



CONFERENCE PROCEEDINGS/FULL PAPERS
ISBN: 978-625-98418-7-8/September 2024

**“RSEP & SRH Dresden School of Management (DSM) International Conference on
Economics, Finance and Business, 28-29 August, 2024, Dresden Germany”**

Health Factor in Economic Growth: Comparative Analysis of Türkiye, Spain, USA

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DOI: <https://doi.org/10.19275/RSEPCONFERENCES319>

Abstract

Can we say that the richest countries in the world are the best countries in terms of providing health services? The answer to this question is “no”. Citizens in the richest countries in the world may lag behind in terms of access to health services. On the other hand, the health status of countries is not independent of their income, and the structure of their health system models, policies focusing on social issues such as justice in income distribution, unemployment, and education are also determinants of the provision of health services. In this study, health system models will be compared using J.S. Mill’s analytical comparison method and variables related to the social determinants of health will be examined. In particular, it will be attempted to determine which issues stand out in the interaction between income and health services. In this context, three countries with different health system models and income levels (Turkey, Spain, and the United States) were comparatively analyzed.

Keywords: health, economic growth

Jel codes: I15, O42.

1. Introduction

What kind of economic approaches affect the policy preferences of countries in the interaction between income and health? In this context, the study aims to explain which issues come to the fore in the interaction between income and health. For this purpose, first of all, theoretical approaches in the relationship between economic growth and health will be explained. Then, the demographic and economic situations and health system models of Turkey, Spain and the USA will be examined. The health system models of the three countries will be compared with J.S. Mill's analytical comparison method and variables related to the social determinants of health will be analyzed. In the last part, the findings obtained will be discussed in the context of the relationship between economic growth and health. The health systems in the countries covered in the study can be summarized as follows:



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2. Approaches to the Relationship between Economic Growth and Health

While the average life expectancy in the world was around 25 years in the past, it has more than doubled to 70 years in the last two hundred years. It can be said that one of the sources of this improvement in average life expectancy is the complex interaction between income (Riley, 2001, 243). So, are the healthiest societies also the richest nations? Preston (1975) states that countries with better health status have relatively higher incomes than countries with worse health status. The data on this relationship, which can be shown by the “Preston curve,” indicate that there is a strong positive relationship between health and income. On the other hand, when we consider that the per capita income in Hong Kong, where the average life expectancy in the world is the highest at 85.5 years, is almost half that of Luxembourg, which has the highest per capita income in the world, there is no simple answer to this question. Moreover, although Luxembourg is among the top 10 countries in terms of average life expectancy in the world, it is not even in the top 10. The richest country in the world, the United States of America (USA), ranks 44th in life expectancy (United Nations [UN] World Population Prospects, 2022; World Bank [WB] Open Data, 2022). In this case, what could be the circumstances that complicate the income of countries and their ability to be healthy societies? Preston emphasizes income inequality in improving health status, and points out that the importance of social and economic improvement rather than health services is influential (Çelik, 2016, 41). This situation creates the need for a multifaceted approach in the relationship between health and income. The report published by the World Health Organization ([WHO], 2008) supports this idea. The report defines and emphasizes the importance of social determinants of health in eliminating income inequality problems and creating social opportunities.

However, the structures of countries' health systems significantly affect health status (Sungur, 2021, 2197). The structure of health systems is generally determined by the perspective on health policy. One end of the approaches in health policy sees health as an individual responsibility. This approach is based on the provision of health services in dynamics dependent on the market mechanism and the fact that people benefit from these services in proportion to their individual opportunities. At the other end, people's right to a healthy life is an innate human right. The provision of health services is a social responsibility (Çelik, 2016, 169). Accordingly, there are three types of health system models applied in the world. These are (Barr, 1998, 166);

- Semi-actuarial approach: It is characterized by individuals purchasing health insurance from their own pockets or through employers and the private ownership of medical production factors.
- Social insurance contribution: It includes employee contribution to health insurance and tax financing support. The private sector can be partially present in this model.
- Universal model: Health services are financed by taxes. There is public ownership or control of production factors.

