

Maastricht University

Maastricht Graduate School of Governance

FISCAL IMPACT ANALYSIS OF THE WORKING DRAFTS OF THE LAW ON THE FOUNDATIONS OF SOCIAL PROTECTION AND THE LAW ON PROTECTION OF FAMILIES WITH CHILDREN AND THE IMPLEMENTATION OF A PROXY MEANS TEST

Federation of Bosnia and Herzegovina

July, 2014

Table of Contents

1 Introduction 6

2 Current allocation of non-contributory social benefits in FBiH 7

3 Impact analysis of the working drafts of the Law on the Foundations of Social Protection and the Law on Protection of Families with Children 8

3.1 Methodology 8

3.2 Proposed reforms 9

4 Impacts of a new social assistance (social security minimum) program as defined in the working draft of the Law on the Foundations of Social Protection 12

4.1 Impact on the budget for social assistance 12

4.2 Impact on the number of beneficiaries 13

4.3 Winners, losers, remaining beneficiaries and non-beneficiaries of the reform 14

4.4 Impacts on the distribution and adequacy of benefits 16

4.5 Poverty impacts 18

4.6 Consolidated fiscal impacts of the working draft of the Law on the Foundations of Social Protection 20

4.6.1 Costs of the implementation of the Law on the Foundations of Social Protection at FBiH entity level 20

4.6.2 Costs of the implementation of the Law on the Foundations of Social Protection at cantonal level 22

4.6.3 Costs of the implementation of the Law on the Foundations of Social Protection at municipal level in FBiH 23

5 Impacts of a reform of child allowance as defined in the working draft of the Law on Protection of Families with Children 25

5.1 Impact on the number of beneficiaries 25

5.2 Impact on the budget 26

5.3 Winners, losers and remaining beneficiaries of the reform 28

5.4 Changes in the distribution and adequacy of benefits 29

5.5 Poverty impacts 32

5.6 Consolidated fiscal impacts of the working draft of the Law on Protection of Families with Children 34

5.6.1 Costs of the implementation of the Law on Protection of Families with Children at FBiH entity level 34

5.6.2 Costs of the implementation of the Law on Protection of Families with Children at cantonal level 35

5.6.3 Costs of the implementation of the Law on Protection of Families with Children at municipal level in FBiH 36

6 Application of Proxy Means Test and estimate of administrative costs 40

7 Macroeconomic and fiscal trends in FBiH – Non-contributory cash benefits for the implementation of the new Law on the Foundations of Social Protection the Law on Protection of Families with Children 42

8 Summary and recommendations 52

List of figures

Figure 1. FBiH budget for non-contributory social benefits, by benefit type, 2011 7
Figure 2. Calculation of the poverty gap 8
Figure 3. PMT thresholds to identify the poorest 10, 15 or 20% of the population..... 10
Figure 4. 2011 budget allocated to permanent financial assistance as a % of non-contributory social benefits, based on administrative data..... 12
Figure 5. Distribution of benefits over consumption quintiles, before and after the reform to PMT-tested social assistance 17
Figure 6. Average share of total social assistance benefits in post-transfer consumption of beneficiary households targeting 10% of the total population before and after the reform, first consumption quintile 18
Figure 7. Poverty headcount ratio - poor persons as a share of the total population, before and after the reform 19
Figure 8. Poverty gap – the amount of money needed to bring consumption of the poor up to the poverty line, before and after the reform (in 1,000 BAM)..... 20
Figure 9. 2011 budget allocated to child allowance as a % of non-contributory social benefits, based on administrative data..... 27
Figure 10. Distribution of benefits over consumption quintiles before and after the reform to universal child allowance 30
Figure 11. Distribution of benefits over consumption quintiles before and after the reform to PMT-tested child allowance for children among the poorest 10, 15 or 20% of the population..... 30
Figure 12. Average share of total child allowance in post-transfer consumption of beneficiary households, first consumption quintile 32
Figure 13. Poverty headcount ratio - poor persons as a share of the total population, before and after reforms 33
Figure 14. Poverty gap – the amount of money needed to bring consumption of the poor up to the poverty line, before and after the reforms 34
Figure 15. FBiH GDP growth, by quarters (in %) 42
Figure 16. IMF projections of the real GDP growth rate in BiH (in %) 43
Figure 17. FBiH Real GDP on the basis of IMF's projection for BiH (in billions BAM) 43
Figure 18. FBiH population below the absolute poverty line of 238 BAM 45
Figure 19. Poverty alleviation benefits relative to wages and benefits funded from the budget in FBiH (in % of GDP)..... 46
Figure 20. Benefits for social and child protection according to the new laws relative to wages and benefits funded from the budget in FBiH, 2018 (in % of GDP) 51

List of tables

Table 1. Benefit levels for social security minimum as defined in the working draft of the Law on the Foundations of Social Protection 10

Table 2. Benefit levels for child allowance as defined in the working draft of the Law on Family and Child Protection 11

Table 3. Budget allocated to existing permanent financial assistance in 2011, annual amounts, administrative and extrapolated 12

Table 4. Simulated budget allocated to permanent financial assistance benefits after the reform, annual extrapolated amounts 13

Table 5. Current number of beneficiaries of permanent financial assistance, administrative and extrapolated amounts 14

Table 6. Simulated number of beneficiaries of social assistance after the reform, extrapolated amounts 14

Table 7. Winners, losers and remaining beneficiaries of a new social assistance benefit as defined in the working draft of the Law on the Foundations of Social Protection; 10, 15 and 20% program size; in % of the total population 15

Table 8. Total number of beneficiries and total amounts in BAM allocated on the basis of the basic and extended rights at FBiH cantonal level, excluding the right to permanent financial assistance. Compared to 2011, cantonal allocations, according to the new Law, shall be reduced – permanent financial assistance (11,842,739 BAM a year) which shall be replaced by social security minimum is funded from FBiH entity level. 22

Table 9. Trend of total allocated amounts in BAM based on the basic and extended rights at cantonal level in FBiH, excluding the right to permanent financial assistance 22

Table 10. Percentage composition of the budget of Centers for social work at municipal level in FBiH by the source of the funds 23

Table 11. Percentage composition of the budget of Centers for social work at municipal level in FBiH by the type of expenses 23

Table 12. Assesment of financial impacts of the Law on the Foundations of Social Protection 24

Table 13. Number of beneficiaries of existing child allowance, administrative and extrapolated amounts 25

Table 14. Simulated number of beneficiaries* of child allowance after the reform, extrapolated amounts 26

Table 15. Budget allocated to existing child allowance, annual amounts, administrative and extrapolated 26

Table 16. Simulated budget allocated to child allowance after reforms, annual extrapolated amounts 27

Table 17. Winners, losers and remaining beneficiaries* of universal child allowance as defined in the working draft of the Law on Protection of Families with Children, in % of all children 28

Table 18. Winners, losers and remaining beneficiaries of PMT-tested child allowance as defined in the working draft of the Law on Protection of Families with Children, in % of all children 28

Table 19. Total number of beneficiaries and total amounts in BAM allocated on the basis of the basic and extended rights at cantonal level of the Law on Protection of Families with Children in FBiH, excluding child allowance and maternity benefit for an employed mother during absence from work due to pregnancy, childbirth and care for the child 35

Table 20. Estimate of financial impact of the Law on Protection of Families with Children – Option 1 36

Table 21. Estimate of financial impact of the Law on Protection of Families with Children – Option 2 37

Table 22. Estimate of impact of the Annex of the Law on Protection of Families with Children 39

Table 23. FBiH consolidated budget, 2007-2012 (in GDP %) 44

Table 24. FBiH social protection benefits, 2007.-2012 (in % of GDP) 45

Table 25. The projection of FBiH social benefits, 2012-2018, assuming the same level of funding is maintained in the absolute amount (in % of GDP) 47

Table 26. Projection of FBiH social benefits, 2012-2018, assuming constant share of the GDP (in million of BAM) 48

Table 27. Benefits for social, child and family protection in FBIH, 2007-2012 (in % of GDP) 49

Table 28. The projection of FBiH benefits by the new Law on the Foundations of Social Protection, 2014-2018, assuming the same level of funding is maintained in the absolute amount from 2015 (in % of GDP) 49

Table 29. The projection of FBiH benefits by the new Law on Protection of Families with Children, 2014-2018, assuming the same level of funding is maintained in the absolute amount from 2015, option I (in % of GDP) 50

Table 30. The projection of FBiH benefits by the new Law on Protection of Families with Children, 2014-2018, assuming the same level of funding is maintained in the absolute amount from 2015, option II (in % of GDP) 50

1 Introduction

Previous analysis has shown that the current targeting accuracy of a number of FBiH's non-contributory civilian benefits is poor and can be significantly improved through the use of alternative targeting methods. Of the alternative targeting methods tested, a Proxy Means Test (PMT) consistently showed the best results in identifying the poorest members of the population. Besides the fact that allocating benefits to the non-needy is inequitable, accurate identification of those in need allows for maximization of the poverty impacts of a given budget due to minimal leakage of resources to the non-poor.

The present report builds upon the results of previous analysis, taking a PMT as a basis for further examination. It consists of two parts. The first part assesses the budgetary implications as well as the poverty impacts of a new child allowance and social assistance program as defined in the working drafts of the Law on Protection of Families with Children and the Law on the Foundations of Social Protection. The second part projects the development of a poverty alleviation program targeted through a PMT for the period 2014 - 2018, focusing on the size of the program as well as on the budget required to finance it.

The report is furthermore linked to a number of other studies that have been completed within the project *"Development, testing and implementation of new methodology(ies) for targeting of budgetary benefits in Bosnia and Herzegovina".* These studies mapped the current allocation of non-contributory cash benefits in FBiH and simulated the performance of various alternative targeting methods. Besides carrying out an entity level analysis using HBS 2011 data, the latest report described the results of a municipal level analysis of the impacts of reallocating a given budget to a poverty-alleviation program using pilot survey data.

The simulations were performed based on the data from the Household Budget Survey 2011 and due to methodological limitations the surveys could be conducted only for some non-contributory cash benefits (social security minimum, social assistance and child care allowance). Fiscal impacts of the rest of non-contributory cash benefits are estimated based on the extrapolation of administrative data (three-year average 2011-2013) or the data for 2012 and given along with the results of the simulations as "consolidated fiscal impacts".

This study was prepared by a team from Maastricht Graduate School of Governance: Franziska Gassmann (Team Leader), Daphne François and Sonila Tomini with the support of Žarko Papić, (team leader), Fahrudin Memić and Stevo Pucar - IBHI consultants.

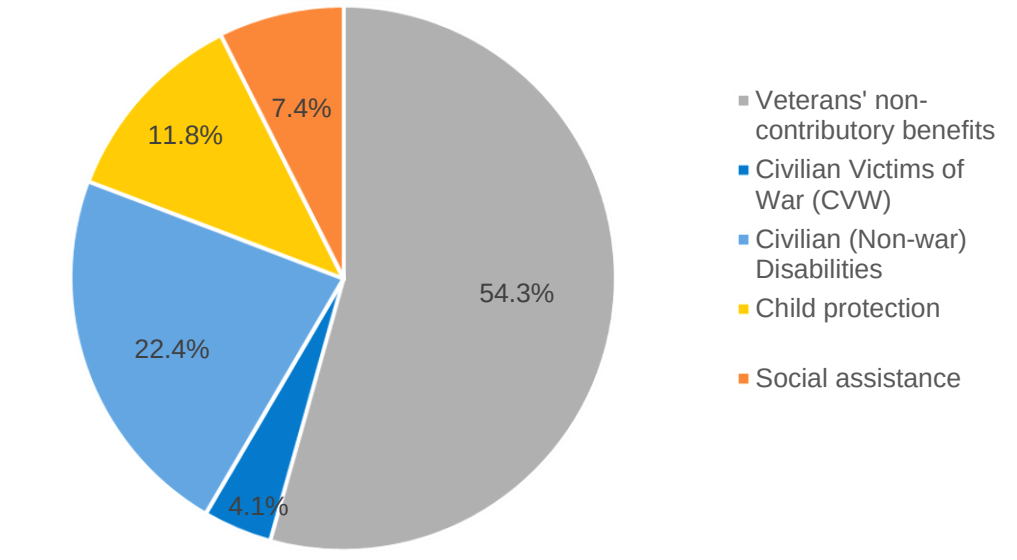
2 *Current allocation of non-contributory social benefits in FBiH*

Figure 1 illustrates the total budget spent on non-contributory social benefits in FBiH in 2011. Besides in-cash benefits the budget includes "service" benefits, such as training for life and work and home care / assistance. It does not include administrative costs.

The total annual budget of nearly 592 million BAM represents 3.6% of the GDP. More than half of this amount – 54.3%, or 321.6 million BAM – is allocated to veteran's benefits. The various civilian benefits, including disability benefits for civilian victims of war and non-war disabled persons, child protection benefits, and social assistance benefits, altogether constitute 270.2 million BAM, or 45.7% of the total budget (see Figure 1).

Looking exclusively at civilian benefits, the budget for non-war-related disabilities takes up the largest share – it amounts to a little over 22% of the total budget for non-contributory benefits. 12% of the total budget goes to child care and maternity benefits and a mere 7.4% of the 2011 social budget is currently allocated to social assistance.

Figure 1. FBiH budget for non-contributory social benefits, by benefit type, 2011



Source: Authors' calculations based on FBiH budget data for 2011 provided by the Ministry of Labor and Social Policy and the CSWs.

3 *Impact analysis of the working drafts of the Law on the Foundations of Social Protection and the Law on Protection of Families with Children*

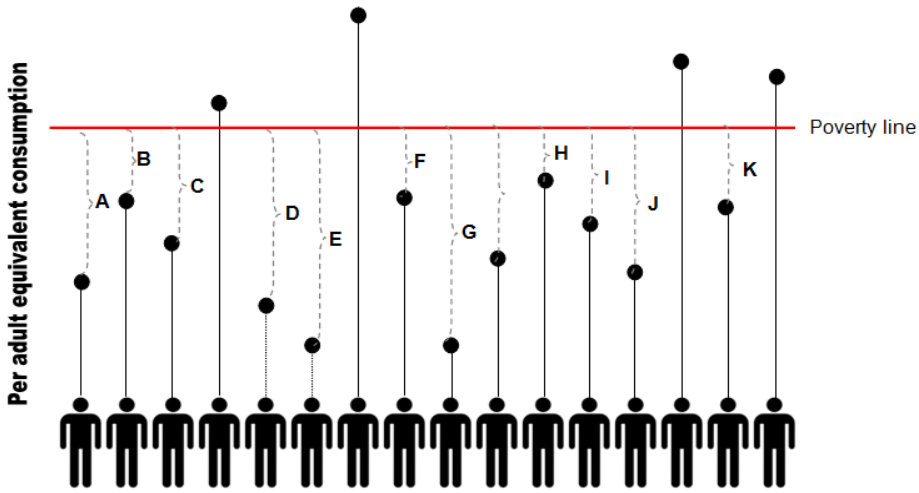
This section analyzes the impacts of (1) changing the eligibility criteria and benefit levels of current permanent financial assistance in line with the working draft of the Law on the Foundations of Social Protection on the one hand, and (2) changing the eligibility criteria and benefit levels of current child allowance in line with the working draft of the Law on Protection of Families with Children on the other.

3.1 Methodology

In order to analyze the impacts of the working drafts of the Laws on Social Protection and Child Protection, Household Budget Survey data (HBS 2011) have been used in combination with administrative data provided by the Ministry of Labor and Social Policy and CSW's. To simulate the effect of reforming existing child allowance and permanent financial assistance, in a first step the benefit to be reformed is subtracted from the total consumption of all households receiving it in 2011. By doing so, a situation in which the old benefit does not exist is simulated. In a next step, eligible households are identified on the basis of the new eligibility criteria defined in the working drafts of the Law on Protection of Families with Children and on Social Protection. Finally, the new benefit amount is added to the pre-transfer consumption of each eligible household.[1] This procedure allows us to calculate

1. the total budget needed for reforming child allowance and permanent financial assistance in line with the working drafts on the Laws of Social Protection and Child Protection;
2. changes in numbers of beneficiaries as a result of the reforms;
3. the winners, losers, remaining beneficiaries and non-beneficiaries of the reforms;
4. impacts on the distribution and adequacy of benefits;
5. poverty impacts.

Figure 2. Calculation of the poverty gap



Source: Developed by authors

[1] To calculate pre-transfer consumption and post-transfer consumption, no marginal propensity to consume is assumed.

For an assessment of the poverty impacts of the reforms, two different poverty measures are calculated: the poverty headcount ratio and the poverty gap. While the poverty headcount ratio expresses the number of poor persons as a percentage of the total population, the poverty gap also takes into account *how* poor the poor actually are. It is the sum of the difference between each poor person's consumption and the poverty line, illustrated in Figure 2 [A+B+C+…+K]. Calculations are based on a relative poverty line defined at 60% of the median per adult equivalent consumption (OECD1 scale), amounting to 350 BAM per month.[2]

3.2 Proposed reforms

Right to the minimum of social security in the Social Security Law - articles 39, 40 and 41

The current FBiH Law on the Foundations of Social Protection, Protection of Civilian Victims of War and Protection of Families with Children defines the right to permanent financial assistance as a shared competence between the Federal level and the Cantonal level. Article 25 of the Law stipulates that the amount for permanent social assistance should be calculated as the difference between the total income of all members of a household and the lowest income level of the household deemed sufficient for maintenance (on the basis of last year's average wage, multiplied by a coefficient defined by each canton). The procedure to access this right as well as benefit levels are set by cantonal regulations, which generally require a means test to determine eligibility.

The right to permanent financial assistance exists in all cantons. However, previous research has found that the currently applied means test is not the optimal targeting mechanism to identify the needy in the economic context of FBiH. Due to the fact that many individuals are active in the grey economy and hence large part of the income cannot be verified, targeting performance of permanent social assistance is poor. Many of those in need are currently not receiving any benefits, while a large share of current beneficiaries is not in need. In addition, as a result of the lack of a unified policy, cantons apply different eligibility criteria and different benefit levels, ranging from a minimum of 54 BAM to a maximum of 120 BAM per person in 2011. Individuals with equal needs are thus treated differently depending on their place of residence in the entity, resulting in territorially-based discrimination. Furthermore, social assistance is funded from cantonal budgets, which poses a problem of discrepancy between tax revenues on the one hand and the size of the beneficiary pool on the other. Whereas in poor cantons tax revenues tend to be lower, the pool of beneficiaries – and thus the budget needed to provide adequate benefits – is likely to be larger and vice versa.

In order to eliminate territorially-based discrimination and ensure equal treatment of all residents of FBiH, irrespective of place of residence within the entity, the working draft of the Law on the Foundations of Social Protection proposes an entity-wide unified social assistance policy in FBiH by introducing social security minimum. Firstly, it stipulates that eligibility for social security minimum in all cantons should be tested using a Proxy Means Test (PMT) instead of a means test. In previous analysis, a PMT showed the best targeting performance in order to more accurately target social assistance benefits towards the poor.

[2] The difference between the relative poverty line of 350 BAM per Adult Equivalent (PAE) per month in 2011 for FBiH used in this report and the official poverty line of 416 BAM PAE per month calculated by the BHAS is due to the usage of different equivalence scales. While this report makes use of the OECD I scale, the official poverty line of 416 BAM per adult equivalent per month uses the OECD II scale. [OECD I: Assigns 1 to the first adult in the household, while each additional adult is assigned a value of 0.7 and each child a value of 0.5; OECD II: The first adult is assigned a value of 1, while additional adult is assigned a value of 0.5 and each child a value of 0.3.]

Secondly, eligibility criteria tied to the PMT should be equal in all cantons, as should benefit levels. Finally, the working draft of the Law on the Foundations of Social Protection foresees that the entire budget for social security minimum shall be allocated from the level of FBiH; this social assistance shall thus be entirely funded from the entity level budget.

The proposed benefit levels for social security minimum in the working draft of the Law on the Foundations of Social Protection are listed in Table 1. They are calculated as a percentage of a baseline, which is based on the minimum cost of labour in FBiH and amounts to 350 BAM. Benefit levels are dependent on the number of members in the household.

