Economic Crisis and Health Expenditure in Turkey: 2004 - 2012

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Abstract
Health expenditure is one of the major components of a state budget like defence and education. But in times of crisis, state requires cuts in public expenditure as is the case with Euro Debt Crisis. In such a case state should decide to which expenditure should be cut, which expenditures burden more than others or which expenditure is crucial for public so it can't be cut. In the budget process, an increase or decrease in public expenditures (health, defence, etc) affects all other spending and budget deficit. This trade-off between public components has become increasingly important especially in the crisis period.

Out of crisis, budget deficit, external debt deficit and current deficit are the main macroeconomic problems in Turkey. These macroeconomic problems are related to budget, its components, and health expenditures. The share of health expenditures in the budget is approximately 6%. This ratio increases the importance of health expenditure in Turkey.

This study is investigating the budgetary effects of health expenditure in Turkey during the crisis. There are two main questions in the study. First, does health expenditure affect budget deficit in Turkey? Second, is there trade-off between health expenditure and other components of the budget? To answer these questions, the study is organized as follows. First section is a brief review of health expenditure in Turkey; after the research design, third section discusses the results. The final section contains final remarks.

Keywords: Health Expenditure, Debt Crisis, Budgetary Trade-off

1. Introduction

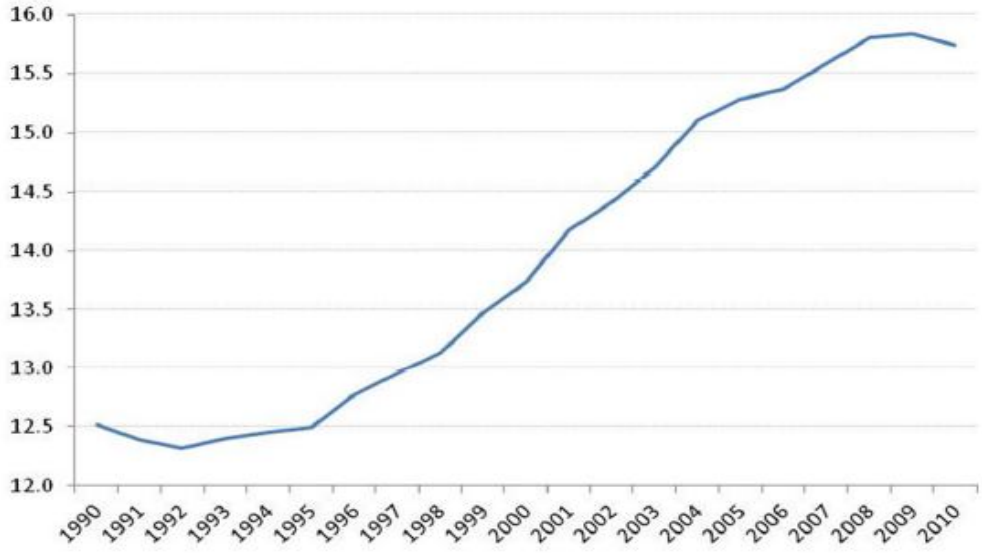
There are many studies concerning the relation between health expenditures and economic growth in the literature. (See for instance, McCoskey & Selden 1998; Gerdtham et all. 1992; Wang 2011). Since Kleiman (1974) and Newhouse (1977) who paved the way for new studies, the role of income has been emphasized a lot while explaining health expenditures (Moscone & Tosetti 2010). However, another factor that is as important as the relation between income and growth in explaining health expenditures is the effects of public health expenditures on the budget.

Figure 1 shows share of health and long term care spending in total public spending. In figure 1, health spending was growing from 1990 to 2010. While the share of public health expenditures in total public expenditure was 12% at the beginning of 1990s, this rate started to go up at the beginning of 2000 and reached 15 % in 2010.

According to Levaggi & Zanola (2007), at the beginning of 1990s, public expenditure was financed mostly through public deficit in many European countries. Later balancing public accounts has become a priority of all political forces Levaggi & Zanola (2003). Additionally, from the year 1996 to 2006, public health finance in all developing countries has increased with a percentage of about 100% on the basis of American dollar. (Lu et all. 2010).