The countries selected for the study represent each of these models. The health system model implemented in the USA is the closest and only example to the semi-actuarial approach among the Organization for Economic Co-operation and Development (OECD) countries (Barr, 1998, 166). In Turkey, a social security contribution model is implemented through the Social Security Institution (SGK) (Pekten, 2006). One of the health system models closest to the universal model is implemented in Spain. In this respect, the health status in Spain stands out in the world by exceeding the European Union (EU) standards and averages (Strelzer, 2023). An important issue in choosing the USA and Spain in the study is that they represent extreme points in terms of the approaches and models adopted. In Turkey, there is a mixture of these models. Another issue is their differentiation in terms of income. The income of the USA, the country with the highest income, is approximately 28 times that of Turkey and approximately 16 times that of Spain. However, health status measured by life expectancy at birth does not form a linear picture with income (WB, 2022, Open Data, <https://data.worldbank.org>). A comparable relationship is observed among OECD countries in Figure 1. Nations such as the USA, Germany, the Netherlands, and Austria, where per capita health expenditures exceed USD 6000, exhibit relatively lower life expectancy than numerous other countries, including Japan, Korea, Israel, and Spain. This illustrates that the rise in per capita health expenditures is associated with a declining rate of increase in life expectancy at birth. Put differently, high health expenditures may not be a necessary condition for enhancing life expectancy.

