Sağlık ve Sosyal Refah Araştırmaları Dergisi

Sağlık ve Sosyal Refah Araştırmaları Dergisi, Yıl: 2023, Cilt: 5, Sayı: 1, Sayfa: 22-35.
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ARAŞTIRMA MAKALESİ / RESEARCH ARTICLE

MEASUREMENT OF THE LEVEL OF GOVERNMENT INTERVENTION IN THE HEALTH INSURANCE SYSTEM: CROSS-COUNTRY COMPARATIVE ANALYSIS

SAĞLIK SİGORTASI SİSTEMİNE DEVLET MÜDAHALESİNİN SEVİYESİNİN ÖLÇÜMÜ: ÜLKELER ARASI KARŞILAŞTIRMALI ANALİZ

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ABSTRACT

The important goal of economic development is to strengthen social protection in modern times. One of the main components of social protection is the provision of health care of the population. World experience shows that health insurance (especially compulsory) plays an important role in the protection of the health care of the population. Thus, in countries with a high level of health insurance, the health of the population is more reliably protected, and there is an opportunity to expand the scope of treatment and prevention.

The development of the health system, including health insurance, depends on the level of government intervention in this field. The research shows that the more government interferes in the health system, the better health care for the population.

So far, the need for government intervention in the health insurance system has been the subject of research by various scientists, but no research has been conducted to measure the level of intervention. Is it possible to measure the level of government intervention in the health insurance system? The authors have tried to create a methodology that allows for measuring the level of government intervention in the health insurance system. This methodology is called the Index of Intervention of Health Insurance System (IIHIS). By calculating IIHIS, the authors determine the government intervention level in Health Insurance System. Measurement of the level of government intervention in the Health Insurance System allows for evaluating the social consequences of the implemented reforms. IIHIS has been calculated on the basis of 4 indicators – Coverage of compulsory health insurance, Coverage of private health insurance, Health insurance tariffs, and Value-Added Tax (VAT) on medications. At the initial stage, IIHIS has been calculated for 31 countries. Among 31 countries, there are developed, emerging, and post-socialist countries. According to IIHIS, the most dirigist (leftness) countries are Slovenia, and Israel. According to the IIHIS, the most liberal (rightness) countries are Azerbaijan, USA.

The authors want to measure the level of government intervention in the health insurance system and to determine the position of Azerbaijan health insurance system. The authors have performed correlation, analytical-statistical, and cross-country analyses. The level of government intervention in the health insurance system has been measured in 31 countries.

Keywords: Government, intervention, health insurance, health insurance intervention index.

JEL Classification Codes: I13, I14, I15.

ÖZ

Ekonomik kalkınmanın önemli amacı, günümüzde sosyal güvenceyi sağlamaktır. Sosyal güvencenin ana bileşenlerinden biri, nüfusun sağlık durumunun iyileştirilmesidir. Dünya deneyimi, sağlık sigortasının (özellikle zorunlu) nüfusun sağlık durumunun iyileştirilmesinde önemli bir rolünün olduğunu göstermektedir. Böylece, yüksek oranda sağlık sigortasına sahip ülkelerde, nüfusun sağlığı daha güvenilir bir şekilde korunur, tedavi ve önleme kapsamını genişletme fırsatı oluşur.

Sağlık sigortası da dahil olmak üzere sağlık sisteminin gelişimi, devletin bu alana müdahale oranına bağlıdır. Araştırmalar, hükümetin sağlık sistemine ne kadar çok müdahale ederse, nüfusun sağlık durumunun o kadar iyi olduğunu gösteriyor.

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Ekonomik kalkınmanın önemli hedefi, modern zamanlarda sosyal korumayı güçlendirmektir. Sosyal korumanın ana bileşenlerinden biri, nüfusun sağlık hizmetlerinin sağlanmasıdır. Dünya deneyimi, sağlık sigortasının (özellikle zorunlu) nüfusun sağlık hizmetlerinin korunmasında önemli bir rol oynadığını göstermektedir. Böylece, yüksek düzeyde sağlık sigortasına sahip ülkelerde, nüfusun sağlığı daha güvenilir bir şekilde korunur ve tedavi ve önleme kapsamını genişletme fırsatı doğar.

