Ministers Meeting, on September 17, 2020. A Recommendation document was prepared in the context of the G20 Health & Development Partnership<sup>5</sup>, addressing the G20 Health and Finance Ministers that was entitled “Pandemic preparedness - the urgent transition from emergency relief to long-term sustainable sourcing”.

According to the statements included in the Recommendation, expenditure on health is viewed as a critical sustainable public investment rather than a current account spending. Moreover, the call for action urges collaboration with Central Bank Governors, the IMF, and the private sector, in order to leverage blended and innovative financing models to serve this cause.

Most importantly, the G20 Health and Finance Ministers recognized the important link between investments in public health and economic resilience, setting the ground for designing new governmental policies, private-public partnerships, and the like. They are, hence, suggesting that the performance of the health sector should not be considered separately, but should be included in the IMF Article IV Consultations.

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<sup>5</sup> [https://www.ssdhub.org/wp-content/uploads/2020/09/SHORT\\_Recommendations-to-G20-Health-Ministers-1.pdf](https://www.ssdhub.org/wp-content/uploads/2020/09/SHORT_Recommendations-to-G20-Health-Ministers-1.pdf).

## 1.3 THE MCKINSEY GLOBAL INSTITUTE SPECIAL REPORT ENTITLED "PRIORITIZING HEALTH: A PRESCRIPTION FOR PROSPERITY"

On July 8, 2020, the McKinsey Global Institute issued a special report<sup>6</sup> placing at the centre of public debate the notion of health as an investment that generates an economic return and stressing that this view has largely been absent from public policy discussions.

The report argues that there is a unique opportunity to advance broad-based health and prosperity, by reducing disease burden with applications of medical innovations. To support this argument, an analysis was conducted to determine the impact that this burden reduction could have on population health, the economy, and overall welfare, over a period up to 2040.

Impressive results were found. The analysis included approximately 200 countries, aggregating income-level analyses from the country-level analysis to find global and regional measurements. In other words, the disease-related investments that aim at the reduction of the potential burden, were presented as a healthy growth policy scenario that could both improve health and boost long-term global economic growth.

## 2 HEALTH POLICY AND ECONOMIC POLICY – THE CONVENTIONAL VIEW

### 2.1 DEFINITION OF THE HEALTH ECONOMY

In accordance to the delimitations and definitions of healthcare products, the German model of the health economy sector distinguishes between three important areas:

- Medical and nursing care (hospitals, doctors' practices, rehabilitation, and nursing facilities),
- the so-called Industrial Health Economy (pharmaceuticals, medical technology and biotechnology, research and development), and

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<sup>6</sup> <https://www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/prioritizing-health-a-prescription-for-prosperity> authored by Jaana Remes, Katherine Linzer, Shubham Singhal, Martin Dewhurst, Penelope Dash, Jonathan Woetzel, Sven Smit, Matthias Evers, Matt Wilson, Dr. Kristin-Anne Rutter, and Aditi Ramdorai, McKinsey Global Institute.

- other areas, such as health and wellness tourism, retail trade and public administration activities.

## 2.2 HEALTH POLICY GOALS

The basic goals of national health policies are the achievement of a good personal health status and the increase of life expectancy. Some national health policies, along with the WHO, extend the basic set of objectives, by adding well-being parameters and considering access characteristics to health services, as well as equity features of the distribution of their benefits within the population.

One of the main differences between national healthcare systems, is based on the extent that they are financed by private and/or public means. Publicly financed national health policies mostly involve the control of the public healthcare expenditures and their financing. Hence, in this case, the contribution of the health industry to economic policy goals is not per se accounted for. Conversely, when healthcare expenditures are reduced, health authorities usually only consider their own budget, omitting any possible macro-economic impact of their activities. This is something that raises serious concerns, since contributions of the health sector to the Gross Domestic Product (GDP), in many countries, is more than 10 % of the total GDP<sup>7</sup>. Some macro-economic figures referring to Germany will be presented in more detail in chapter 3.

Public debates during the current Covid-19 pandemic provide convincing examples for the close interconnection of economic and health policy decisions. If one compares, for example, the costs of a sharp lockdown for one week which in Germany are estimated at 3,5 billion Euros with the vaccination costs of the whole German population (estimated at around 5 billion Euros)<sup>8</sup>, one may conclude to avoid another lockdown it would have been better to have ordered a sufficient number of vaccine doses very early even if the development of the pandemic was not certain. This conclusion disregards, however, possible capacity limits not only of the companies developing the serum but also on the side of intermediate products necessary for the vaccination process as well as the logistical problems to be solved. Moreover, there are yet no examples that a higher ratio of vaccinated persons in the population avoided sharp lockdowns as the case of Israel shows.