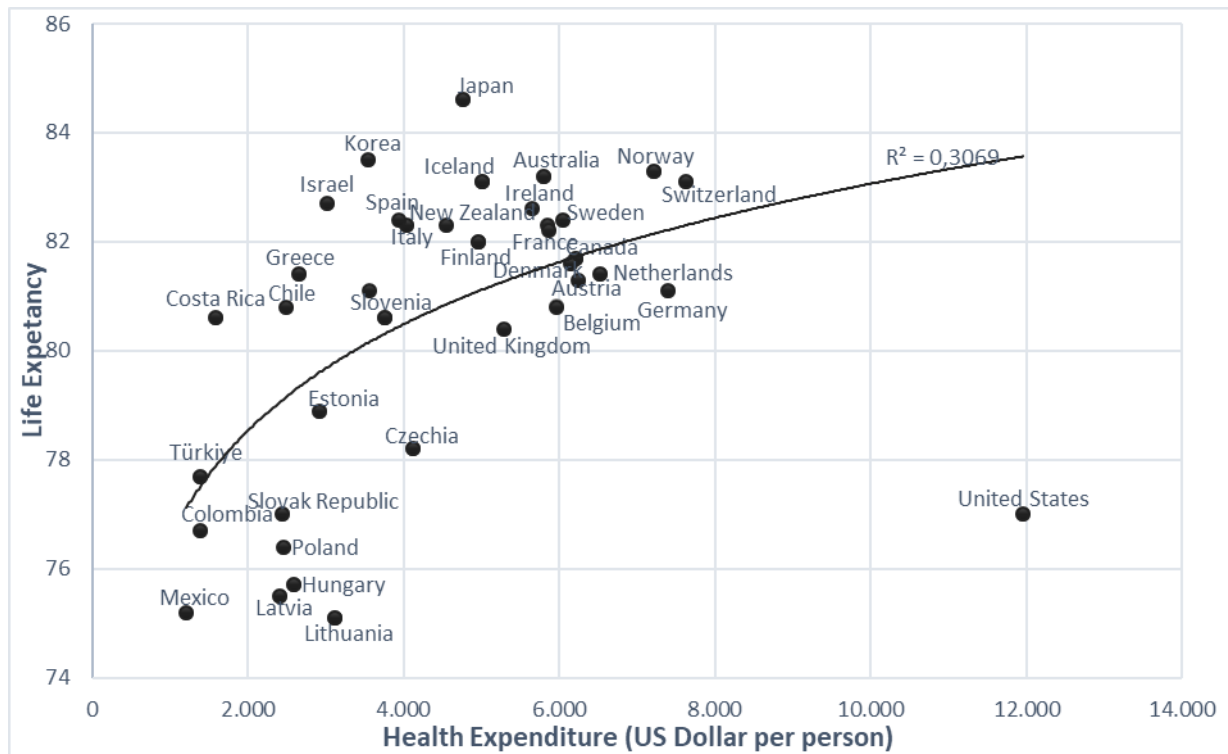


Figure. 1. Relationship between Health Expenditures and Life Expectancy at Birth in OECD Countries* (OECD Health Data, 2020)

In this case, why is Spain more successful than Turkey and the USA in terms of health? Is this difference due to social opportunities or the health system model? What kind of economic approaches affect the policy preferences of countries in the interaction between income and health? In this context, the study aims to explain which issues are prominent in the interaction between income and health. For this purpose, firstly, the approaches in the relationship between economic growth and health will be explained. Then, the demographic and economic situations and health system models of Turkey, Spain and the USA will be examined. The health system models of the three countries will be compared with J.S. Mill's analytical comparison method and the variables related to the social determinants of health will be examined. In the last section, the findings will be discussed in the context of the relationship between economic growth and health.

When the welfare and well-being of the society, which includes basic human needs such as nutrition, health, shelter and education, is considered, the importance of economic growth is primarily focused on the distribution of income (Griffin, 1999, 14). Growth-centered and welfare-centered approaches come to the fore in discussions on this subject. The basis of the growth-centered approach is based on the well-known study of Kuznets (1955), who emphasized that rapid growth in the early growth phase will increase income inequality and that increases in output in the economy that becomes more efficient with the advancing industrialization process will reduce income inequality. Mainstream studies adopt the growth-centered approach by pointing to the empirical trade-off relationship between economic growth and income inequality (Okun, 1976; Hicks, 1979; Wheeler, 1980). The basis of the welfare-centered approach is John Rawls's understanding of "social justice". Rawls (1971) argues that economic growth should serve not only as a means to ensure future economic well-being but also as a mechanism to ensure a fair and good distribution in society using resources available both now and in the future. For example, the interactions between public support policies and economic growth include not only a paradoxical relationship due to trade-offs but also positive connections such as the effects of a healthier society on production and productivity (Dreze and Sen, 1989, 202). In other words, it is emphasized that encouraging growth only through rapid industrialization can lead governments to ignore or obscure important issues related to the distribution of wealth and social opportunities within society (Robinson, 1978; as cited in King, 1998, p.386). In the literature, the analysis of the interaction between economic growth and health dates back to the mid-1980s. During this period, research on economic growth, which accelerated with Romer (1986), focused on endogenous growth theory. Endogenous growth models suggest that long-term economic growth is provided by production advantages that can be achieved through technological development, human capital and education (Barro, 2013). It can be said that the approach of endogenous growth analysis to health is determined by the assumption that developments in living standards have positive effects on production factors operating in the market mechanism

(Murtin, 2016). Therefore, health services and environmental factors affecting health affect total factor productivity through human capital accumulation and play an important role in the economic growth of countries. Studies examining the relationship between health and economic growth with econometric analysis have started to attract attention since the 1990s. The first studies conducted in this period focused on the long-term determinants of economic growth, including life expectancy (Barro, 1996; Barro & Sala-i-Martin, 1995). While most of the subsequent studies found a positive relationship between health and economic growth, the causal link is generally weak. The reason for this weak relationship is explained as the fact that the relationship between health and economic growth is affected by many factors (Bloom et al., 2019).