Sağlık sigortası da dâhil olmak üzere sağlık sisteminin gelişimi, bu alandaki devlet müdahalesinin düzeyine bağlıdır. Araştırmalar gösteriyor ki, hükümet sağlık sistemine ne kadar çok müdahale ederse, halk için o kadar iyi sağlık hizmeti veriliyor. Şimdiye kadar sağlık sigortası sistemine devlet müdahalesinin gerekliliği çeşitli bilim adamlarının araştırma konusu olmuş ancak müdahalenin düzeyini ölçmek için herhangi bir araştırma yapılmamıştır. Sağlık sigortası sistemine devlet müdahalesinin düzeyini ölçmek mümkün müdür? Yazarlar, sağlık sigortası sistemindeki devlet müdahalesinin düzeyini ölçmeye izin veren bir metodoloji oluşturmaya çalıştılar. Bu metodolojiye Sağlık Sigortası Sistemine Müdahale Endeksi (IIHIS) denir. Yazarlar, IIHIS'i hesaplayarak, Sağlık Sigortası Sistemindeki devlet müdahale düzeyini belirlemektedir. Sağlık Sigortası Sistemine devlet müdahalesinin seviyesinin ölçülmesi, uygulanan reformların sosyal sonuçlarının değerlendirilmesine olanak tanır. İİHİS, zorunlu sağlık sigortası kapsamı, özel sağlık sigortası kapsamı, sağlık sigortası tarifeleri ve ilaçlarda Katma Değer Vergisi (KDV) olmak üzere 4 gösterge üzerinden hesaplanmıştır. İlk aşamada 31 ülke için IIHIS hesaplanmıştır. 31 ülke arasında gelişmiş, gelişmekte olan ve sosyalizm sonrası ülkeler var. IIHIS'e göre en dirigist (solcu) ülkeler Slovenya ve İsrail. İHİS'e göre en liberal (haklı) ülkeler Azerbaycan, ABD.

Yazarlar, sağlık sigortası sistemine devlet müdahalesinin seviyesini ölçmek ve Azerbaycan'ın sağlık sigortası sisteminin konumunu belirlemek istiyor. Yazarlar korelasyon, analitik-istatistiksel ve ülkeler arası analizler gerçekleştirdiler. Sağlık sigortası sistemine devlet müdahalesinin düzeyi 31 ülkede ölçülmüştür.

Anahtar Kelimeler: Devlet, müdahale, sağlık sigortası, sağlık sigortası sistemine müdahale endeksi.

JEL Sınıflandırma Kodları: I13, I14, I15.

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GENİŞLETİLMİŞ ÖZET

Amaç ve Kapsam:

Günümüzde ekonomik kalkınmanın önemli hedefi, nüfusun sosyal güvencesini artırmaktır. Sosyal güvencenin temel bileşenlerinden biri halk sağlığı hizmetlerini yeterli oranda sağlamaktır. İnsan Hakları Bildirgesi'nin 25. Maddesi, her insanın sağlık durumunun güvenceye alınması üzerinde durmaktadır. Dünya Sağlık Örgütü (WHO) Tüzüğünde belirtildiği gibi herkesin ırk, din, siyasi görüş ve sosyoekonomik durumu ne olursa olsun, en yüksek sağlık standartlarına sahip olma hakkı vardır.

Sağlık sisteminin bazı amaçları vardır. "Sağlık sistemlerinin amacı, eşitlik ve sosyal adaletle nüfusun sağlığını iyileştirmektir. Her ülkenin sağlık sistemi gelişimi, adil bir mali katkı mekanizması sağlamalıdır" (WHO, 2003). Genel olarak, sağlık sistemi, ülkenin tüm vatandaşlarına, ihtiyaç duyulduğunda, herhangi bir mekan ve koşulda gerekli sayıda kaliteli tıbbi hizmeti sunabiliyorsa etkili kabul edilir (Baku Research Institute, 2022).

Dünya deneyimi, sağlık sisteminin finansmanının, nüfusun sağlığının korunmasında kritik bir rol oynadığını göstermektedir. Sağlık hizmetlerini finanse etmenin ve yönetmenin en etkili yollarından biri sağlık sigortası (özellikle zorunlu) almaktır. Böylece, sağlık sigortasının üst oranda olduğu ülkelerde, nüfusun sağlığı daha güvenilir bir şekilde korunur ve tedavi, önleme kapsamını genişletmek için mükemmel bir fırsat vardır.

Sağlık sigortası, özellikle düşük gelirli gruplar olmak üzere nüfusun sosyal güvencesinin sağlanmasında birincil bir role meydan okumanın yanı sıra, sağlık alanındaki kayıt dışı ödemelerin ortadan kaldırılmasına da yol açmaktadır. Uzmanlar, sağlık sigortası sisteminin en açık amaçlarının sağlık sektörü finansmanının şeffaflığını ve hesap verebilirliğini geliştirmek olduğunu düşünmektedir (Balabanova & Coker, 2008).

Ondokuzuncu yüzyılın sonlarında kurulan sağlık sigortası, tipik olarak kademeli bir gelişme sürecini içermiş ve şimdiki ilerleyici biçimini almıştır. Bu model şu anda dünyadaki çoğu gelişmiş ve gelişmekte olan ülkede başarıyla uygulanmaktadır.

Sosyoekonomik değişiklikler, sağlık sigortası sisteminde derhal iyileştirmeler yapılmasını gerekli kılmaktadır. Sağlık sigortası sisteminin gelişmesiyle birlikte, nüfusun sağlık hizmetlerinin korunmasına hizmet eder.

Sağlık sigortası sisteminin gelişimi, devletin bu alandaki müdahale oranına bağlıdır. Araştırmalar, hükümet bu sisteme ne kadar çok müdahale ederse, nüfusun sağlığının o kadar iyi olduğunu gösteriyor.

Yöntem:

Yazarlar korelasyon, analitik-istatistiksel ve ülkeler arası karşılaştırmalı analizler yapmışlardır.