Health expenditures and long-term care is number one policy for OECD countries. When other expenditures resulting from social programs and increased rate of debt levels compared to the past are added, these expenditures create pressure on state budget (OECD 2013). Many European countries decrease the level of health expenditures as a reaction to the big budget deficit reign and increased rate of GDP levels during 2008 economic crisis (OECD 2012). Many European countries reduced health spending as part of broader efforts to reign in large budgetary deficit and growing debt-to- GDP ratios in economic crisis 2008

Figure 1: Share of health and Long Term Care spending in total public spending (in % of total public expenditure)



Source: OECD, 2013; 9

This study focuses on budgetary effects of public health expenditure. In this motivation, study is investigating the budgetary effects of health expenditure in Turkey during the crisis. The study is organized as follows. First section is a brief review of health expenditure in Turkey, and after the research design, third section discusses the results. The final section contains final remarks.

2. Health Expenditures in Turkey

Health services are financed through a social security scheme, the GHIS, which covers the majority of the population, where services are provided by both public and private sector facilities. The SSI is financed through payments by employers and employees, and government contributions. On the provision side, the Ministry of Health is the main actor and provides primary, secondary and tertiary care through its facilities across the country (Tatar et. al 2011).

The Ministry of Health is the main institution responsible for the presentation and direction of health services. It is composed of the head office, provincial offices and affiliated organizations. The duty of the Ministry is to ensure people's physical, mental and social welfare. Ministry of Health carries out its activities in this respect (Ministry of Health 2012).

The second important institution in Turkey's health system is the Social Security Institution, which is connected to the Ministry of Labour and Social Security, yet financially and administratively autonomous. The Social Security Institution is founded with an aim to realize a modern, fair, easily-accessible, actuarially and financially sustainable social security system based on social security principles and to secure individuals in terms of social insurances and general health insurance (SSI 2012).
In Turkey, social health insurance contribution, government sources, out of pocket payments and other private sources provide the financing of health expenditure.

3. Research Design

This section first explains the health expenditures and deals with related data sources next. The study later focuses on the model that is used.

3.1. Data

Due to different methods used for data collection in different time periods, it is difficult to compare health expenditures within time with other countries. Additionally, in Turkey, there have been discussions about the true content of health expenditures and the comparability of results obtained from different sources (Çelik 2011).

A project has been conducted by Turkish Statistics Institute in order to calculate health expenditures in Turkey. Method determination studies have been done in the project which aimed at including the data from the Ministry of Finance and Social Security Institution in the National Health Accounts (http://www.turkstat.gov.tr).

Çelik (2011) evaluated the Ministry of Health budget as health expenditure. A significant part of Ministry of Health budget is composed of expenses of the health staff who work in primary, secondary and tertiary care health facilities. This study also evaluates the Ministry of Health budget as health expenditure.
With the Public Finance Management and Control Law numbered 5018 enacted in 2004 in Turkey, institutions with state and private budget were included in analytical budget classification. Therefore, this study analyzes the ministry of health budget data since 2004.

3.2. Model

In order to determine the effects of health expenditure on the budget, it is not sufficient to analyze the share of health expenditure within the budget. The growth rate of health expenditure should also be taken into account. Şenesen (2002)'s study analyzed the effects of defence expenditure by taking the growth rate of defence expenditure into account. Deyneli (2011) also analyzed the effects of justice expenditure by taking the growth rate of justice expenditure into account.

This study will also analyze the effects of health expenditure on the budget by taking the growth rate of health expenditure into account. First, the growth rate of health expenditure and primary budget will be

calculated. Then, the effects of health expenditure on primary budget will be studied by using the following formulas which are adopted from Şenesen (2002a) and Şenesen (2002b).

Formula (1) shows the percentage contribution of each expenditure item to the general growth. This ratio is higher than 1 if Hi growth is higher than PB growth; it is lower than 1 if Hi growth is lower than B. When both PB and Hi become bigger or smaller, Hi/B will take positive value; but when one becomes smaller, if the other becomes bigger, Hi/B will take negative value

GR = GRHealth/GRPrimary Budget (1)

Formula (2) will be true when B's growth is positive. Thus, formula (2) should be used when B has a negative growth.