Whereas the impact of the health status on the overall economy in macro-economic terms can easily be demonstrated and was once more made obvious during the COVID-19 pandemic, the impact of different levels of health expenditures, for instance on labour productivity, would

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<sup>7</sup> World Bank Data for 2017, [https://data.worldbank.org/indicator/SH.XPD.CHEX.GD.ZS?end=2017&most\\_recent\\_value\\_desc=true&start=2016](https://data.worldbank.org/indicator/SH.XPD.CHEX.GD.ZS?end=2017&most_recent_value_desc=true&start=2016).

<sup>8</sup> <https://www.capital.de/wirtschaft-politik/impfstoff-eine-zu-geringe-dosis>.

be much harder to show with precision. The existence, however, of this interconnection can maybe be shown by international comparisons, but there is not any reference, to date at least, of the corresponding impact related to a single policy decision.

Other than the question of whether it is already possible to show the interconnection between the health status and economic development to some detail, another question, that of whether health expenditures shall be considered in the System of National Accounts, as consumption or investments is also raised. As mentioned above in paragraph 1.1, the European Fiscal Board in its “Assessment on EU fiscal rules” that was published in September 2019, defined “Productive public expenditure as the sum of government expenditure on R&D, education and transport”<sup>9</sup> only. Health expenditures were, though, not considered as productive factors, despite the high correlation that exists between the level of education, nutrition, and health status<sup>10</sup>.

## 2.3 ECONOMIC POLICY GOALS

As far as macro-economic goals are concerned and given the limited scope and focus of this article, we have restricted our discussion to only macro-economic objectives<sup>11</sup> – impacts in other areas of economic policy such as innovation policy are not discussed. However, because of the interconnectivities and interactions among these goals, it is often impossible to achieve these goals simultaneously, or at least to the extent desired for all goals together.

Even though macro-economic policy decisions can have a significant impact on the health sector (depending on the extent of public financing), the potential effects are rarely accounted for in advance.

This becomes even more evident when there is a possible impact, of a rising unemployment rate for example, adversely on the individual health status, that could, in turn, lead to a possible rise in health expenditures.

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<sup>9</sup> <https://ec.europa.eu/info/publications/assessment-eu-fiscal-rules-focus-six-and-two-pack-legislatio>.

<sup>10</sup> Leon Feinstein et al. (2006). What are the effects of education on health? In: OECD. Measuring the Effects of Education on Health and Civic Engagement, Proceedings of the Copenhagen Symposium, p. 172;

Lallukka, T. et. al. (2007). Multiple socio-economic circumstances and healthy food habits In the European Journal of Clinical Nutrition, 61, pp. 701-710;

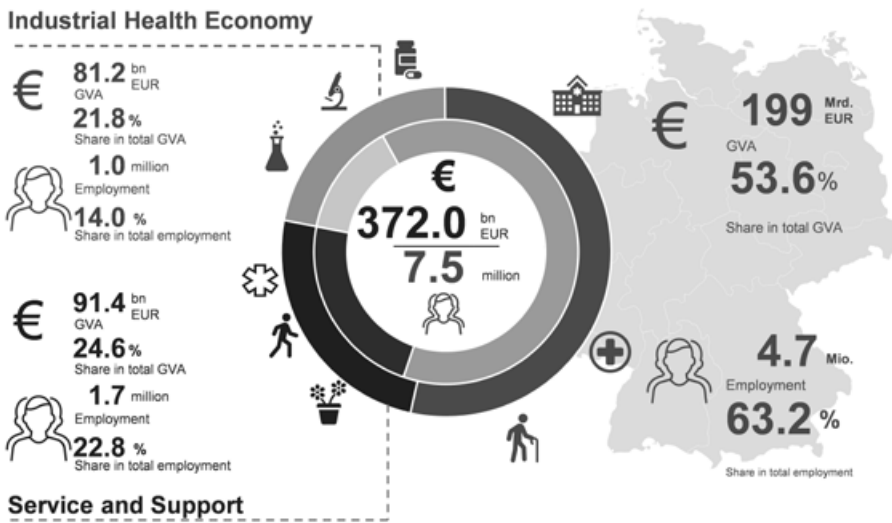
Mielck, A. et al. (2012). Folgen unzureichender Bildung für die Gesundheit. Gütersloh.