Bulgular:

Sağlık sigortası sistemine devlet müdahalesinin oranı 31 ülkede hesaplanmıştır.

Sonuç ve Tartışma:

Araştırmalar, sağlık sisteminin daha fazla devlet tarafından yönetildiği ülkelerde sağlık hizmetlerinin daha iyi olduğunu göstermektedir. Sağlık sigortası sistemine devlet müdahalesi ile sağlık durumu arasında sıkı bir bağlantı vardır. Mevcut durumda, Azerbaycan dahil birçok ülkede zorunlu sağlık sigortası sistemine devlet müdahalesi oranının artırılması gerekmektedir.

1. STATEMENT OF THE PROBLEM

The important goal of economic development in the modern age efficiently is to enhance the social protection of the population. One of the core components of social protection obtains the sufficient protection of public health care. Article 25 of the Declaration of Human Rights emphasizes the protection of the health care of every human being. As stated in the Statute of the World Health Organization (WHO), everyone has the right to the highest standards of health, regardless of race, religion, political views, and socioeconomic status.

There are some objectives of the health system. "The objective of the health systems is to improve the health of the population with equity and social justice. Health system development of each country must ensure a fair financial contribution mechanism" (WHO, 2003). In general, the health system is considered effective if it is able to provide all citizens of the country with the necessary number of quality medical services when needed in any space and condition (Baku Research Institute, 2022).

Health system financing fulfils a critical role in preserving the health of the population. One of the most effective ways to finance and manage health care obtain health insurance (especially compulsory). Thus, in countries with a superior level of health insurance, the health of the population is more reliably protected, and there is an excellent opportunity to expand the scope of treatment and prevention.

In addition to challenging a primary role in strengthening the social protection of the population, especially its low-income groups, health insurance leads to the elimination of unofficial payments in eliminates unofficial payments in the health field the health insurance system are to improve transparency and accountability of health sector financing (Balabanova & Coker, 2008).

Founded in the late nineteenth century, health insurance has typically involved a gradual process of development and has taken its present progressive form. This model is now being successfully applied in most developed and developing countries around the world.

Socioeconomic changes promptly make it necessary to make improvements in the health insurance system. It, along with the development of the health insurance system, serves to preserve the health care of the population.

The development of the health insurance system depends on the level of government intervention in this area. Research shows that the more the government intervenes in this system, the better the health of the population.

2. LITERATURE REVIEW

In recent years, numerous studies have been conducted on health reforms, the health insurance model, the benefits of health insurance, and government intervention in this field. A number of studies have been conducted in recent years to assess health reforms (Brown and others, 2003; Lakeh, and others, 2015; Allen, 2009; Si and others, 2017; Bahadori and others, 2015; Sturmberg and others, 2010; Farell and others, 2007). Also related to the government regulation (including liberalization) of the health system (Hoof and others, 2007; Gill and others, 2016; Auerbach and others, 2003; Cremer and Pestieau, 2003) on payment methods in the health system and others have conducted research. In most of these researches, the idea that the health system is more government-regulated is more or less justified.

However, the health system is not effectively managed in all cases. In the most cases it depends more on the political and economic ideology of governments and the mentality of the population. According to Fattore and Tediosi (Fattore and Tediosi, 2013), "good government management of the health system is one of the key conditions for effective universal health care".

The main way of the effective management of the health system is financing. Financing of the health system is connected with government intervention. The government implements the financing by different ways. Some scientists (Mueller and Morgan, 2017; Grittner, 2013; Schieber, and others, 2006, 21; Ozen, 2021), etc. have analyzed the ways of financing of the health care system. In the studies, it is shown that the share of the state must be more than the population.

"Compulsory health insurance is one of the principal methods of health financing" (Carrin & James, 2005). In Denmark, Sweden and the United Kingdom, central, regional or local governments financed 80% or more of all

health spending. In Germany, Japan, France, and the Slovak Republic more than 75% of all health expenditure was paid for through compulsory health insurance (OECD, 2017).

Compulsory health insurance has some advantages. T.H.Tulchinsky, E.A. Varavikova (Tulchinsky & Varavikova, 2014), Fjoralba Memia (Memia, 2015), and other scientists have researched the advantages of compulsory health insurance.

Compulsory health insurance reduces out-of-pocket costs. One study, which compared the out-of-pocket health payments for all health services of insured vs uninsured groups, found that health insurance decreased out-of-pocket expenses between 16% and 18%, with a more substantial decrease for lower-income residents" (Nguyen, and others, 2012). It also reduces the level of poverty, raises the quality of medical services, maintains transparency, strengthens social protection, makes health services accessible for everyone, prevents diseases, etc.

Some scientists have analyzed the impacts of compulsory health insurance on poverty Shaoguo Zhai, Shuiping Yuan, and Quanfang Dong (Zhai and others, 2021). The researchers conducted by them prove that the impact of health insurance on poverty alleviation is greater for men, older adults aged between 60 to 69, and households in economically poorer area than their counterparts.

