

# Resilience Investments in health – a fundament for a sustainable growth and a healthier growth environment

Autors: Dennis A. Ostwald, Sandra Hofmann, Rüdiger Leidner, Emmanuel Alexandrakis, Alan Donnelly, Hatice Küçük

## Summary

- A Health Economy<sup>1</sup> that can sufficiently address the demand for healthcare is important for both the creation of added economic value and employment and as a stabilizing factor for macroeconomic developments.
- When treating economic and health policy separately, the outcome of the Health Economy as a production factor is undermined, if not completely neglected.
- A health policy that aims at improving health, in parallel to enhancing the resilience of the Health Economy, should additionally account for its social impact, as well as other sustainability issues.
- To better coordinate the prevention of pandemics globally, economic policy measures should also be complemented by health impact assessments. Moreover, the overall definition, assessment, and monitoring of the health economy should be an integral part of the evaluation of a country's general economic policy.
- The model of the Health Economy that has been developed by the WifOR Institute, provides a systematic and adaptable basis for a periodic Health Economy Reporting, which can be custom-tailored to country-specific conditions and many other upcoming developmental and social needs.

---

<sup>1</sup> The Health Economy is defined as a distinct but heterogeneous economic sector that is comprised by core and 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". See: [https://www.wifor.com/tl\\_files/wifor/publikationen/2015\\_Bericht\\_BMWi\\_GGRII\\_Zusammenfassung\\_ENGLI SCH.pdf](https://www.wifor.com/tl_files/wifor/publikationen/2015_Bericht_BMWi_GGRII_Zusammenfassung_ENGLI SCH.pdf).)

# Economic and Health Policy – the conventional view

## Health Policy

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 those of 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 differentiating factors among national healthcare systems, is the extent to which they are financed by private and/or public means. Publicly financed national health policies mostly involve the control of public healthcare funding and financing of their expenditures.

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 typically consider only their own budgets, omitting any possible macroeconomic impacts 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>2</sup>.

Some Public debates during the current Covid-19-pandemic have provided convincing cases for the close interconnections of economic and health policy decisions. If one compares, for example, the costs of a sharp lockdown for one week, which in Germany was estimated at 3,5 billion Euros, with the vaccination costs for the whole German population (that is estimated at around 5 billion Euros)<sup>3</sup>, one may have concluded to avoid another lockdown and instead have ordered a sufficient number of vaccine doses very early, even if confronted with the uncertainties of the development of the pandemic. This conclusion disregards, however, possible capacity limits, not only of the companies developing the serum, but also those on the side of the intermediate products necessary for the vaccination process, as well as the concomitant logistics problems to be solved. Furthermore, there are also examples that a higher ratio of vaccinated people in a population, did not necessarily avoid sharp lockdowns, in any case.

We should note that the impact of the health status on the overall economy in macroeconomic terms was something already known before, though became even more obvious during the COVID-19 pandemic.

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. The European Fiscal Board in its “Assessment on EU fiscal rules” that was published in

---

<sup>2</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>3</sup> <https://www.capital.de/wirtschaft-politik/impfstoff-eine-zu-geringe-dosis>

September 2019, defined “Productive public expenditure as the sum of government expenditure on R&D, education and transport”<sup>4</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>5</sup>.

## **Economic policy**

Even though macroeconomic 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 threat, of a rising unemployment rate for example, with adverse chain effects on the individual health status, that could, in turn, lead to a possible rise in health expenditures.

Moreover, the capacity limitations of national health care systems that were revealed during the Covid-19 pandemic, and the unavoidable sudden increase of public expenditures in many industrialized countries, in an effort to mitigate these problems, demonstrate a change in priorities. Though in many countries a shortage of medical staff was already known or at least could be predicted before the pandemic, the healthcare sector was subordinated to other fiscal and economic policy priorities.

## **The economic importance of the health economy**

The Health Economy is a distinct, though heterogeneous sector that can be divided into several main subsectors, having in its “Core Area” mainly medical and nursing services and industrial production. In addition, an “Extended Area” is comprised by products and services that are not captured in health expenditure surveys, although they also promote health, such as sporting activities, medical tourism, and healthy food, that are also regarded as part of the Health Economy.

The demand for health-related products and services has a direct impact not only on production and employment of the sector itself, but also 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.

---

<sup>4</sup> <https://ec.europa.eu/info/publications/assessment-eu-fiscal-rules-focus-six-and-two-pack-legislation>.