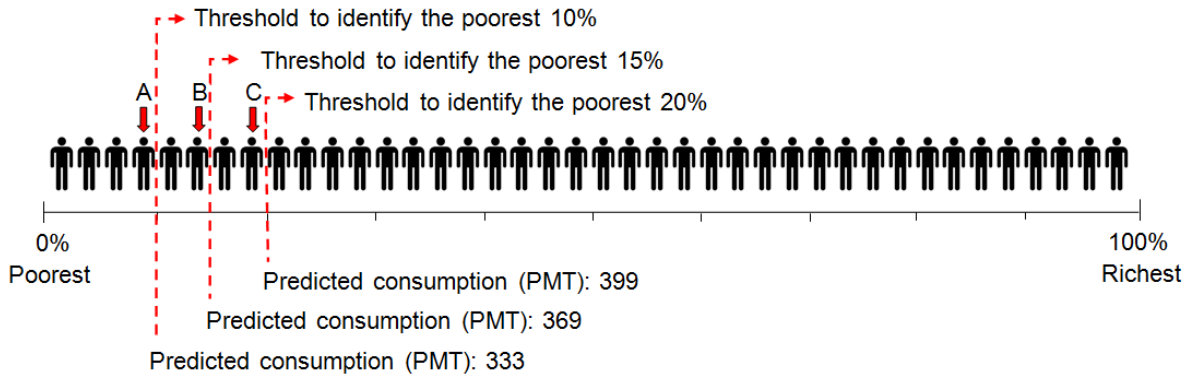
Table 1. Benefit levels for social security minimum as defined in the working draft of the Law on the Foundations of Social Protection

Household size	*% of baseline*	*Benefit level (BAM)*
Single person household	35%	122.5
Two-member household	45%	157.5
Three-member household	55%	192.5
Four-member household	65%	227.5
Five or more members	70%	245.0

Source: Working draft of the Law on the Foundations of Social Protection.

In our analysis the impact of the working draft on the Law of Social Protection has been simulated for three different target groups: the poorest 10, 15 or 20% of the population. The related thresholds to identify these groups are displayed in the figure below. For instance, the threshold to identify the poorest 10% is set at a level equal to the PMT-estimated consumption of the least poor person of this group (see person A). In this case, all individuals with a PMT-estimated consumption equal to or lower than person A will be eligible for a benefit.

Figure 3. PMT thresholds to identify the poorest 10, 15 or 20% of the population**.**



Source: Developed by authors.

Child allowance

The FBiH Law on the Foundations of Social Protection, Protection of Civilian Victims of War and Protection of Families with Children aims to provide all children with the same conditions for development and education. Article 91 stipulates that all households have the right to child allowance on the condition that their per capita income does not exceed a specific threshold. It does not set any minimum benefit amount.

In reality, the right to child protection has only been adopted in cantonal legislation in only five out of ten cantons[3], in which benefit levels range from 12 to 33 BAM per child. Procedures to access the right to child protection and eligibility criteria vary between those cantons in which it exists. The funding for child protection comes entirely from the cantonal level.

Two options for reforming the right to child protection are proposed, both of which aim to unify the child protection policy for all cantons in the entity and eliminate discrimination on the basis of residence. The first option proposes to make all children in FBiH below the age of 18 and not being employed eligible for a benefit. Child allowance would thus be *universal* in this case. In the second scenario eligibility would be *conditional* upon the welfare level of the household. In this case, only children in households qualifying for a PMT would be eligible for a child benefit. In both cases, the entire budget would be allocated from the entity level to the cantons.

The proposed amendments to the benefit levels for child allowance follow the same structure as social assistance: new benefit levels are defined as a percentage of the minimum cost of labour in FBiH (350 BAM) and are dependent on the number of children in the household (see table below). Cantons would be free to top up benefits using their own funding.

Table 2. Benefit levels for child allowance as defined in the working draft of the Law on Family and Child Protection

Number of children in the household	*% of baseline*	*Benefit level (BAM)*
One child	5%	17.5
Two children	8%	28.0
Three children	10%	35.0
Four children	13%	45.0

Source: Working draft of the Law on Family and Child Protection.

In our analysis the impact of allocating child allowance to children belonging to the poorest 10, 15 or 20% of the population has been calculated. These children are identified using a PMT, of which related thresholds are listed in Figure 3 on page 9.

[3] Cantons where the right to child protection exists: Tuzla, Zenica-Doboj, Bosnian Prodinje, Central Bosnia and the Sarajevo canton.

4 *Impacts of a new social assistance (social security minimum) program as defined in the working draft of the Law on the Foundations of Social Protection*

This section describes the impacts of the reforms proposed in the working draft of the Law on the Foundations of Social Protection. The most important component of this reform is that all cantons would become subject to the same eligibility criteria, whereby the current means-test would be replaced by a PMT and new benefit levels would be defined. Results are based on the assumption of perfect implementation and do not take into account administrative costs of the program.

4.1 Impact on the budget for social assistance

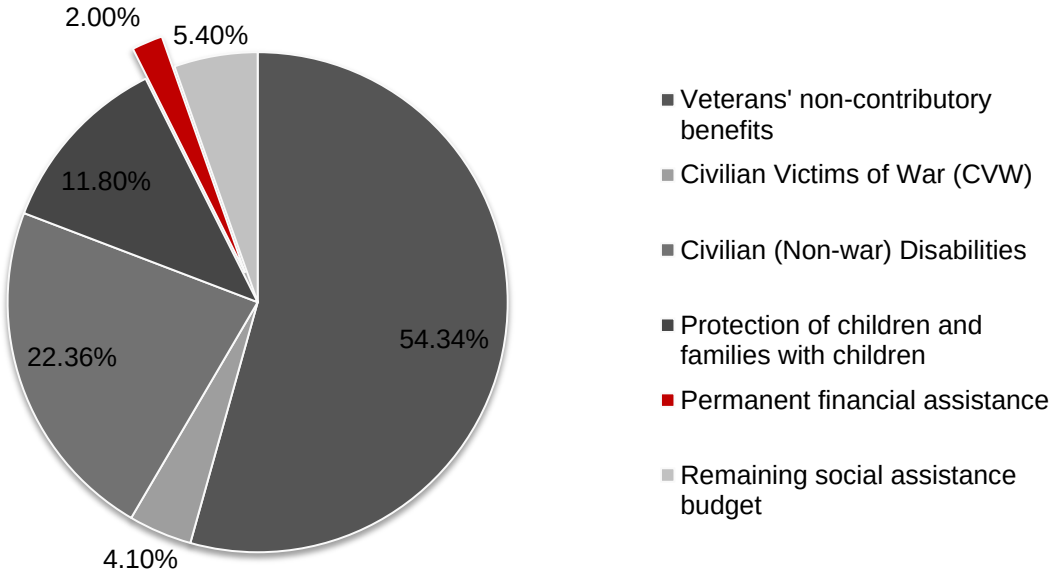
Table 3 shows the budget allocated to permanent financial assistance in 2011. According to administrative data provided by the Ministry of Labor and Social Policy and the Centers of Social Work (CSW) it amounted to 11,842,739 BAM or 0.07% of GDP. If we add the amounts for permanent social assistance that were allocated to each eligible household in 2011 using HBS data, we arrive at a total budget of 13,150,512 or 0.08% of GDP.

Table 3. Budget allocated to existing permanent financial assistance in 2011, annual amounts, administrative and extrapolated

	Current budget - extrapolated	Current budget - administrative
In BAM	13,150,512	11,842,739
In % of GDP	0.08%	0.07%

Source: Extrapolated - authors' calculations based on HBS data 2011; Administrative - FBiH budget data for 2011 provided by the Ministries and CSW.

Figure 4. 2011 budget allocated to permanent financial assistance as a % of non-contributory social benefits, based on administrative data



Source: Authors' calculations based on FBiH budget data for 2011 provided by the Ministries and CSW.

Calculations based on FBiH budget data for 2011 provided by the Ministries and CSW's, reveal that the budget for permanent financial assistance constitutes approximately 2.0% of the total budget for non-contributory social benefits (see Figure 4).

After reforming permanent financial assistance in line with the working draft on the Law of Social Protection, the budget required for social security minimum increases significantly (see Table 4). When targeting the poorest 10% of the population, it amounts to 121,986,016 BAM (more than 9 times the size of the current budget) and further increases when the target population is enlarged. A program size of 15% and 20% result in a budget of 187,215,643 and 255,772,208 BAM respectively (or 14.2 and 19.4 times the current budget).

Table 4. Simulated budget allocated to permanent financial assistance benefits after the reform, annual extrapolated amounts

	In BAM	In % of GDP	In % of total budget for non-contributory social benefits	After-reform budget / current budget
Program size - 10%	121,986,016	0.8%	20.6%	9.3
Program size - 15%	187,215,643	1.2%	31.6%	14.2
Program size - 20%	255,772,208	1.6%	43.2%	19.4

Source: Extrapolated - authors' calculations based on HBS data 2011.

4.2 Impact on the number of beneficiaries

FBiH budget data provided by the Ministry and CSWs reveal that in 2011 8,653 persons - or 0.42% of the total population - were registered as recipients of permanent financial assistance (see Table 5). Extrapolation based on HBS 2011 data results in a slightly smaller number. Most likely this difference is due to the fact that some interviewees did not reveal or were not aware that they or other members of the household were beneficiaries of permanent social assistance during the HBS interviews.

The data provided by the Ministries and CSW does not provide any information on the total number of beneficiary households, but calculations using HBS 2011 data result in a total of 7,239 households, which are home to 19,017 persons. Following the rationale that social assistance is provided to improve the welfare status of households as whole, for further calculations all household members within beneficiary households (i.e. households in which at least one member is registered as a beneficiary of social assistance) will be counted as beneficiaries.

Table 5. Current number of beneficiaries of permanent financial assistance, administrative and extrapolated amounts

	Extrapolated		*Administrative*	
	Number	In % of total	Number	In % of population
Persons registered as recipients of permanent financial assistance	7,604	0.37%	8,653	0.42%
Total number of beneficiary households	7,239	1.10%	-	-
Total number of beneficiaries, i.e. persons living in beneficiary households	19,017	0.93%	-	-

Source: Authors' calculation based on HBS data 2011 and on FBiH budget data for 2011 provided by the Ministries and CSW.

Table 6 shows the number of beneficiaries and beneficiary households after the reform calculated based on HBS 2011 data. After the reform, the total number of beneficiary households increases to 46,097 if the poorest 10% of the population is targeted. These households are home to a total of 203,903 members, which is 10.7 times the number of household members covered by the existing permanent financial assistance benefit in 2011. When targeting the poorest 15 or 20% of the population, this number increases to 305,511 and 407,301 respectively.

Table 6. Simulated number of beneficiaries of social assistance after the reform, extrapolated amounts

Program size: Total number of beneficiaries in % of total population	Total number of beneficiaries*	Current number of beneficiaries/ new number	Total number of beneficiary households	Total number of beneficiary households in % of all households
10.0%	203,903	10.7	46,097.	7.1%
15.0%	305,511	16.1	71,893	11.0%
20.0%	407,301	21.4	100,177	15.4%

Source: Authors' calculation based on HBS data 2011. *Note:* * All persons in beneficiary households are counted as beneficiaries

4.3 Winners, losers, remaining beneficiaries and non-beneficiaries of the reform

The result of replacing the current targeting mechanism by a PMT in order to target social assistance/social security minimum to the poorest 10, 15 or 20% of the population is a change in the group of persons that is eligible for a benefit. Four groups of individuals can be identified:

- Losers: these persons receive a benefit in the current situation but would no longer be eligible after the reform;
- Winners: these persons do not receive a benefit in the current situation but would become eligible to a benefit after reform;
- Remaining beneficiaries: these persons are eligible for a benefit in the current situation as well is after reform;

- Remaining non-beneficiaries: these persons are not eligible for a benefit in the current situation and will not become eligible after reform.

Table 7. Winners, losers and remaining beneficiaries of a new social assistance benefit as defined in the working draft of the Law on the Foundations of Social Protection; 10, 15 and 20% program size; in % of the total population

	Q1	*Q2*	*Q3*	*Q4*	*Q5*	***Total***
Program size: 10%						
Losers	0.3%	0.2%	0.1%	0.0%	0.1%	**0.7%**
Winners	7.3%	1.6%	0.5%	0.2%	0.1%	**9.7%**
Remaining beneficiaries	0.3%	0.0%	0.0%	0.0%	0.0%	**0.3%**
Remaining non-beneficiaries	12.0%	18.2%	19.3%	19.7%	19.8%	**89.0%**
TOTAL	*19.8%*	*20.0%*	*19.9%*	*20.0%*	*20.0%*	***99.6%***
Program size: 15%						
Losers	0.2%	0.2%	0.1%	0.0%	0.1%	**0.5%**
Winners	9.7%	3.2%	1.0%	0.5%	0.2%	**14.6%**
Remaining beneficiaries	0.4%	0.0%	0.0%	0.0%	0.0%	**0.4%**
Remaining non-beneficiaries	9.5%	16.6%	18.9%	19.4%	19.7%	**84.1%**
TOTAL	*19.8%*	*20.0%*	*19.9%*	*20.0%*	*20.0%*	***99.6%***
Program size: 20%						
Losers	0.2%	0.1%	0.0%	0.0%	0.1%	**0.4%**
Winners	11.6%	4.8%	1.8%	0.9%	0.3%	**19.4%**
Remaining beneficiaries	0.4%	0.1%	0.0%	0.0%	0.0%	**0.5%**
Remaining non-beneficiaries	7.6%	15.0%	18.0%	19.1%	19.6%	**79.3%**
TOTAL	*19.8%*	*20.0%*	*19.9%*	*20.0%*	*20.0%*	***99.6%***

Source: Authors' calculations based on HBS 2011 data. *Note*: Consumption quintiles are based on monthly per adult equivalent consumption (OECD 1 scale) before allocation of transfers. In case the household receives a social assistance benefit under current or draft legislation, all household members are counted as beneficiaries. Totals do not add up to 20% / 100% due to the fact that for some households data are missing on (1) current eligibility for permanent financial assistance or (2) information needed to determine eligibility on the basis of a PMT. Calculations assume perfect implementation.

Table 7 presents the winners, losers, remaining beneficiaries and remaining non-beneficiaries by consumption quintiles as a percentage of the total population. Note that benefit levels have not been taken into account to arrive at the above four groups. A person who under the existing program is receiving a higher benefit than she/he would receive after the reform is caught under the label "remaining beneficiary" instead of "loser", even though this person loses part of her/his benefit. Following the rationale that a social assistance benefit is provided to improve the welfare status of the household as a whole, all household members in beneficiary households are counted as beneficiaries.

When targeting the poorest 10% of the population the table shows that winners of the reform are concentrated in the first consumption quintile and amount to 7.3%. Hence, a PMT is indeed an accurate targeting mechanism to reach the poor. The large share of winners in comparison to losers, remaining beneficiaries and remaining non-beneficiaries can partly be explained by the increase in the share of the population that is targeted. Under the existing program, only approximately 1% of the total population receives a social assistance benefit, whereas this share would increase to 10% as a result of the reform. The share of losers and

remaining beneficiaries is small in the first quintile, pointing at the fact that currently only few persons in this quintile are receiving a social assistance benefit.

An increase in the target population results in a larger share of winners, but affects the losers and remaining beneficiaries only marginally. Winners in the first quintile amount to 9.7 and 11.6% of the population when targeting the poorest 15 and 20% of the population respectively. However, increasing the share of the population that is targeted also leads to more winners in the higher consumption quintiles. The share of winners in the second quintile amounts to 3.2 and 4.8 % of the population when targeting the poorest 15 and 20% of the population respectively. This can be explained by the fact that a more generous program, besides reaching a higher share of the poor (i.e. lower exclusion errors), also leads to wrongly providing benefits to the non-poor (i.e. higher inclusion errors).

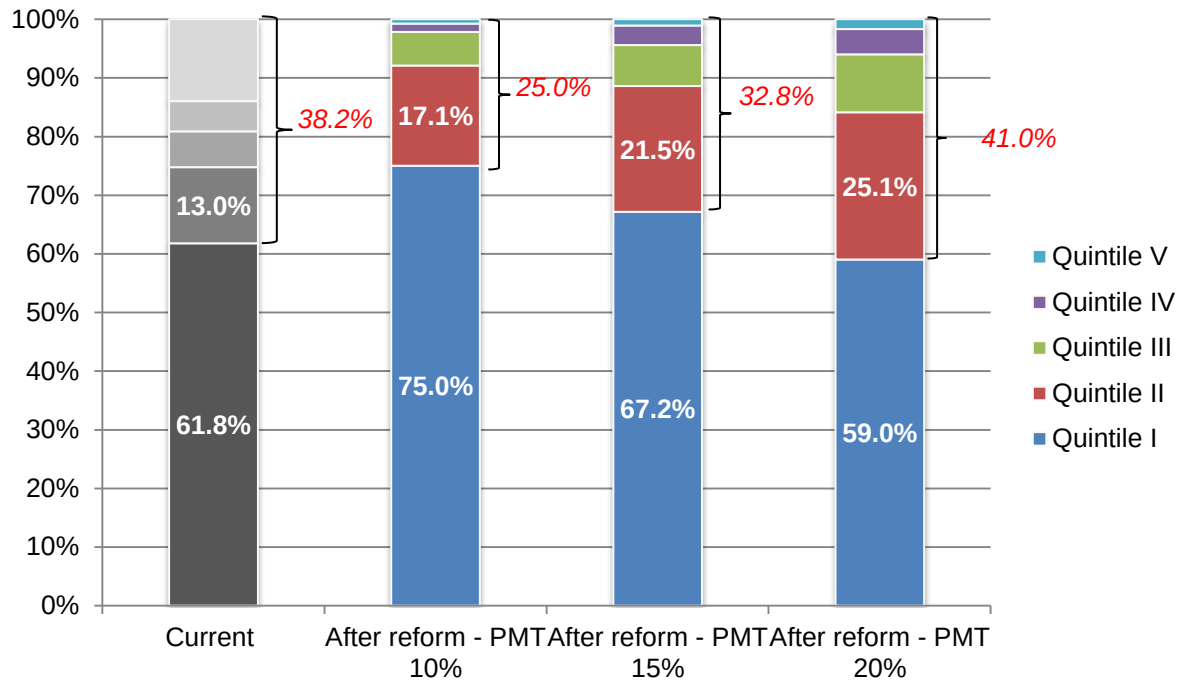
4.4 Impacts on the distribution and adequacy of benefits

Figure 5 presents the distribution of benefits over consumption quintiles before and after the reform. The figure shows that in the current situation the bulk of permanent social assistance benefits - 61.8% - is allocated to the lowest consumption quintile, leaving 38.2% of benefits to the other consumption quintiles. A relatively large share - 14.2% - is currently allocated to the richest 20% of the population.

Under the assumption of perfect implementation, reforming social assistance in line with the working draft of the Law on the Foundations of Social Protection would increase the share of benefits allocated to the poorest consumption quintile to 75.0%, leaving only 25.0% of benefits to the other four quintiles. After the reform, benefits show a “fairer” distribution pattern: the share of benefits received by the richest consumption quintile would decrease from 14.2% to 0.8%.

Increasing the program size to the poorest 15 or 20% of the population results in a less pro-poor distribution of benefits. As shown in the section discussing winners, losers and remaining beneficiaries as well as non-beneficiaries, this is due to higher inclusion errors and hence increasing leakage of resources to the non-poor.

Figure 5. Distribution of benefits over consumption quintiles, before and after the reform to PMT-tested social assistance

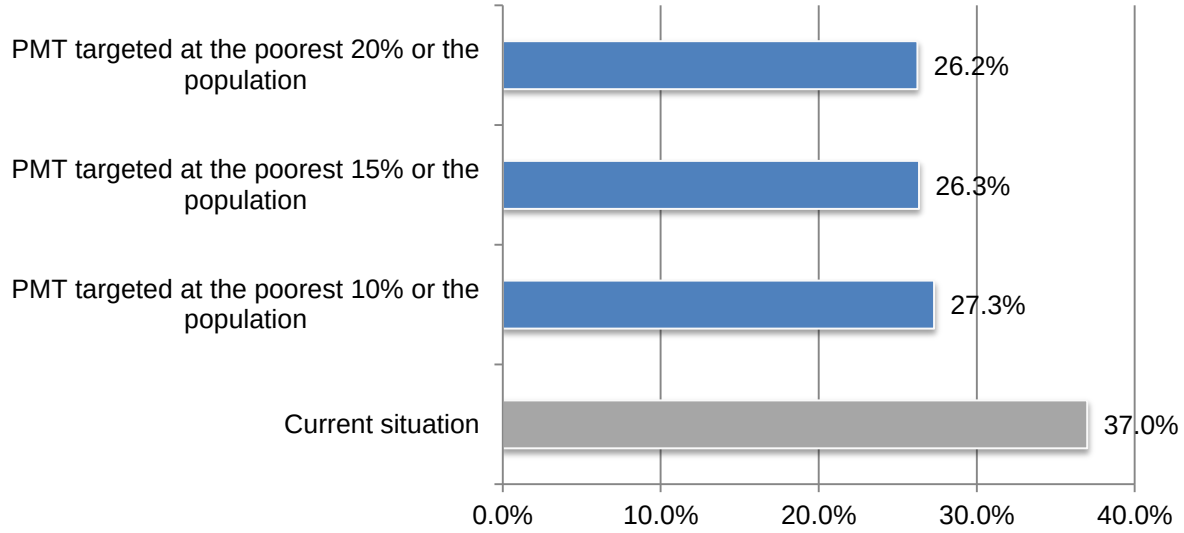


Source: Authors' calculations based on HBS 2011 data. *Note*: Consumption quintiles are based on monthly per adult equivalent consumption (OECD 1 scale) before allocation of transfers. Calculations assume perfect implementation.