Compulsory health insurance reduces the social burden of the state. The government may provide contributions for those who otherwise would not be able to pay, such as unemployed people and low-income informal economy workers. We also think compulsory health insurance reduces the level of the informal economy too.

Private health insurance has an important role in the social protection of the population and reduces the social burden of the state. The states may encourage the private sector in order to cover employees with private health insurance.

3. METHODOLOGY

The necessity of government intervention in the health insurance system has been studied by various scientists, but no research has been conducted to measure the level of intervention. The current study has firstly attempted to measure the level of government intervention in the health insurance system.

Quantitative assessment of the health insurance system based on various classifications is an important condition in terms of optimizing health insurance coverage (Mahmudov, 2018). It is very important to measure the level of government intervention in the health insurance system. Experience shows, that the state can strengthen the social protection of the population by directly and indirectly intervening in the health insurance sector (by stimulating the establishment and development of the private health insurance system).

We have called the Index of Intervention of Health Insurance System (IIHIS). The methodology has been developed in accordance with the methodology of the Index of Leftness (Rightness) of the Economy (Muzaffarli, 2014).

At the initial stage, IIHIS is calculated on the basis of 4 indicators (Coverage of compulsory health insurance, Coverage of private health insurance, Compulsory health insurance tariffs, Value-Added Tax (VAT) on medications. The aim consists of measuring the level of government intervention in the health insurance system. IIHIS varies in the range 0-1: "0" - indicates "absolute liberal" of the health insurance system (no government interference in the health insurance system), "1" – "absolute dirigiste" (complete government intervention in the health insurance system).

Indicators are indexed by the formula (Vi - Vmin) / (Vmax - Vmin).

Vi – the indicator of the sample country

Vmin - the minimum indicator of the selected countries

Vmax – the maximum indicator of the selected countries

Correlation, analytical-statistical, and cross-country analyses have been conducted in the article, including the level of government intervention in the health insurance system in 31 countries.

Ethical Status of the Research

Since secondary data were used in this article, approval from the ethics committee was not required. All ethical rules were followed throughout the article.

4. RESULTS AND THEIR INTERPRETATION

Some developed countries, including developing countries, the vast majority of the population is covered by compulsory insurance. For example, in countries such as Canada, The United Kingdom, Japan, Italy, Finland, and Switzerland, 100% of the population is covered by compulsory health insurance (Chart 1).

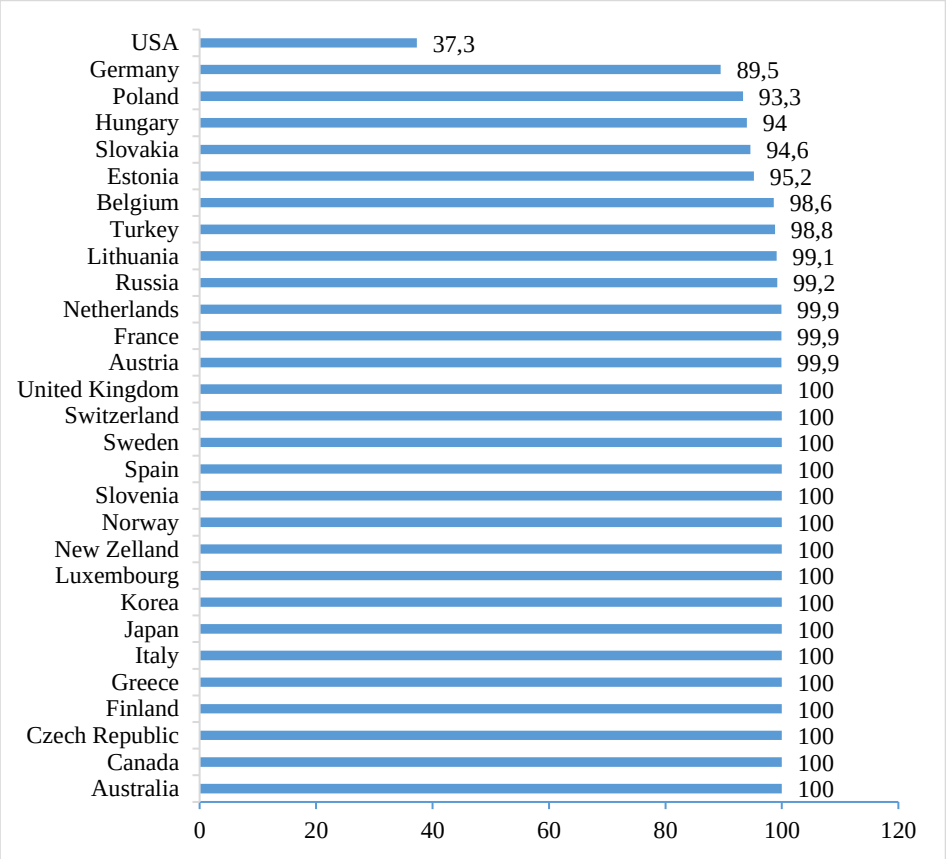

Figure 1. Coverage of compulsory health insurance, 2020, (%)

Source: (OECD (a), 2021).

