

## POLICY PAPER

# Assessment of Fiscal Sustainability of the Universal Healthcare Program in Georgia, 2015-2030

*The research is conducted in the framework of the project “Policy Research for Sustainable Economic Development”, implemented by PMC Research Center by the financial support of Konrad Adenauer Foundation*

*The content does not necessarily reflect the view of PMC Research Center or Konrad Adenauer Foundation*

Author: Aleksandre Ergeshidze

Reviewer: Giorgi Khishtovani



# CONTENTS

---

Introduction.....	3
I. Problem Description.....	5
II. Methodology.....	8
III. Research Findings .....	10
3.1 Feasible magnitude of spending increase .....	10
3.2 Government Health Expenditure Projection.....	11
3.3 Assessing Fiscal Space of Public Expenditure on Health.....	14
3.4 Assessing Economic Impact of Health Expenditure .....	17
IV. Conclusions.....	19
V. Recommendations .....	21
Bibliography.....	23
Appendix.....	26

## Introduction

During the past decade, Georgia reformed its health sector and achieved a decline in child and infant mortality, a reduction in expenditure of inpatient services, an improvement in accessibility, equity and affordability of healthcare services (Zoidze et al. 2013; Verulava2014). However, healthcare still remained unaffordable for almost half of the population, and people were spending a large share of their income on out-of-pocket expenses in comparison to other low- and medium-income countries (Gotsadze et al. 2009; Belli et al. 2004).

In February 2013, the government of Georgia enacted the universal healthcare program. The aim was to improve access to healthcare for the population and decrease the high out-of-pocket expenses for consumers. Currently, all citizens of Georgia are provided with a basic healthcare package. In addition to an increase in the availability of healthcare, the government introduced tariffs on healthcare services and differentiated copayment rates by age groups. Pensioners, veterans, and people under 18 have lower copayment rates in comparison to the population aged 19 to 65 years of age.

The authors of this paper consider healthcare as a basic right that should be affordable to everyone and an increase in government health financing can improve population health, decrease mortality rates, help alleviate poverty, and promote sustainable economic growth (Bloom et al.2005; Bloom et al. 2001; Preston 1975). Universal healthcare is one the most powerful instruments to fight poverty and it might serve as a stimulus for sustainable economic development, because families protected against health expenditure can manage their assets more effectively (Bloom et. al.2005).However, the program might be fiscally unsustainable.

The aim of this research is to analyze preliminary results of the universal healthcare program, assess its financial sustainability, and quantify its economic impact. The research will provide the public and policymakers with cost projections and economic benefits of the reform, and lastly, the research will provide recommendations for the government about ways to increase the cost effectiveness of the program and ensure fiscal sustainability based on the experience of functioning healthcare systems in other countries.

***Definition:***

Public Expenditure on Health: “public expenditure on health refers to expenditure on healthcare incurred by public funds. Public funds are state, regional and local Government bodies and social security schemes. Public capital formation on health includes publicly-financed investment in health facilities plus capital transfers to the private sector for hospital construction and equipment. Public funds correspond to HF.1 in the ICHA-HF classification of healthcare financing.”<sup>1</sup> (OECD)

---

<sup>1</sup><https://stats.oecd.org/glossary/detail.asp?ID=2198>

## I. Problem Description

Prior to 2013, the Georgian government spent approximately 18.0% of the total health expenditure, representing one of the lowest rates worldwide. According to the World Bank, average public expenditure on health for low-income countries is 38.0% of total health expenditure, and for middle- and high-income countries, the average public expenditure on health is 53.0% and 62.0% of total health expenditure (see appendix, figure4).

Public expenditure on health as a percentage of GDP is not less than in other lower middle-income countries, but the percentage of private health expenditure of GDP is significantly higher. In 2013, private health expenditure in Georgia was 7.4% of the GDP, while the average private health expenditure in lower middle-income countries is 2.7% of the GDP (see table 1).

People in Georgia spend a large share of their health expenses out of their pocket (61.9%) payments, and therefore, they bare a high risk of bankruptcy in cases of serious health problems. Out-of-pocket expenditure on health for lower middle income countries is 54.4% of total health expenditure, and for developing countries in Europe and Asia, respective coefficient is 29.5% (see table 1).

In order to ensure efficiency of the universal health program, the Georgian government will need to increase its spending on health, and the main challenge with an increase in public expenditures on health is to ensure fiscal sustainability. Researchers who evaluate health spending in developing countries suggest that the upper-bound for government health expenditure is between 4.5 and 5.0% of GDP (Tandon and Cashin 2010), which is approximately 15% of government revenue. In order to finance a universal health program, the Georgian government doubled the health budget in 2015 compared to 2012. Including the increased spending on health in 2015, public expenditure

on health amounted to 2.3% of GDP. Therefore, the current level of government health expenditure in Georgia should be sustainable.

However, this level of government health expenditure is projected to increase. The high out-of pocket expenses, uncovered medical expenses, the remainder of the population uninformed about the universal healthcare program (about 20% according to Transparency International Georgia), and the advancing age of the population in Georgia, will add pressure to public financing on health.