<sup>5</sup> Leon Feinstein et al.: What are the effects of education on health? in: OECD (2006): Measuring the Effects of Education on Health and Civic Engagement, Proceedings of the Copenhagen Symposium, pp. 172;

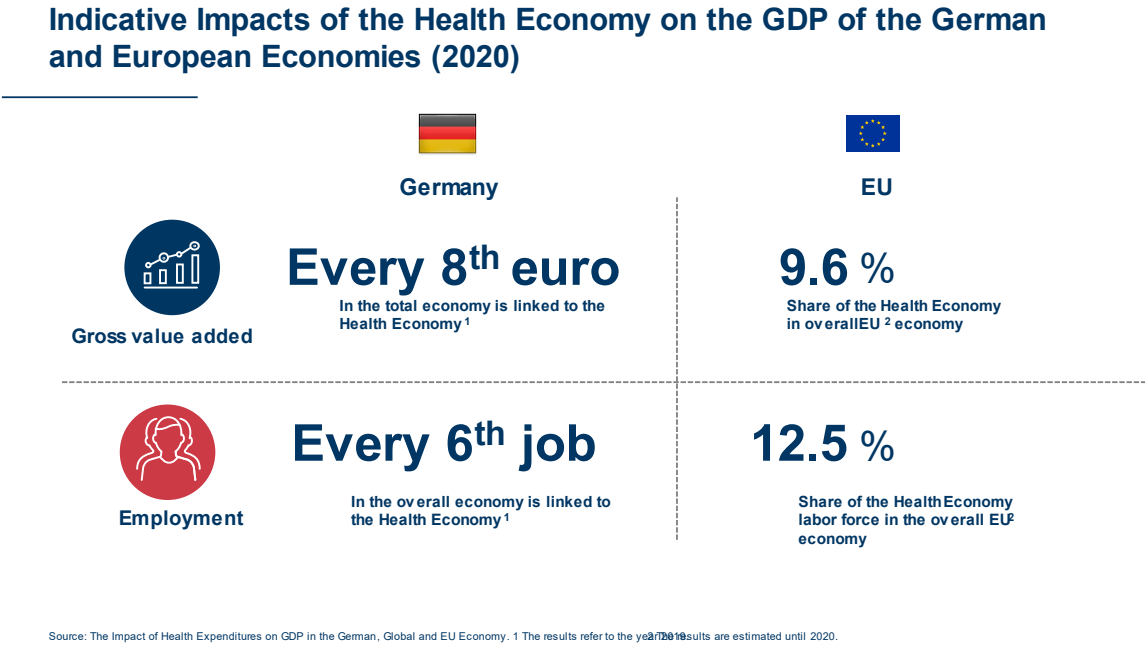
T. Lallukka et. al.: Multiple socio-economic circumstances and healthy food habits, in the European Journal of Clinical Nutrition volume 61, pages701–710 (2007)

Bertelsmann-Stiftung: Folgen unzureichender Bildung für die Gesundheit

Besides these indirect economic effects, an additional impact on the overall economy is induced by spending the income of the people employed in the healthcare sector for consumption purposes in the Health Economy, as well as in the overall economy.

Thus, depending on the per capita GDP of countries, the Health Economy can be a leading sector in terms of Gross Value added and employment.

**Figure 1: Impact of Health-related activity in Germany and the European Union**









WifOR calculations.

The figure shows that in EU countries the Health Economy is one of the most important sectors and a pillar for the European labour market.

In non-European Countries, however, the importance of the Health Economy, at least when measured in macroeconomic aggregates only, varies to a large extent.

**Figure 2: Impact of Health-related activity in selected non-European countries**

	 Turkey	 Mexico	 Colombia	 Argentina	 Brazil	 Global	 Germany
Share of health expenditures in GDP in 2018	4.4 %	5.5 %	7.3 %	9.1 %	9.4 %	9.9 %	11.7 %
Share of Health Economy in GDP in 2018	4.1 %	5.3 %	6.8 %	8.8 %	7.2 %	8.0 %	12.0 %
Labor force share in overall economy in 2018	5.7 %	5.6 %	7.4 %	8.6 %	7.4 %	6.2 %	17.0 %

WifOR calculations. WHO (2018): Global Health Expenditure Database (accessed on 18.02.2020) Initial WifOR estimation, Methodological deviation due to more detailed data

These figures should not mislead us, however, of the importance of the Health Economy with respect to middle and low-income countries. That happens because in these countries the comparison to other sectors is much more important. Therefore, the limitations posed by scarce resources is in effect are captured in questions such as if the government should invest in building roads and transportation and infrastructure instead of health. This question could be answered through the multiplier analysis implemented in the WifOR model, that gives an evidence-based policy tool for the decision makers, to be able to make decisions as to where to spend their available investments.