The coverage of compulsory health insurance is 100% in the Czech Republic, 99.2% in Russia, and 99,1% in Lithuania.

One of the indicators which determines the level of government intervention in the health insurance system is Coverage of private health insurance. The level of coverage of private health insurance is high in most countries (Table 1).

Table 1. Coverage of private health insurance

№	Country	Coverage rate		№	Country	Coverage rate
1.	Belgium	98		17.	Finland	22.6
2.	France	95		18.	Latvia	20.2
3.	Slovenia	86.1		19.	Greece	15.3
4.	Israel	84.1		20.	Spain	15.3
5.	Netherlands	83.7		21.	United Kingdom	10.3
6.	Korea	70.8		22.	Mexico	9.9
7.	Canada	68		23.	Turkey	9
8.	USA	62		24.	Russia	6.7

9.	Australia	53		25.	Lithuania	2.7
10.	Ireland	46.2		26.	Iceland	0.4
11.	Austria	37.9		27.	Czech Republic	0
12.	Germany	35.4		28.	Hungary	0
13.	Denmark	33.4		29.	Poland	0
14.	Switzerland	29		30.	Slovakia	0
15.	Portugal	28.1		31.	Azerbaijan	1.5
16.	New Zealand	27.7		*32.*	*Average*	*35*

Source: (OECD (a), 2021).

The level of coverage of private health insurance is 98% in Belgium, 95% in France, and 62% in the USA.

In our mind VAT on medications is also a very important indicator from point of view of social protection.

Table 2. VAT on medications

№	**Country**	**VAT, %**		**№**	**Country**	**VAT, %**
1.	Australia	10		17.	Lithuania	5
2.	Austria	10		18.	Mexico	16
3.	Belgium	6		19.	Netherlands	6
4.	Canada	5		20.	New Zealand	15
5.	Czech Republic	10		21.	Poland	8
6.	Denmark	25		22.	Portugal	6
7.	Finland	10		23.	Russia	10
8.	France	2.1		24.	Slovakia	10
9.	Germany	19		25.	Slovenia	9.5
10.	Greece	6		26.	Spain	4
11.	Hungary	5		27.	Switzerland	2.5
12.	Iceland	24		28.	Turkey	8
13.	Ireland	23		29.	United Kingdom	0
14.	Israel	17		30.	USA	4.8
15.	Korea	10		31.	Azerbaijan	18
16.	Latvia	12		*32.*	*Average*	*10.22*

Source: (EFPIA, 2018).

In some countries VAT on medication is less than on other goods. VAT on medication is 0% in the United Kingdom, 4 % in Spain, and 4.8% in the USA.

Table 3. Compulsory health insurance tariffs

№	**Country**	**CHIT, %**		**№**	**Country**	**CHIT, %**
1.	Australia	2.00		17.	Lithuania	3.60
2.	Austria	7.65		18.	Mexico	0.95
3.	Belgium	3.50		19.	Netherlands	9.65
4.	Canada	4.26		20.	New Zealand	0.00
5.	Czech Republic	2.30		21.	Poland	2.45
6.	Denmark	0.00		22.	Portugal	34.75
7.	Finland	2.39		23.	Russia	2.90
8.	France	13.30		24.	Slovakia	2.80
9.	Germany	15.80		25.	Slovenia	12.92
10.	Greece	4.95		26.	Spain	36.25
11.	Hungary	3.00		27.	Switzerland	0.45
12.	Iceland	0.00		28.	Turkey	2.00
13.	Ireland	0.00		29.	United Kingdom	7.00
14.	Israel	0.15		30.	USA	2.90
15.	Korea	7.66		31.	Azerbaijan	4.00
16.	Latvia	0.00		*32.*	*Average*	*6.12*

Source: (ISSA (a, b, c), 2019; PapayaGlobal (a, b), 2022; Gov.UK, 2022; Medicare Wages, 2021; Spanish Employee Benefits, 2022; ExpatFocus, 2022).

The following table shows the results of IIHIS which, are calculated based on the indicators of Coverage of compulsory health insurance, Coverage of private health insurance, Compulsory health insurance tariffs, and VAT on medications.

According to IIHIS, Azerbaijan is the most right-wing country (0.140). The most right-wing country after Azerbaijan is the United States (0.320) (Table 4).

Table 4. IIHIS (2020)

№	Country	IIHIS		№	Country	IIHIS
1.	Australia	0.583		17.	Latvia	0.520
2.	Austria	0.580		18.	Lithuania	0.453
3.	Azerbaijan	0.140		19.	Mexico	0.421
4.	Belgium	0.648		20.	Netherlands	0.655
5.	Canada	0.591		21.	New Zealand	0.555
6.	Czech Republic	0.478		22.	Poland	0.439
7.	Denmark	0.633		23.	Portugal	0.670
8.	Finland	0.524		24.	Russia	0.491
9.	France	0.670		25.	Slovakia	0.459
10.	Germany	0.634		26.	Slovenia	0.700
11.	Greece	0.495		27.	Spain	0.639
12.	Hungary	0.424		28.	Switzerland	0.477
13.	Iceland	0.559		29.	Turkey	0.477
14.	Ireland	0.646		30.	United Kingdom	0.456
15.	Israel	0.682		31.	USA	0.320
16.	Korea	0.647		32.	*Average*	*0.538*

Source: (OECD(b), 2021).