**Table 1. Health Expenditure**

	Georgia			Lower middle income			Europe & Central Asia (developing only)		
	2000	2010	2013	2000	2010	2013	2000	2010	2013
<b>Health expenditure, total (% of GDP)</b>	6.9	10.1	9.4	4.1	4.2	4.3	5.3	6.1	6.0
<b>Health expenditure, public (% of GDP)</b>	1.2	2.3	2	1.4	1.5	1.6	3.3	4.2	3.9
<b>Health expenditure, private (% of GDP)</b>	5.8	7.8	7.4	2.7	2.6	2.7	2	2	2.1
<b>Health expenditure, public (% of total health expenditure)</b>	17.0	22.8	21.5	34.5	36.8	37.5	62.5	68.1	65.4
<b>Health</b>	83.0	77.2	78.5	65.5	63.2	62.5	37.5	31.9	34.6

<b>expenditure, private (% of total health expenditure)</b>									
<b>Health</b>	6.9	6.6	6.7	5.3	6.7	6.7	..	11.3	11.0
<b>expenditure, public (% of government expenditure)</b>									
<b>Out-of- pocket health expenditure (% of total expenditure on health)</b>	82.5	69.1	61.9	58.5	54.9	54.4	31.2	27.8	29.5
<b>External resources for health (% of total expenditure on health)</b>	1.2	2.9	2.6	2.5	3.1	2.6	1.0	0.5	0.6
<b>Health expenditure per capita (current US\$)</b>	45	266	350	25	73	88	97	379	436

Source: World Bank

## II. Methodology

To evaluate fiscal sustainability, the upper-bound of government health expenditure growth was examined. This analysis is based on the framework developed by Williams and Hay (2005), for which the upper-bound of fiscally sustainable government health expenditure is from 4.5 to 5.0% of GDP.

A framework to project government health expenditure was developed based on World Bank data on health expenditure. In this formulation, an assumption is made that the ratio of total health expenditure to GDP remains constant. The previous five years total health expenditure to GDP ratio did not change significantly (9.4%), and this ratio in Georgia is high compared to countries with similar income.

The external resources for health to GDP ratio is also high compared to average of developing countries in Europe and Central Asia. In 2013, share of external resources in Georgia amounted 2.6% of total health expenditure, while the respective indicator in developing countries in Europe and Central Asia is equal to 0.6%. Taking into account, that attaining additional external funds for healthcare is becoming more challenging as country develops, the researcher predict that external resources for health will growth at a slower pace relative with inflation. These forecasts are based on the outlook of inflation and real GDP growth from the National Bank of Georgia.

Finally, the researcher assumes the government will enhance the universal healthcare program by including the cost of medicine, and the share of public expenditure on health in total health expenditure will likely reach 60.0% in 2030. The assumption of the share of public expenditure on health in total health expenditure is based on the government's aim to decrease the share of out-of-pocket expenses (as it is stated in the social-economic development document "Georgia 2020") and on the empirical evidence of developing countries in Europe



and Central Asia, where on average public expenditure on health amounts close to 60.0% of total health expenditure.

**Table 2.** *Assumptions for Health Expenditure Forecast*

	2016	2020	2025	2030
Inflation	5%	3%	3%	3%
Real GDP growth rate	3%	5%	4%	4%
Total Health Expenditure, growth rate	8%	8%	7%	7%
External Resources for Health, growth rate	5%	3%	3%	3%
Share of Public Expenditure in Health in Total Health Expenditure	30%	40%	50%	60%

The researcher will replicate the analysis by Tandon and Cashin (2010) on assessing health expenditures from a fiscal space perspective, which consists of five components: macroeconomic conditions, re-prioritization of health in the government budget, health sector-specific resources, health sector-specific grants, and efficiency gains. Using this framework, the researcher will evaluate the fiscal space and sustainability of health expenditures in Georgia. In addition, the researcher will evaluate ways in which additional financing can be obtained, based on international best practices.

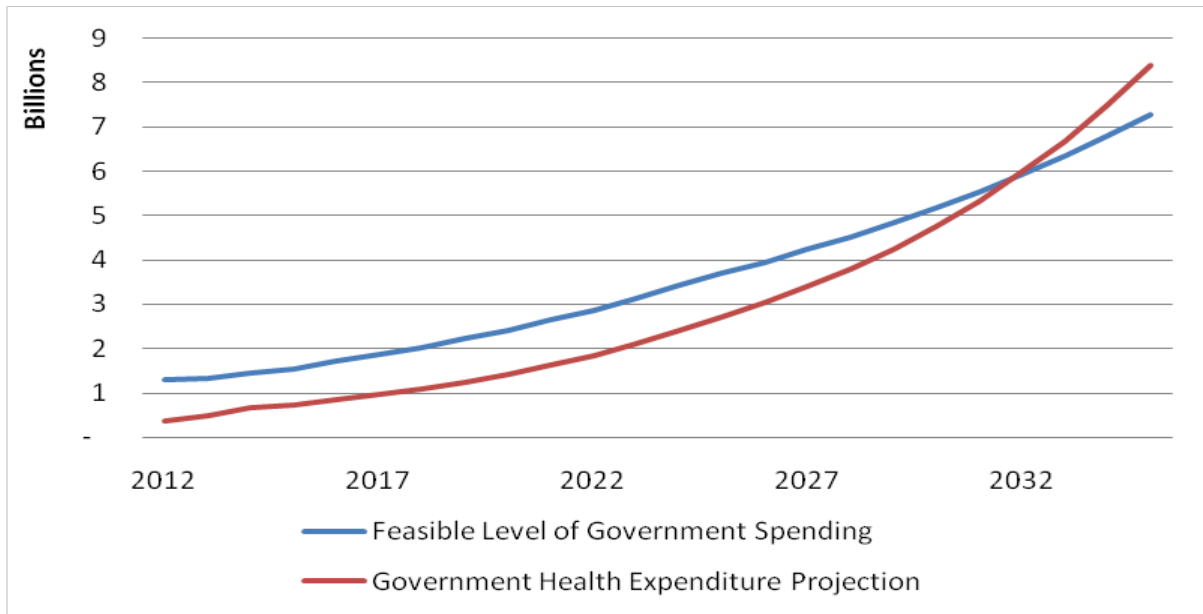
To evaluate the economic impact of increased government health expenditure, the researcher will calculate elasticity, and will take into account the impact of lower capital spending as opportunity cost to finance healthcare program. Finally, a sensitivity analysis to check robustness of the results will be performed.