While the distribution of benefits gives us an idea of fairness of allocation of the budget for social assistance, it does not tell us to what extent benefits contribute to the income of a household, i.e. whether benefits are *adequate*. Figure 6 presents the average share of social assistance benefits in post-transfer consumption of beneficiary households in the first consumption quintile, whereby consumption is used as a proxy for income.

Before the reform, total social assistance benefits received by households in the poorest consumption quintile on average constituted 37.0% of their total post-transfer consumption (i.e. their consumption after receiving the benefit). Considering that the current group of beneficiaries is quite small (around 1% of the population) it is affordable to allocate relatively generous benefits to the few beneficiaries that are part of the program. After a reform which increases the program size to a minimum of 10% of the population, benefit levels are lower, resulting in an average share of 27.3% in post-transfer consumption of the first quintile. When targeting the poorest 15% or 20%, the average share of the benefit in post-transfer household consumption of the poorest quintile decreases slightly. This can be explained by the fact that households that are "richer" than those belonging to the poorest 10% are now included in the target population. For instance, the consumption of the poorest 10 – 15% is higher than the consumption of the poorest 0 – 10%. Total benefits as a share of their consumption of the poorest 10-15% are thus smaller than total benefits as a share of the consumption of the poorest 0-10%.

Figure 6. Average share of total social assistance benefits in post-transfer consumption of beneficiary households targeting 10% of the total population before and after the reform, first consumption quintile



Source: Authors' calculations based on HBS 2011 data. *Note*: Consumption quintiles are based on monthly per adult equivalent consumption (OECD 1 scale) before allocation of transfers. Calculations assume perfect implementation.

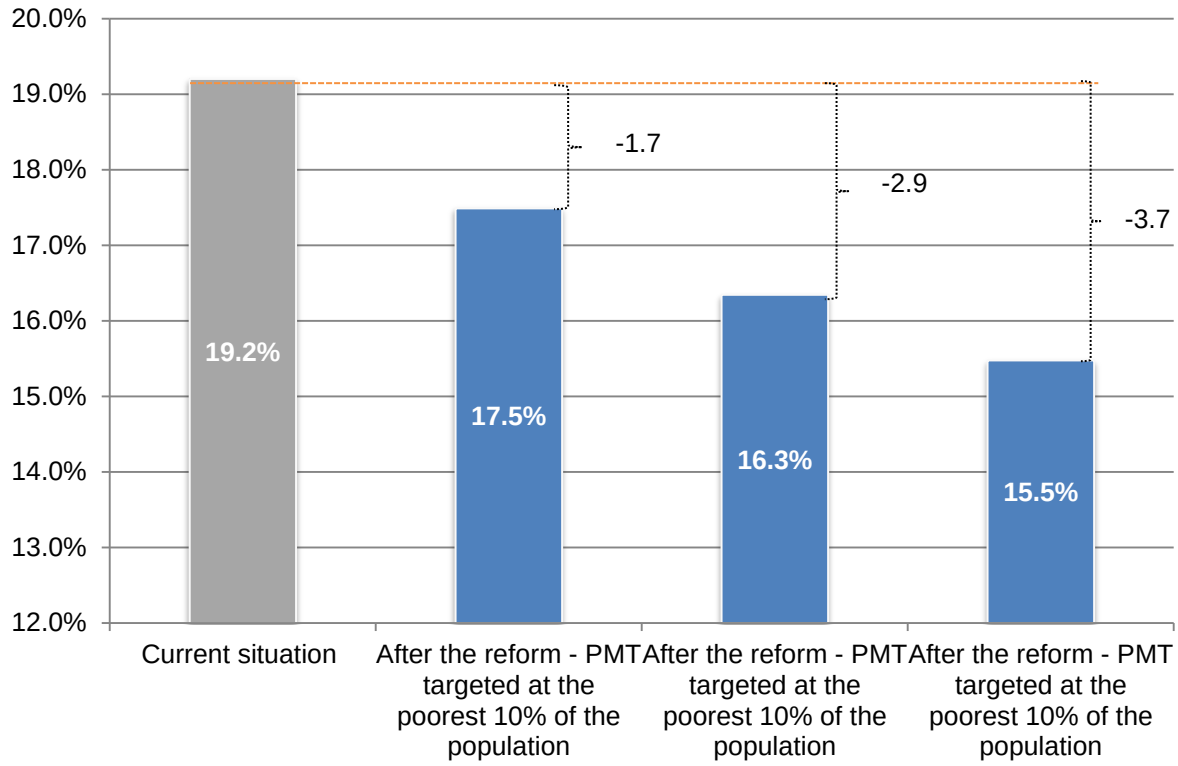
4.5 Poverty impacts

Besides aiming to eliminate discrimination based on place of residence by equalizing social security minimum in all cantons and to achieve a fairer distribution of social assistance benefits, another reason to reform the current policy is to reduce poverty in FBiH. As described in the methodology section on page 14, poverty measures calculated to assess poverty impacts of the reform are the poverty headcount ratio and the poverty gap. Calculations are based on a relative poverty line of 350 BAM per adult equivalent per month.

Figure 7 presents the poverty headcount ratio before and after reforms, i.e. the number of persons with a monthly consumption of less than 350 BAM per adult equivalent as a share of the total population. The grey bar represents the current situation, while the situation after the reform is represented by the blue bars. The figure shows that the poverty headcount ratio can be reduced from 19.2% in the current situation to 17.5%, when social assistance becomes subject to a PMT in order to target benefits to the poorest 10% of the population and benefit levels are set at the levels defined in the working draft of the Law on the Foundations of Social Protection.

Logically, when a larger share of the population is targeted impacts on poverty are stronger. Assuming perfect implementation, targeting the poorest 15% and 20% of the population decreases the poverty headcount ratio by 2.9 and 3.7 percentage points respectively. In the latter case, the number of poor persons as a percentage of the total population would thus be reduced by more than one quarter.

Figure 7. Poverty headcount ratio - poor persons as a share of the total population, before and after the reform

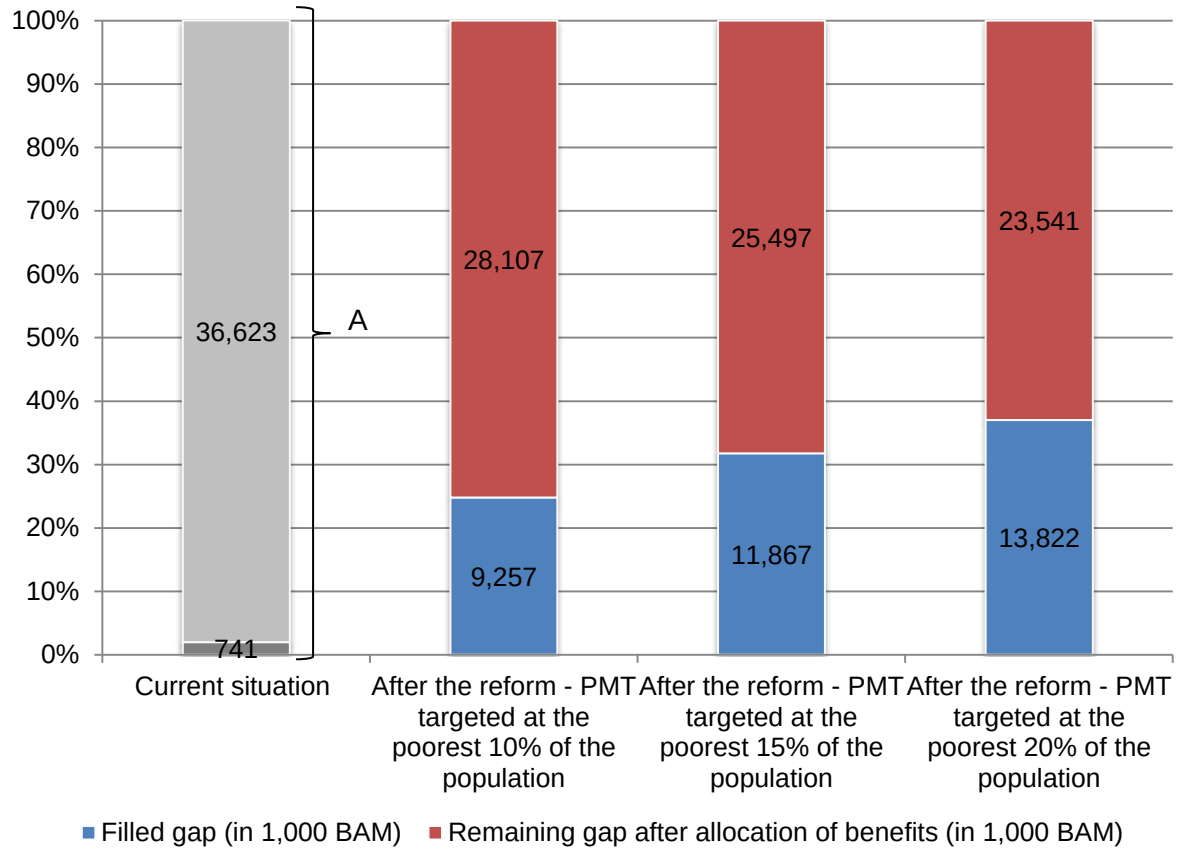


Source: Authors' calculation based on HBS 2011 data. *Note*: Calculations assume perfect implementation.

Apart from reducing the number of poor persons, a decrease in the depth of poverty is of interest. The poverty gap – the amount of money needed to bring the consumption of all poor individuals up to 350 BAM per adult equivalent per month - is a poverty measure that takes the depth of poverty into account. The total poverty gap before allocation of social assistance benefits equals 37,363,530 BAM (see Figure 8, A). Currently, 741,000 BAM or approximately 2% of this gap is filled, resulting in a remaining gap of 36,623,000 BAM.

After the reform in line with the working draft of the Law on the Foundations of Social Protection, the filled part of the poverty gap increases to 9,256,600 BAM or approximately 25% when targeting the poorest 10% of the population using a PMT. Logically, poverty gap reductions increase when a larger share of the population is targeted. If a program size of 20% is aimed for, the total poverty gap can be reduced by more than one third.

Figure 8. Poverty gap – the amount of money needed to bring consumption of the poor up to the poverty line, before and after the reform (in 1,000 BAM)



Source: Authors' calculations based on HBS 2011 data. *Note*: Calculations assume perfect implementation.

4.6 Consolidated fiscal impacts of the working draft of the Law on the Foundations of Social Protection

The following are the estimates of the total costs of the implementation of the Law on the Foundations of Social Protection at entity, cantonal and municipal level in FBiH.

4.6.1 Costs of the implementation of the Law on the Foundations of Social Protection at FBiH entity level

Total number of beneficiaries of social security minimum from the articles 39, 40 and 41 of the Law on the Foundations of Social Protection is estimated to 203,903 persons or 46,097 households and the total budget of the social security minimum in the option of targeting the poorest 10% is estimated to 121,986,016.00 BAM. The number of beneficiaries in the budget is estimated based on simulations of data from HBS 2011.

It is important to understand that the minimum social security represents a poverty reduction programme for the poorest 10% of the population in FBiH (203,903 persons). That is why, during the reforms of new laws which will relate to persons with non-war related disabilities and civilan victims of war, PMT implementation will have to be considered (for example, additional cash assistance of civilian victims of war, etc.). The implementation of the Law on

the Unified Registry of Beneficiaries of Non-contributory Cash Benefits will prevent duplications of these benefits, therefore, it is estimated that they will decrease.

Total budget of institutions of social protection at entity level of FBiH[4] based on administration data of the Federal Ministry of Labor and Social Policy is estimated to 17,138,626.00 BAM[5] and the total number of beneficiaries is estimated to 1,284[6]. It should be considered that a significant portion of that budget consists of benefits for beneficiaries' stay in these institutions, which is funded by the cantons from their budgets.

The cantons also finance those social protection institutions which they founded and their beneficiaries. Due to incomplete administrative data, it is not possible to separate their participation in the financing of federal and cantonal institutions (homes for elderly, etc.). Therefore, minor overlapping of the sums of financial funds at the level of FBiH and the cantons is possible (no more than 3%). In this case, the total estimated budget needed for the Law on the Foundations of Social Protection would be insignificantly decreased. Since it is impossible to reach an exact estimate when it comes to the financing of these institutions, here we also opted for a conservative approach.

Based on the data provided by the Federal Ministry of Labor and Social Policy and authors' estimates, total budget of municipal centers/departments for social work in 2012 was 58,311,739.06 BAM. Around 3,0% of this budget or 1,749,352.00 BAM is provided from FBiH entity level.

Having in mind previous estimates, total budget at FBiH entity level covering social security minimum, costs of federal institutions and costs of centers/departments of social work is estimated to 140,873,994 BAM and total number of beneficiaries is estimated to 205,187.

[4] The estimate covers institutions „Baković“„Drin“, „Pazarić“ and „Sarajevo“.

[5] Estimate is provided based on a three-year average of the total institutions' costs for 2011, 2012 and 2013.

[6] Estimate is provided based on a three-year average of the number of beneficiaries of an institution for 2011, 2012 and 2013

4.6.2 Costs of the implementation of the Law on the Foundations of Social Protection at cantonal level

Table 8. Total number of beneficiries and total amounts in BAM allocated on the basis of the basic and extended rights at FBiH cantonal level, excluding the right to permanent financial assistance. Compared to 2011, cantonal allocations, according to the new Law, shall be reduced – permanent financial assistance (11,842,739 BAM a year) which shall be replaced by social security minimum is funded from FBiH entity level.

	2011		2012		2013	
Canton	**Number of beneficiaries**	**Total allocated amount in BAM**	**Number of beneficiaries**	**Total allocated amount in BAM**	**Number of beneficiaries**	**Total allocated amount in BAM**
Una Sana Canton	186	1,002,753 BAM	201	996,826 BAM	208	549,329 BAM
Posavina Canton	72	302,660 BAM	80	312,982 BAM	77	334,277 BAM
Tuzla Canton	13,204	5,510,024 BAM	13,794	5,804,629 BAM	12,764	6,133,858 BAM
Zenica-Doboj Canton	8,611	7,687,441 BAM	9,205	8,790,852 BAM	9,325	8,689,045 BAM
Bosnia-Podrinje Canton	784	1,230,443 BAM	799	1,285,427 BAM	789	1,308,247 BAM
Central Bosnia Canton	487	2,762,124 BAM	483	2,677,044 BAM	490	2,735,100 BAM
Herzegovina-Neretva Canton	3,117	2,702,378 BAM	3,517	3,754,340 BAM	3,443	2,960,970 BAM
West Herzegovina Canton	253	916,996 BAM	264	841,060 BAM	325	868,200 BAM
Sarajevo Canton	13,320	16,308,746 BAM	14,039	17,142,205 BAM	14,632	17,112,454 BAM
Canton 10	1,277	117,354 BAM	2,121	303,519 BAM	1,798	299,809 BAM
10 cantons in total	41,311	38,540,920 BAM	44,503	41,908,885 BAM	43,851	40,991,288 BAM

*Authors' estimates based on the received administrative data

Table 9. Trend of total allocated amounts in BAM based on the basic and extended rights at cantonal level in FBiH, excluding the right to permanent financial assistance

2011	38,540,920 BAM
2012	41,908,885 BAM
2013	40,991,288 BAM
2014	39,255,180 BAM
2015	39,990,290 BAM
2016	40,088,305 BAM
2017	40,111,642 BAM
2018	40,119,143 BAM

Based on three-year average 2011-2013 of the total allocated amount in BAM for the basic and extended rights at FBiH cantonal level, excluding the right to permanent financial assistance it is estimated that the budget necessary for the implementation of the working draft of the Law on the Foundations of Social Protection at cantonal level is 40,480,364.00 BAM. This budget covers benefits for 43,222 beneficiaries in 10 cantons of FBiH.

4.6.3 Costs of the implementation of the Law on the Foundations of Social Protection at municipal level in FBiH

Costs of the implementation of the Law on the Foundations of Social Protection at municipal level in FBiH cover the costs of the work of centers for social work and cash benefits of the law of social protection allocated from the municipal budgets and an increase of administration costs due to the introduction of proxy means test in CSW/municipal departments.

Based on the data provided by the Federal Ministry of Labor and Social Policy and authors' estimates, total budget of municipal centers/departments of social work in 2012 was 58,311,739.06 BAM.

Table 10. Percentage composition of the budget of Centers for social work at municipal level in FBiH by the source of the funds

Share of funds from Federation of BiH in the budget of Centers for 2012	3.0%
Share of funds from the canton kantona in the budget of Centers for 2012	58.4%
Share of funds from the municipality in the budget of Centers for 2012	36.1%
Funds from other sources (donations, etc.) in 2012	2.5%
Total	100.0%

Table 11. Percentage composition of the budget of Centers for social work at municipal level in FBiH by the type of expenses

Share of the budget of the Center in expenses for the employees in 2012	28.6%
Share of the budget of the Center in operation expenses (utilities, rent, transportation costs, etc.)	4.4%
Share of the budget of the Center for the rights of the beneficiaries in 2012	66.9%

Total	100.0%

Based on the data provided by the Federal Ministry of Labor and Social Policy for 2012, expenses for the employees and operation expenses are 33.0% of the total expenses or 19,242,873.89 BAM. Around 3.1% of the funds from the municipal budget or 1,807,663.91 BAM is allocated for beneficiaries' rights. The expected increase of administrative costs due to the introduction of proxy means test is estimated to 2,000,000 BAM in all centers for social work in FBiH. Total budget at municipal level in FBiH is estimated to 23,050,537.80 BAM.

Table 12. Assesment of financial impacts of the Law on the Foundations of Social Protection

Level of FBiH	**Beneficiaries**	**Budget**
Social security minimum	203,903	121,986,016.00 BAM
Costs of federal institutions	1,284	17,138,626 BAM
Costs of centers/departments of social work	-	1,749,352 BAM
Total FBiH	**205,187**	**140,873,994 BAM**
Cantonal level		
Based on the basic and extended rights at cantonal level	43,222	40,480,364 BAM
Cantons in total	**43,222**	**40,480,364 BAM**
Municipal level in FBiH		
Expenses for the employees and operation expenses of the CSW	-	19,242,874 BAM
Increase of administration costs	-	2,000,000 BAM
Funds from the municipal budget for the CSW	-	1,807,664 BAM
Municipalities in total		**23,050,538 BAM**
All levels in total	**248,409**	**204,404,896 BAM**

Total cost of the implementation of the Law on the Foundations of Social Protection, including FBIH level, cantonal and municipal level in FBiH is estimated to 204,404,896.00 BAM per year, based on simulations of minimum social security for 2011 and administrative data. The Law would cover 248,409 beneficiaries in FBiH. The largest part of the funds or 140,873,994.00 BAM or 70.0% would be allocated from the budget of FBiH which would cover 205,187 or 82.6% of all beneficiaries. Cantonal level would be burdened with 40,480,364.00 BAM and the municipal level with 23,050,538.00 BAM.

5 *Impacts of a reform of child allowance as defined in the working draft of the Law on Protection of Families with Children*

This section describes the impacts of reforming child allowance in line with the working draft of the Law on Protection of Families with Children. Options simulated are (1) universal child allowance, provided to all children below the age of 18 and not in the labor market, and (2) child allowance allocated on the condition that households qualify for a PMT. When analyzing the results in this section it should be kept in mind that child allowance is currently only provided in 5 out of 10 cantons. In addition, results are based on the assumption of perfect implementation and do not take into account administrative costs for the program.

5.1 Impact on the number of beneficiaries

Administrative data provided by the Ministry of Labor and Social Policy reveal that in 2011 58,036 persons – 1.5% of the population – were registered as recipients of child allowance (see Table 13). The extrapolated number based on HBS data is significantly smaller and amounts to 30,754. As described in the previous chapter (permanent financial assistance), this difference can be explained by the fact that respondents of household surveys do not always reveal the truth to their interviewers, especially when questions asked are related to their income. In addition, the respondent might not be aware that there are persons in the household who receive a benefit.

The data provided by the Ministry of Labor and Social Policy do not contain information on the number of households with beneficiaries of child allowance. However, extrapolation of HBS data shows that 17,934 households – 2.8% of all households in the entity – were home to one or more children receiving child allowance. For the same reasons as above this extrapolated number is likely to be an underestimation of the actual number of households.

As child allowance usually constitutes an addition to the total household budget and spread among all children, for further calculations all children below the age of 18 in the household are counted as beneficiaries. Extrapolation of HBS 2011 suggests that in 2011 31,997 children were beneficiaries of child allowance.