The reason for being the rightest of Azerbaijan is the low level of coverage with compulsory insurance in our country. The level of government intervention in this system must be increased. Our conclusion is confirmed by the reforms carried out by the government in Azerbaijan. Thus, in 2020, it was planned to gradually introduce a compulsory health insurance mechanism throughout the country. However, due to the COVID-19 pandemic, this process was not completed. However, the will of the government on this issue led to the completion of this process in 2021. Thus, the model of compulsory medical insurance in Azerbaijan was completed in April 2021. It is true, that the model of compulsory health insurance is new in Azerbaijan and is accompanied by a number of problems. However, over time, these problems are expected to be resolved and a more sophisticated model will be formed.

The most dirigist countries are Slovenia (0.700), and Israel (0.682). Portugal (0.670), Belgium (0.648), and Korea (0.647) are located on the left pole.

The relative center index of the image (0. 538) is greater than the geometric center index (0.500). This means that in the countries under study, the health insurance system is more inclined to the left than to the right (Figure 2).

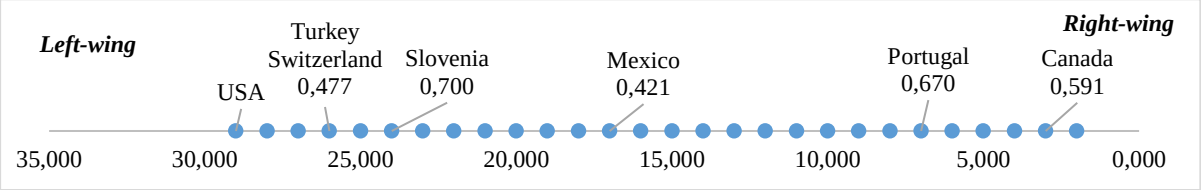

Figure 2. Scale of IIHIS

Source: (All the credits belong to the author, 31 countries, 2020).

As health insurance is linked to the social protection of the population and requires more government intervention. That's why more of countries are to be on the left pole.

4.1. The dependency between government intervention and the health of the population

The first results prove that there is a serious dependency between government intervention (including government spending) and health care indicators. In countries where the government interferes heavily in the health care

system, including compulsory health insurance systems, health indicators are much better. In the current situation of the compulsory health insurance system, it is necessary to increase the degree of government intervention in the compulsory health insurance system in a number of countries, including Azerbaijan.

Comparing the health indicators of different countries, it is possible to see the connection between government intervention in this area and health indicators. Government intervention is primarily through financing. The following table shows the health indicators of the member countries of the Organization for Economic Cooperation and Development (OECD), including Azerbaijan (Table 5).

Table 5. Health indicators of OECD countries and Azerbaijan

№	Countries	Public health expenditure, %	Personal payment, %	Compulsory health insurance and other, %	Per capita health expenditure, $	Life expectancy at birth	Maternal mortality per 100, 000 people	Infant mortality per 1, 000 people
	1	2	3	4	5	6	7	8
1	Azerbaijan	21	77,5	1,5	420	75	14,4	9,5
2	Australia	66	19,72	14,28	5827	82	6	3
3	Austria	76	15,6	8,4	5427	81	4	3
4	Belgium	76	19,68	4,32	5093	80	7	4
5	Canada	70	15	15	5718	81	7	5
6	Chile	47	31,8	21,2	1204	80	23	7
7	Czech Republic	83	15,98	1,02	1367	78	4	3
8	Denmark	85	13,05	1,95	6270	80	7	3
9	Estonia	78	18,7	3,3	1072	76	9	3
10	Finland	75	18,75	6,25	4449	81	3	2
11	Fence	78	7,26	14,74	4864	82	9	4
12	Germany	77	12,88	10,12	5006	81	6	3
13	Greece	70	26,1	3,9	2146	81	3	4
14	Hungary	64	27,36	8,64	1056	75	16	5
15	Iceland	80	18,6	1,4	4126	83	4	2
16	Ireland	68	16,64	15,36	4233	81	8	3
17	Israel	59	26,24	14,76	2601	82	5	3
18	Italy	78	18,04	3,96	3155	82	4	3
19	Japan	82	14,4	3,6	3966	83	6	2
20	South Korea	53	37,13	9,87	1880	81	12	3
21	Luxemburg	84	10,56	5,44	7980	72	10	2
22	Mexico	52	44,16	3,84	664	77	41	13
23	The Netherlands	80	8,4	11,6	6145	81	7	3
24	New Zealand	83	10,71	6,29	4063	81	12	5
25	Norway	86	13,44	0,56	9715	81	5	2
26	Poland	70	22,5	7,5	895	77	3	5
27	Portugal	65	26,25	8,75	2037	80	10	3
28	Slovakia	70	22,2	7,8	1454	76	6	6
29	Slovenia	72	12,04	15,96	2085	80	9	2
30	Spain	70	23,1	6,9	2581	82	5	4
31	Sweden	82	15,84	2,16	5680	82	4	2
32	Switzerland	66	25,84	8,16	9276	83	5	4
33	Turkey	77	15,18	7,82	608	75	18	17
34	UK	84	8,96	7,04	3598	81	9	4
35	USA	47	11,66	41,34	9146	79	14	6
36	*Average indicator*	*72,1*	*19*	*8,9*	*3982*	*80*	*8,9*	*4,2*

Source: (The World Bank, 2020).