3. Comparison of Türkiye, Spain and USA Data

In Turkey, the state's provision of health services is guaranteed by the constitution (Department of Laws and Resolutions, 2020, 47). In this respect, the provision of health services, which are public goods, is carried out by state institutions and semi-state capital organizations, as well as by the private sector and non-profit organizations (Daştan and Çetinkaya, 2015, 109). In Turkey, with the law that went into effect in 2008, the financing of health was arranged to be covered by the premiums paid to the SGK and to an extent that would cover all citizens. In addition to the Social Security Institution (SGK) premiums, the financing of health is also carried out by taxes, private insurance premiums and out-of-pocket payments (Pekten, 2006). Since 2012, everyone's participation in the insurance system implemented under the name of General Health Insurance (GSS) has been mandatory (Kuruca, 2012, 171). In 2021, the state's share in the resources that cover health expenses is 79.2%. Of this rate, 47.2% was covered by the Social Security Institution and 34.4% by the central budget. While the private sector share was 20.8%, households constituted 15.9% (Turkish Statistical Institute [TÜİK], 2022, December 07). Although the health system in Turkey varies in terms of regulation and scope, it can also be called the "Social Health Insurance" or "Bismarck Model". Some of the factors that can be shown as the justifications for the implementation of this system are; "being able to create a regular source of income for services", "being able to distribute the financial burden by creating a risk pool", "being able to clearly track the funds transferred to the health sector". However, due to the high administrative costs of the system and the disadvantages in the collection of premiums, it requires high sensitivity in governance. The fact that the financial burden is mainly on the worker and the employer increases the importance of the issue in countries where the "informal" rate is high and can create disadvantages in terms of inclusiveness (Çelik, 2016, 174, 177-180). There are findings on the problems encountered in the implementation of the system in Turkey. In the study conducted by Ertürk Atabey and Meriç (2016), they reached the conclusion that approximately 7.6% of the population in Turkey remains outside the scope of the health system. At the same time, the study emphasizes that in countries with a health system similar to Turkey or with a private health system, labor mobility is negatively affected compared to countries where the health system is financed by taxes, and that this situation leads to inefficiencies in the economy.

In Spain, the Spanish National Health System (SNS), which is almost universal in its coverage, is used. The provision of health services is mostly carried out by the state. The financing of health services is largely provided by taxes (Bernal-Delgado et al., 2018, 16). Using taxes in the financing of health may have advantages over premium payments in terms of administration, risk management and purchasing power. The condition for obtaining these advantages depends on consistent policies and the acceptance of a general public opinion. In such systems, the fact that access to health is independent of income and can be seen as a right can also be shown as an advantageous situation. However, it should not be ignored that there may be problems regarding the collection of taxes and the effective use of public resources (Çelik, 2016, 173-176). In Spain, the Ministry of Health carries out national planning and regulation tasks. Management responsibilities such as powers, operational planning and expenditure in health are undertaken by regional health ministries divided into 17 regions. In order to ensure interregional coordination, there is an Interregional Council of the SNS consisting of the national health minister and 17 regional health ministers (OECD, 2021, 7). The private sector in Spain provides services on the basis of voluntary health insurance. 80% of employees benefit from the private sector, which has an important place in the system, through alternative insurance services. Insurance coverage is generally concentrated in the areas of dental diseases and ophthalmology, which are not provided in the national health system (Bernal-Delgado et al., 2018, 23).

The healthcare system in the USA can be described as a hybrid system where government programs such as Medicare and Medicaid, which are publicly funded, and private health insurance plans coexist. The US national congress is responsible for enacting and amending federal healthcare laws. Changes in healthcare policies are subject to the regulatory process in the country. The relevant federal office of the government is responsible for how healthcare policies are implemented and interpreted. The US Department of Health (HHS) is responsible for drug supply, public health services, and social services at the national level (LaFontaine and Spinner, 2021, 5, 9). The healthcare system in the USA does not have universal coverage. In 2019, 50% of citizens benefited from