Table 13. Number of beneficiaries of existing child allowance, administrative and extrapolated amounts

	Extrapolated			*Administrative*	
	Amount	In % of population / households	In % of all children	Amount	In % of population
Persons registered as recipients of child allowance	30,754	1.50%	7.0%	58,036	2.8%
Total number of beneficiary households	17,934	2.75%	-	-	-
Total number of beneficiaries, i.e. children below the age of 18 in beneficiary households	31,997	1.6%	7.2%	-	-

Source: Extrapolated - authors' calculations based on HBS data 2011; Administrative - FBiH budget data for 2011 provided by the Ministry of Labor and Social Policy and CSWs.

The working draft of the Law on Protection of Families with Children defines two different options for reform. The first option would result in all children below the age of 18 and not working being eligible for child allowance. In this case, the number of children receiving a benefit would increase to 441,693, or 21.6% of the population in the entity, which is more than fourteen times the size of the current pool of child allowance beneficiaries (see first row of Table 14).

The second option restricts to children to those in households eligible for PMT. In this case, only children younger than 18 years old and not working living among the poorest 10, 15 or 20% of the population would be eligible for child allowance, which would be identified using the same thresholds as shown in Figure 2. The impact of this reform option on the number of beneficiaries is shown in the three bottom rows of Table 14 . In case only children among the poorest 10% of the population would be targeted, a total of 65,247 children – 3.2% of the population or 14.8% of all children below age 18 - would be eligible for a benefit. Note that when the poorest 20% of the population is targeted, 26.5 % of all children are eligible, pointing at the fact that children are on average poorer than adults.

Table 14. Simulated number of beneficiaries* of child allowance after the reform, extrapolated amounts

Program size: Total number of beneficiaries in % of total population	Total number of beneficiaries as a % of all children below 18 years old	Total number of beneficiaries*	Current number of beneficiaries/ new number	Total number of beneficiary households	Total number of beneficiary households in % of all households
21.6%	99.9%	441,693	14.4	265,403	40.7%
3.2%	14.8%	65,247	2.1	33,131	5.1%
4.5%	20.6%	90,997	3.0	48,130	7.4%
5.7%	26.5%	117,254	3.8	63,673	9.8%

Source: Authors' calculations based on HBS data 2011. *Note:* * All children below the age of 18 in households with one or more recipients of child allowance are counted as beneficiaries.

5.2 Impact on the budget

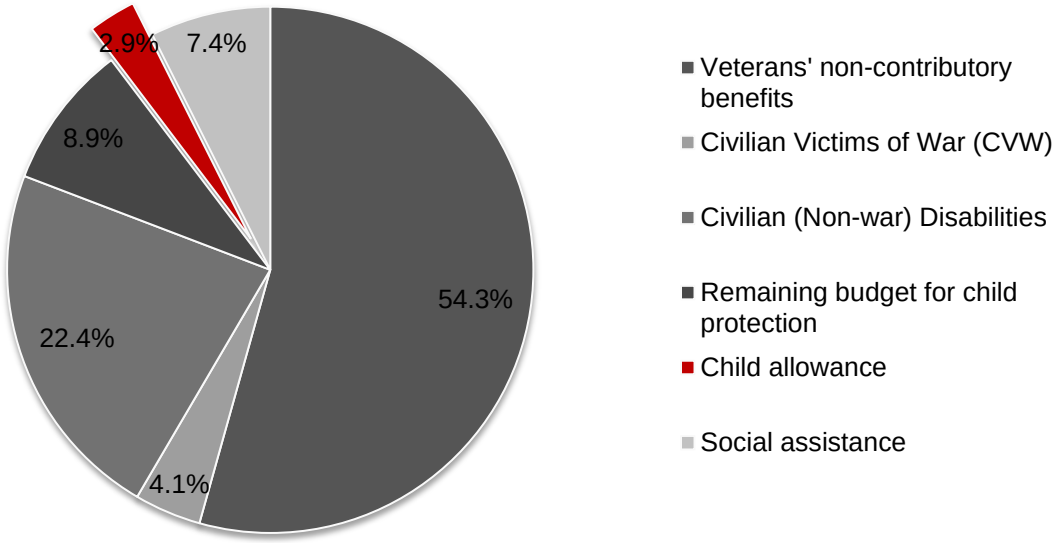
FBiH budget data for 2011 provided by the Ministry and CSWs show that in 2011 a total amount of 17,310,349 BAM was allocated to child allowance, which accounts for 2.93% of the budget for non-contributory social benefits (see Table 15). Extrapolation of HBS 2011 data results in a smaller amount of 14,444,508 BAM. Again, this can be explained by HBS respondents not revealing all information about their income. Figure 9 shows that child allowance constituted 2.9% of the total budget for non-contributory benefits in 2011.

Table 15. Budget allocated to existing child allowance, annual amounts, administrative and extrapolated

	Current budget - extrapolated	Current budget - administrative
In BAM	14,444,508	17,310,349
In % of GDP	0.09%	0.11%
in % of total budget for non-contributory social benefits	-	2.93%

Source: Extrapolated - authors' calculations based on HBS data 2011; Administrative - FBiH budget data for 2011 provided by the Ministries and CSWs.

Figure 9. 2011 budget allocated to child allowance as a % of non-contributory social benefits, based on administrative data



Source: Authors' calculations based on FBiH budget data for 2011 provided by the Ministries and CSW.

Table 16 presents the extrapolated budget after reforming child allowance in line with the different options proposed in the working draft of the Law on Protection of Families with Children. In order to provide child allowance to all unemployed children below the age of 18, a budget of more than five times the amount allocated to child allowance in 2011 would be required, amounting to a total of 76,266,744 BAM. The alternative, which proposes eligibility for child allowance conditional on a PMT, would have the potential to reduce the budget to 0.7 times its size in 2011 (10,511,544 BAM) if children among the poorest 10% of the population would be targeted. The budget would remain at its current level in case of targeting children among the poorest 15% of the population and would slightly increase if children among the poorest 20% of the population would be targeted.

Table 16. Simulated budget allocated to child allowance after reforms, annual extrapolated amounts

	In BAM	In % of GDP	In % of total budget for non-contributory social benefits	After-reform budget / current budget
Universal	76,266,744	0.47%	12.9%	5.3
Conditional – PMT 10%	10,511,544	0.06%	1.8%	0.7
Conditional – PMT 15%	14,917,068	0.09%	2.5%	1.0
Conditional – PMT 20%	19,466,484	0.12%	3.3%	1.3

Source: Authors' calculations based on HBS data 2011.

5.3 Winners, losers and remaining beneficiaries of the reform

A change of the eligibility criteria for child allowance results in different individuals being eligible for a benefit than in the current situation. Four groups of individuals can be distinguished – losers, winners, remaining beneficiaries and remaining non-beneficiaries – which are in detail explained on page 14 (Table 7). Results are expressed in percentage of all children in the entity.

Table 17 presents the winners, losers, remaining beneficiaries and non-beneficiaries of a reform from the existing to universal child allowance. Logically, if child allowance is provided to all children below the age of 18, there will be no losers and remaining non-beneficiaries among this group. Winners are spread over all consumption quintiles, but are highest among the poorest 20% of the population. The explanation for this result is that poorer households tend to have more children (or households with more children tend to be poorer). While 24.5% of all children in FBiH are concentrated in the poorest quintile, 15.5% of all children are part of the richest 20% of the population. Remaining beneficiaries also concentrate among within the poorest consumption quintile.

Table 17. Winners, losers and remaining beneficiaries* of universal child allowance as defined in the working draft of the Law on Protection of Families with Children, in % of all children

	Q1	*Q2*	*Q3*	*Q4*	*Q5*	***Total***
Losers	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**
Winners	21.5%	18.9%	19.1%	18.0%	15.0%	**92.6%**
Remaining beneficiaries	2.8%	1.9%	1.0%	1.1%	0.5%	**7.2%**
Remaining non-beneficiaries	0.0%	0.0%	0.0%	0.0%	0.0%	**0.1%**
TOTAL	*24.3%*	*20.8%*	*20.1%*	*19.1%*	*15.5%*	**99.9%**

Source: Authors' calculations based on HBS 2011 data. *Note*: Consumption quintiles are based on monthly per adult equivalent consumption (OECD 1 scale) before allocation of transfers. In case the one or more children in a household receive child allowance under current or draft legislation, all children below the age of 18 are counted as beneficiaries.

Table 18 shows the winners, losers, remaining beneficiaries and non-beneficiaries of a reform to child allowance only provided to children in households qualifying for a PMT. As a PMT aims to target poor households, winners concentrate within the poorest consumption quintile. A larger program results in a higher share of winners in the first quintile, but due to increasing inclusion errors (i.e. erroneous identification of the non-needy as "poor") the share of winners in the other quintiles also becomes larger.

Table 18. Winners, losers and remaining beneficiaries of PMT-tested child allowance as defined in the working draft of the Law on Protection of Families with Children, in % of all children

Child allowance	*Q1*	*Q2*	*Q3*	*Q4*	*Q5*	***Total***
Losers	1.0%	1.9%	0.9%	1.1%	0.5%	**5.3%**
Winners	9.7%	2.1%	0.6%	0.3%	0.1%	**12.8%**
Remain beneficiaries	1.8%	0.1%	0.0%	0.0%	0.0%	**1.9%**

Remaining non-beneficiaries	11.8%	16.8%	18.5%	17.7%	14.9%	**79.8%**
TOTAL	*24.3%*	*20.8%*	*20.1%*	*19.1%*	*15.5%*	***99.9%***
Losers	0.8%	1.7%	0.9%	1.0%	0.5%	**4.8%**
Winners	12.7%	3.8%	0.9%	0.6%	0.1%	**18.1%**
Remain beneficiaries	2.0%	0.3%	0.1%	0.0%	0.0%	**2.4%**
Remaining non-beneficiaries	8.9%	15.0%	18.2%	17.5%	14.9%	**74.5%**
TOTAL	*24.3%*	*20.8%*	*20.1%*	*19.1%*	*15.5%*	***99.9%***
Losers	0.7%	1.4%	0.8%	0.8%	0.4%	**4.1%**
Winners	14.9%	5.4%	2.0%	0.8%	0.3%	**23.4%**
Remain beneficiaries	2.1%	0.6%	0.2%	0.2%	0.1%	**3.1%**
Remaining non-beneficiaries	6.7%	13.5%	17.1%	17.2%	14.7%	**69.2%**
TOTAL	*24.3%*	*20.8%*	*20.1%*	*19.1%*	*15.5%*	*99.9%*

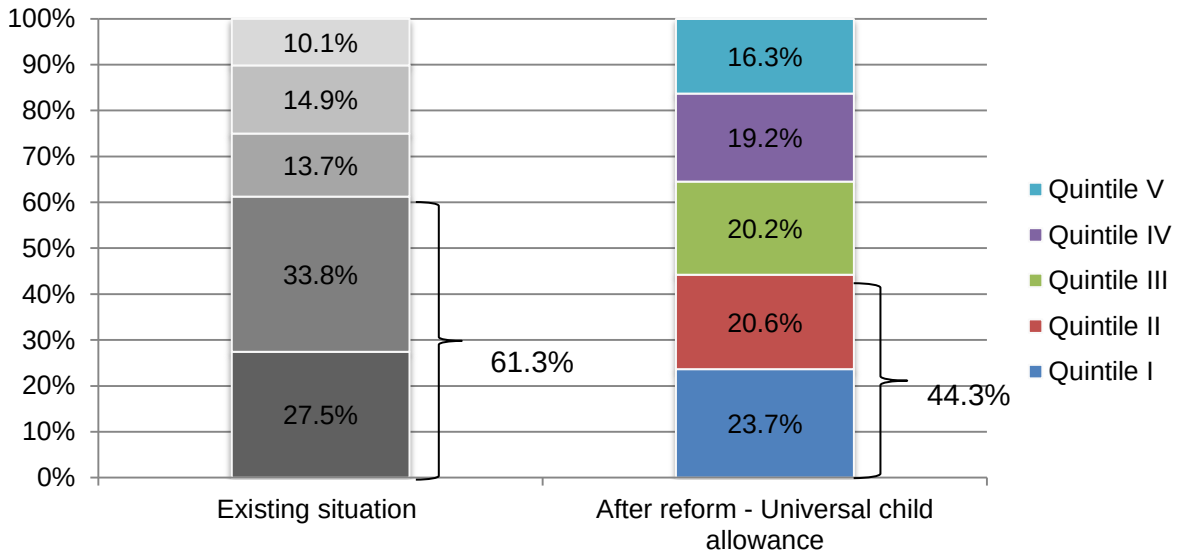
Source: Authors' calculations based on HBS 2011 data. *Note*: Consumption quintiles are based on monthly per adult equivalent consumption (OECD 1 scale) before allocation of transfers. In case one or more children in a household receive child allowance under current or draft legislation, all children below the age of 18 are counted as beneficiaries. Calculations assume perfect implementation.

5.4 Changes in the distribution and adequacy of benefits

Figure 10 presents the distribution of child allowance in the existing situation as well as after a reform to universal child allowance, i.e. provided to all children younger than 18 years old and not working. Currently, some cantons restrict provision of child allowance to households that qualify for a means-test, which may be an explanation for the comparably large share of benefits (61.3%) allocated to the first and second consumption quintile.

After the reform, in the first option, the universal child allowance would no longer be conditional upon the welfare status of households, leading to a less pro-poor, more equally spread distribution of benefits. As a result, the share of benefits allocated to the first and second consumption quintile would account for 44.3% of the total budget for child allowance, while the rest of benefits would be distributed to the richer quintiles. In spite of the fact that allocation of benefits would no longer depend on household income, the poorest consumption quintile would still receive a larger share of total benefits as compared to the share allocated to the richest consumption quintile. As previously explained, the explanation for this difference is that households with many children on average tend to be poorer (while 24.3% of all children are concentrated in the poorest consumption quintile, only 15.5% of children are part of the richest consumption quintile).

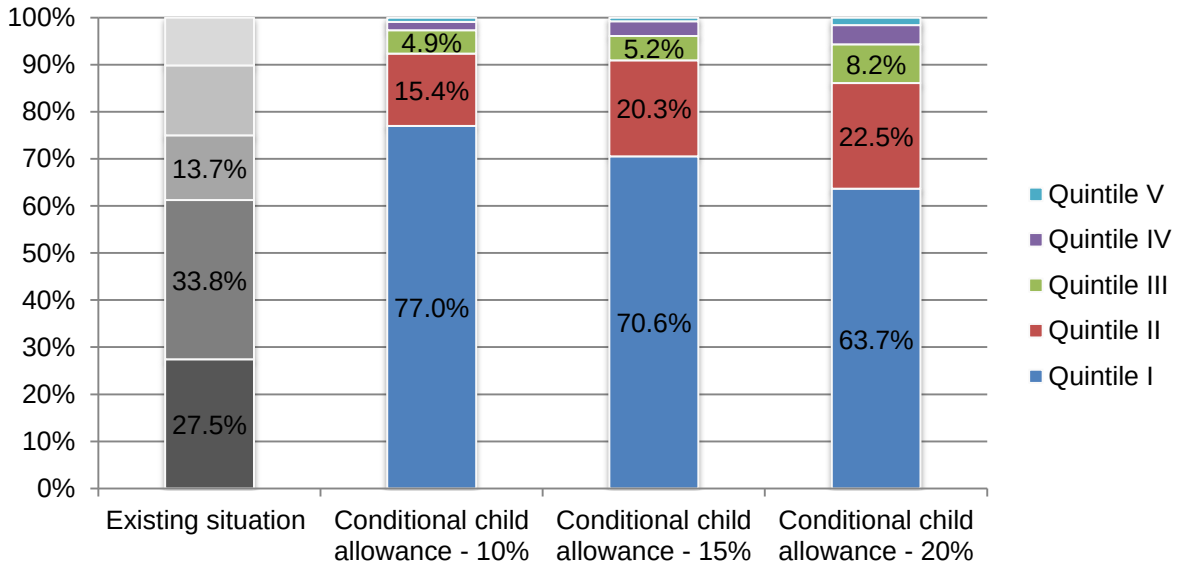
Figure 10. Distribution of benefits over consumption quintiles before and after the reform to universal child allowance



Source: Author's calculations based on HBS 2011. *Note*: Consumption quintiles are based on monthly per adult equivalent consumption (OECD 1 scale) before allocation of transfers. Calculations assume perfect implementation.

Figure 11 presents the distribution of benefits if child allowance would exclusively be allocated to children in households qualifying for a PMT (option II in the Law). The figure shows that applying a PMT causes a strong shift in the distribution of benefits towards the poor. In case children among the poorest 10% of the population are targeted, 77.0% of child allowance would be allocated to the poorest consumption quintile. If the target group is increased to children among the poorest 15 or 20%, this share decreases due to leakage of benefits to other quintiles.

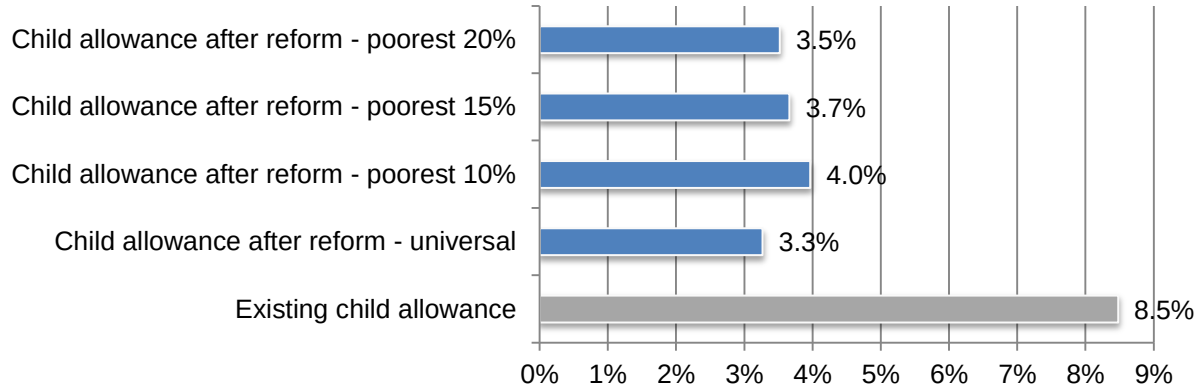
Figure 11. Distribution of benefits over consumption quintiles before and after the reform to PMT-tested child allowance for children among the poorest 10, 15 or 20% of the population



Source: Author's calculations based on HBS 2011. *Note*: Consumption quintiles are based on monthly per adult equivalent consumption (OECD 1 scale) before allocation of transfers. Calculations assume perfect implementation.

In order to assess to what extent benefits contribute to the income of poor households, we calculate the average share of benefits in post-transfer household consumption of households in the first quintile, using consumption as a proxy for income (see Figure 12). Obviously, if child allowance is provided universally, all children in the poorest quintile receive a benefit. Hence, the average share of benefits in household consumption is smallest in this case, amounting to 3.3%. If child allowance is only provided to households that qualify for a PMT, adequacy of benefits increases slightly. To illustrate the logic behind this, we take child allowance targeted to the poorest 10% of the population as an example. The consumption of these households is on average lower than the consumption of the poorest 20%. Logically, the average share of total child allowance in the post-transfer consumption of the poorest 10% is larger (4.0%).

Figure 12. Average share of total child allowance in post-transfer consumption of beneficiary households, first consumption quintile



Source: Authors' calculations based on HBS 2011 data. *Note*: Consumption quintiles are based on monthly per adult equivalent consumption (OECD 1 scale) before allocation of transfers.

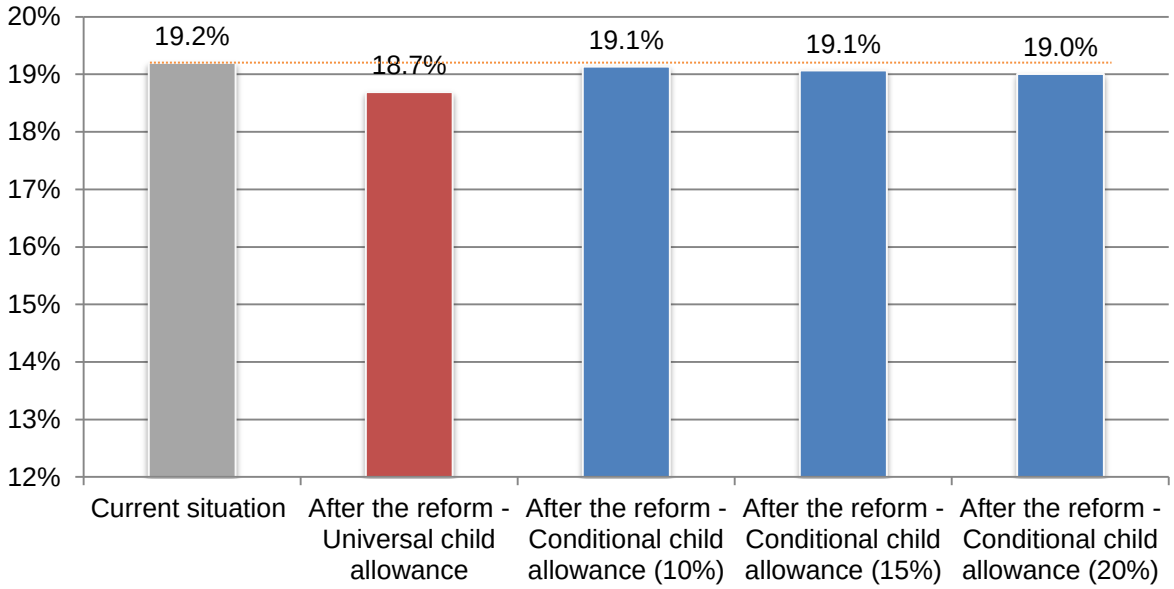
5.5 Poverty impacts

The FBiH Law on the Foundations of Social Protection, Protection of Civilian Victims of War and Protection of Families with Children stipulates aims to provide all children with the same conditions for development and education. Thus, the main goal of child protection is not poverty alleviation but rather ensuring equal opportunities for children, irrespective of the welfare status of the household they are living in. Nevertheless, this section assesses the poverty impacts of reforming child allowance in line with the different options proposed in the working draft of the Law on Protection of Families with Children.