<sup>11</sup> Most countries consider growth of GDP and employment, price stability and external equilibrium as their main economic policy goals.

# 3 THE QUANTITATIVE BASIS OF A CONSOLIDATED ECONOMIC AND HEALTH POLICY

## 3.1 THE MAIN SUBSECTORS OF THE HEALTH ECONOMY

Figure 1 refers to the Federal Republic of Germany and shows the division of the health sector into the main subsectors, in particular, medical and nursing services and industrial production, with the respective data on their Gross Value Added (GVA) and the number of persons employed.



1 | Main subsectors of the healthcare industry and their contributions based on Federal Ministry for Economic Affairs and Energy [2020]

### 3.2 THE IMPACT OF THE HEALTH ECONOMY ON THE OVERALL ECONOMY IN GERMANY

The demand for health-related products and services has a direct impact not only on production and employment of the sector itself, but also – as will be shown in figure 3 in Chapter 3.3 – on the production of the sectors that provide intermediate products and services necessary for the “production of health”, such as beds, computers, catering, and facility management services. An additional impact on the overall economy is generated by spending the income of the people employed in the healthcare sector for consumption purposes.

The current data worked out by WifOR Institute for the regular reporting of the German Federal Ministry for Economic Affairs and Energy, illustrate the high economic significance of the healthcare economy. The following table (Figure 2) shows the absolute contributions of the healthcare economy to gross value added in the overall economy and thus to economic performance, the labour market and foreign trade in Germany, as well as the corresponding growth rates since 2010.



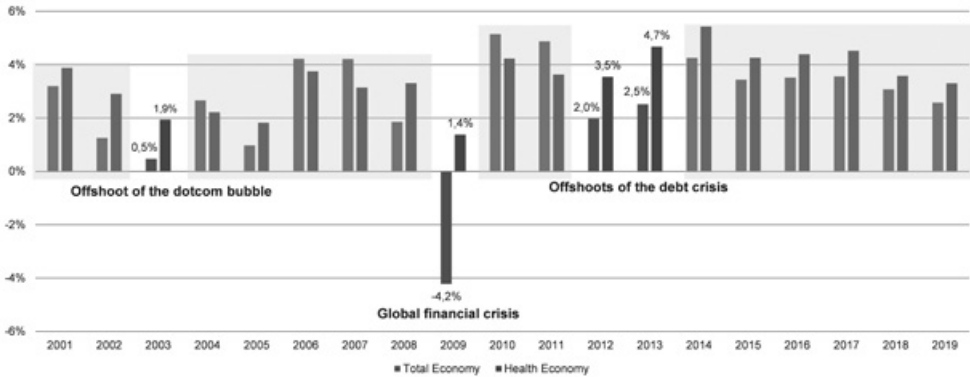
2 | Key macro-economic figures of the health economy in Germany 2019 based on Federal Ministry for Economic Affairs and Energy [2020]

With around 372 billion euros and thus a share of almost 12 percent of the overall economy in 2019, the health economy is one of the most important sectors in Germany.



The fact that the average annual growth rate of the healthcare economy between 2010 and 2019 was higher than the corresponding growth rate of the overall German economy, shows that the healthcare economy is also a stabilizing factor for overall economic development.

This is shown in more detail in Figure 3, that compares the annual growth rates of the health and overall economy.



### 3 | Annual GVA growth rates of the health economy and overall economy based on Federal Ministry for Economic Affairs and Energy [2020]

Regarding the labour market, 7.5 million employed people provide health economic services, either in the emergency rooms of hospitals, in life-threatening situations or as pharmacists, providing advice and medication or as physiotherapists in a rehabilitation centre, and the like. This means that around one out of six people are employed<sup>12</sup> in Germany in the Health Economy.

These figures would even be higher when the purchases of intermediate products from other industries (indirect effects) and the spending of the incomes generated in the healthcare economy (induced effect) would be additionally accounted for.

<sup>12</sup> Employed persons are defined as any person who, as an employed person (manual worker, salaried employee, civil servant, marginally employed person, soldier) or as a self-employed person or family worker, pursues an economic activity, regardless of the scale of that activity.