## III. Research Findings

### 3.1 Feasible magnitude of spending increase

To evaluate fiscal sustainability of government health expenditures during 2015-2030, the upper bound of these expenditures are examined. This timeframe was chosen to forecast short run as well as medium and long run sustainability of the universal healthcare program. After the introduction of the program, government expenditures on health increased rapidly. In 2015, they doubled in comparison to 2012. According to Williams and Hay (2005), the upper bound of fiscally sustainable government health expenditure amounts 4.5-5% of GDP. In 2015, the ratio of government expenditure on health to GDP increased to 2.3%. In order for government spending on health to be fiscally sustainable by 2030, it should not exceed nominal GDP growth rate by more than 5.0 percentage points. Figure 1 shows level of feasible government expenditure on health that is 5.0% of GDP and government expenditure on health projection under assumption that it will grow 5.0 percentage points faster than nominal GDP. According to this figure, under the assumptions mentioned above, government expenditure on health becomes unsustainable after 2032. It should be noted that this calculation does not account for ways in which the government can finance increased health expenditure, but it provides useful information about feasible magnitude of spending increase in the medium term.

**Figure 1.** *Projection of feasible government health expenditure*



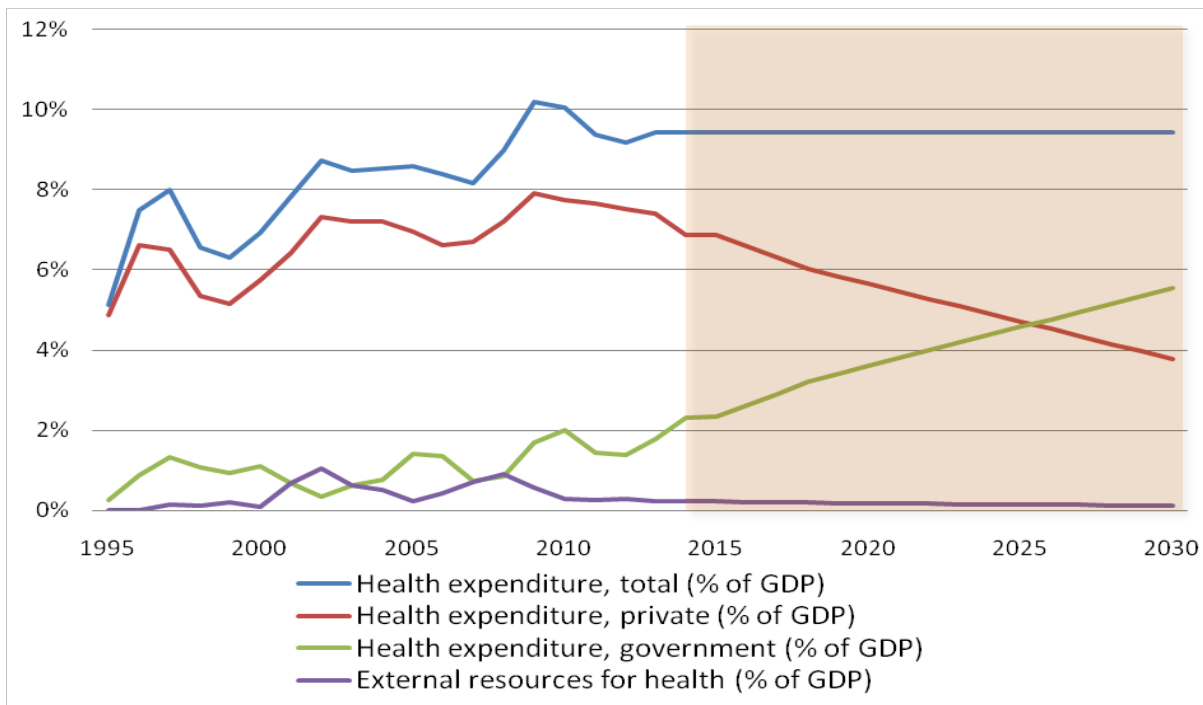
Source: Researcher projection

### 3.2 Government Health Expenditure Projection

The projection of government health expenditure is based on data provided by World Bank (Figure 2). Government health expenditure is expected to increase from 2.3% of GDP in 2015 to 5.5% of GDP in 2030, while private health expenditure will gradually decrease from 6.9% of GDP in 2015 to 3.8% of GDP in 2030. Thus, government health expenditure in 2030 will be close to the fiscally sustainable upper-bound of spending. The reduction of private health expenditures to GDP ratio is reflected on the out-of-pocket expenses, which will decrease from 58.0% of total health expenditure in 2015 to 32.0% in 2030, and this share of out-of-pocket expenses is close to the average of respective indicators of developing countries in Europe and Central Asia in 2013. The share of external recourses for health in total health expenditure will also decrease from 2.4% in 2015 to 1.2% in 2030. This result is

also in line with the evidence from countries with similar characteristics to Georgia.