The economic importance of the Health Economy 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.

## Health Economy Reporting – Measuring the Impact of Health

### Expenditures on GDP at the National Level

The model developed by WifOR Institute views both the Core and the Extended Area of the Health Economy and its impact on macroeconomic aggregates such as GDP, foreign trade, and employment. This allows governments and policy makers to consider healthcare as a driver and enabler of economic growth, wealth, and employment, instead of a cost factor.

As an example, since 2009, the German Federal Ministry for Economic Affairs has been developing metrics, focusing on the Health Economy Gross Value Added (GVA). These figures are based on annually updated data from the official national and international statistical services, the Organization

for Economic Cooperation and Development (OECD) and the World Health Organization (WHO). In 2020 the German Government commissioned such an analysis for the entire European Union, demonstrating the importance it places on these metrics and on the significance of being able to methodologically project effects of health expenditures on National Accounting Systems (NAS).

The model also demonstrates that the Health Economy can contribute to economic growth and stability.

**Figure 3: Annual GVA growth rates of the health economy and overall economy**



WifOR calculations. Based on Federal Ministry for Economic Affairs and Energy (2020)

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 a healthcare sector that meets the demand for health in quantitative as well as in qualitative respect, is a stabilizing factor for overall economic development.

In so far, the economic developments since the outbreak of the Covid-19 pandemic, do not contradict these results. The Covid-19 pandemic in fact revealed capacity limitations and insufficiencies of national healthcare systems that indicate that economic policy decisions in the years before did not give the Health Economy the appropriate priority, regarding it solely as a cost element and production factor.

But the model we propose is not restricted only in highlighting the macroeconomic perspective of measuring health investments and assessing the economic impacts. It can also take a more micro-

economic perspective, focusing on patients, constituents, and the society as-a-whole, and provide significant information on how these health effects unfold into a specific economy.

For the micro-economic approach WifOR Insitute's methodology uses epidemiological and economic methods to estimate health outcomes and economic benefits related to medical and even large-scale health interventions to society.

We therefore embark on a 3-step process, as described in the abovementioned, and use the results from these as inputs to feed a more consistent and integrated model for measuring socioeconomic impacts of health-related investments.

For input on productivity measures, for example, we use data from National Accounting Systems for employed people from which we can extract information on the productivity of various cohorts of the population and set benchmarks for further comparison.

Our analysis follows the paradigm that was set in the final report produced by the *Commission on the Measurement of Economic Performance and Social Progress*<sup>6</sup>, which was created in 2008 by French President Nicolas Sarkozy, where he invited Nobel Prize Laurates to improve GDP to a better wealth indicator and to identify the limits of GDP and to outline new metrics that take indicators like education, gender equality and environmental sustainability into account.

To that extent, our approach measures parameters as those above mentioned in terms of GDP contribution (e.g., GVA), that also include selected unpaid activities, incorporating them into our metric outcomes. Finally, we calculate the impacts along the value chain, accounting for the spillover effects along the value chain of health, in terms of additional goods and services that are supplied and consumed. This way, we capture the productivity benefits<sup>7</sup> that will result from the intervention and express them in terms of their macroeconomic contribution (the generated GVA, e.g., its impact on GDP).

WifOR Institute's Social Impact of Medical Interventions quantifies the value of an innovative healthcare intervention in terms of health benefits, economic and social benefits as well as institutional benefits.