Efficiency of the health economy:

**12% of the total economy** is attributable to the Health Economy. By way of comparison: 4.5% is accounted for by the automotive industry

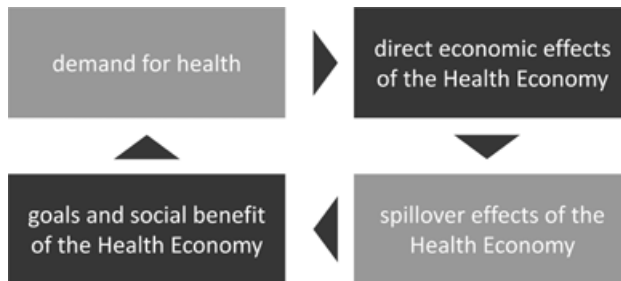
**Every sixth job in Germany** is generated within the Health Economy

The health sector accounts for **more than 8% of all German exports**

The Health Economy in Germany does not only meet the demand within the country's borders. In 2019, goods and services worth 131 billion euros<sup>13</sup> were exported abroad – around 8 percent of the total German exports. The importance of German healthcare products and services for foreign countries is particularly evident from the fact that the value of exports has nearly doubled since 2010. First and foremost, human pharmaceuticals, with 69 billion euros<sup>14</sup>, are the largest sector of exports of the health economy.

### 3.3 THE HEALTH SECTOR IN THE OVERALL ECONOMIC CIRCUIT

The economic function of the health sector can best be demonstrated by the “4 Quadrant Scheme” in the figure below that was developed and elaborated by WifOR Institute, while setting up the model of the National Health Account (NHA) for Germany, a project that was commissioned by the German Federal Ministry for Economic Affairs and Energy.



4 | Health in the overall economic circuit, Ostwald/Legler/Leidner: Gesundheitspaket mit Ausstrahlung. In: Gesundheit und Gesellschaft digital 06/2019

<sup>13</sup> Federal Ministry for Economic Affairs and Energy (2020). Gesundheitswirtschaft – Fakten & Zahlen, Ergebnisse der Gesundheitswirtschaftlichen Gesamtrechnung. Edition 2019.

<sup>14</sup> Ibidem.

Figure 4 shows health as part of an economic cycle. Starting with the upper left quadrant and continuing in a clockwise direction, a development process is depicted which is triggered by personal desires, such as a long and self-determined life, with corresponding effects on the overall economic performance, which gives rise to employment and finally leads to its continuous increase.

The health economic cycle model is therefore not a finite sequence of the four consecutive steps, but rather a continuum, and a framework of self-influencing and constantly evolving timing belts.

The increasing health awareness within the population and the associated healthier lifestyle leads to an increased demand for health-relevant services and products (1<sup>st</sup> quadrant top left) and thus stimulates the health economy (2<sup>nd</sup> quadrant top right). This creates economic added value and additional jobs in the economy.

Moreover, this does not only happen within the health economy, but also in other industries from which the health economy receives certain intermediate products (3<sup>rd</sup> quadrant, bottom right).

Ultimately, the benefits of health products and services do not only relate to the fulfilment of personal wishes, but also allow employees to live healthier lives, thus remaining active in their working lives for longer, and thus making a considerable contribution to society and the economy (4<sup>th</sup> quadrant, bottom left).

*More than one-fifth of health consumption is privately financed.*

Consumer spending for statutory health services and goods in the Core Health Economy (CHE) grew substantially during 2008 – 2014 and achieved, in comparison to the other three sub-areas with 4.3 percent p. a., the second strongest growth rate.<sup>15</sup>

In contrast, the market of statutory health services of the Extended Health Economy (EHE) achieved the lowest growth of all growth rates, at 0.5 percent, whereas the market of complementary health services and goods of the EHE had the proportionally highest increase, with 4.6 percent.<sup>16</sup>

By type of services, accommodation and services of inpatient care dominate in the complementary market, followed by drugs and medical devices, and special outpatient and inpatient medical care in fourth place.

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<sup>15</sup> Federal Ministry for Economic Affairs and Energy (2015/04). National Health Account for Germany.

<sup>16</sup> Ibidem.

## 4 LIMITATIONS

### *What the German NHA model does not show*

Despite these impressive figures revealing the macro-economic importance of the health economy, the model neither takes into account possible interdependencies between economic situations such as unemployment and poverty and the individual health status respective health expenditures, nor does it show the impact of the “outcome” of the health sector, i.e., a better health status, on the overall economy. We should though not mislead ourselves that the final goal of the productive activities of the healthcare sector is not the production of pharmaceuticals or technical devices, but the recreation or improvement of health. The impact of this outcome that, for example, leads to less absence from work due to illness or higher labour productivity, has not yet been quantified in a way that would allow to integrate it in the model.