**Figure 2. Health Expenditure Projections**



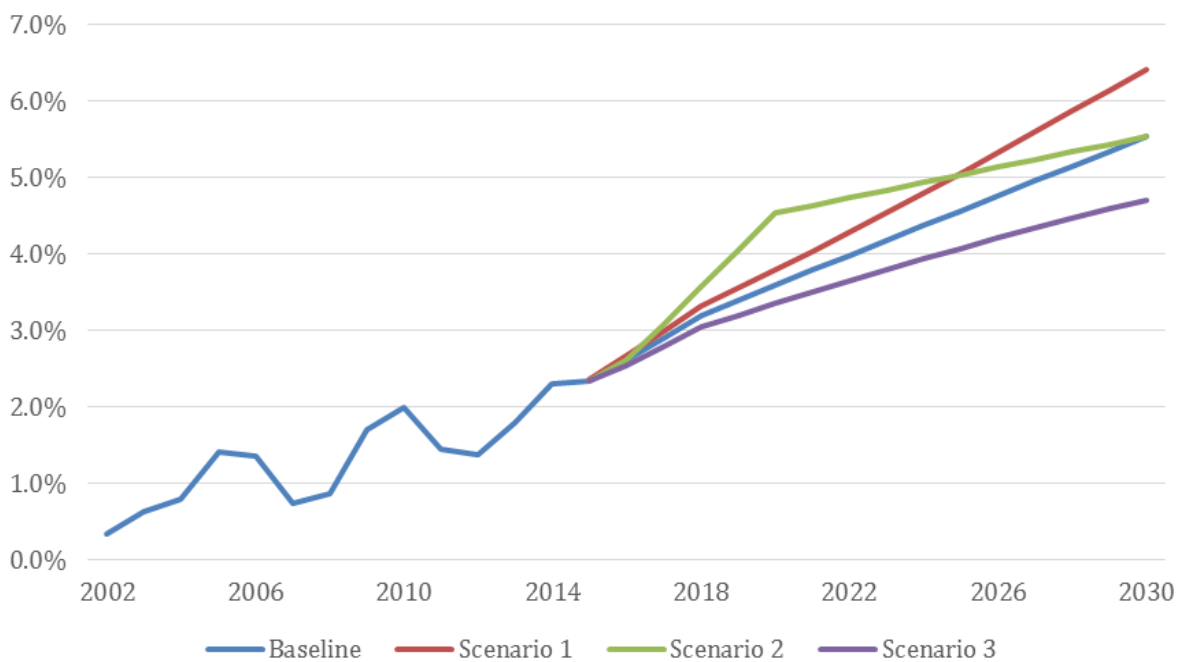
Source: World Bank, Researcher projection

To assess robustness of fiscal sustainability, a sensitivity analysis was performed. If the nominal GDP growth rate is 1.0 percentage point lower in each period, whereas total public expenditure will be maintained as in the baseline, government expenditure on health in 2030 will be equal to 6.4% of GDP (Figure 3). The upper-bound of government health expenditure (5.0%) will be realized earlier in 2025.

The second scenario is based on the assumption that the share of public expenditure on health expenditure grows faster than expected and achieves 50.0% in 2020. This more rapid growth may happen with an extension of the universal healthcare program (for example: to cover medicine expenses) or with a higher demand for healthcare. In this case, government health expenditure to GDP ratio increases to 4.5% in 2020. This is the most severe scenario in the short run and will be hard to manage in terms of fiscal sustainability.

The third scenario exists when total health expenditure grows slower than nominal GDP by 1.0 percentage point. In this scenario, the ratio of government expenditure on health to GDP is 4.8% in 2030. Also in this case, government expenditure is quite high and the government will need to finance the healthcare program. This scenario is possible if the government will increase cost effectiveness of the program, improve primary healthcare system, and decrease the price of medical services and medicines by setting an upper-bound of prices or by encouraging higher competition.

**Figure 3.** *Government Expenditure on Health Projections*



Source: World Bank, Researcher projection.

High health expenditure in Georgia is caused due to several reasons. First of all, people do not pay attention to healthcare problems promptly, which is mainly because of low health education, supply problems and relatively high cost of healthcare, and therefore they face much higher financial expenses later. Thus, by improving the primary healthcare system, prevention, and health education, the government can prevent the development of many serious health problems, and as a result, decrease healthcare expenditure.

Another possibility to reduce health expenses is by increasing effectiveness of the program and by reducing provider generated demand for healthcare. The Ministry of Labor, Health and Social Affairs has taken steps in this direction. In 2015, they established a monitoring division responsible for measuring the cost effectiveness of the program. Also, they introduced an upper-bound of price on several healthcare services. Lastly, almost 50.0% of total healthcare expenditure is spent on medicine. Many claim that pharmaceutical companies have very high markups compared to other European countries<sup>2</sup> and this was also highlighted by David Sergeenko (Minister of Labor, Health and Social Affairs)<sup>3</sup>. By encouraging higher competition in this market government can reduce expenditure on medicine.

### 3.3 Assessing Fiscal Space of Public Expenditure on Health

The previous analysis revealed that fiscal sustainability is a significant concern for the near future. Therefore, it is important to evaluate the fiscal space (defined as an ability of government to attain additional financing) and possible ways to obtain extra funding. To assess health expenditures from a fiscal space perspective, a study was conducted based on Tandon and Cashin (2010) framework that includes: macroeconomic conditions, re-prioritization of health in the government budget, health sector-specific resources, health sector-specific grants, and efficiency gains.