As can be seen from the table, our country in 2020 lags behind the average of OECD countries in all respects. Relevant indicators of the World Bank for Azerbaijan show the life expectancy at birth – is 70.9, infant mortality – is 27.9 per 1 000 live births, and maternal mortality – is 25 per 100, 000 live births.

In the corresponding year, public health expenditures in Azerbaijan accounted for 21% of total health expenditures, which is about 3.4 times lower than the average. Personal payments account for 77.5% of the total funding of the health care system in Azerbaijan, which is a high figure. This figure is about 4 times higher than the average. Cash payments in health care increase poverty and have a serious negative impact on the health of the population.

Studies show that, in general, there is a close link between health expenditures and health indicators. The chart below shows the relationship between per capita health expenditures in Azerbaijan and life expectancy at birth (Figure 4).

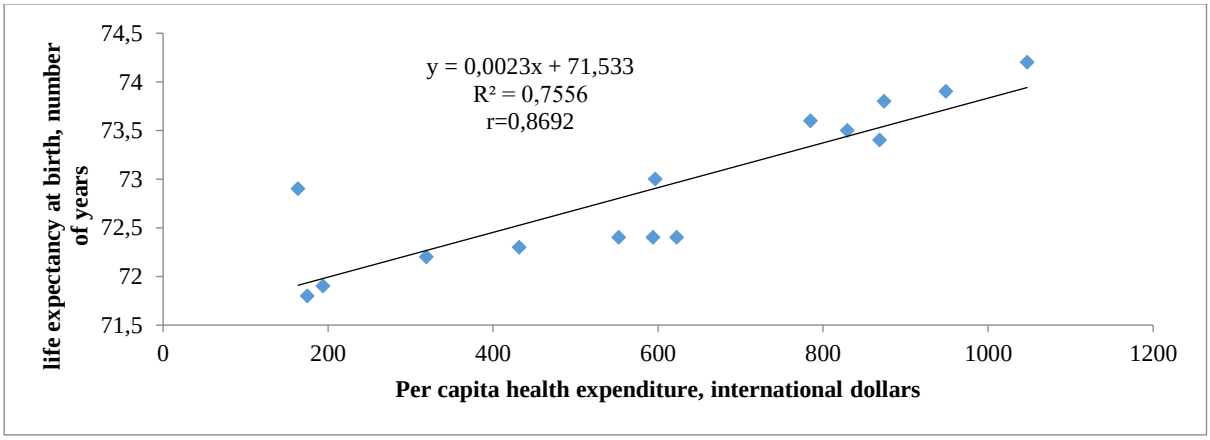

Figure 4. Correlation between per capita health expenditures in Azerbaijan and life expectancy at birth (2000-2019)

Source: (The World Bank, 2020).

Figure 4 shows that there is a significant correlation (R=0.8692) between per capita health expenditures and life expectancy at birth. That is, as spending on health increases, accordingly does the life expectancy at birth, which characterizes the health care system. In addition, there is a negative correlation (R = -0.97) between health expenditures and infant mortality per 1, 000 live births. This shows that the increase in health expenditures has reduced the number of infant deaths (Figure 6).

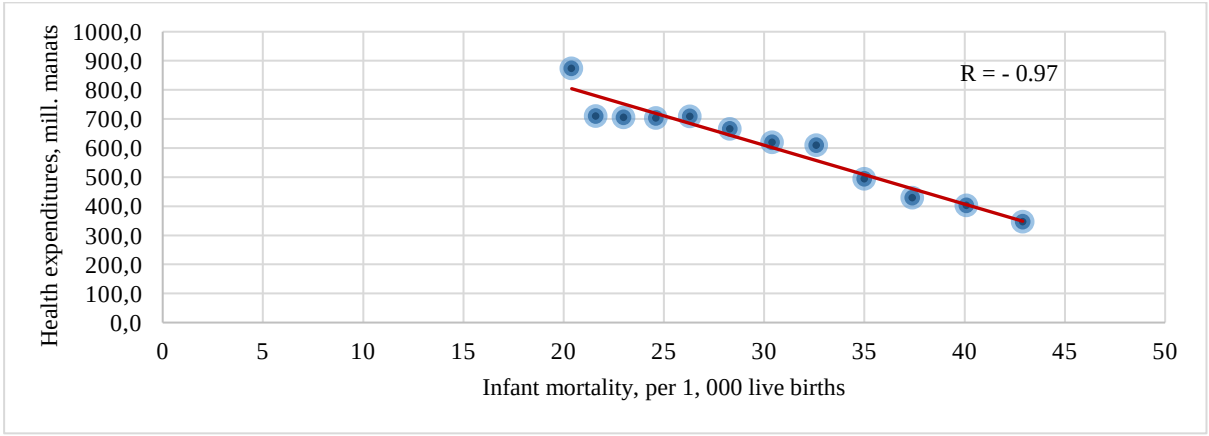

Figure 5. Correlation between health expenditures and infant mortality per 1, 000 live births in Azerbaijan (2008-2019)

Source: (https://data.unicef.org/country/aze/, and www.state.gov.az).