Figure 13 illustrates the poverty headcount ratio before and after reforms. The red bar represents the situation after a reform and universal child allowance (option I), while the blue bars represent the situation after a reform which makes child allowance conditional upon qualifications for a PMT i.e. identifying children among the poorest 10, 15 or 20% of the population (option II). Due to small benefit amounts of child allowance, it has no potential to significantly reduce the share of poor persons in the population, irrespective of whether it is universally or conditionally allocated. Impacts are slightly stronger if child allowance is provided to all children below 18 years old in the entity, but remain marginal. Considering that calculations are based on the assumption of perfect implementation, results are most

likely overestimated, meaning that in reality there might be no reductions in the poverty headcount ratio whatsoever.

Figure 13. Poverty headcount ratio - poor persons as a share of the total population, before and after reforms

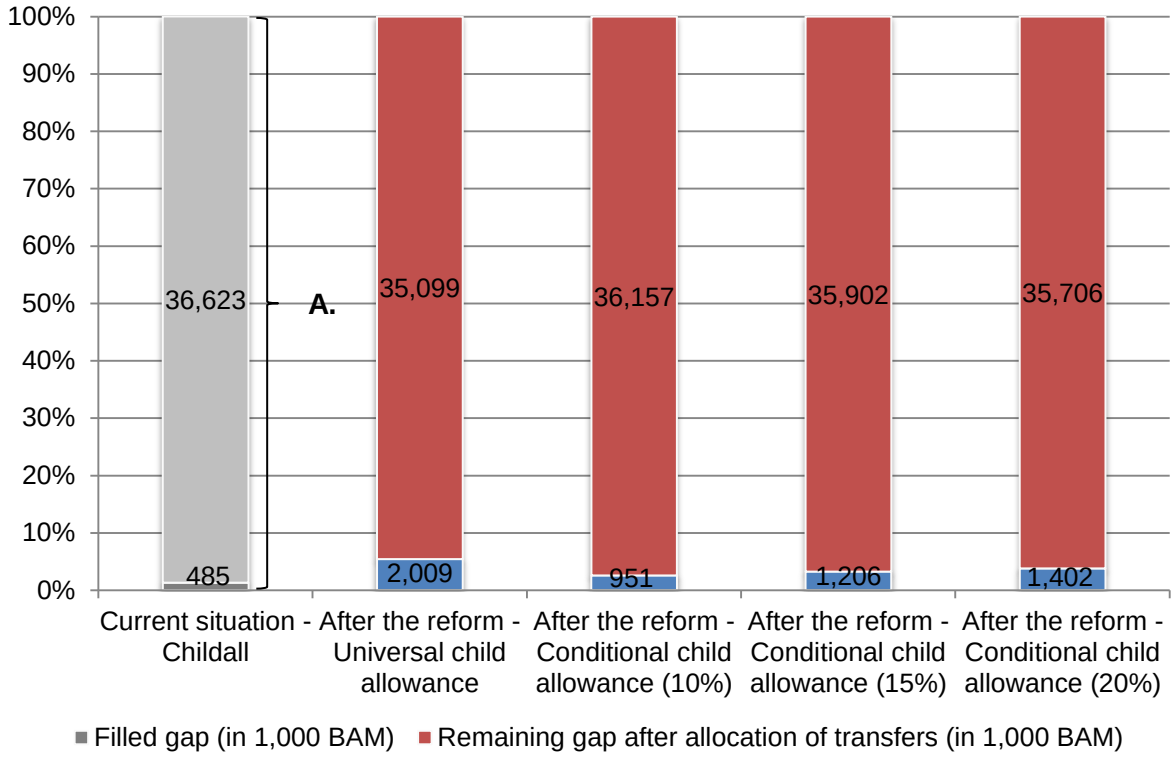


Source: Authors' calculations based on HBS 2011 data.

The impacts of the reforms on the poverty gap – the total amount of money needed to bring the consumption of all poor individuals up to the poverty line – are shown in Figure 14. The figure shows that existing child allowance fills 485,000 BAM of the total poverty gap in the entity (A), resulting in a remaining gap of 36,623,000 BAM.

Child allowance that would universally be allocated to all children below 18 years old (option I) would fill 2,009,000 BAM of the total gap, still leaving an after-transfer gap of 35,009,000 BAM. Allocation of child allowance conditional upon qualification for a PMT (option II) would have even less impact on the poverty gap than universally allocated child allowance. In all cases, impacts on the poverty gap constitute improvements of the current situation, but compared to the remaining poverty gap after allocation of transfers these improvements are only marginal.

Figure 14. Poverty gap – the amount of money needed to bring consumption of the poor up to the poverty line, before and after the reforms



Source: Author's calculations based on HBS 2011 data.

5.6 Consolidated fiscal impacts of the working draft of the Law on Protection of Families with Children

5.6.1 Costs of the implementation of the Law on Protection of Families with Children at FBiH entity level

Fiscal analysis of the articles 15, 16 and 17 of the Law on Protection of Families with Children

Total number of beneficiaries and the budget necessary for exercising the rights stipulated in the articles 15, 16 and 17 of the working draft of the Law on Protection of Families with Children, as seen in the first part, based on simulations of data from HBS 2011, is:

Option 1 – All children below 18 years of age are entitled to child allowance: 441,693 beneficiaries living in 265,403 households. Budget necessary for exercising the rights is estimated to 76,266,744.00 BAM.

Option 2 – Family qualified for social security minimum according to the working draft of the Law on the Foundations of Social Protection and PMT implementation (focused on 10% of the poorest population) is entitled to child allowance: 65,247 beneficiaries living in 33,131 households. Budget necessary for exercising the rights is estimated to: 10,511,544.00 BAM.

Fiscal analysis of the Article 23 of the Law on Protection of Families with Children

„Article 23**.**

(Allowance to unemployed mothers with newborn babies)

(1) An unemployed mother with a newborn baby who is eligible for the minimum social security shall be entitled to a cash benefit in the amount of the minimum social security for one person.

(2) The amounts higher than the amount laid down in the paragraph 1 of this Article may be established by cantonal regulations.“

Reimbursement of salary for the employed mother for the period when she is absent from work due to the pregnancy, childbirth and care for the child according to the working draft of the Law on the Protection of Families with Children would not be in the social protection system, but transferred to the system of health care.

It is estimated that in 2012, 1,973 mothers with newborn baby would qualify for social security minimum. These mothers would receive 122.50 BAM during 12 months which gives monthly amount of 241,625.5 BAM or 2,900,310.0 BAM per year.

5.6.2 Costs of the implementation of the Law on Protection of Families with Children at cantonal level

Table 19. Total number of beneficiaries and total amounts in BAM allocated on the basis of the basic and extended rights at cantonal level of the Law on Protection of Families with Children in FBiH, excluding child allowance and maternity benefit for an employed mother during absence from work due to pregnancy, childbirth and care for the child

	2011		**2012**		**2013**	
Canton	**Number of beneficiaries**	**Total allocated amount in BAM**	**Number of beneficiaries**	**Total allocated amount in BAM**	**Number of beneficiaries**	**Total allocated amount in BAM**
Una Sana Canton	134	160,800 BAM	101	121,200 BAM	114	136,800 BAM
Posavina Canton	180	171,600 BAM	169	163,500 BAM	146	142,250 BAM
Tuzla Canton	752	452,995 BAM	822	642,357 BAM	775	707,022 BAM
Zenica-Doboj Canton	3408	576,838 BAM	3,462	606,134 BAM	3,171	554,626 BAM
Bosnia-Podrinje Canton	348	863,799 BAM	404	942,128 BAM	462	1,087,625 BAM
Central Bosnia Canton	6	16,848 BAM	6	16,992 BAM	6	23,808 BAM
Herzegovina-Neretva Canton	-	-	-	-	-	-
West Herzegovina Canton	1,322	885,286 BAM	1,244	874,820 BAM	1,265	843,620 BAM

Sarajevo Canton	2,723	3,859,915 BAM	2,757	3,827,090 BAM	2,741	3,791,429 BAM
Canton 10	197	39,400 BAM	191	38,400 BAM	225	274,600 BAM
10 cantons in total	9,070	7,027,480 BAM	9,156	7,232,621 BAM	8,905	7,561,779 BAM

Based on three-year average 2011-2013 of total allocated amount in BAM on the basis of basic and extended rights at cantonal level in FBiH of child allowance and maternity benefit for an employed mother during absence from work due to pregnancy, childbirth and care for the child, budget necessary for the implementation of the Law on Protection of Families with Children in FBIH at cantonal level amounts to 7,273,960.00 BAM. Average number of beneficiaries is estimated to 9,044.

5.6.3 Costs of the implementation of the Law on Protection of Families with Children at municipal level in FBiH

Costs of work of children kindergartens and centers for early growth and development could not be estimated due to the lack of administrative data.

Table 20. Estimate of financial impact of the Law on Protection of Families with Children – Option 1

Level of FBiH	**Beneficiaries**	**Budget**
Option 1		
All children below 18 years of age are entitled to child allowance	441,693	76,266,744 BAM
Allowance to unemployed mother with a newborn baby	1,973	2,900,310 BAM
Total FBiH	**443,666**	**79,167,054 BAM**
Cantonal level	**Beneficiaries**	**Budget**
Basic and extended rights at cantonal level in FBiH	9,044	7,273,960 BAM
Cantons in total	**9,044**	**7,273,960 BAM**
Municipal level	**Beneficiaries**	**Budget**
Municipalities in total	**-**	**-**
All levels in total	**452,710**	**86,441,014 BAM**

Total costs of the Law on Protection of Families with Children in Option 1 where all children below 18 years of age are entitled to child allowance, at the level of FBiH and the cantons is estimated to 86,441,014.00 BAM. The Law would cover 452,710 beneficiaries in FBiH. The largest part of the funds or 79,167,054 BAM or 91.6% would be allocated from the budget of FBiH which would cover 443,666 or 98.0% of all beneficiaries.

Table 21. Estimate of financial impact of the Law on Protection of Families with Children – Option 2

Level of FBiH	**Beneficiaries**	**Budget**
Option 2		
Family qualified for social security minimum according to the working draft of the Law on the Foundations of Social Protection is entitled to child allowance	65,247	10,511,544 BAM
Allowance to unemployed mother with a newborn baby	1,973	2,900,310 BAM
Total FBiH	**67,220**	**13,411,854 BAM**
Cantonal level	**Beneficiaries**	**Budget**
Basic and extended rights at cantonal level in FBiH	9,044	7,273,960 BAM
Cantons in total	**9,044**	**7,273,960 BAM**
Municipal level	**Beneficiaries**	**Budget**
Municipalities in total	**-**	**-**
All levels in total	**76,264**	**20,685,814 BAM**

Total costs of the Law on Protection of Families with Children in Option 2 where a family qualified for social security minimum according to the working draft of the Law on the Foundations of Social Protection is entitled to child allowance, at the level of FBiH and the cantons is estimated to 20,685,814.00 BAM. The Law would cover 76,264 beneficiaries in FBiH. The largest part of the funds or 13,411,854.00 BAM or 64.8% would be allocated from the budget of FBiH which would cover 67,220 or 88.1% of all beneficiaries.

Annex of the working draft of the Law on Protection of Families with Children gives an estimate of fiscal impact of the Article 16 “Allowance to nursing mother who was employed” in order to have an estimate of the budget that shall be transferred from social protection system to the system of health care.

3 options were given as follows:

OPTION 1

Universal allowance for all mothers with newborn babies for a period of six months in the amount of the basis (the lowest cost of labour – the lowest salary, approximately 350.00 BAM)

OPTION 2

All the employed mothers with newborn babies are entitled to the maternity leave allowance for the period of 12 months in the amount of 100% (or some percentage) of the basis.

OPTION 3

All the employed mothers who were employed

- for longer than 12 months shall receive the allowance for 12 months in the amount of 100% of the basis;

- if they were employed for a period of 6 – 12 months, they shall receive the allowance for 9 months in the amount of 80% of the basis;

- if they were employed for 6 months, they shall be entitled to receive the allowance for 6 months in the amount of 50% of the basis.

Fiscal impacts of these 3 options are as follows:

OPTION 1

Universal allowance for all mothers with newborn babies for a period of six months in the amount of the basis (the lowest cost of labour – the lowest salary, approximately 350.00 BAM)

Based on administrative data and authors' estimates, total number of employed mothers with newborn babies in FBiH is estimated to 8,302. Each of these mothers would receive 350 BAM a month. Total monthly amount is estimated to 2,905,700.00 BAM and annually to 17,434,200.00 BAM.

OPTION 2

All employed mothers with newborn babies are entitled to the maternity leave allowance for the period of 12 months in the amount of 100% (or some percentage) of the basis

Based on administrative data and authors' estimates, total number of employed mothers with newborn babies in FBiH is estimated to 8,302. Each of these mothers would receive 350 BAM a month. Total monthly amount is estimated to 2,905,700.00 BAM and annually to 34,868,400.00 BAM.

OPTION 3

All the employed mothers who were employed

- for longer than 12 months shall receive the allowance for 12 months in the amount of 100% of the basis;

- if they were employed for a period of 6 – 12 months, they shall receive the allowance for 9 months in the amount of 80% of the basis;

- if they were employed for 6 months, they shall be entitled to receive the allowance for 6 months in the amount of 50% of the basis.

Proportion of employed women between 15-44 years of age is taken as a conservative estimate due to the lack of adequate administrative data on the number of the employed by the length of their service – below 18 years of age as an estimate of the number of employed women with less than 6 months of service, 18-24 years of age as an estimate of the number of employed women with 6-12 months of sevice.

Based on administrative data and authors' estimates, total number of employed mothers with newborn babies in FBiH is estimated to 8,302. Using different ratios of financial assistance and different periods of time it is shown that monthly amount of this benefit is 2,820,978.00 BAM and 33,851,736.10 BAM per year.

Table 22. Estimate of impact of the Annex of the Law on Protection of Families with Children

Level of FBiH	Beneficiaries	Budget
Option 1		
Universal allowance for all mothers with newborn babies for a period of six months in the amount of the basis	8,302	**17,434,200 BAM**
Option 2		
All employed mothers with newborn babies are entitled to the maternity leave allowance for the period of 12 months in the amount of 100% (or some percentage) of the basis	8,302	**34,868,400 BAM**
Option 3		
All the employed mothers who were employed - for longer than 12 months shall receive the allowance for 12 months in the amount of 100% of the basis - if they were employed for a period of 6 – 12 months, they shall receive the allowance for 9 months in the amount of 80% of the basis - if they were employed for 6 months, they shall be entitled to receive the allowance for 6 months in the amount of 50% of the basis	8,302	**33,851,736 BAM**

The number of beneficiaries is the same in all these three options. The smallest budget is required for option 1 and it is almost two times smaller than the budget in options 2 and 3. Budget in option 3 is about million BAM smaller than the one in option 2.

Given the fact that the working draft of the Law on Protection of Families with Children proposes that the allowances for the employed mothers with newborn babies who were employed should be transferred to the system of health insurance, the budgets from these options are not calculated in the consolidated budgets necessary for the implementation of this Law.

6 Application of Proxy Means Test and estimate of administrative costs

As we know, each of the 10 cantons has a ministry responsible for civilian non-contributory cash benefits and cantonal laws on the foundations of social protection. The Federal Law on the Foundations of Social Protection and the Law on Protection of Families with Children guarantee a minimum social security and child allowance at the territory of the entire FBiH, leaving the possibility to the cantons to expand the rights stipulated in the law.

Bearing in mind that the proxy means test would be implemented through centers for social work and municipal departments, the estimate of administration costs of PMT implementation is given only for that activity.

FBiH has significant capacities in social protection: 59 centers for social work (including 2 cantonal ones), 21 municipal departments – 80 institutions in total. In 2012, 81% of the total number of 652 employees worked on specific cases.

Change of character of social benefits will reflect on the process of its application. Directing the benefits towards a higher number of the poor will expand the number and circle of users of cash benefits in social protection. It is expected that more than 200,000 people (heads and members of a household) will apply for a social security minimum in FBiH, providing the distribution of beneficiaries to be shifted from one-member households to households with more members and a larger number of children. The number of applicants will also increase (from possible 76,000 to 452,000), depending on the option chosen for child allowance (universal vs. just households eligible for the social security minimum).

That increase will not happen at once, since not all potential applicants will apply for a benefit at the very beginning of the application of the law (lack of information, etc.) and given the process of application itself. Increase in the number of beneficiaries will result in the need for an increase in the number of employees working on social benefits in centers for social work. A significant increase in the number of applicants for a cash benefit is especially expected in big local communities which have a large number of beneficiaries. This necessity can be fulfilled by integrating human resources (centers for social work, administration departments in the municipalities) working on these issues and through a more efficient organization that could transfer a significant number of resources performing other (supporting) tasks to performing functions of the implementation of the new program for poverty alleviation. This particularly applies to administration staff who, with additional training, could work on reception issues and help beneficiaries to fill in the application, enter data into the database, distribute resolutions, etc. Through this approach of rational and efficient use of resources, increase in the number of employees and material cost would be minimal (up to 10%) and it would directly affect the increase in administration costs for the implementation of the program for about 2 million BAM. It is known that most of the budget of centers for social work goes to wages of the employees (around 28%), and all other costs are smaller.[7]

The new targeting model shall necessitate development of an appropriate software program, and this issue is being addressed through the Component II of the Social Safety Net and Employment Support Project. This is the Component 'Strengthening of the benefits administration and monitoring', with the subcomponent of ' Development and implementation of functional registries'. This will strengthen the social protection information system – SOTAC, which will permit management of applications, verification of qualification, management of approvals, rejections and disbursements, as well as real-time linking of the

[7] As shown in Table 11, in the total budgets of CSW and municipal departments in FBiH, 66.9% of the budget ges to exercise of rights, 28.4% to wages of the employees, and 4.4% to operation costs.

centers for social work, municipal departments for veterans and disabled persons protection and responsible (line) ministries for internal and external cross-checks, with preservation of historical data, as well as provide analytical possibilities on all levels of operation. The centers for social work and the line ministry will not bear the cost of development of this software. In parallel with the software development, the same component will train the key staff for the program's implementation, who can in turn continue to transfer these skills to their colleagues and co-workers.

A certain number of centers for social work shall have the need for additional equipment, and therefore new administrative costs will be limited. Purchase of new computer equipment for CSW (with around 70 new computers) is currently ongoing through the Project Implementation Unit for Social-economic Support, Training and Redeployment – PIU SESER working within the Federal Ministry of Labor and Social Policy, so these costs are taken into consideration.

The implementation of the new model will at the outset require administrative services and departments to be better equipped with vehicles and be covered for transportation costs due to the increase in site visits. Procurement of vehicles for the centers for social work may become possible through reallocation of resources within the units of local government and by special programs that would be supported by the Government, units of local government and donors.

The office costs related to office supplies and other costs do not represent a significant item in the overall administrative costs.