Moreover, the model does neither explicitly consider sustainability aspects nor the impact and limitations of public finance composition.

## 5 CONCLUSIONS AND POLICY IMPLICATIONS

### 5.1 A NARRATIVE FOR ADVOCATING A CONSOLIDATED HEALTH AND ECONOMIC POLICY

The headline figures presented concerning the economic importance of the health sector and the model showing its central role in the economic circuit, raise the question of whether expenditure for healthcare or other health related expenditure, shall be regarded as consumption related costs or should rather be viewed as investments. And this is because of the relatively strong impacts that healthcare expenditure has, in relation to the performance of the healthcare system, on labour productivity and supply, interactions that became more evident during the COVID-19 pandemic. These interactions, and their effects on macro-economic parameters, support the narrative for considering such spending as an investment. If one accepts the common understanding that investment expenditures are expenditures that generate revenues that relate to economic growth in future periods, there can be no doubt that health expenditures must be considered as investment rather than consumption.

Moreover, the numbers and the significant role of the Health Economy in the overall economic circuit, indicate that when health policy in the decision-making processes does not take into account the effects it has on the overall economy, its effectiveness is as insufficient as that of an economic policy that neglects the impact of its measures on health and given the importance of this sector, including all the dynamic retroactivities that are generated.

It is therefore obvious that a combination of both policies is the ideal mix and thus has indispensable policy features and capacities.

Because of the limited length of this article, the theoretical framework for the joint economic and health policy suggested, is only discussed with regards to the main policy goals.

We consider that two alternative policy settings are adequate to make our case.

Policy interventions within the context of a joint economic and health policy should simultaneously contribute to:

**Alternative 1:**

- sustainable Economic growth
- High employment
- External equilibrium

while considering steady improvements in health.

**Alternative 2:**

- Steady improvements in health
- High employment and job quality
- External equilibrium

while considering sustainable economic growth.

In our opinion, the decision regarding which of these alternative priority settings should be adopted should be left to national policy preferences.

Regardless of the alternative policy mix that is decided, the figures and analysis that are presented with regards to the economic interdependencies between health (economy) and the overall economy, lead us to the inevitable conclusion that a sustainable economic growth can only be based on a sufficiently performing Health Economy. This argument, we believe, would become even more prominent when comparable data will be available that will allow to evaluate the impact of the current Corona pandemic.

## 5.2 INTERNATIONAL ECONOMIC POLICY ACTIVITIES

WHO and EU underlined in several occasions that the current health and economic crisis can only be defeated by the adoption of coordinated international policy actions. In the longer run, and to avoid, if not trigger combined health and economic crises, we recommend that international organisations that evaluate the economic development and policy of their member countries, include criteria for the performance of the health sector in their evaluation processes. Examples of such processes are foreseen in the Article IV Consultations at the IMF, by the EU Economic Policy Committee, and by the OECD Economic Development Review Committee.

## 5.3 HEALTH IMPACT ASSESSMENT

The suggested framework for a joint economic and healthcare policy can be considered a twofold impact assessment:

1. As far as the economic policy conditions are concerned, it could work as a health impact on the overall economy assessment.
2. With regards to health policy measures, it could predict the economic consequences of the planned measures.

Therefore, this assessment is much more than a health impact assessment, that also accounts for the impact of policy decision making on health expenditure. On the other hand, an economic policy could include a more integrated and complete health impact assessment, that by its nature can be applied in all policy areas.

As a final note, we believe that further research is necessary to be able to reliably quantify the outcome of the healthcare sector, i.e., on the improvement or recreation of health, on employment and labour productivity or on impacts that relate to interconnections concerning innovation.

# AUTHORS



## ADJUNCT PROFESSOR DR. EMMANUEL ALEXANDRAKIS



With over 30 years of professional experience as an economist, and an extensive University level teaching and research background, Dr. Alexandrakis has a combined managerial, research, public policy, and strategy analysis background, with a special focus in the Health sector. He has served executive positions in the pharmaceutical sector and as a high-level government official in Greece and the EU.