1) Macroeconomic conditions include economic growth, fiscal revenue, and fiscal deficit. For example, high economic growth can increase government health expenditure, while share of government spending to GDP might remain unchanged. GDP growth rate in Georgia is moderate and can be increased through more growth oriented policy, but the current aim of inclusive growth policy and decrease in capital spending makes it hard to boost growth. However, the government can still

---

<sup>2</sup><http://curatiofoundation.org/wp-content/uploads/2015/09/168.pdf>  
<http://www.transparency.ge/node/2119>

<sup>3</sup>[http://www.for.ge/view.php?for\\_id=42256&cat=1](http://www.for.ge/view.php?for_id=42256&cat=1)

improve the fiscal space for health by increasing the tax base and by improving the tax administration.

2) Re-prioritization of Health: The Georgian government re-prioritized health and allocated 8% of the total budget to healthcare in 2015. This can be still increased by cutting expenses to other sectors, but it is difficult to achieve in the short-run because a large share of budget expenses are non-flexible.

3) Health sector-specific resources: Some countries (for example France, Austria and etc.) designate particular taxes for health. For example, taxes on alcohol and tobacco products are allocated for health expenditure. In Georgia, all government revenues are assigned to a central budget. But there are also other sources, for obtaining finance. According to Transparency International (2014) Survey, 47.0% of respondents expressed readiness to pay for health insurance. Approximately 1.6 million adults are prepared to share health expenditures with the government, and this is an argument for increasing income tax by 2.0 percentage points (fiscal revenue approximately 1.2% of GDP per year) or for increasing VAT tax by 1.0 percentage point to 19.0 percent (fiscal revenue 1.1% of GDP per year). The effect of increased taxes needs further justification because taxes might be regressive and more costly in the medium term. Moreover, it is difficult to convince people to vote in favor of tax increase.

4) Health sector-specific grants: In Georgia, external funding has a larger share in total health expenditure in comparison to developing countries in Europe and Central Asia. As country develops, its' ability to attract significant amount of external funding diminishes. Therefore, attaining additional substantial foreign assistance will be less likely.

5) Efficiency gains: First, the government should improve the management of health expenditure and reform payment agreements to reduce provider generated demand for healthcare. Second, universal healthcare program should be more targeted on poor and socially

vulnerable people to improve equality of assessing healthcare services. Therefore, government should adopt a progressive copayment system, where poor people have lower rates compared to rich people. This can be achieved by obtaining data on income statements from Revenue Services and also by using rankings from the Social Security Agency. In addition, to decrease excess demand on healthcare, the government can increase copayment rates for patients. The hospital sector, which is the main counterpart for government in providing health care services, is almost completely privately owned, and if hospital consolidation continues, it might result in increasing monopolistic forces that further increase healthcare costs. Therefore, government should create appropriate framework to regulate the hospital sector more effectively.

**Table 3. Fiscal Space at a Glance: Georgia**

<b>Fiscal Component</b>	<b>Space</b>	<b>Key Information</b>	<b>Prospects for Fiscal Space Growth</b>
<b>Macroeconomic conditions</b>		Moderate economic growth; Increasing tax base and improving tax administration might be possible	Limited to Moderate
<b>Re-prioritization of health in the government budget</b>		8% share of health in budget; large part of the budget is non-flexible.	Limited
<b>Health sector-specific resources</b>		No earmarked taxes for Health; 50% of the labor force is informal and it would be difficult to have contributory health insurance system; Increasing VAT tax might be an option.	Limited to Moderate



<b>Health specific grants and foreign aid</b>	sector- Already quite high, would be difficult to increase significantly	Limited
<b>Efficiency gains</b>	Reduce provider generated demand for healthcare; adopt progressive copayment system; Increase copayment rates if needed	Good

### 3.4 Assessing Economic Impact of Health Expenditure

As previously stated, one of the important determinants of fiscal sustainability of the healthcare program is economic growth in Georgia. High real GDP growth will grow the fiscal space for the Georgian government. Therefore, it is important to analyze how an increase in government health expenditure will affect economic growth and therefore fiscal sustainability of the program.

An assessment of economic impact of increased government health expenditure is based on empirical evidence found in different countries. It should be noted that in order to finance the healthcare program, the Georgian government has decreased capital spending by 300 million GEL in 2014 compared to 2012 (approximately 1.0% of GDP). According to the literature, capital spending has the highest multiplier compared to other government spending. The difference between multipliers depend on country characteristics and varies from 0.2 to 1 percentage point (Spilimbergo et al. 2009). Taking into account Georgia's economic characteristics (size of the economy, share of import in GDP, etc.), the difference between capital spending and other government expenditure multipliers should vary between 0.2-0.5 percentage points in the short run. Thus, by decreasing capital spending by 1.0 percentage point and financing social program GDP growth in the

short run slowed down by 0.2-0.5 percentage points (loss of 60-150 million GEL).

Extensive literature exists on evaluating healthcare impact on output growth in the medium and long run (Bloom et al. 2001; Preston 1975). Results are mixed, but most studies support the proposition that health has significant impact on output growth. Overall improvement in health conditions leads to higher labor market participation, worker productivity, savings and investments in human capital<sup>4</sup>. Results suggest that 1.0% increase in total health expenditure per capita increases GDP between 0% - 0.2%(Bloom et al. 2001, Barthold et al. 2014). This effect is realized in the medium- or long-run. If we use this elasticity to measure impact of health expenses on GDP in Georgia and assume that total health expenditure per capita increases by 12.0% (according to the framework discussed in the previous parts), we expect an increase in GDP by 0% - 2.4%. The impact of health expenditure on GDP growth will crucially depend on effectiveness of healthcare program. If government decided to finance capital spending instead of the healthcare program, then according to the measures of elasticity, GDP growth in the 10-year period will be 2.0 to 5.0 percentage points higher. Health expenditure might have a positive impact on long-run economic growth, but capital spending generates higher economic growth in the short-run as well as in the long-run. By decreasing capital spending and increasing health expenditure, the government has reduced economic growth and fiscal space. Further research is needed to precisely assess economic impact of healthcare expenses in Georgia.