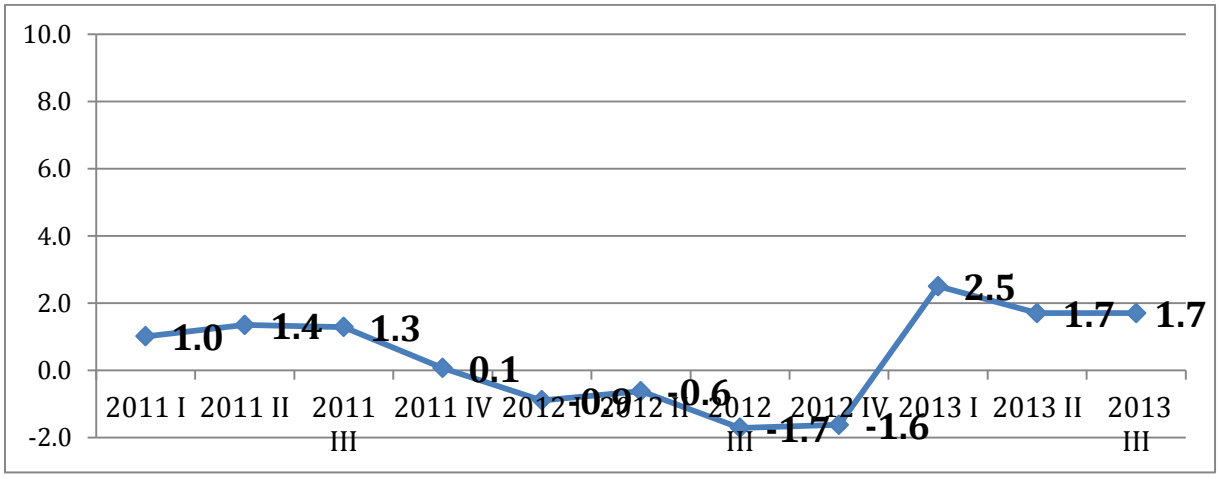
Involvement of various participants, processing and consolidation of data in one place and the support of the above mentioned project will allow significant rationalization of administrative costs which are realistic in implementation of the new targeting model. The greatest role in this process will have to be borne by the management, who need to develop the work organization and task allocation in a planned and systematic fashion on the basis of efficient resource allocation. Auxiliary tools for the management will be the development of work procedures with clear and detailed standardized procedures, the information system and staff training. But, beforehand, the management shall have to carry out an analysis of the human resources in the organization and, through appropriate human resources management, allocates tasks efficiently, as well as to group the tasks into appropriate organizational units. For this reason, in the preparation stage special attention must be devoted to inclusion of the management of the centers for social work into the process of implementation of the model and into developing their capacity for the upcoming tasks. Adoption of a regulation that would prescribe a single organizational model and standards for all centers for social work on the level of FBiH would also constitute support to the management in the centers of social work.

7 *Macroeconomic and fiscal trends in FBiH – Non-contributory cash benefits for the implementation of the new Law on the Foundations of Social Protection the Law on Protection of Families with Children*

Fiscal impact analysis of PMT implementation for the period 2014-2018 firstly needs to be viewed in a broader context of economic growth and fiscal trends in Federation of BiH. After a 3% recession in 2009 in Federation BiH, the two subsequent years yielded very modest economic results, expressed in the growth rates of 0.7% and 1.4%. However, the renewed contraction of the GDP in 2012 was particularly detrimental. In this year, the Federation of BiH GDP contracted by 1.1%. This GDP contraction was caused by unfavorable global economic trends, particularly in the EU, where most countries that are the exports market for FBiH goods were in recession.

After the fall of GDP in u 2012, macroeconomic situation in 2013 was slightly improved. This improvement was primarily a result of improvement in EU countries and consequently and of good results of export-oriented countries. In the first quarter of 2013, GDP increased by 2.5% compared to the level of GDP in the same period of the previous year and in the next two quarters by 1.7%.

Figure 15. FBiH GDP growth, by quarters (in %)

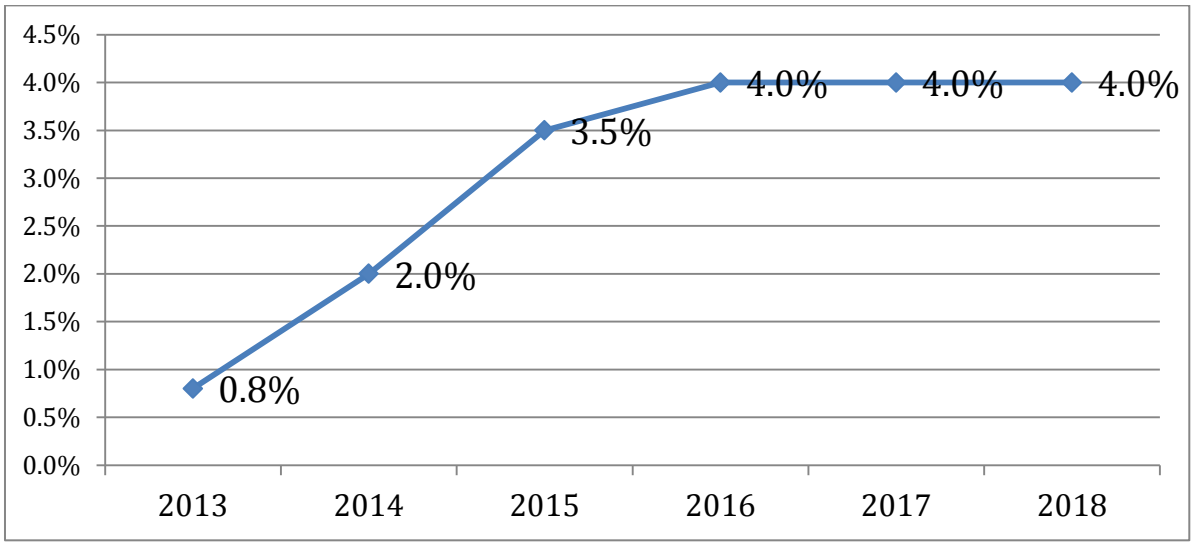


Source: Federal Institute of Statistics

This data reveals that FBiH exited the recession that prevailed in 2012, but also that this recovery was modest. With the economic growth at around 1.5%, it is more of a slight than a meaningful recovery. This is particularly because the current development does not have a more significant impact on the labor market, where only a minor improvement is noticeable.

As far as the projections of the future economic growth are concerned, in February 2014 the International Monetary Fund published its projections of growth for BiH until 2018. According to these projections, a slight growth is predicted in 2013, as well as constant increase in GDP growth rate in the period 2014-2016 and retention of growth rate of 4% in the period 2016-2018. It needs to be taken into consideration that the projections were prepared before the catastrophic floods in BiH in May 2014 which will result in reducing the projected GDP growth rates until 2018. Given the fact that there are no new projections, we used the projections officially published in February 2014.

Figure 16. IMF projections of the real GDP growth rate in BiH (in %)

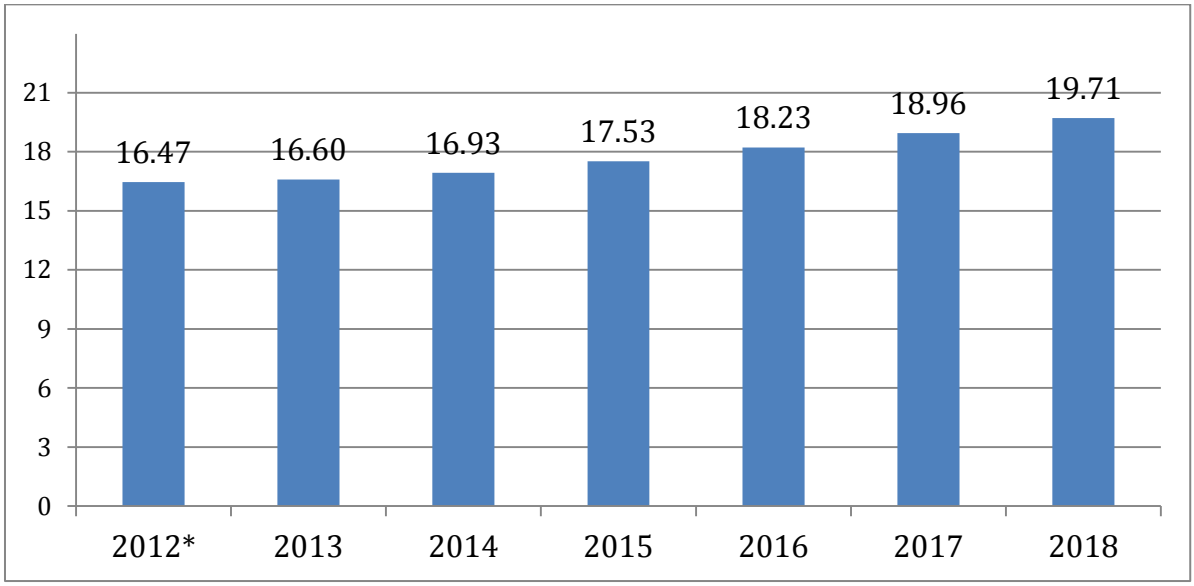


Source: IMF (2014), Fifth Review under the Stand-By Arrangement, IMF Country Report No. 14/39, Washington, February 2014, available at http://www.imf.org/external/pubs/cat/longres.aspx?sk=41317.0

As the IMF, according to available information, generates projections only for the level of BiH, we shall take this projection as relevant to the real GDP growth of the Federation of BiH. In accordance with this projection, FBiH GDP will rise from 16.5 billion BAM in 2012 to 19.7 billion BAM in 2018.

This information is of exceptional significance to us for future projection of non-contributory social benefits. On the one hand, the economic growth offers broader possibilities for escaping poverty, while on the other, ensures greater availability of funds to support those who remain below the poverty line.

Figure 17. FBiH Real GDP on the basis of IMF's projection for BiH (in billions BAM)[8]



Source: IMF (2014), Fifth Review under the Stand-By Arrangement, IMF Country Report No. 14/39, Washington, February 2014 and authors' calculations

*the amount of FBiH GDP for 2012 is a data by the Federal Institute of Statistics

[8] Cumulative GDP growth from 2012 to 2018 is 19.7%

Fiscal situation

It must be noted that the 2012 recession had a very hard impact and that it further exacerbated the state of FBIH public finances. Namely, due to the GDP contraction of 1.1% in 2012, public finances shrank, public expenditures rose and the debt expanded, resulting in the increased budget deficit of 2.4%. In that situation, a slight recovery in 2013 had no much impact.

Table 23. FBiH consolidated budget, 2007-2012 (in GDP %)

	2007	**2008**	**2009**	**2010**	**2011**	**2012**
Revenues (in % of GDP)	42.9	41.8	39.9	41.5	40.5	40.3
Expenditures (in % of GDP)	40.1	42.2	41.3	40.5	39.8	40.0
Overall budget surplus/deficit (in % of GDP)	1.0	-3.0	-3.4	-0.8	-1.3	-2.4

Source: CBBH
*Obligations of paying domestic and foreign debt are included within the overall deficit

We should also consider the fiscal policy in FBiH and BiH and its outcomes. In both FBiH and BiH, the fiscal policy has been restrictive to a considerable extent, in an attempt to balance the budgets as soon as possible. It reveals a simple approach, promulgated by the international financial institutions, primarily the IMF, about the necessity to raise revenues and reduce and restructure expenditures. In itself, this approach is not inappropriate.

However, the mode of its implementation here further aggravates our situation. Namely, the revenues may be increased in two ways – through a policy where economic growth generates higher tax revenues, or a policy of increasing the tax burden to collect higher tax revenues. We chose the latter approach, which raises public revenues in the short term, but, long-term, destimulates the economy and consequently causes dwindling tax revenues.

With respect to expenditures, the policy is extremely restrictive, a policy of austerity. Frequently, the arguments advanced in support of the strict fiscal austerity are wrong, derived on the basis of a simple comparison with the need of an over-in-debted household to save. It needs to be noted that this analogy is inappropriate due to its extreme oversimplification of the situation, which leads to mistaken conclusions.

Instead of the strict fiscal austerity policy, the economic growth stimulus policy should be at the forefront. That approach would stimulate economy, incentivize creation of new companies and by stimulating economy, we increase employment. The primary problem is not that the so-called fiscal adjustment policy, or austerity policy aimed to place public finances under control is wrong. On the contrary, it is often necessary, particularly with regard to administrative costs, but a rigid austerity policy is validated by the repayment of loans and not for ensuring a path to economic growth and providing for citizens through employment.

The issue at stake here is that this policy in implementation is not adequately supported by other policies that might bring about economic growth. Multiple policies should be

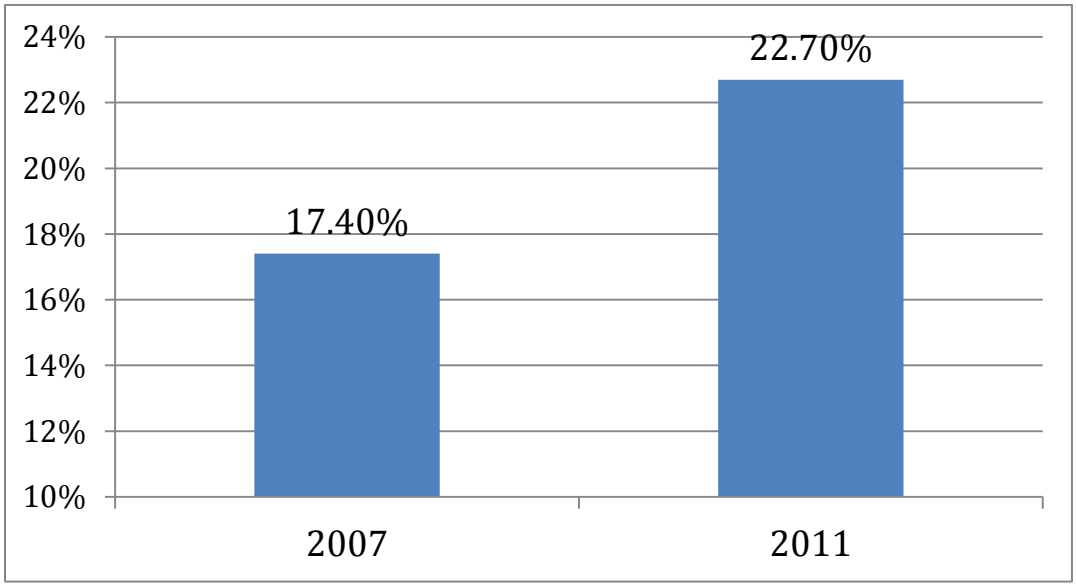
implemented concurrently, as this is a process that needs to unfold simultaneously. The insistence on harsh fiscal discipline cannot, in itself, be the only way out of the crisis. It lacks the necessary scope to generate the needed economic growth. In the present situation, its effects are exhausted on improving figures, but the essential problem of insufficient growth persists, and even worsens.

Trend of the overall social protection benefits

Social policy is one of the policies that should act concurrently and actively to enhance the living standards of the population. The entire society is paying the bills for the current crisis, but the burden of the economic failure is not shared by all its members in the same way, because the burden of the failure is not shared by everyone equally.

This crisis impacts the population below or at the poverty line to a much greater extent. According to the absolute poverty line of 238 BAM, we can see that there is a significant number of people who had not been poor in 2007, but who slid below the poverty line in 2011.

Figure 18. FBiH population below the absolute poverty line of 238 BAM



Source: Poverty in BiH – Trends and Achievements, IBHI, Sarajevo, 2013

Therefore, there is a major increase in poverty during the current crisis period, which needs to be mitigated and reduced to the extent possible. In Table 24, we can see how much FBiH allocates for social benefits.

Table 24. FBiH social protection benefits, 2007.-2012 (in % of GDP)

	2007	2011	2012
Social Protectio	0.27%	0.27%	0.27%
Child and family protection	0.34%	0.43%	0.44%
Persons with non-war related disabilities	0.80%	0.82%	0.65%

Civilian victims of war	0.16%	0.15%	0.16%
Veterans' benefits	2.87%	1.98%	1.95%
	4.44%	3.65%	3.47%[9]

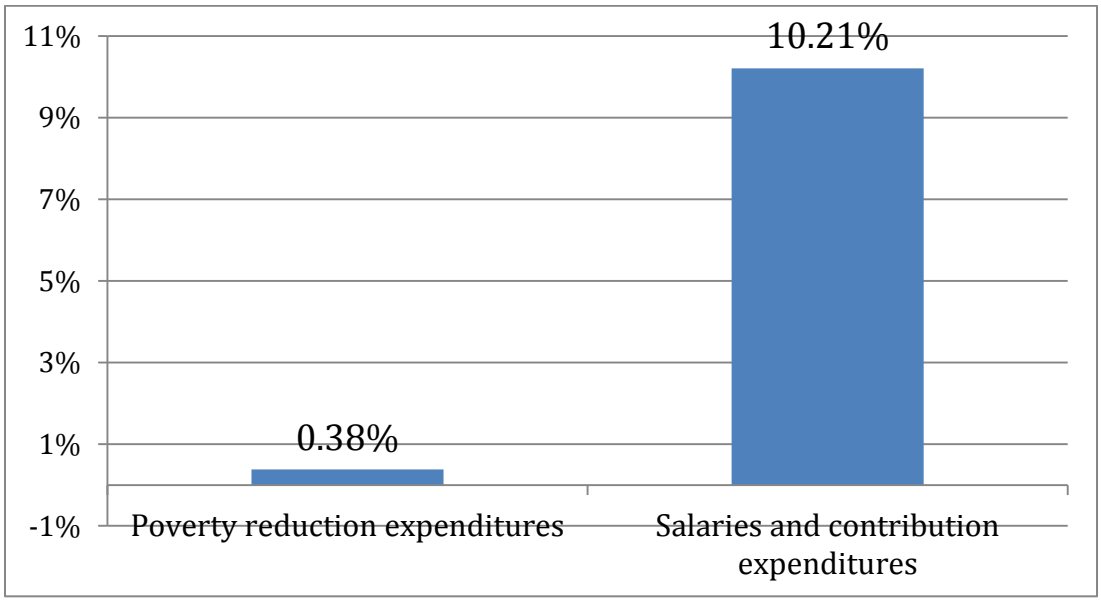
Source: Administrative data

In FBiH, the veterans' benefits strongly dominate the cash transfers not based on contributions. In 2007 the veterans' benefits in FBiH accounted for as much as ¾ of all non-contributory funds allocated for social protection, while in 2011 and 2012 this share dropped to around two-thirds, which is still very high.

However, how proactive is our social policy? We can determine this on the basis of the share of social benefits that are really used for poverty alleviation, relative to those with another function. Of all types of social benefits in FBiH, only material assistance for the socially vulnerable (44.4 million BAM, 2012) and child allowance (without maternity leave benefit, 17.3 million BAM) are the benefits whose exclusive goal is to reduce poverty, which in 2012 was 62.2 million BAM in total. All other benefits have different goals, whether it was allocation of funds based on the status, providing equal opportunities, etc.

When the expenditures for benefits exclusively intended for poverty alleviation are examined, we find that they are very low. The striking conclusion is that very little funds are channeled to the poor.

Figure 19. Poverty alleviation benefits relative to wages and benefits funded from the budget in FBiH (in % of GDP)



Source: Administrative data

This is particularly evident when this level of expenditure is compared with public spending on wages and benefits funded from the budget. Namely, expenditures for salaries and benefits funded from the budget are 27 times higher than the expenditures intended for poverty reduction. If these expenditures were cut by 0.4% of the GDP (e.g. from 10.2% of GDP to 9.8% of GDP) and diverted, the funds available for the poor would double. Such a

[9] In RS and BiH this percentage is 3.39%

move would not be impossible or unthinkable, but, on the contrary, very possible and imaginable.

The economic growth envisaged by the IMF permits consideration of various options for allocation of budget funding. These options will permit us to draw conclusions about a solution that would be optimal for our conditions. The following available options will be considered:

- current restrictive approach, reflected in maintenance of the same level of funding for these benefits in the amount of around 571 million BAM throughout the period;
- maintaining the same share of 3.47% of GDP throughout the period;
- raising the funds earmarked for poverty alleviation.

The first option assumes "freezing" of the absolute level of benefits at the current level throughout the period. The prevailing goal would be to create savings of budget funds in order to balance the budget and reduce the budget deficit.

Table 25. The projection of FBiH social benefits, 2012-2018, assuming the same level of funding is maintained in the absolute amount (in % of GDP)

	2012*	2013	2014	2015	2016	2017	2018
Social protection	0.27%	0.27%	0.26%	0.26%	0.25%	0.24%	0.23%
Child and family protection	0.44%	0.44%	0.43%	0.42%	0.40%	0.39%	0.37%
Persons with non-war related disability	0.65%	0.64%	0.63%	0.61%	0.58%	0.56%	0.54%
Civilian victims of war	0.16%	0.15%	0.15%	0.15%	0.14%	0.14%	0.13%
Veterans' benefits	1.95%	1.93%	1.90%	1.83%	1.76%	1.69%	1.63%
	3.47%	3.44%	3.37%	3.26%	3.13%	3.01%	2.90%

Source: Authors' calculations on the basis of the IMF projections and 2012 administrative data

Table 25 shows the projection of FBiH social benefits, 2012-2018, assuming the same level of funding is maintained in the absolute amount of around 571 million BAM. Because the GDP rises from 16.5 billion BAM to 19.7 billion BAM in 2018, we can see that the share of both individual and total social protection benefits within the GDP decreases. The share of the overall benefits decreases from 3.47% of GDP in 2012 to 2.9% of GDP in 2018. However, it must be noted that, according to the research conducted within the project, the current level of funding allocated for poverty reduction is inadequate relative to large needs of the poor and that this form of saving of budget funds would be socially and economically unacceptable.

