

## The gross domestic product and its effect on spending on human resource development and community health in the Kingdom of Saudi Arabia - period. 2000 – 2017

Mamoun Khalaf Halahleh

Elsiddig Yousif Mohammed

College of Business || King Khalid University || KSA

**Abstract:** The objective of this study is to analyze the gross domestic product (GDP) and its impact on the expenses on the development of human resources and the community health in the kingdom of Saudi Arabia period 2000/2017. In fact, the GDP has been used as a separate variable while the expenditure on both the human resource development and community health in Saudi Arabia is used as a follow-up variable. an analytical prescriptive approach has been followed concluding that there is a strong moral effect of spending on human resource development as a percentage of GDP amounted to 1.03. In fact, through a descriptive analytical approach, this study concluded that there is a relationship with a strong moral impact of spending on both human resource development, as a proportion of the gross domestic product, and health, as a percentage of GDP amounted to 1.09.. The study also recommended the increase of the general public spending on human resources, as a percentage of local production and the increase of the proportion of public spending allocated to community health and localization of treatment within the Kingdom of Saudi Arabia.

**Keywords:** GDP, spending on human resource development, spending on community health, Saudi Arabia

## الناتج المحلي الإجمالي وأثره في الإنفاق على تنمية الموارد البشرية وصحة المجتمع في المملكة العربية السعودية – للفترة 2000-2017م

مأمون خلف الحلاله

الصيديق يوسف محمد

كلية الاعمال || جامعة الملك خالد || المملكة العربية السعودية

الملخص: هدفت هذه الدراسة إلى تحليل الناتج المحلي الإجمالي وأثره على تنمية الموارد البشرية وصحة المجتمع في المملكة العربية السعودية للفترة 2000-2017، وتم استخدام الناتج المحلي الإجمالي كمتغير مستقل والإنفاق على الموارد البشرية وصحة المجتمع في المملكة العربية السعودية كمتغير تابع وتم اتباع المنهج الوصفي التحليلي وخلصت الدراسة إلى النتائج التالية: أن هنالك علاقة ذات أثر معنوي قوي للإنفاق على تنمية الموارد البشرية كنسبة من الناتج المحلي الإجمالي بلغت 1.03. وأيضا فسر التحليل وجود علاقة ذات أثر معنوي مرتفع للإنفاق على الصحة كنسبة من الناتج المحلي الإجمالي وبلغت 1.09. وأوصت الدراسة بزيادة الإنفاق العام الحكومي على الموارد البشرية كنسبة من الناتج المحلي ورفع نسبة الإنفاق العام المخصص لصحة المجتمع وتوطين العلاج داخل المملكة العربية السعودية.

الكلمات المفتاحية: الناتج المحلي الإجمالي، الإنفاق على تنمية الموارد البشرية، الإنفاق على صحة المجتمع، السعودية.

## **Introduction:**

The objective of this study is to clarify the impact of public spending on both capital and community health, which contributes to achieving economic development and increasing the rates of the gross domestic product and achieving an indicator of spending efficiency.

### **The importance of this study:**

1. The importance of this study lies in clarifying the impact of the GDP on the human resource development in Saudi Arabia.
2. Analysis and interpretation of the impact of the GDP on the health of the Saudi society

### **The study problem:**

The problem of this study is based on finding answers to the two main following questions:

1. Does public spending have an impact on the development of human resources in Saudi Arabia?
2. Does public spending on the health of the Saudi society have an impact on the GDP?

### **The study hypotheses**

1. There is no statistically significant relationship between GDP and spending on human resource development in Saudi Arabia.
2. Does public spending on the health of the Saudi society have an impact on the GDP?

### **Time and space limits of the study**

Banks in Saudi Arabia during the 2000 / 2017 period

### **Previous research studies:**

1. In this context, Al-Hayajana et al. (2011) conducted a study entitled "The reality of spending on education and health in the budgets of the various Jordanian governments" with the objective of analyzing their budgets in terms of spending on social and economic rights, such as the right of education, work and health during the 2010/ 2000 period". In fact, the study showed the typical rights and their comparison with multiple aspects of spending in the budgets of the Jordanian government. Besides, the results showed that spending on health and education is at the top of the government's spending while direct spending on work ranks last. The study also recommended making comparisons with other studies to ensure that there is a real rise of spending while taking into account other variables, such as the population.
2. For his part, Al Mazrouei Saif 2017 conducted a study entitled; "The Extent of the Impact of Public Expenditure on GDP in the United Arab Emirates" in which he used data about the 1990/2009 period. The results showed that public spending on GDP has positive and moral effects on the human

resources at 1%, Besides, the public spending on each source of the GDP has a moral impact on community health at 1%.