The studies prove that there is a high correlation (R= -0.78) between health expenditures and maternal mortality per 1, 000 000 live births (Figure 6).

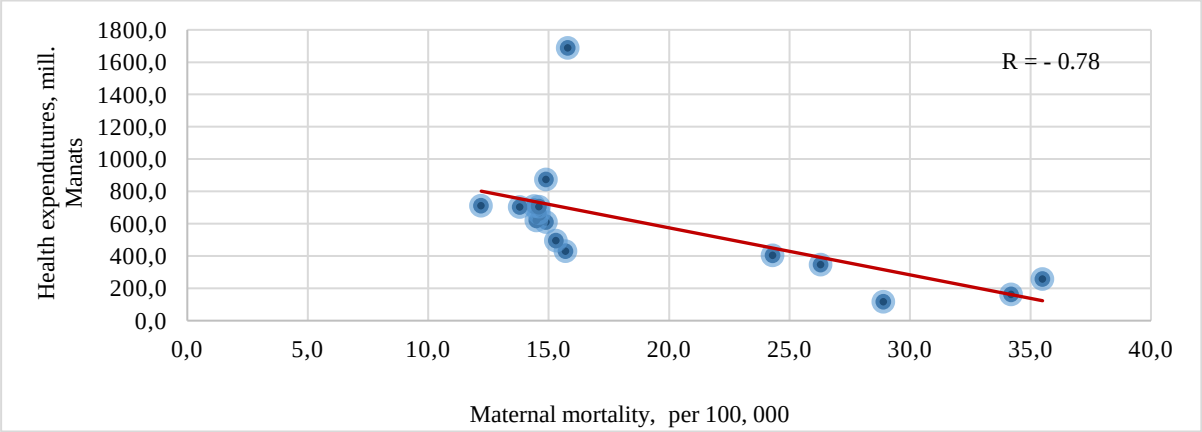

Figure 6. Correlation between health expenditures and maternal mortality per 1, 000 000 live births in Azerbaijan (2008-2019)

Source: (UNICEF, 2020 and SSCRA, 2020).

The share of voluntary health insurance in health care financing in Azerbaijan is 1.5%. Maternal mortality per 100, 000 live births in Azerbaijan is 1.6 times higher than the average (2.8 times according to international indicators), infant mortality is 2.3 times (6.6 times according to international indicators), life expectancy at birth is 5 years (9 years according to international indicators) is low.

Table 5 demonstrates, the smaller the role of the government in health care financing, the lower the health indicators. For example, countries such as Azerbaijan, Chile, South Korea, Mexico, and the United States have lower than average rates.

It should be noted that among the OECD countries, the United States is at the forefront of per capita health expenditure (2.3 times higher), but the low role of the state in health financing affects its health indicators. It is no coincidence that in the current year, the United States is below the average for all components in this list of health indicators. This is due to the fact that the United States has voluntary health insurance, which plays a key role in health care financing, which is inaccessible to the poor and needy. That is why most of the population in the United States does not have compulsory health insurance and they are far from health care.

Studies show that it is necessary to have at least 60% of the state's burden on health financing. It is no coincidence that in countries where the burden on the state is less than 60%, at least one health indicator is below average. In addition, the Czech Republic, which lags 6.7 times behind the United States in terms of per capita health care expenditures, and Estonia, which lags behind 8.5 times, have higher health rates than the United States. It should be noted that in each of these countries, the state's share in health financing is more than 60%.

According to our research, for the optimal financing of health care in our country, the burden of the state should be 60%. In our country, voluntary health insurance plays a role of about 1% of health financing. It can be concluded that the burden of personal expenses on health care should be 39%. This amount is about 1466.5 mln. manats.

Increasing the burden of the government on health care costs plays an important role in improving health indicators. The state should choose the model of compulsory health insurance in such a way that it has a larger share in the financing of health care. Only then can health services be accessible to all. Thus, it is possible to achieve improvement of health indicators in the country.

5. CONCLUSION

Research has shown that health care is better in countries where the health system is more state governed. There is a close link between government intervention in the health insurance system and health care indicators. In the

current situation, it is necessary to increase the level of government intervention in the compulsory health insurance system in a number of countries, including Azerbaijan.

DECLARATION OF THE AUTHORS

Declaration of Contribution Rate: The first author is responsible for the determination of the method, analysis and the reporting of the findings while the second author is responsible for the literature review and data collection. The first author contributes 60% while the second author contributes 40%.

Declaration of Support and Thanksgiving: No support is taken from any institution or organization.

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