---

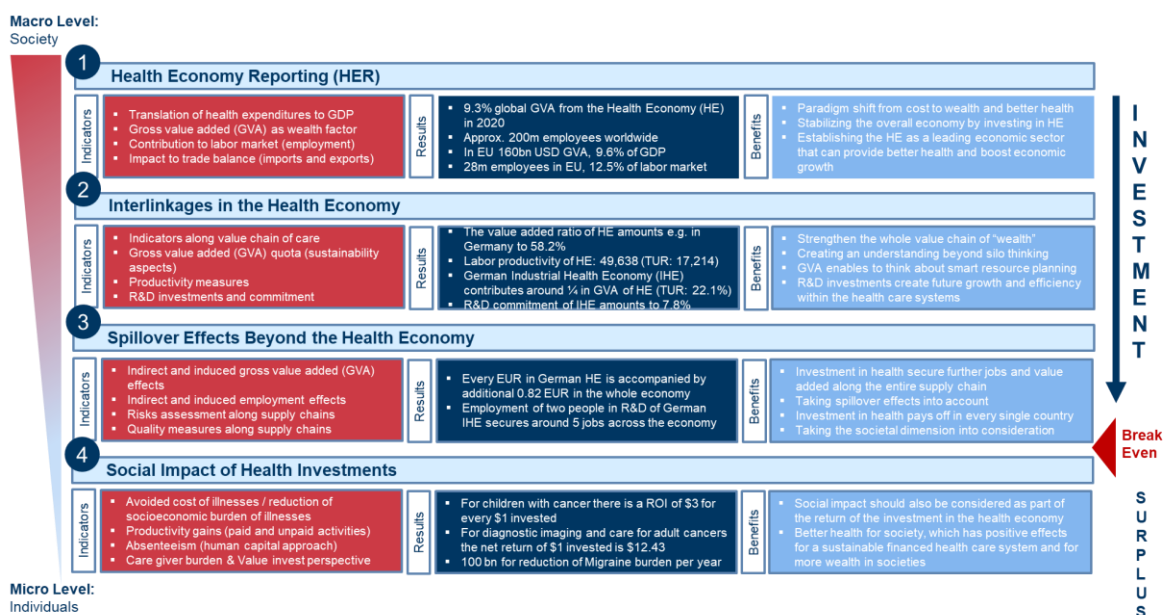
<sup>6</sup> Report by the Commission on the Measurement of Economic Performance and Social Progress, The Commission, [Paris], Stiglitz, J, Sen, A & Fitoussi, J-P 201. See [https://www.researchgate.net/publication/258260767\\_Report\\_of\\_the\\_Commission\\_on\\_the\\_Measurement\\_of\\_Economic\\_Performance\\_and\\_Social\\_Progress\\_CMEPSP](https://www.researchgate.net/publication/258260767_Report_of_the_Commission_on_the_Measurement_of_Economic_Performance_and_Social_Progress_CMEPSP) , accessed 15 Feb 2021.

<sup>7</sup> Benefits are measured as monetized gains.

## Conclusions

The following Table presents a synopsis of our four-step approach for introducing metrics to measure the ROI of health for sustainable economic growth. These metrics derive from a macro- and micro-economic approach described above and share a common denominator to connect policy areas, such as health, fiscal, economic, and research policies, that until now have been treated independently of one another.

**Figure 4: Metrics that measure the Return on Investment of health investments for economic stability and growth – A model developed by the WifOR Institute, The G20 Health and Development Partnership, Professor Rifat Atun, Harvard University**



The inclusion of sustainability issues in future policy decision-making, however, should not be restricted to economic aspects. Sustainability consists of three pillars, the ecological, economic and the social pillar. In that manner also the ecological impact of health investments should take into account in future metrics.

### A consolidated policy for better resilience and sustainability

As the Health Economy is part of the overall economy and interlinked with other branches nationally and internationally, so is Health Policy a part of general government policy competing with other policy areas with regards to priorities and resources.

The importance 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 account for 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. Given the importance of this extended sector, including all the



dynamic retroactivities that are generated, this sector should be assessed and monitored to serve as a fact-based policy tool for economic and health policies.

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

Besides the economic interlinkages described, we should underline that the individual, in a similar way that 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.

The current pandemic has brought at the surface new evidence that sustainability issues should also be included in long-term-oriented health policy strategies to avoid pandemics. Some researchers are convinced that one reason why pandemics will break out more often in the future is due to the intrusion into intact ecosystems by human activities that lead to more contacts with wildlife and unknown viruses.

The inclusion of social sustainability issues in health policy decision-making is indispensable to account for the social and societal impacts of changes in the individual and public health status.

All policies that may impact the individual or public health status should carry out health impact assessments the same way that some countries are obliged to do impact assessments with regards to technological or environmental considerations. This approach would help to achieve a more resilient and more (economically) sustainable Health Economy.

One of the important prerequisites for comprehensive health impact assessments is the need for more detailed data about the Health Economy, i. e. systematic and regular Health Economy Reporting. The establishment of a standardized Health Economy Reporting (HER) system would simultaneously allow international institutions such as the IMF, the OECD and the European Commission, to regularly carry out economic policy evaluations of their member countries to include the Health Economy development in these assessments.

Using such an approach will help meet the urgent need to formulate comprehensive health policies that can consolidate distinct policy targets and improve the performance of the overall value chain of health. This is becoming more important than ever. Especially in a post pandemic world where governments will have to redirect their resources to provide a shield against health threats to safeguard their economies and societies, while driving enhanced growth.