-1.GR = GRHealth/GRPrimary Budget (2)

Formula (3) indicates that the growth rate of total expenditure is a weighed combination of the growth rate of each expenditure item included in the budget with their growth rates within the budget in previous terms.

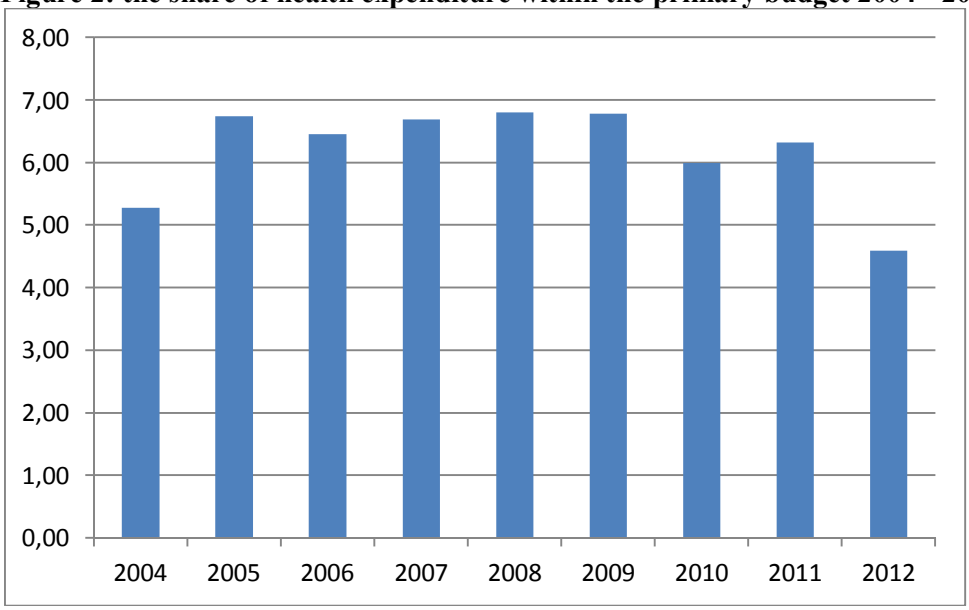
$PB_t = HE_{t-1} \times GR_t$ (3)

4. Results

In order to see the effects of health expenditure on the primary budget increase or decrease, it is necessary to analyze not only the share of health expenditure in the budget but also the growth rate of health expenditure because the effect of expenditure items on the budget will reflect on the budget increase with these growth rates (Şenesen 2002a).

Figure 1 shows the share of health expenditure within the primary budget. The share of health expenditure (Ministry of Health) within the primary budget in the years 2004-2012 was %6.19.

Figure 2: the share of health expenditure within the primary budget 2004 - 2012



Source: Republic of Turkey, Ministry of Finance, Budget Figures and Budget Realizations

The effects of health expenditure on budget balance will be analyzed by using Table 1. The first and second column of the table indicates the growth rate of health expenditure and primary budget expenditure compared to the previous year. The growth rate of health expenditure within the years 2004-2014 only decreased in 2010 and 2012, while increasing in the other years. Primary budget only decreased in 2004, while increasing compared to the previous year within the other years.