Today, he is a Global Market Strategist at the WifOR Institute, a German independent Economic Research Organization, with global activity. He is also Adjunct Professor at the MBA International Program of the Athens University of Economics and Business for Health Sector Strategy and Member of the Business Advisory Council (BAC) of the Program. In parallel he is a Senior Research Fellow at the Management Science Laboratory of the same University. He has recently served as an Executive Member of the BoD of the Hellenic Archaeological Proceeds Fund and is also a Research Associate of the University of Piraeus Laboratory of Health Economics and Management. Dr. Alexandrakis is a member of Advisory Committees as an expert (ie. Greek Insurance Association) and has also served internationally as a consultant and on the Expert Review Board of the WHO – European Office for Investment for Health and Development for Health Economy, to the Government of Kazakhstan etc.

Before joining the Pharmaceutical Company MSD in 2012 (known as Merck & Co., Inc. in the USA and Canada) to lead the Policy, Communications and Corporate Social Responsibility (CSR) activities in Greece and Cyprus, he had served as a Senior Advisor at the Hellenic Parliament, with a key responsibility on the Economic Adjustment Program of Greece and issues related to fiscal policies and legislation. Before that, for several years, he served at high-level government positions and Committees in Greece and the EU (Special State Secretary of the Hellenic Ministry of Tourism, Managing Director for Administration of the National Theatre of Greece, CEO of the Greek State Healthcare Organization for Seamen, Coordinator of PPP and Investment Committees, and has actively participated in several Committees that relate to Innovation and Entrepreneurship, the Pharmaceutical Industry, the Health sector, Tourism, the Insurance sector, and served as a Scientific Advisor at the Economic and Social Council of Greece.



## DR. RÜDIGER LEIDNER



Rüdiger Leidner, 1950 born in Aschaffenburg (Germany), studied economics, business administration and sociology in Marburg and Cologne.

Having finalized his PhD thesis, he worked since 1980 in the Federal Ministry of Economics in Bonn serving in the DG charged with European policy, and in Berlin in DGs charged with Eastern European respectively overall international economic policy.

Being responsible for German tourism policy he moved in 2002 to the European Commission in Brussels serving as national expert for tourism policy in DG Enterprise.

Returning to Berlin in 2007 he was charged with the establishment of the task force on the healthcare industry.

Since retirement he has been free-lancing for WifOR Institute.

Honorarily he is engaged in the strategic and scientific board of "Metaforum Innovation For More Health" (registered association), the advisory board of the German Federal Agency on Accessibility and the board of the European Network on Accessible Tourism (registered association).

## PROF. DR. DENNIS A. OSTWALD



Prof. Dr. Dennis A. Ostwald studied Industrial Engineering and Management at the Technical University of Darmstadt and subsequently received his doctorate from the Chair of Finance and Economic Policy of Prof. Dr. Dr. h.c. Bert Rürup on the topic "Growth and employment effects of the healthcare industry".

During his work as a research assistant and doctoral student, Dr. Ostwald held teaching positions in the fields of economics and economic and financial policy and was also involved in projects for various federal and state ministries and associations.

Since 2011 he has held a teaching position in International Management at the Steinbeis-Hochschule Berlin. In December 2018, Dr. Ostwald was appointed Junior Professor at the Faculty of Leadership & Management at Steinbeis University Berlin. At the beginning of 2019, he took over the professorship in the Department of Economic Research and Management.

He is founder and managing director of WifOR Institute. He is also Head of Research and supervises the research projects of the scientific staff. WifOR Institute is an economic research institute conducting quantitative analysis in the fields of labor markets, healthcare industry, health economics and value creation. His research activities and interests also include regional growth and cluster theories, economic feasibility studies, demographic development, state economic accounting, social policy, globalization and digitalization.

Werner G. Faix is deeply rooted in Württemberg in Southern Germany as well as at home in the world. With an academic background in chemistry, his profound work on today's most relevant social issues has become highly influential and widely acclaimed. He is a well-known and much sought-after visionary, both nationally and internationally. His thinking is often far ahead of its time; he goes beyond well-trodden paths to seek transdisciplinary networks, always with an eye for the big picture. Faix simultaneously takes exciting new, and at the same time, well-founded positions on fundamental questions such as leadership, leadership education, and personality. Likewise, a major focus of his work involves innovations and their transfer to the real world, in order to shape a sustainable and viable future. He is a role model not only in his academic work, but also in his own entrepreneurial as well as deeply human actions.

With this publication, the editor, together with numerous renowned authors, wish to honor Werner G. Faix as an outstanding scholar, entrepreneur, and leadership personality of international standing. They congratulate him on his 70<sup>th</sup> Birthday with their transdisciplinary contributions on leadership – contributions that can only approach the work, impact, and reputation that Werner G. Faix has achieved.



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