3. On the other hand, the study of Saleh, Muhammad -2015; "The Relationship between Government Spending and GDP in Sudan for the period between 1970 and 2010", showed the existence of evidence of a short-and long-term statistical relationship between government's spending and economic growth, as well as a one-way causal relationship running from the GDP to public expenditure.
4. As for the study of Abdullah, Anas, 2017; "The Measurement and Analysis of the reciprocal relationship between public expenditure and Economic Growth in Iraq during the period between 1990 and 2013", it came to a conclusion that there is no process of coordination and connection between public expenditure and economic growth in achieving a set objectives of economic policy in Iraq however, there is a one-way causal relationship running from economic growth to public spending.
5. For her part Al-Bukhari, Abla 2017, in her study; "Investment in the Human capital and Economic Growth in Saudi Arabia", showed that spending on education and on the creation of human capital has a non moral impact on the GDP in the kingdom of Saudi Arabia, which implies that investment in education failed to generate growth in the kingdom while investment in health has morally contributed to economic growth.
6. On the other hand, a study by Trad, Laima 2015; "The role of investment in the human capital in developing the strategic vigilance", showed that the contemporary business environment has witnessed a number of changes and developments in various fields and a significant increase of the intensity of competition, which imposed on institutions to continuously care about their human assets.

## Theoretical framework

### Government overall public spending and its impact on the human capital development in Saudi Arabia:

In fact, public spending is an amount of money that the State or any of its representatives spends on satisfying a general physical need or a services related to human resource development and human capital as an economic value, which is an activity intended to achieve a maximum level of human welfare in all its aspects.

### The concept of human capital

The concept of human capital began to be used in the early sixties of the twentieth century, as stated by the writings of Shultz in 1961 and Baker in 1964, as was the reference to its beginnings in the

eighteenth century by Adam Smith, where this concept was presented to the market and business organizations as a way of attracting and drawing attention to contribution of work to the performance of business organizations. Moreover, it was defined by C.P. Kindlerger) as the use of a part of the savings of the society or individuals in developing the individual's capabilities, skills, information and behaviors so as to raise his productive capacity and therefore, the entire capacity of the society to produce more goods and services to achieve the well-being of the society and prepare the citizen to be good in his society and consequently, the term "human capital" is mainly used to refer to the economic value that an employee achieves for his employer, as this value is determined according to the sum of the skills . (Shehab, Shihan, (2011),p:74) The Kingdom of Saudi Arabia is witnessing economic prosperity and progress in all areas of social and economic development that have achieved tangible improvement in all indicators of human development such as the standard of living, health, educational services and environmental conditions as well as the possibilities of comprehensive development. In fact, in 2018, the Kingdom ranked 39th on the Global Human Development Index, which placed it at the rank of the developed countries. Moreover, it is also working to diversify its economy, an area in which the United Nations Development Program (UNDP) is helping.

#### **Overall government public spending and its impact on the human capital development in Saudi Arabia:**

On the other hand, the concept of health care extended to include the provision of diagnostic, curative and rehabilitative services to preserve the public health within the framework of the human development of the society and the preservation of human rights. Moreover, since the cost of health care is rising day after day due to the rise of the value of medical devices, the need to develop them, the high prices of medicine and diagnostic procedures, as well as the correlation of the prices of medicines and the medical supplies in foreign currency, Therefore, we have to think in more innovative ways about how to devise different ways to continue providing health care to the citizens with high quality and define a new role for the Ministry of Health in the society with its political, economic and social changes. Moreover, through the applied studies about the most important factors determining the government spending on health services, it appeared to me that the most important variables affecting the government health spending are: the per capita GDP (average income), the inflation rate, and the number, hospital beds per thousand inhabitants as well as the proportion of the population in the urban areas. The studies also showed that there is a noticeable development in the health level in the Kingdom of Saudi Arabia although the Kingdom is still among the countries that are seeking to improve health care and achieve the principle of justice for all in receiving the appropriate health care services. On the other hand, among the most important recommendations of the study is to encourage local investment in the pharmaceutical and medical equipment industry to reduce their import from abroad and therefore reduce the inflation rate

and encourage the private sector investments in the health field in addition to developing a health information system so that the health records will be electronically linked to all the hospitals in the Kingdom. This implies that the patient should have one account that includes his entire medical history, thus eliminating the need to recount the entire medical history every time the patient visits a new doctor to obtain health care, besides, this procedure will have a great impact on the improvement of the efficiency of performance, the quality of health services and the optimal use of resources in the health sector.