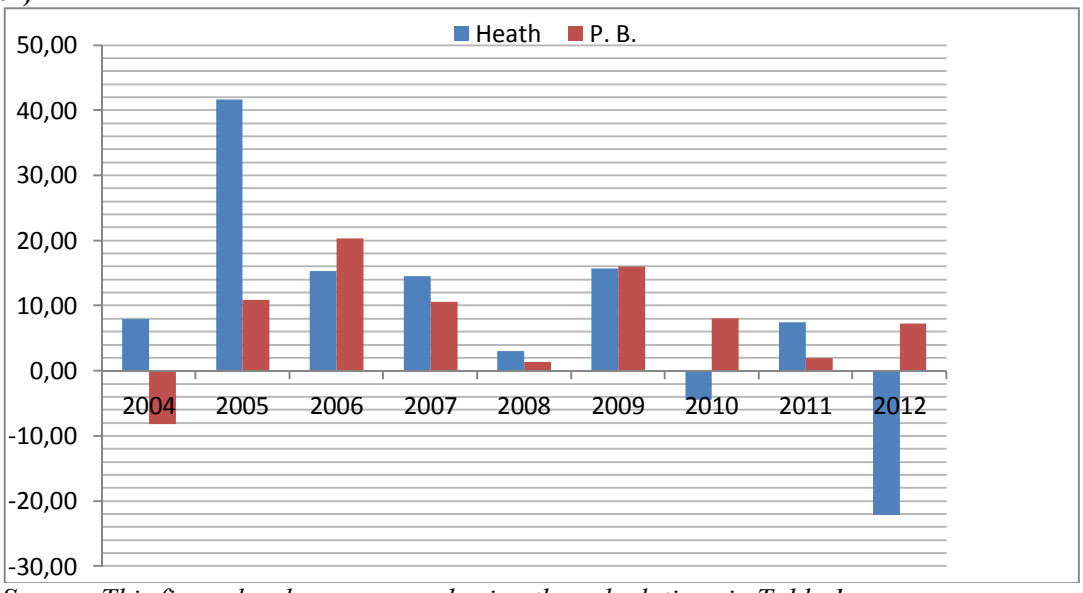
Table 1 the effects of health expenditure on the primary budget (Ministry of Health)

Years	Growth rates % (1)		Growth according to primary budget (2)		Share within primary budget % (3)	% Contribution on the increase (decrease) of primary budget (4)
	Health	primary budget	primary budget +	primary budget -		
2004	8.02	-8.12		0.99	5.28	4.4
2005	41.68	10.92	3.82		6.74	20.1
2006	15.34	20.38	0.75		6.46	5.1
2007	14.60	10.64	1.37		6.69	8.9
2008	3.08	1.39	2.21		6.80	14.8
2009	15.79	16.02	0.99		6.79	6.7
2010	-4.44	8.07	-0.55		6.00	-3.7
2011	7.46	1.95	3.83		6.33	23.0
2012	-22.14	7.29	-3.04		4.59	-19.2

Source: Republic of Turkey, Ministry of Finance, Budget Figures and Budget Realizations

The second column of the table indicates the increase (decrease) of health expenditure according to the primary budget. The calculations in this table have been made via Formula 1. When health expenditure increases more than primary budget, the rate of two components' growth rates will be higher than %1. Heath expenditure in the years 2010 and 2012 decreased compared to the previous year. However, primary budget expenditure increased compared to the previous year. Hence, the rate of two growth ratios to one another will be negative. On the other hand, Formula 2 has been used to make the calculations for the years when primary budget decreased compared to the previous year. In the calculations made for 2004, it has been observed that there is an increase in health expenditure compared to the previous year, while there is a decrease in primary budget.

Figure 1: Growth Rate of Primary Budget Expenditure and Health Expenditure (Ministry of Health)