employee group insurance services, 6% from private non-group insurance services, 20% from Medicaid, 14% from Medicare, and 1% from other public insurance services. The remaining 9% do not benefit from any insurance service (LaFontaine and Spinner, 2021, 5). The USA, which leads the world in per capita healthcare spending, spends 30% more on healthcare per capita than the next country (Switzerland). In fact, average per capita healthcare spending varies from \$6,000 (Utah) to \$12,000 (District of Columbia) (Rice et al., 2020). Public planning in the US health system remains at a very limited level. Although an incentive mechanism is used in some cases, coordination at the levels of system planning is quite weak compared to other countries. The problems in the health system performance in the US also hinder access to health. The most obvious feature of these problems is the inability to obtain sufficient efficiency with high costs. There is no clear consensus on the solution of the problems (Rice et al., 2020). Since private health insurance is widely used in the USA, what the method means in practice is important. This method can be defined as a system in which individuals voluntarily insure their private interests against health-related risks. Insurance companies are profit-oriented organizations, so as risks increase, the premiums to be paid also increase. Thus, there is a tendency to exclude high-risk groups. At the same time, since the system is dependent on market conditions, "moral fragility" problems are frequently encountered. For such reasons, a health system model that is completely dependent on the private health insurance system will not comply with the concept of equality and justice, and it is impossible for a country to adopt a health system based solely on private insurance (Çelik, 2016, 182-184).

In the performance evaluation of health systems, the general framework generally focuses on the effectiveness, efficiency and distribution of services in the health system. In the measurement of these values, the basic input categories are determined as health policy, financing in health and organizational structure. In output monitoring, issues such as health status, patient satisfaction and efficient use of resources that a health system can affect are generally evaluated (Kruk and Freedman, 2008, 265). In Table 1, the input (colored blue) and output variables¹(colored orange) of the health systems of countries are compared using this framework. J. S. Mill's (1858) "most similar system design" method is used as the comparison method. In this technique, the commonness of only one of the variables affecting similar events is defined as the cause of these events (Aydin and Hanağası, 2017, 69).

Table 1. Health Systems Comparison of Türkiye, Spain and USA

	Government/compulsory health insurance coverage (population %)	Health expenditure (per person)	Service provider	Infant mortality rate (same income level average)	Life expectancy (same income level average)
Türkiye	98,8	\$1.661	Government and Private	Below average	Above average
Spain	100	\$4.534	Government	Below average	Above average
USA	38,1	\$12.742	Private	Above average	Below average

Source: Prepared by authors. 2022 Data retrived from WB Open Data, 2024; OECD Stat, 2024.

According to the comparison in the table, it is seen that the health outcomes of Turkey and Spain are above the countries in their own income group. The similar variable affecting this is that both countries have high levels of health insurance coverage. The USA, on the other hand, could not achieve the same results with low health coverage. Therefore, the comprehensiveness of the health system models can be seen as a possible reason for the health status. However, evaluating the health status of the countries only in terms of their health system models is not sufficiently explanatory. Therefore, it would be useful to examine the variables that the WHO calls the social determinants of health.

Table 2 shows the social determinants of health in Turkey, Spain and the USA divided into six categories. The variables belonging to the categories were collected and grouped according to the criteria recommended by the WHO Commission on Social Determinants of Health. The variables in the table are colored according to their positive (blue) and negative (red) effects and a score is given for each category. The reason for this is to facilitate

¹ The variables used in comparing health system performances vary according to input and output categories. For detailed information, the diagram on p. 265 in the referenced source can be examined. Performance comparisons are beyond the scope of this study. For this reason, the systematic logic in the diagram is used for comparison purposes. Kruk, M. E., & Freedman L. P. (2008). Assessing health system performance in developing countries: A review of the literature. *Health Policy*, 85 (3). 263-276. doi: <https://doi.org/10.1016/j.healthpol.2007.09.003>.

the tracking of each category when making an evaluation between countries. The numerical size of each category is taken as the basis for the evaluation. When the table is examined, it is seen that Spain is in a better position than the other two countries in the categories of equality, education, health, food security and child wellbeing, social inclusion and conflict. While the USA is in a better position than the others in the categorie of working conditions and employment, its negative differentiation in equality is particularly striking. On the other hand, there is no category in which Turkey is better than the other countries. When examined in more detail, it is more prominent that Turkey is in a negative differentiation in human development issues such as working conditions and employment, health, food security and child development, housing and environment, social participation and conflict rather than income inequality.