#### **The efficiency of government public spending index in the Kingdom of Saudi Arabia:**

The Kingdom ranked the seventh in the world on the "Efficiency of Government Spending" Index, which is one of the sub-criteria in the Global Competitiveness Report for the year 2018 issued by the World Economic Forum "Davos" in Switzerland, advancing countries, such as the Netherlands, Norway, the United Kingdom, Sweden, Japan, China, India, France, Russia and other great developed countries. In fact, in one year, the Kingdom managed to move up 5 full places, as it jumped from the 12th place between 2016 and 2017 to the seventh place in the world in 2018, The report monitors the economy of 136 countries, which are classified based on 114 indicators listed in 12 main axes, including institutions, infrastructure, education, health, innovation, labor market efficiency, and others. (Badr 2010"p:64)

In fact, the kingdom reached this advanced and distinguished position among the top 10 countries in the world on the "government spending efficiency index", which reflects the vision and guidance of the government of the Custodian of the Two Holy Mosques in raising the efficiency of spending to serve the vital sectors in the kingdom, with the follow-up of his Highness the Chairman of the Council of Economic and Development Affairs in achieving the goals of the Kingdom of Saudi Arabia's 2030 vision. Moreover, the Kingdom obtained 5.3 points out of 7 on the "Efficiency of Government Spending Index" (the highest degree of efficiency) preceded by the United Arab Emirate, 6.2, Singapore, 6.1, the United States, 5.9, Germany, 5.4 but advanced New Zealand 5.3, Switzerland 5.3 and Luxembourg 5.0.

The Kingdom's 2030 vision emphasized the commitment to raise the efficiency of public spending and achieve efficiency through the use of resources and the reduction of waste by conducting a comprehensive and accurate review of the financial systems and regulations of all the government agencies to shift from the focus on the integrity of the procedures to the concept of the exchange effectiveness and its connection with the achievement of specific goals the efficiency of which can be measured in a way that preserves the sustainability of the resources and assets, beside spreading the culture of efficient spending among the various administrative levels in the government agencies (Hanan (2011).p:54)

### The Gross Domestic Product

The GDP refers to the total value of finished goods and services (as opposed to temporary or in-progress goods) which are produced within a country's borders during a specified calendar period, such as quarterly or annually, while the GDP is the most frequently used measure of a country's economic activity as the per capita GDP is a better indicator of the country's living standards and proportional to the population with the objective to identify the extent of the spending response to the development of the human resources and spending on health. GDP. In fact, a change of the GDP requires knowing the level of that response by estimating the capital resilience through the use of the following Asian countries: (Rousan Al-Ajlouni; (2010)p:35)

### Statistical analysis

In order to determine the extent to which spending on the development of the human resources and on health responds to the change of the GDP, it is necessary to know the level of that response by estimating internal capital resilience using the following:

$$\ln EHR = \alpha GDP^b$$

$$\ln EHL = \alpha GDP^b$$

where EHR is the expenditure on the development of human resources (in millions (of Rials at the current prices), EHL spending on health (in millions of Rials at the current prices) and GDP, the gross domestic product (in million Rials at the current prices)

- a. Part three
- b. Internal capital flexibility (coefficient of change), which measures the responsiveness of the spending on the development of human resources and health to the change of the GDP and the transformation of these relationships into linear logarithmic equations.....

$$\ln EHR = \alpha + b \ln GDP$$

$$\ln EHL = \alpha + b \ln GDP$$

In return, we can measure the impact of spending on both the development of human resource and health as well as on the GDP in the following equations: .

$$\ln GDP = \alpha + b \ln EHR$$

$$\ln GDP = \alpha + b \ln EHL$$

$$\ln EHR = \alpha + bt$$

Moreover, we can also estimate and calculate the average growth rates of the studied variables as follows:

Estimation of statistical equations

$$\ln EHL = \alpha + bt \quad \ln GDP = \alpha + bt$$

After converting the exponential function into logarithmic linear equations, we got the following estimates:

$$1 - \ln EHR = -3.14 + 1.03 \ln GDP$$

$$t -3.28 \ 0.000$$

$$\text{sig. } 0.005 \ 0.000$$

$$R = 0.968 \ R^2 = 0.936 \ R-2 = 0.932$$

$$2 - \ln EHL = -4.83 + 1.091 \ln GDP$$

$$t -3.25 \ 10.49$$

$$\text{sig. } 0.005 \ 0.000$$

$$R = 0.934 \ R^2 = 0.873 \ R-2 = 0.865$$

The results contained in equation (1) show that the capital flexibility of the internal variable of expenditure on the development of the human resource (EHR), reached (1.03), which means that when the GDP increases by one unit, the expenditure on the human resource development increases by (1.03) of the unit, which implies that there is an improvement of the spending on the human resources development as long as flexibility is greater than the real one (1.03) therefore, the spending framework is flexible. Moreover, the average of factor (R-2) was 0.932, which means that the gross domestic product (GDP) contributes 93.2% to the change of expenditure on the human resources development.