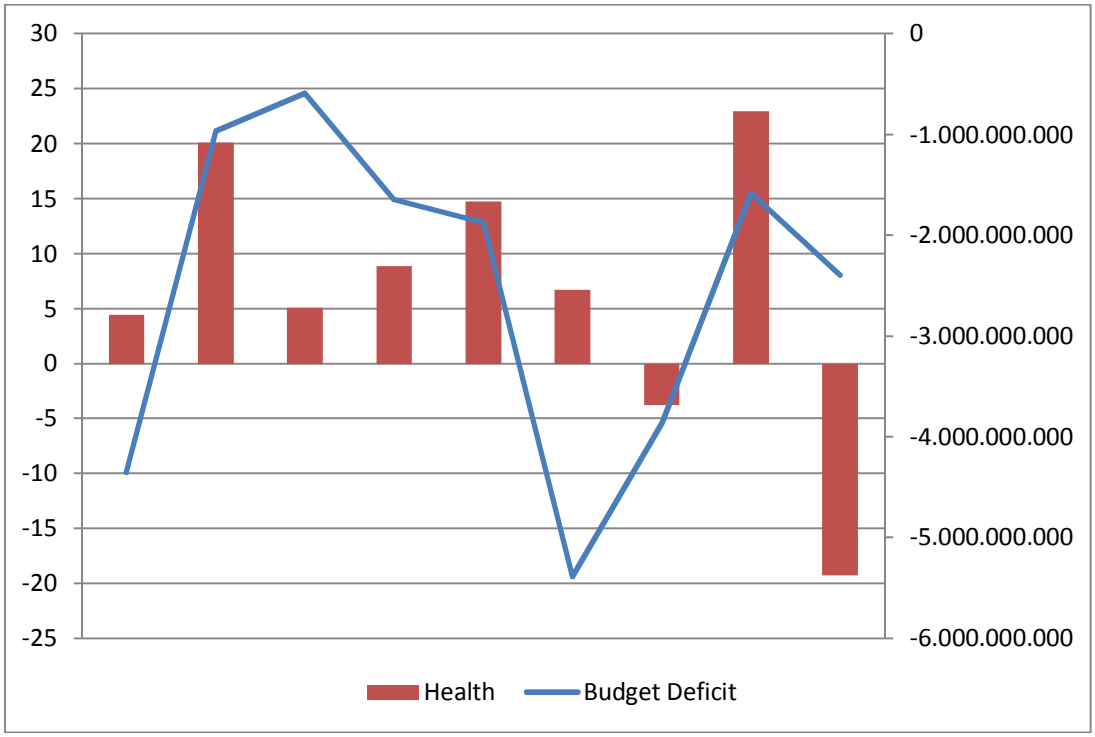
Source: This figure has been prepared using the calculations in Table 1.

The last column of Table 1 shows the percentage contribution of health expenditure to the growth of primary budget expenditure. Formula 3 has been used to make the calculations in the table. Health expenditure does not have a systematic effect on the primary budget expenditure within the years 2004-2012. The biggest contribution of health expenditure to the increase of primary budget expenditure is in 2011 with a percentage of %23. In 2008, the crisis year, the increase in health expenditure also increased

the primary budget with a percentage of %15. In the years 2010 and 2012, it contributed to the decrease of primary budget with a ratio of %-3.7 and %-19.2. Therefore, it can be concluded that health expenditure had a positive impact on the growth of primary budget within the mentioned years.

Figure 2 illustrates the contribution of health expenditure to the growth of primary budget and the budget deficit in Turkey. According to Table 1, health expenditure does not have a systematic effect on the increase or decrease of primary budget expenditure. Similarly, Figure 2 illustrates that health expenditure does not have a systematic effect on the budget deficit. It does not support the thesis that health expenditure by itself (Ministry of Health Budget) causes budget deficit.

Figure 2: the contribution of health expenditure on the growth of primary budget and Budget Deficit



Source: This figure has been prepared using the calculations in Table 1.

With the Public Finance Management and Control Law numbered 5018 enacted in 2004 in Turkey, budget expenditure is classified according to analytical budget classification. Table 2 analyzes the effects of health expenditure on primary budget according to functional classification. Results of Table 2 are similar to results of Table 1. According to functional classification, health expenditure has the biggest impact on primary budget increase in the years 2008 and 2011. In 2010, health expenditures affected the decrease of primary budget with a percentage of % -3.5. Similar to Table 1, health expenditure does not have a systematic effect on the primary budget. In 2011, health expenditures affected the primary budget increase positively with a percentage of %24.6.

Public activities are classified functionally in Turkey in accordance with Government Finance Statistics. In this way, health expenditures made by different institutions separately can be seen under a single classification. Table 2 shows health expenditures according to functional classification.

Table 2 the effects of health expenditure on primary budget (functional classification)

Years	Growth rate %		Growth according to primary budget growth		Share within primary budget %	Contribution to the increase (decrease) of primary budget %
	health	Primary budget	Primary budget +	Primary budget -		
2006					6.40	
2007	15.31	10.64	1.44		6.76	9.2
2008	2.98	1.39	2.14		6.86	14.5
2009	15.62	16.02	0.98		6.84	6.7
2010	-4.64	8.07	-0.57		6.03	-3.9
2011	7.55	1.95	3.87		6.37	23.4
2012	-22.78	7.29	-3.12		4.58	-19.9