The second option assumes maintenance of a constant share of all categories of benefits in the GDP, throughout the period. The goal here is not the savings in themselves, but the savings might mean maintaining a certain attitude towards these types of benefits.

Table 26. Projection of FBiH social benefits, 2012-2018, assuming constant share of the GDP (in million of BAM)

Social Protection	44.87	45.23	46.13	47.75	49.66	51.64	53.71
Child and family protection	73.01	73.59	75.06	77.69	80.80	84.03	87.39
Persons with non-war related disability	106.53	107.39	109.53	113.37	117.90	122.62	127.52
Civilian victims of war	25.66	25.87	26.38	27.31	28.40	29.54	30.72
Veterans' benefits	321.00	323.57	330.04	341.59	355.25	369.46	384.24
	571.09	575.66	587.17	607.72	632.03	657.31	683.60

Source: Authors' calculations on the basis of the IMF projections and 2012 administrative data

Table 26 shows the projection of FBiH social benefits, 2012-2018, assuming constant share of the GDP of 3.47%. Because the GDP rises from 16.5 billion BAM to 19.7 billion BAM in 2018, we can see that the absolute amounts of both individual and total social protection benefits within the GDP are increasing. The amount of the overall benefits increases from 571 million BAM in 2012 to 684 million BAM in 2018. However, here too should be noted that according to the research conducted within the project, this increase is too small for the needs of the poor.

The third option worth considering is a considerable increase in the level of the budget funds allocated for poverty reduction. With improved targeting of the poorest, this redirection of funds is very important. The current increase and broadening of income inequality is shifting the entire social welfare level downwards: it contributes to economic slowing; makes it less desirable to live in a society characterized by drastic income differentials and much less general security. The suspicion and the sense of absence of justice (which is a definition of injustice), as a consequence of poverty, disillusionment, inadequate social status, in time is transformed in many members of the society into bitterness, that is easily turned into the fuel for potential disputes in the society. The society filled with such dissatisfaction has poor prospects for economic growth, but much greater for social tension, community conflict, social uprising and protests.

Non-contributory cash benefits for the implementation of the new Law on the Foundations of Social Protection and the Law on Protection of Families with Children

Non-contributory benefits for social, child and family protection in FBiH take a small share in cash transfers for social protection not based on contributions. When we take into consideration that these benefits are the only benefits exclusively intended for poverty alleviation, we find that they are very low. As previously mentioned, very little funds are channeled to the poor.

Table 27. Benefits for social[10], child and family protection in FBIH, 2007-2012 (in % of GDP)

	2007	2011	2012
Social protection[11]	0.27%	0.27%	0.27%
Child and family protection	0.34%	0.43%	0.44%
	0.61%	0.70%	0.71%

Source: Administrative data

For this reason, what the new Law on the Foundations of Social Protection and the Law on Protection of Families with Children foresee is a significant increase of funding channeled to the poor. This increase should be achieved in 2015, but to keep the same level of expenditures in the absolute amount in the following years. So, we assume here that the decision makers would chose to implement the third option from the previous section of this analysis.

As far as the new FBiH Law on the Foundations of Social Protection is concerned, its implementation would significantly change the situation in favor of the socially vulnerable. Namely, if the new law started its implementation in 2015, it would result in a significant increase of funds for the poor, from 118 million BAM in 2014 to 204 million BAM in 2015.

Table 28. The projection of FBiH benefits by the new Law on the Foundations of Social Protection, 2014-2018, assuming the same level of funding is maintained in the absolute amount from 2015 (in % of GDP)

	2014	2015	2016	2017	2018
Social protection[12]	0.26%	1.17%	1.12%	1.08%	1.04%

Source: Authors' calculations on the basis of the IMF projections and administrative data

Table 28 shows the projection of FBiH social benefits, 2014-2018, assuming the same number of beneficiaries as in 29011 (248,409) and the same share of funds as in 2011 - in the absolute amount of around 204 million BAM from 2015 to 2018. This conservative approach does not take into account the reduction of the number of beneficiaries as a consequence of GDP growth in IMF projections (due to the catastrophic floods which occurred after the IMF projections, we can expect a slower growth or stagnation of the GDP). However, because the GDP, according to the IMF projections, rises from 17.5 billion BAM in 2015 to 19.7 billion BAM in 2018, we see that the share of these social protection benefits within the GDP decreases. The share of these benefits decreases from 1.17% of GDP in 2015 to 1.04% of GDP in 2018.

When it comes to the new Law on Protection of Families with Children of FBiH[13], there are two options. The first option proposes to make all children in FBiH below the age of 18 and

[10] These benefits represent social protection funded from the budget of all levels of authority in FBiH (FBiH, cantons, municipalities).
[11] The same
[12] The same
[13] Annex of this law also gives three options for nursing mothers who were employed (option I – 17,434,200 BAM; option II – 34,868,400 BAM; option III – 33,851,736 BAM). Recommendation in the law is to include these expenditures into expenditures of health care system, so they will not be discussed in this document.

not being employed eligible for a benefit. Child allowance would thus be universal in this case. In the second scenario eligibility would be conditional upon the welfare level of the household. In this case, only the households qualifying for a proxy means test (PMT) would be eligible for a child benefit. Namely, if the new law started tits implementation in 2015, in option I it would reflect in an increase of funds, from 73 milion BAM in 2014 to 86 million BAM in 2015, while in option II these funds would be significantly reduced, to 20.7 million BAM in 2015.

Table 29. The projection of FBiH benefits by the new Law on Protection of Families with Children, 2014-2018, assuming the same level of funding is maintained in the absolute amount from 2015, option I (in % of GDP)

	2014	2015	2016	2017	2018
Child and family protection	0.43%	0.49%	0.47%	0.46%	0.44%

Source: Authors' calculations on the basis of the IMF projections and administrative data

Table 29 shows the projection of benefits for option I, 2014-2018, assuming the same level of funding is maintained in the absolute amount of around 86.4 million BAM from 2015 to 2018. Because, according to the IMF projections, the GDP rises from 17.5 billion BAM in 2015 to 19.7 billion BAM in 2018, the share of these benefits decreases from 0.49% of GDP in 2015 to 0.44% of GDP in 2018.

Table 30. The projection of FBiH benefits by the new Law on Protection of Families with Children, 2014-2018, assuming the same level of funding is maintained in the absolute amount from 2015, option II (in % of GDP)

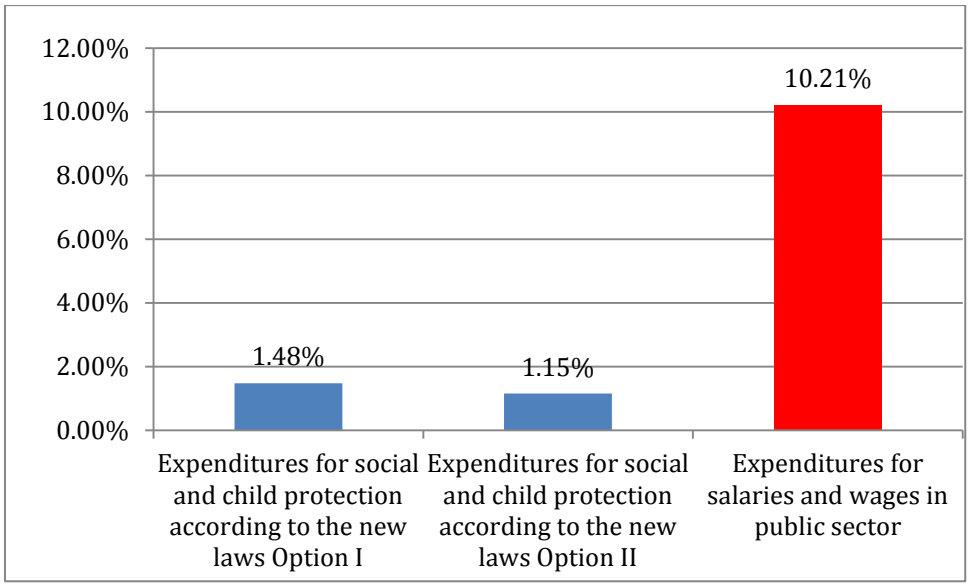
	2014	2015	2016	2017	2018
Child and family protection	0.43%	0.12%	0.11%	0.11%	0.11%

Source: Authors' calculations on the basis of the IMF projections and administrative data

Table 30 shows the projection of benefits for option II, 2014-2018, with the same level of funding in the absolute amount of around 20.7 million BAM from 2015 to 2018. The share of these benefits significantly decreases from 0.43% of GDP in 2014 to 0.11% of GDP in 2018.

If we assume that the share of expenditures for salaries and wages in public sector within GDP would be constant throughout the period 2014-2018, Figure 20 shows a difference between these expenditures and expenditures for social and child protection according to the new laws.

Figure 20. Benefits for social and child protection according to the new laws relative to wages and benefits funded from the budget in FBiH, 2018 (in % of GDP)



Source: Authors' calculations on the basis of the IMF projections and administrative data

Expenditures for salaries and benefits funded from the budget in FBiH are still much higher than the expenditures for social and child protection, 7-9 times higher in relation to which option of child protection is used.

Of course, it can hardly be expected that poverty in FBiH would be completely eradicated through these measures, especially in a relatively short period of time. However, these two new laws are a good example of how a significant step towards poverty reduction is not unrealistic and impossible, but very realistic and possible.

What is important to emphasize here is that this redistribution in favor of the worse-off social strata foreseen by the new Law on the Foundations of Social Protection and the Law on Protection of Families with Children can be a significant moral and material impulse to the total population of FBiH. In this way, the purchasing power of a larger number of people is increased leading to the increase of consumption and thus encouraging the overall economic growth. That is why such a direction of the FBiH Government is of utmost importance because it will provide more not only to the poor, but to the entire society.

8 Summary and recommendations

1. The goal of the analysis was to assess (1) the impacts of reforming social assistance in line with the working draft of the Law on the Foundations of Social Protection and (2) the impacts of reforming child allowance in line with the working draft of the Law on Protection of Families with Children. The working draft of the Law on the Foundations of Social Protection proposes to make permanent financial assistance - which is currently means-tested - conditional upon qualification for a PMT in all cantons. The working draft of the Law on Protection of Families with Children defines two reform options, one of which proposes to provide child allowance to all unemployed children in the entity below 18 years old (universal) and another which proposes to make eligibility for child protection conditional upon qualification for a PMT in all cantons.

Budget data provided by the Ministry of Labor and Social Policy reveal that the current budget allocated to permanent financial assistance amounts to 11,842,739 BAM. Simulations of the reform show that the related budget would increase to 9.3 its current size when targeting the poorest 10%, 14.2 times its current size in when targeting the poorest 15% and 19.4 times its current size when targeting the poorest 20%. This can be explained by a significant increase in the number of beneficiaries on the one hand and only slightly decreasing benefit adequacy on the other.

As a result of the fact that a PMT has the potential to more accurately target benefits towards the poor, the distribution of benefits after the reform would shift towards the first consumption quintile. This shift is strongest for a program size of 10%. Poverty impacts significantly increase compared to the current situation. Under the assumption of perfect implementation the poverty headcount ratio decreases by 1.7 percentage points (from 19.2% to 17.5% when targeting the poorest 10% of the population or by 40,317 persons according to the preliminary results of the population census), while the poverty gap can decrease up to 25% when targeting the poorest 10% of the population (from 36,623,000 BAM in the existing situation to 28,107,000 BAM). Poverty is reduced by 3.7 percentage points (from 19.2 to 15.5% when targeting the poorest 20% of the population or by 87,748 persons according to the preliminary results of the population census), while the poverty gap can be reduced by up to 35.7% (from 36,623,000 BAM in the existing situation to 23,541,000 BAM when targeting the poorest 20% of the population using a PMT). This is a result of both the enhanced targeting accuracy of the PMT, an increase in the number of beneficiaries and a relatively well-maintained benefit adequacy.

Currently, child allowance is only provided in five out of ten cantons. Simulations of the reform of child allowance reveal that providing child allowance to all children in the entity below 18 years old and not in the labour market would result in more than 14 times the current number of beneficiaries, requiring a budget of approximately 5 times its current size (i.e. 76,266,744 BAM). Most likely, such a drastic budget increase would be unaffordable. In addition, providing child allowance without any form of means-testing would result in a less pro-poor distribution of benefits than currently is the case. Poverty impacts increase significantly compared to the current situation but remain relatively small in comparison to the total poverty gap.

Applying a PMT in order to identify children eligible for child allowance in the entity among the poorest 10, 15 or 20% of the population, significantly shifts the distribution of benefits towards the poor. At the same time, a PMT has the potential to reduce, retain or only marginally increase the current budget while slightly increasing the poverty impacts of child allowance. It seems that a reduction of benefit adequacy in combination with an increase in

the number of beneficiaries and a more pro-poor distribution of benefits has the potential to achieve slightly better results in terms of poverty alleviation than existing child allowance.

2. A number of non-contributory cash benefits for social and child protection could not be simulated, so we used administrative data obtained from the cantons (based on a questionnaire) and the Federal Ministry of Labor and Social Policy. Three-year averages (2011-2013) or data from 2012 were used.

Consolidated sums from the budget (from the simulations and administrative data) show the need for a significant increase in the budget for the implementation of the Law on the Foundations of Social Protection and the Law on Protection of Families with Children.

It is estimated that the implementation of the Law on the Foundations of Social Protection at all levels (FBiH, cantons, municipalities) will annually need 204,404,895 BAM, and the Law on Protection of Families with Children (option I, universal child allowance) 86,441,014 BAM or (option II, child allowance for the families eligible according to the PMT) 20,685,814 BAM. In respect to the current situation, this is a very large increase of the necessary budget resources. The fiscal reasons are exactly why we focused on the option that targets the poorest 10% of the population. Options targeted towards the poorest 15% or 20% require much larger budgets. So we have chosen the option which requires less, but still provides a large increase of the budget resources.

Implementation of the Law on the Foundations of Social Protection in 2015 would require 1.17% of the estimated GDP for 2015, and in 2018 it would require 1.04% of the estimated GDP (the difference is caused by the predicted growth of GDP in this period).

Implementation of the Law on Protection of Families with Children in 2015 would require 0.49% of GDP (option I) or 0.12% of the estimated GDP for the year in question (option II).

The following comments related to the aforementioned are important:

- 1.52% of the GDP from 2012 was allocated to all 4 groups of civilian non-contributory cash benefits (social protection, child and family protection, persons with non-war related disability, civilian victims of war) in that year, while 1.95% of the GDP from 2012 was allocated to veterans' benefits. In total 3.47% of GDP was allocated to all non-contributory cash benefits in the year in question, which means that civilian non-contributory cash benefits take only 44% of the overall non-contributory cash benefits. Implementation of the new targeting method is limited to civilian benefits or to the smaller part of the overall non-contributory cash benefits, so their significant positive impact is still limited.
- On the other hand, comparison of the overall non-contributory cash benefits in BiH (as well as in FBiH) with the countries in the region must take into consideration the fact that other countries either do not have or have very little allocations similar to „veterans' benefits“ in FBiH, because they were not involved in a war of four years. It is more correct to compare the allocations for civilian cash benefits in FBiH (as well as in BiH) with the regional average of expenditures for social protection which amounts to 1.6% of the GDP of the countries in the region. In this case, FBiH was below the regional average in 2012 with only 1.52% of GDP spent for civilian cash benefits.
- Along with the necessary reform of the entire social protection system in FBiH and introduction of the new targeting method it is also important to open the subject of the reform of veterans' benefits.

Estimate of fiscal impacts of the implementation of the new Law on the Foundations of Social Protection and the Law on Protection of Families with Children was done using the so called conservative approach i.e. we did not take into account some of the aspects which would have an impact on the reduction of cost of the implementation of both laws, because they are difficult to simulate in terms of the laws themselves.

- The GDP growth projected by IMF (2012 - 2018) will result in an increase of the number of beneficiaries from 2011 (simulations for the Law on the Foundations of Social Protection based on HBS 2011 gave an estimate of 203,903 beneficiaries for the poorest 10% - see Annex: General projections of the implementation of a proxy means test in the Federation of Bosnia and Herzegovina: 2014 – 2018). In this analysis, we assumed that the number of beneficiaries will not decrease, i.e. it will remain on 203,903 beneficiaries in the entire period until 2018. A similar assumption was made for the implementation of the Law on Protection of Families with Children. The realistic and expected reduction of the number of beneficiaries will reduce budgetary expenditures for the implementation of these laws.

  We should also bear in mind that a part of the Law on the Foundations of Social Protection defines measures for activation of beneficiaries through cooperation with the employment bureaus i.e. for beneficiaries to “exit” the system of social protection. On the other hand, the consequences of the catastrophic floods will affect the increase on poverty and a smaller GDP growth than the projected one.

- In the modified working drafts of both laws, we used the amounts of cash benefits for different purposes (social security minimum, child allowance, etc.) which were basically defined in the previous working drafts of both laws, prepared in the Federal Ministry of Labor and Social Policy in cooperation with the cantons.

As we have seen in the previous part, the implementation of both laws means a considerable increase of budget resources for social protection and protection of families with children. In 2015, when the beginning of the implementation of both laws is expected, budget expenditures from all governmental levels for both laws would be 1.66% of the estimated GDP for the year in question (option I for child allowance) or 1.29% of GDP (option II for child allowance). In 2018, those budget expenditures would be 1.48% (option I) or 1.15% of the estimated GDP for the year in question (option II).

Fiscally, those are hardly sustainable budget allocations.

Starting from this fact, our suggestion is to consider the following recommendations:

- To reform veterans’ benefits, including the protection of disabled war veterans. An important step in this direction is the Law on Unified Principles and Material Support Workframe for Persons with Disabilities currently ongoing the procedures in FBiH Parliament.

- To decide on option II for child allowance from the Law on Protection of Families with Children.

- We have analyzed the possibility of reducing the amount of social security minimum. If this amount of the current 122.5 BAM for a one person household (and respectively, different amounts for households with multiple members) was reduced to e.g. 105 BAM, the total budget for this purpose would be 112,305,612 BAM (instead of 121,986,016 BAM). If the amount for social security minimum was reduced to 87.5 BAM, the total budget would be 102,625,213 BAM. This is

hypothetically possible, but it is evident that the savings are not very significant (9,680,400 BAM in the first case and 19,361,000 BAM in the second case or around 5% of the overall implementation costs of the Law on the Foundations of Social Protection in the first case and around 10% of the overall costs in the second case).

Irrespective of the fiscal impact, the key conclusion is that the new laws and the proxy means test have a significant impact on the reduction of poverty, continuously growing since 2007 to 2014, and they provide a large improvement of targeting, as well as a better distribution of non-contributory cash benefits to the poorest.

In order to prepare for the implementation of both laws, we suggest testing the proxy means test implementation in a realistic situation in several selected municipalities (1 urban and 1 rural, or two of each) because it will provide a more accurate image than the simulations based on Household Budget Survey 2011.

IBHI
ИБХИ
Initiative for Better and Humane Inclusion
Inicijativa za bolju i humaniju inkluziju
Иницијатива за бољу и хуманију инклузију

Maastricht University
Maastricht Graduate School of Governance

Annex:
GENERAL PROJECTIONS OF THE IMPLEMENTATION OF A PROXY MEANS TEST IN THE FEDERATION OF BOSNIA AND HERZEGOVINA

2014 - 2018

July, 2014

Table of Contents

1. Introduction 4

2. Fiscal impact analysis from 2014 until 2018 5

2.1 Benefits to be replaced 6

2.2 Methodology 7

2.3 Presentation and interpretation of simulation results 11

3. The predicted number of the beneficiaries for urban and rural areas 11

4. The predicted budget spent for the period 2014 - 2018 17

5. Summary of the results 18

Annex 1. Technical details on the simulation methodology 20

Annex 2. Correlation results of the main variables used in the simulation exercise 26

List of Figures

Figure 1. Graphical representation of simulation steps 9
Figure 2. Real GDP growth (in percentage) 11
Figure 3. The predicted number of beneficiaries of the new social assistance benefit for urban and rural areas as a percentage of the total for the period 2014-2018 12
Figure 4. The total number of the household beneficiaries and the drop-outs, 2014-2018 .. 13
Figure 5. Proportion of beneficiary households for non-contributory SP programs over total number of households in BiH (2014-2018) 14
Figure 6. The relative number of household heads employed (on a permanent contract) in rural and urban areas as a percentage of the total households in FBiH for the period 2014-2018. 14
Figure 7. The relative number of household members employed (on a partial or full term contract) in rural and urban areas as a percentage of the total population in FBiH for the period 2014-2018. 15
Figure 8. The level of utility expenses from 2014 to 2018 16
Figure 9. Utility expenses as a share of post-transfer consumption of households for the period 2014-2018 16
Figure 10. The total predicted budget for the new social assistance program 17
Figure 11. Histograms of the propensity scores for years 2007 and 2011 21

List of Tables

Table 1. Estimated number of beneficiaries of the non-contributory social assistance for the period 2014-2018. 11
Table 2. The results of the logit model used to calculate the propensity scores for participation in years 2007 or 20111 20
Table 3. Coefficients correcting for the effect of economic growth on consumption 22
Table 4. Instrumental variable probit regression results for employment of household head: (permanent contract) 22
Table 5. Results ofthe NBRM model for the number of the household members employed with full or part time– Rural areas 23
Table 6. Results other NBRM model for the number of the household members employed with full or part time – Urban areas 24
Table 7. Pairwise correlation coefficients for the variables used in the simulation and consumption expenditures (per OECD equivalent scale) 26

1. *Introduction*

Designing a social benefit scheme that provides substantial benefits to its beneficiaries over time is one of the main challenges faced by most of the social protection schemes around the globe. Economic growth on the other hand can be an important factor affecting the effectiveness and sustainability of the social benefit schemes. In times of a positive economic growth, the increased households' incomes from employment and other economic activities contribute reducing the need for social assistance benefits. In addition, at the macro level, the budget available to the government for social transfers may increase in times of positive growth therefore it may loosen the pressure on restricting eligibility to social programs or the amount of benefits provided. However, on the other hand, the effects of the economic growth may also be distributed unequally among the households and therefore may contribute to increased inequalities for particular households. Combining the structure and effects of the social benefit schemes with the effects of economic growth therefore proves crucial in designing long-term sustainable and effective social schemes.