On the other hand, equation number (2) shows that the capital flexibility of the expenditure variable on health (EHL), reached (1.09), which means that the GDP increases by one unit, spending on health increases by (1.09) of the unit, which indicates that there is an improvement of the spending on health as long as flexibility is greater than (1.09), therefore, the structure of spending on health is flexible while the adjustment factor average reached (0.865), which indicates that the GDP contributes about (86.5%) to the change of health spending. As for the measurement of the impact of spending on the human resource development and health as well as on the GDP can be made clear through the following estimates:

$$2 - \ln GDP = 3.76 + 0.909 \ln EHR$$

$$t = 5.495 \ 15.34$$

$$\text{sig} = 0.000 \ 0.000$$

$$R = 0.968 \ R^2 = 0.936 \ R-2 = 0.932$$

$$3 - \ln GDP = 5.67 + 0.800 \ln EHL$$

$$t = 6.91 \ 10.49$$

$$\text{sig} = 0.000 \ 0.000$$

$$R = 0.934 \quad R^2 = 0.873 \quad R-2 = 0.865$$

In fact, the results presented in equation (2) indicate that spending on the human resource development has a strong moral impact on the GDP, which implies that when spending on the human resource development increases by one unit, the GDP increases by (0.909) of the unit, Moreover, the selection coefficient is (R-2=0.932), which means that spending on the development of human resources contributes about (93.2%) to the GDP.

On the other hand, it can be seen from equation number (3) that spending on health has a strong moral impact on the GDP, which means that when spending on health increases spending on health by one unit, the GDP increases by (0.80) of the unit, while the coefficient of determination average (R-2) reached (0.865), which implies that expenditure on health contributes about (86.5%) to the GDP.

For the purpose of calculating the growth rate estimates for the study variables, we obtained the following results:

In fact, equation (4) indicates the general direction of the improvement of spending on the human resources development during the period (2017-2000) from which we can deduce that spending on the human resources development has evolved in medium proportion between 2017 and 2000 with an average growth rate of (10.2%) per year.

In the same vein, the average growth rate of health expenditure during the period (2017-2000-) was 11.2% per year while that of the GDP was 9.2% per year during the same period. On the other hand, the growth rates of the variables dealt with in the study period were estimated as follows:

$$4 - \ln EHR = 10.590 + 0.102 t$$

$$t = 196.6 \quad 20.51$$

$$\text{sig} = 0.000 \quad 0.000$$

$$R = 0.982 \quad R^2 = 0.962 \quad R-2 = 0.961$$

$$5 - \ln EHL = 9.62 + 0.112 t$$

$$t = 153.9 \quad 19.16$$

$$\text{sig} = 0.000 \quad 0.000$$

$$R = 0.979 \quad R^2 = 0.952 \quad R-2 = 0.956$$

$$6 - \ln GDP = 13.39 + 0.092 t$$

$$t = 150.26 \quad 11.16$$

$$\text{sig} = 0.000 \quad 0.000$$

$$R = 0.941$$

$$R^2 = 0.886$$

$$R-2 = 0.879$$

Table (1) The normal logarithmic values for the study variables

1	<i>ln GDP</i>	<i>lnHER</i>	<i>ln EHL</i>	T
1	13.47	10.81	9.97	1.0
2	13.45	10.87	10.01	2.0
3	13.47	10.75	9.99	3.0
4	13.6	10.81	10.05	4.0



5	13.78	10.93	10.12	5.0
6	14.02	11.15	10.32	6.0
7	14.16	11.37	10.52	7.0
8	14.25	11.47	10.57	8.0
9	14.48	11.56	10.51	9.0
10	14.29	11.71	10.71	10.0
11	14.49	11.83	10.7	11.0
12	14.73	11.92	11.04	12.0
13	14.83	11.99	11.23	13.0
14	14.85	12.07	11.45	14.0
15	14.86	12.13	11.56	15.0
16	14.69	12.19	11.52	16.0
17	14.7	12.24	11.54	17.0
18	14.76	12.28	11.57	18.0
19	.	.	.	.

## The Results

1. Spending on the human resource development has a strong moral impact on the gross domestic product.
2. Spending on health has a strong moral impact the gross domestic product.
3. Spending on the development of the human resources increases by (1.03) when the gross domestic product increases by one unit, which improves spending on the development of the human resources mainly as long as flexibility is higher than (1.03).
4. When the gross domestic product increases by one unit, 4.1.09, spending on health increases by 1.09.

## Recommendations:

We recommend:

1. Increasing the public spending on the human resources by a portion of the gross domestic product.
2. Raising the rate of the public spending devoted to the health of the society and providing health care in the internal regions.

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