---

<sup>4</sup>Bloom et. al.(2005)

## IV. Conclusions

A universal healthcare program increased affordability of healthcare for many Georgians, but it faces significant challenge of fiscal sustainability. In order to ensure efficiency and decrease the share of out-of-pocket spending, the government will need to gradually enhance the program by including medication expenses and increase its share in total healthcare expenditure. Government health expenditure is projected to increase to 5.5% of GDP in 2030, which is close to the upper bound of fiscally sustainable level according (refs). If nominal GDP growth is 1.0 percentage point lower compared to the baseline, the government health expenditure will amount 6.4% of GDP in 2030.

The second scenario assumes that the share of government spending in total health expenditure will grow faster and amount to 50.0% in 2020 (due to coverage of medical expenses or higher demand than anticipated). In that case, government health expenditure will grow rapidly and amount 4.5% of GDP already in 2020.

When total health expenditure grows slower by 1.0 percentage point than nominal GDP (due to increased cost effectiveness, improvement in primary healthcare and lower prices caused by increased competition). In that case government health expenditure to GDP ratio equals 4.8% of GDP.

To sum, in any scenario government will need to find additional resources to finance increased health expenses, otherwise the issue of fiscal sustainability is a significant concern in the near future. The government can obtain additional financing through improving program efficiency, attaining health sector specific recourses, fostering high economic growth and improving tax administration. Further recommendations about improving efficiency and managing fiscal sustainability are provided in the following section.

In addition, research assesses economic impact of increased health expenditure based on empirical evidence and elasticities found in the literature. By decreasing capital spending and financing health expenses, the government slowed economic growth in the short-run (0.2-0.5 percentage point) as well as in the long-run, but in the long-run, health expenditure generates positive impact on GDP growth because healthier people are more productive, attain better education, and manage their assets more effectively.

## V. Recommendations

The following recommendations are proposed in order to improve fiscal sustainability of the healthcare program and increase its effectiveness:

- Further improve copayment system by linking copayment rates to income and rankings from Social Security Agency (poor people should have lower rates compared to the rich people). Medical expenses might be covered only for poor people.
- Improve the management of health expenditure, reform payment agreements, create database of patients receiving health financing and their respective health problems and strengthen effectiveness of monitoring department to reduce provider generated demand for healthcare
- Gradually expand the program to cover medical expenses and increase share of public spending in total health expenditure, in order to increase effectiveness of the program and reduce catastrophic health expenditure. Otherwise, it will not be able to significantly improve health conditions of poor people
- Improve the primary healthcare system and create appropriate framework to regulate hospital sector more effectively. This will allow decrease of high health expenditure later.
- Analyze possible ways to ensure fiscal sustainability of the healthcare program and finance growing health expenditure: price controls (quality might suffer), earmarked taxation (for example tax on alcohol products allocated for healthcare), increasing VAT or income tax. Financing health expenditure by decreasing capital spending is very costly in terms of economic growth.
- Improve fiscal space for healthcare program by increasing tax base, improving tax administration and re-prioritizing health in the government budget.
- To ensure the sustainability and effectiveness of the healthcare program, it is better to introduce contribution-based program.

Perhaps this might be an option after significant reduction in informal labor.

These recommendations will increase effectiveness of the program and improve its sustainability, but it is very difficult for public healthcare program to be fully cost efficient. However, inefficiency and welfare loss is much higher without public healthcare, because people do not pay attention to health problems promptly and therefore they face much higher financial expenses late.

## Bibliography

1. Barthold, Douglas, Arijit Nandi, José M. Mendoza Rodríguez, and Jody Heymann. "Analyzing whether countries are equally efficient at improving longevity for men and women." *American journal of public health* 104, no. 11 (2014): 2163-2169.
2. Belli Paolo, George Gotsadze and Helen Shahriari. "Out-of-pocket and informal payments in health sector: evidence from Georgia." *Elsevier Ireland Ltd, Health Policy* 70 (2004:) 109–123
3. Bhargava, Alok, Dean T. Jamison, Lawrence J. Lau, and Christopher JL Murray. "Modeling the effects of health on economic growth." *Journal of health economics* 20, no. 3 (2001): 423-440.
4. Bloom, David E., David Canning, and J. Sevilla. "Health and economic growth: reconciling the micro and macro evidence." *Center on Democracy, Development and the Rule of Law WorkingPapers*(2005).
5. Bloom, David E., David Canning, and JaypeeSevilla. "The effect of health on economic growth: a production function approach." *World development* 32, no. 1 (2004): 1-13.
6. Bloom, David E., David Canning, and JaypeeSevilla. *The effect of health on economic growth: theory and evidence*. No. w8587. National Bureau of Economic Research, 2001.
7. Gotsadze, George, AkakiZoidze and NatiaRukhadze. *Household catastrophic health expenditure: evidence from Georgia and its policy implications*. BMC Health Services Research, 2009.
8. Green, David, Benedict Irvine, Emily Clarke and Elliot Bidgood. "Healthcare Systems: France" (2013)  
<http://www.civitas.org.uk/nhs/download/france.pdf>