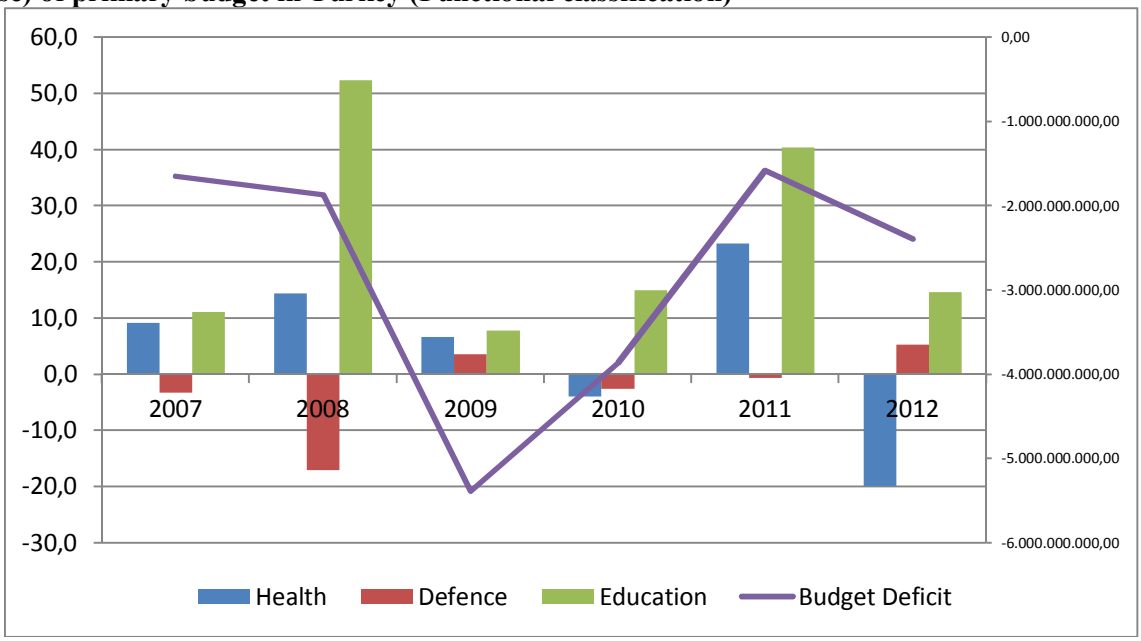
Source: Republic of Turkey, Ministry of Finance, Budget Figures and Budget Realizations

Results of Table 2 are similar to results of Table 1. According to Table 2, health expenditures in the years 2010 and 2012 decreased compared to the previous year, while increasing in the other years compared to the previous year. On the other hand, primary budget continuously increased compared to the previous year within the years 2006-2012. Between 2006 and 2012, the average share of health expenditures within the primary budget is %6.26.

Health expenditures did not have a systematic effect on the increase or decrease of primary budget according to functional classification as well. Health expenditures had a %23.4 contribution to the growth of primary budget in 2011. In the crisis year 2008, health expenditures had a %14.5 contribution to the growth of primary budget.

According to both administrative and functional classification, health expenditures do not have a systematic effect on the primary budget (and therefore budget deficit). In order to see the effects of health expenditures on the primary budget more clearly, the other expenditure items should also be taken into consideration. Figure 3 illustrates the contribution of defence, education and health expenditures to the increase or decrease of primary budget in Turkey via functional classification.

Figure 3 the contribution of defence, education and health expenditures to the increase (decrease) of primary budget in Turkey (Functional classification)



According to the Figure 3, education expenditures contribute more than health and defence expenditures to the increase or decrease of primary budget. In 2008, while education and health expenditures had a positive contribution to the increase of primary budget, defence expenditures had a negative contribution. In 2009, all three expenditure items had positive contributions to the increase of primary budget.

5. Conclusions

According to both administrative and functional classification, only health expenditures do not have a systematic effect on the primary budget (and therefore budget deficit). According to the Figure 3, education expenditures contribute more than health and defence expenditures to the increase or decrease of primary budget. In 2008, while education and health expenditures had a positive contribution to the increase of primary budget, defence expenditures had a negative contribution.

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