Table 2. Health Determinants Comparison of Türkiye, Spain and USA

	Health Determinants	Türkiye	Spain	USA	Year
Equity	Gini index*	44,4	33,9	39,8	2021
	Income share held by lowest %20	5,2	6,4	6	2021
	Income share held by highest %20	50,1	40,4	46,1	2021
	Gender wage gap (%)	10	8,6	18,9	2018
		-99,3	-76,5	-98,8	
Education	School enrollment, primary (% net)	88	97	95	2017
	School enrollment, secondary (% gross)	114	119	101	2021
		202	216	196	
Working conditions and Employment	Unemployment, total (% of total labor force) (national estimate)	12	14,8	5,3	2021
	Share of youth not in education, employment or training, total (% of youth population)	24,8	11,5	12,2	2021
	Labour market insecurity %	13	15,8	4,2	2016
	Job Strain %	42,9	35	25,8	2015
		-92,7	-77,1	-47,5	
Health, Food Safety and Child Wellbeing	Under-five mortality rate (SDG 3.2.1) (per 1000 live births)	9,5	3,2	6,3	2020
	Obesity prevalence among children and adolescents (crude estimate) (%) - 5-19 years	11,5	10,8	21,4	2016
	Healthy life expectancy (HALE) at birth (years)	68,4	72,1	66,1	2019
	Raised blood pressure (SBP \geq 140 OR DBP \geq 90) (18+ years) (age-standardized) (%)	20,3	19,2	12,9	2015
	Raised fasting blood glucose (\geq 7.0 mmol/L) (18+ years) (age-standardized) (%)	13,6	7,1	7,3	2014
		13,5	31,8	18,2	

Housing Environment and	Population density (people per sq. km of land area)	109	95	36	2020
	Ambient air pollution attributable death rate (per 100 000 population)	42,3	29,8	28,5	2019
		-151,3	-124,8	-64,5	
Social Inclusion	Social support (%)	73,6	92,6	92	2021
	Feeling safe at night (%)	54,7	80,9	73,3	2021
	People having more negative than positive feelings on the previous day (%)	43,4	13	15,2	2021
		84,9	160,5	150,1	

Source: Prepared by authors. Data retrieved from WHO Health Equity Assessment Toolkit, 2024; WB Open Data, 2024; OECD Stat, 2024. *The Gini coefficient was used by multiplying it by 100 for proportionality and aggregation with other category figures.

The limitations of the study include the fact that the data collection methods used to compare countries are different due to the use of multiple sources, that they may be inadequate, and that measurement difficulties are among the limitations of the study. The differences in the administrative understanding of the different system applications and institutions of the countries may also affect the data collection process, thus constituting another limitation of the study.

4. Conclusion

The study compared three countries with different health system models. First, the countries' health system models were compared using the "most similar system design" method. According to the analysis results, the comprehensiveness of the health system models was identified as the reason why Turkey and Spain remained above average in terms of health status. It was observed that the USA remained below average in terms of health status, made very high health expenditures compared to other countries, and its comprehensiveness remained at a low level. This supports the study's conclusion about the effect of comprehensiveness in the health system on health status. The study examined the social determinants of health as another factor affecting health. The findings supported that the factors affecting health status in Spain and the USA were separated on the basis of social and individual policies. Indeed, Spain, which has the best health status among the three countries, is also better than the other countries in six categories of social determinants. However, the difficulty of the low-income group in accessing health services can be shown as a significant reason why the USA remained below average in terms of health variables despite high health expenditures. The results of the study support the welfare-centered approach, which states that the positive reciprocal relationship between health and income can be achieved by using the income from growth to create social opportunities. Indeed, the almost diametrically opposed situations between Spain and the USA prove this relationship.

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