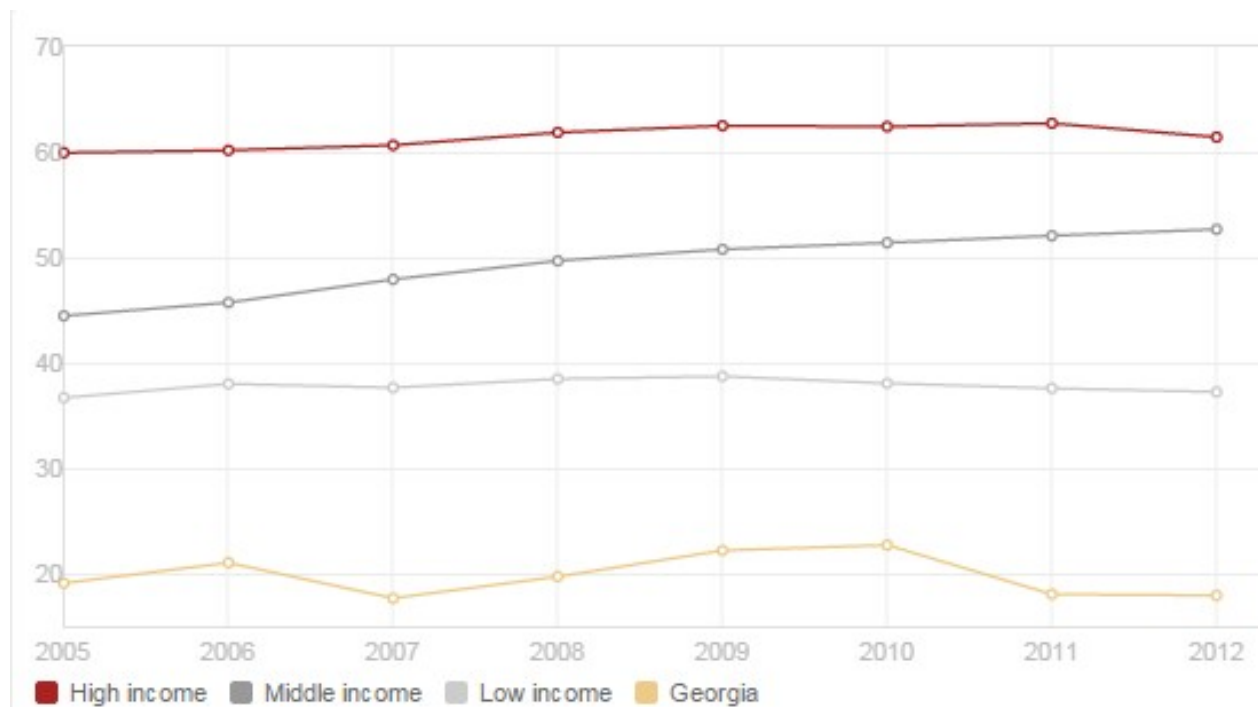
9. Green, David, Benedict Irvine, Emily Clarke and Elliot Bidgood. "Healthcare Systems: Germany" (2013)<http://www.civitas.org.uk/nhs/download/germany.pdf>
10. Casasnovas, GuillemLópez, Berta Rivera, and Luis Currais, eds. *Health and economic growth: findings and policy implications*. Mit Press, 2005.
11. Ministry of labor, health and social affairs of Georgia, "Health System Assessment." (2013). <http://www.healthrights.ge/wp-content/uploads/2013/01/jandacvis-sistemis-efekturobis-angarishi.pdf>
12. Nozaki, Masahiro, KenichiroKashiwase, and Ikuo Saito. "Health Spending in Japan: Macro-FiscalImplications and Reform Options." (2014).
13. Preston, Samuel H. "The changing relation between mortality and level of economic development." *Population studies* 29, no. 2 (1975): 231-248.
14. Spilimbergo, Antonio, Martin Schindler, and Steven A. Symansky. "Fiscal multipliers." No. 2009-2011. International Monetary Fund, 2009.
15. Tandon, Ajay, and Cheryl Cashin. "Assessing public expenditure on health from a fiscal space perspective." (2010).
16. Verulava, Tengiz and Leila Karimi. "Access to Medicines within the State Health Insurance Program for Pension Age Population in Georgia (country)." *Journal for Healthcare Quality* (2014).



17. Weil, David N. "Accounting for the effect of health on economic growth." No. w11455. National Bureau of Economic Research, 2005.
18. Williams, Gareth, and Roger Hay. "Fiscal space and sustainability from the perspective of the health sector." In *High-Level Forum on the Health Millennium Development Goal: selected papers, 2003–2005*.
19. World health organization "health system performance assessment: Georgia." (2009)  
[http://www.euro.who.int/data/assets/pdf\\_file/0012/43311/E92960.pdf](http://www.euro.who.int/data/assets/pdf_file/0012/43311/E92960.pdf)
20. Zoidze, Akaki ,NatiaRukhazde, KetevanChkhatarashvili and George Gotsadze. "Promoting universal financial protection: health insurance for the poor in Georgia – a case study." *Health Research Policy and Systems*(2013)

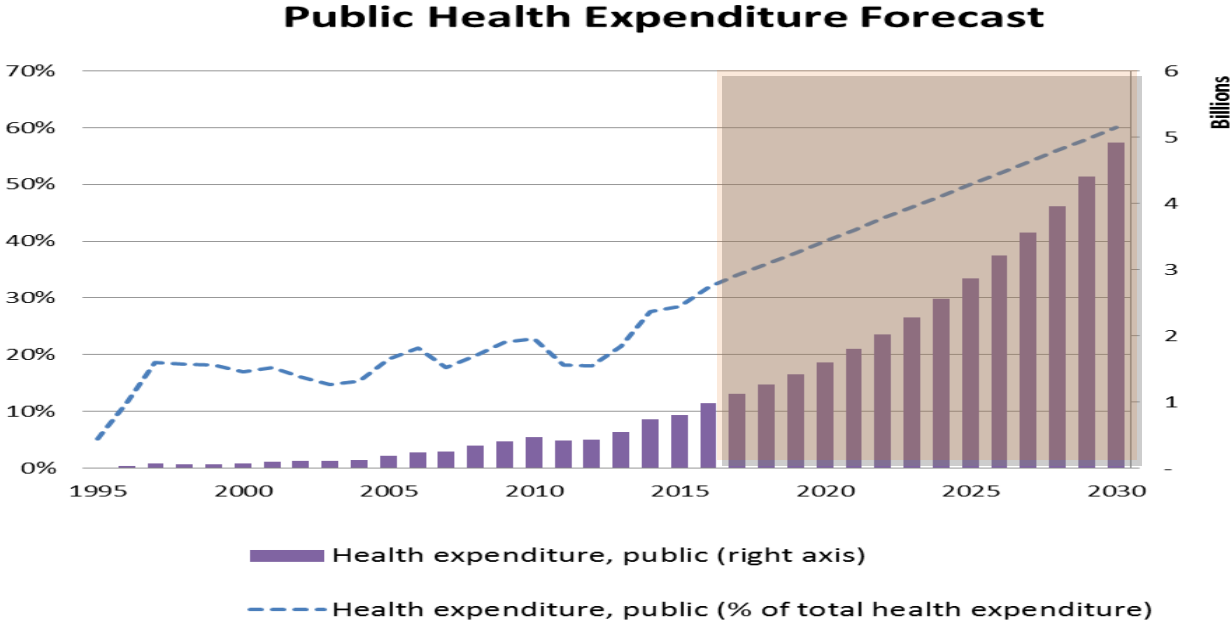
## Appendix

**Figure 4.** *Health expenditure, public (% of total health expenditure)*



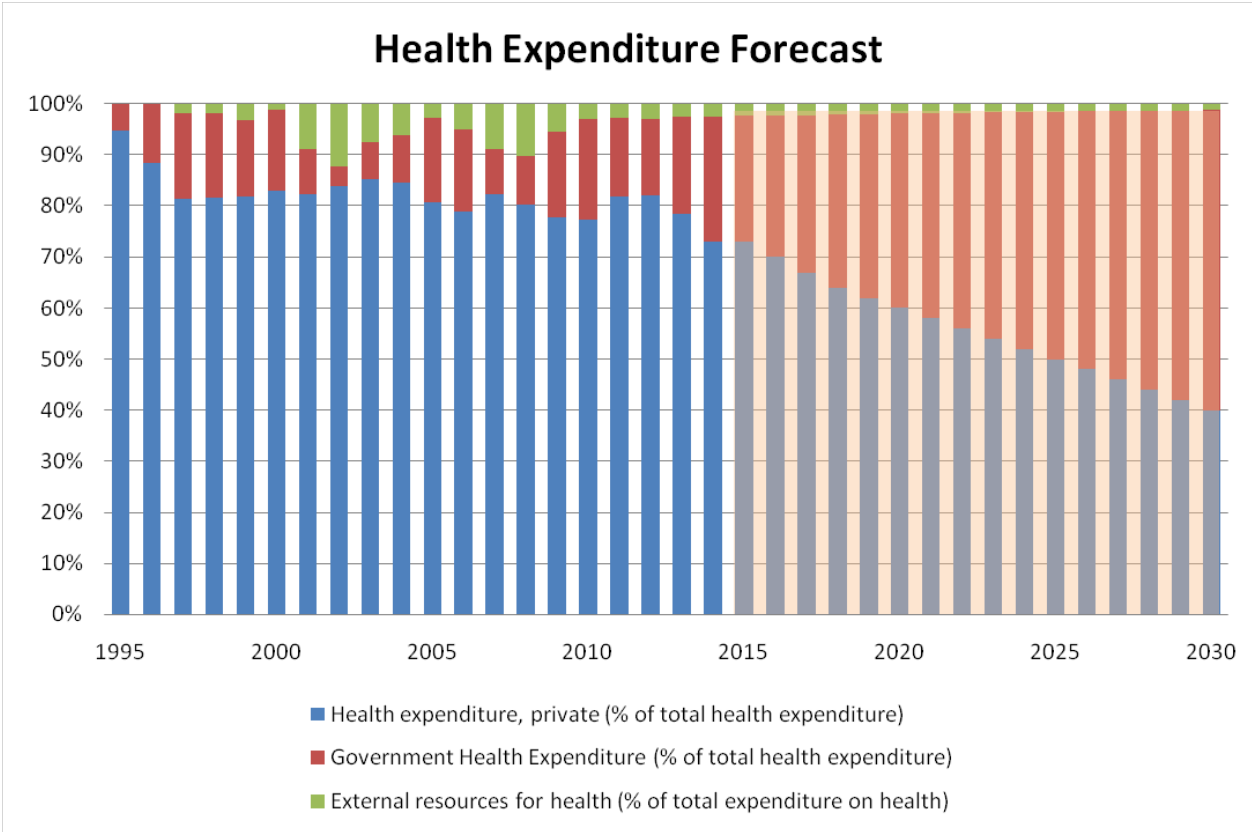
Source: World Bank

Figure 5. Public expenditure on health



Source: World Bank; Researcher projection.

**Figure 6. Health Expenditure Forecast**



Source: World Bank; Researcher projection.