The aim of this report is to provide insights into the impact of implementing a Proxy Means Test (PMT) over the period from 2014 to 2018 on the number of beneficiaries and on the budget, assuming that economic growth will have a positive impact on the welfare status of households. Economic growth is likely to increase employment opportunities of household members on the one hand, and increase the consumption of households on the other. Basing projections in this report on a threshold of 333 KM (i.e. the threshold that in previous analysis was calculated to identify the poorest 10% of the population based on HBS 2011 data) the positive effects of economic growth are taken into account for calculations on the development of the number of beneficiaries and the budget over the total projection period.

Since the projections in this report are based on different assumptions and use a different methodology compared to the projections presented in the report "Fiscal Impact Analysis of the Working Drafts of the Law on the Basis of Social Protection and the Law on Protection of Families with Children and of the Implementation of a Proxy Means Test", the two reports are to be seen as independent documents. The main differences of this report as compared to the report on the fiscal impacts of the draft laws are the following:

1. Projections in this report take scenario III of "New Targeting Methods – Part II" as a basis, meaning that they replace a *set* of existing non-contributory civilian benefits. Hence, they are not based on the working drafts of the Law on Social Protection or Child Protection.

The number of beneficiaries

2. Projections in this report assume that economic growth for the period 2014 – 2018 will positively affect the employment opportunities of household members and their welfare levels. On the basis of this assumption, it projects the number of beneficiaries to decrease over time using IMF-projections of economic growth. The report on the draft laws on the other hand, uses a more conservative methodology, not making any assumptions on the link between the rather optimistic IMF- projections on economic growth and employment opportunities or welfare levels of households. Instead it assumes that the number of beneficiaries will remain at a level of 10% of the population over the entire projection period.
3. Projections in this report depart from HBS 2011 data. They initiate the program in 2011 and set the program size at 10% of the total population in that year, resulting in a total number of beneficiaries of 203,903. It does not show results for the period

2011 – 2013, as this period lies already in the past. Hence, departing from 2014, the total number of beneficiaries has already reduced due to the impacts of economic growth and is not in line with the number of beneficiaries in 2014 shown in the report on the draft laws.

The budget

4. Benefit levels in this report are set at a level of 45 KM per household member (see methodology section for details on their calculation). They have been calculated independently of the working drafts of the Law on Social Protection and Child Protection.
5. Projections in this report do not take into account administrative costs, but instead exclusively project the future amounts of money needed to pay the benefits.

The report makes use of household level data from the 2007 and 2011 Household Budget Survey and the IMF estimates for economic growth in FBiH for 2014-2018. It makes use of several econometrics models and assumptions are made to extrapolate the effect of economic growth on variables included in the PMT formula, namely: the level of household consumption, the employment status of the household head and other household members, as well as level of expenditures on utilities. All other factors are assumed to be constant over this four years period and the program is assumed to have no exclusion or inclusion errors or administration costs.

The results of the projections in this study show that economic growth is expected to have a significant decreasing impact on the number of beneficiaries of the new social assistance program. More precisely, positive economic growth in the future will lead to a decrease in the number of beneficiaries over time if the proxy means test is applied to determine the eligibility to the program. As a consequence, the budget needed to cover this program will decrease for both beneficiaries in urban and in rural regions.

This study was prepared by a team from Maastricht Graduate School of Governance: Franziska Gassmann (Team Leader), Sonila Tomini and Daphne François with the support of IBHI consultants.

2. *Fiscal impact analysis from 2014 until 2018*

This part simulates the impact of replacing a selection of existing non-contributory social transfers by a single poverty alleviation program in FBiH on the budget and on the number of beneficiaries over time. It makes use of household level data from the 2007 and 2011 Household Budget Survey.

Many studies have recognized the role of social protection transfers on reducing poverty and inequality, increasing social cohesion among households but also on promoting human development. On the other hand, social transfers may have multiple effects on beneficiaries. Apart from their primary effect of reducing poverty and inequality (through increasing household consumption) they also facilitate investments in health, education, as well as other more productive activities. If such effects are consistent over time they will inevitably affect human development and contribute to increased productivity, which in turn will translate to better employment perspectives and higher income. Moreover, social transfers may also have a direct effect on reducing the various cost barriers to employment, such as the transportation costs or other financial constraints that facilitate the searching of a new job or the transition from one job to another.

Although economic growth may have similar effects as social transfers on households, in the latter case the benefits are not targeted only to the poor and can therefore have an unequal distribution among different socio-economic groups of the population. In what way and to what extent a household benefits from economic growth depends mainly on the capabilities of its members to be attractive and competitive in the labor market as well as on the redistribution policies adopted by the government. Given these facts, one of the main challenges that most countries face is how to design benefit schemes that provide substantial benefits over time and that combine well with the effects of economic growth. Moreover, would economic growth be able to lower the burden posed on social protection programs and to what extent? The results of this report attempt to answer these questions for FBiH by considering the link between economic growth and consumption, labor market participation, as well as utility expenditures.

Hence, the simulation takes into account the effect of economic growth on level of consumption, the dynamic interactive effect of labour market participation on consumption as well as the interdependence of consumption and utility expenditures over time. The simulations predict the numbers of households that will be eligible for the benefits during the years 2014-2018 and the related budget needed to finance these benefits.

2.1 Benefits to be replaced

In our analysis in the report “New targeting methods for BiH, Part II” we simulated three different scenarios. In each of these scenarios the impact of replacing a combination of existing non-contributory transfers by a single social assistance program on targeting performance, benefit adequacy and poverty was simulated.

In this report we consider scenario lll for further analysis, which includes a combination of existing needs-based transfers to be replaced by a social assistance program.

Box 1. Benefits replaced in scenario III

Cash material benefits total
B26 - Permanent financial assistance

Protection of children and families with children
B21 - Child care allowance
B22 - Maternity benefits

Civilian (Non-war) Disabilities
B18 - Personal Disability Benefits
B19 - Long term care and support (top up to the personal disability ben)
B20 - Orthopedic benefit

Civilian Victims of War (CVW)
B11 - Personal Disability benefit
B12 - Long term care and support (top up to the personal disability ben)
B13 - Orthopedic benefit
B14 - Survivor dependent benefit
B15 - Monthly personal cash benefit / Additional financial assistance

2.2 Methodology

In order to optimize the targeting accuracy of the new program, in previous analysis the performance of various alternative targeting methods was studied. A Proxy Means Test (PMT) consistently showed the best results in identifying the poor and hence is selected for further analysis in this report.

To identify households that would be eligible for a benefit under the new social assistance program, the estimated consumption – or PMT score – of each household in the dataset is calculated using the PMT formula as shown in the "Fiscal Impact Analysis of the Working Drafts of the Law on the Basis of Social Protection and the Law on Protection of Families with Children and of the Implementation of a Proxy Means Test – Federation of Bosnia and Herzegovina" report. Since we base our projections on HBS 2011 data, all information needed to calculate this score is available for 2011. We assume that new program is initiated in 2011 with a program size of 10% of the total population of FBiH. However, our projection period covers the years 2014 – 2018 for which we have no information except on economic growth, meaning that we have to make several assumptions.

Firstly, in order to calculate the change in the number of beneficiaries in the coming years we assume that economic growth will have an impact on three variables included in the PMT formula: (1) employment status of the household head (having permanent contract); (2) number of household members employed (full or part time) and (3) log of utility expenses (i.e. expenses for electricity, gas, central heating, water and sewerage system and waste removal). Secondly, we assume that the other variables – such as ownership of durables or dwelling characteristics – will be unaffected by the economic growth over the relatively short projection period of four years. If the impact of economic growth would have been projected over a longer period, it would have been realistic to assume that changes in other variables – such as those related to ownership of durables or dwelling characteristics – would occur as well. Moreover, we also assume that the demographic composition of the population will remain unchanged during the years 2014-2018 and that the program will be implemented perfectly with no errors of inclusion or exclusion. Administration costs are not taken in consideration in our projections.

The schematic representation in Figure 4.1 shows how the yearly simulations are performed. We first appoint 2011 as the base year. The 2011 HBS gives data at the household level for this year. The variables we use for our projections include: monthly per adult equivalent consumption (using the OECD1 equivalence scale) before allocation of civilian benefits, labour market participation represented by the employment of the household head as well as the number of the employed household members and utility expenditures.

The simulation starts with predicting the amount of per adult equivalent pre-transfer consumption (i.e. consumption before allocation of civilian benefits included in scenario III) for year 2014 for all households in the dataset. Given that we expect economic growth to affect beneficiary households differently depending on their welfare status (and thus their levels of education, employment opportunities, etc.) we divide the population into ten groups of 10% or "deciles" based on their consumption. While the first decile includes the poorest 10% of the population, the 10th decile includes the richest 10% of the population. Using HBS consumption data for the years 2007 and 2011 and knowing the economic growth that occurred between these years we can estimate a "growth incidence coefficient (GIC)" for each of the deciles, which tells us how the consumption of individuals in each specific decile responds to economic growth (see also Annex 1 for a more detailed description of this). In this way we account for differences in response to economic growth between households with different welfare levels. Subsequently, for each household in the sample, the amount of pre-transfer consumption for 2014 is estimated by multiplying the level of pre-transfer consumption for year 2011 with the predicted economic growth between years 2011-2014 (based on the IMF 2014) and the corresponding GIC.

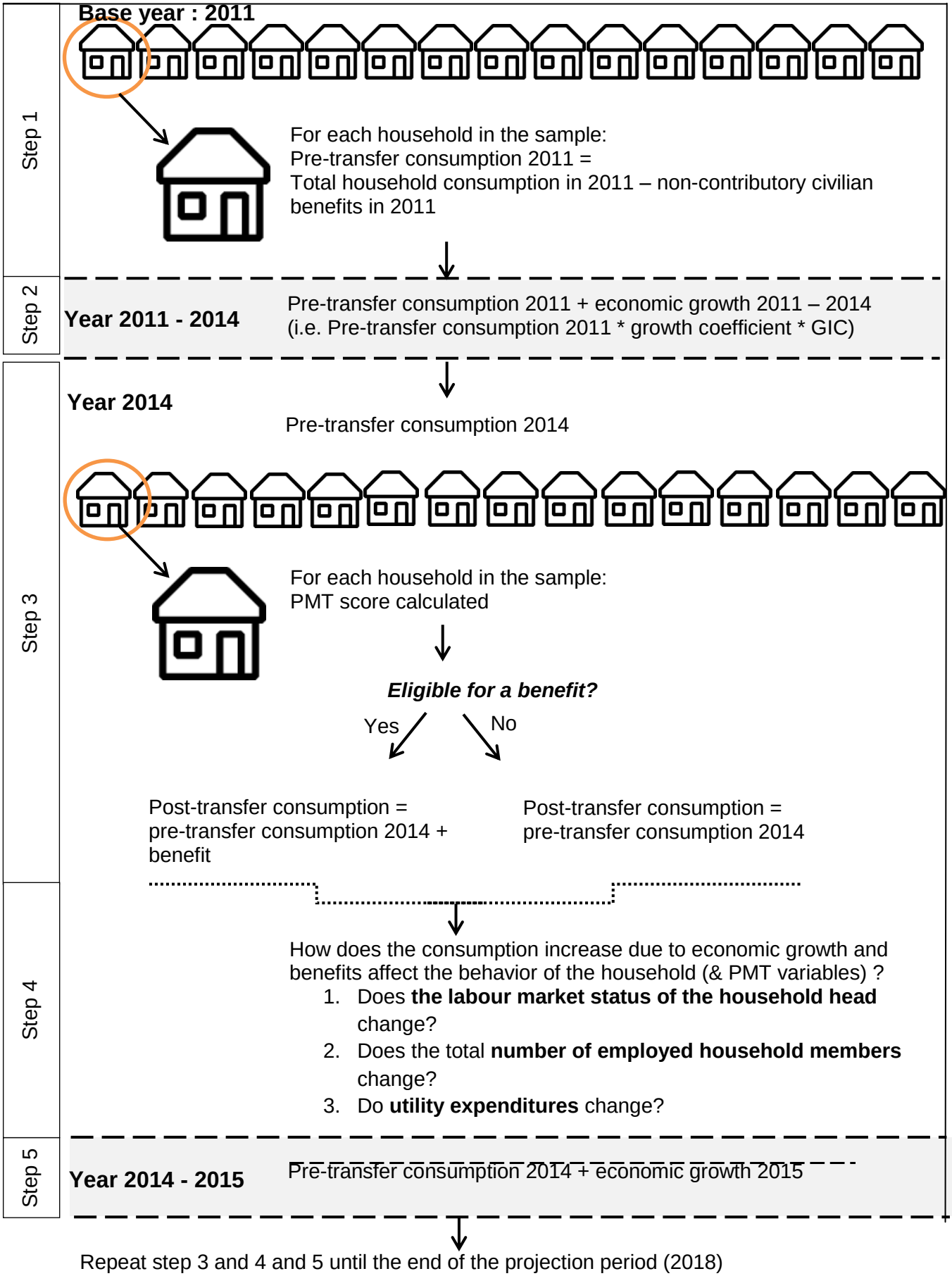
The amount of post-transfer consumption for 2014 is estimated by adding up the amount of pre-transfer consumption for 2014 and the benefit amount. Eligibility for 2014 is estimated by calculating the PMT score for each of the households and updating for the level of the pre-transfer consumption to the one in 2014. The level of benefits for eligible households is fixed at 45KM per household member and does not change over the years.

The next step is predicting the labour market status of the household head and the number of household members employed in a full- or part-time job. For both variables the level of post-transfer consumption for 2014 is used. The association between post-transfer consumption for 2014 and each of these variables is estimated using regression estimation techniques. Annex 1 gives an overview of the regression models employed.

The updating of the level of utility expenditures is the last step in the simulation exercise for year 2014. This is done by using a series of coefficients (calculated for each consumption centile of the population) that have been calculated out of a linear regression between the logarithm of utility expenditures and the logarithm of post-transfer consumption expenditures (see Annex 1 for a more technical description).

The simulations for the consecutive years follow the same order as the one for 2014. Year 2018 is the last year in this simulation exercise.

Figure 1. Graphical representation of simulation steps



Source: developed by authors. Note: All consumption is Per Adult equivalent (OECD1)

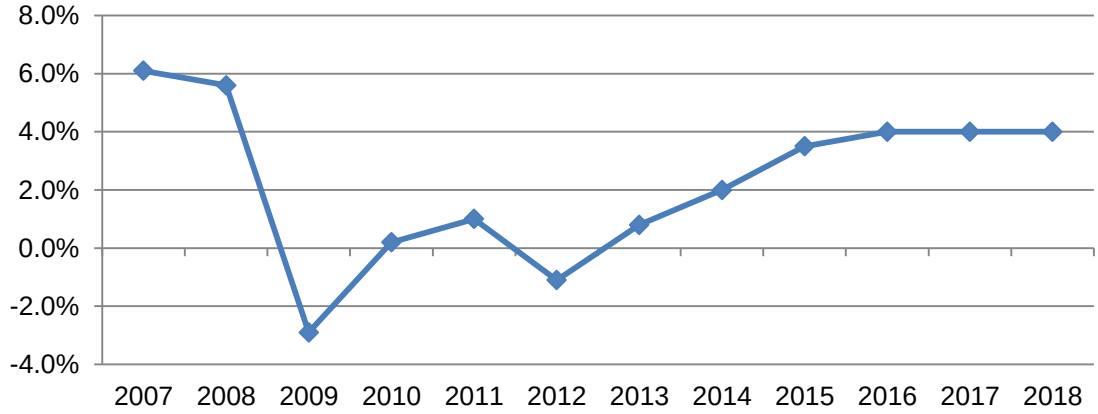
Benefit levels have been calculated using a three-step procedure. In the first step the difference between the PMT-estimated consumption of each population member and the threshold of 333 KM (i.e. the estimated per adult equivalent consumption to identify the poorest 10% of the population) has been calculated. In the next step, these individual amounts are accumulated. Finally, the accumulated amount is divided by the total number of beneficiaries to arrive at a benefit level of 45 KM per person.

2.3 Presentation and interpretation of simulation results

This section presents the results of the simulated impacts of the economic growth both on number of beneficiaries of the new social assistance program and on the corresponding budget in FBiH during the period 2014-2018.

A recent report by the IMF for the Republic of Bosnia and Herzegovina shows that after a period of negative growth in 2012, economic growth turned positive again in 2013 (IMF, 2014). The same report predicts positive growth rates for the consecutive years. According to these predictions, economic growth in the Republic of Bosnia and Herzegovina will amount to 2 percent in 2014 and will increase further up to 4 percent in 2016, 2017 and 2018. These projections are in line with general developments in Europe over the same period. As the IMF (2014) report does not provide a breakdown of the economic growth for each entity separately, we assume that the same economic growth will hold for the Federation of BiH. Figure 4.2 shows the trend of observed and projected economic growth from 2007 to 2018.

Figure 2. Real GDP growth (in percentage)



Source: IMF Country Report No. 14/39

3. The predicted number of the beneficiaries for urban and rural areas

With the expected increase of economic growth, macro level indicators like investments, productivity and number of jobs in the economy are expected to improve, which in turn is expected to have an effect on poverty alleviation. In terms of social benefits this will mean that the number of beneficiaries of the new PMT-targeted social assistance program is likely to decrease for the period 2014-2018 (table 1). The results of the simulations show that the number is expected to drop from around 190,000 beneficiaries in 2014 to 166,000 in 2018 (if economic growth is maintained at the predicted levels and all other factors remain constant) for the total population.

Table 1. Estimated number of beneficiaries of the non-contributory social assistance for the period 2014-2018.

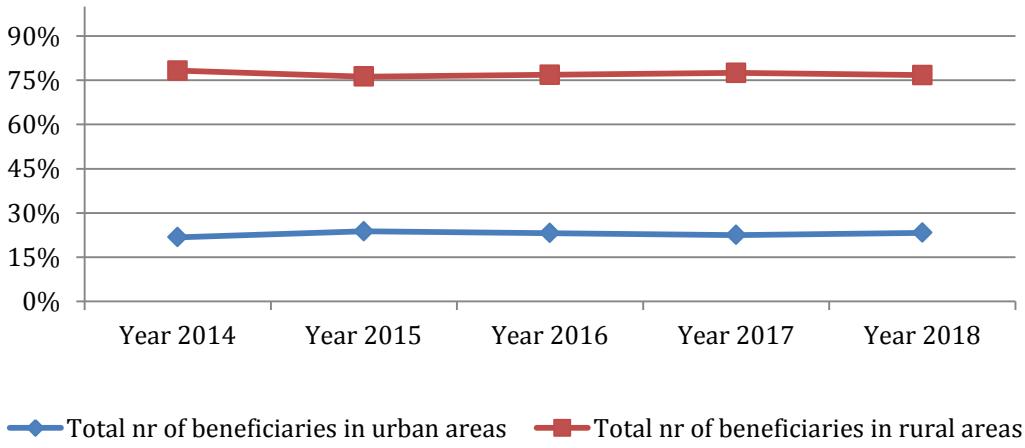
	Total number of beneficiaries	Total number of beneficiaries in urban areas	Total number of beneficiaries in rural areas
Year 2014	189,664	41,310	148,354
Year 2015	184,465	43,872	140,593
Year 2016	176,909	40,964	135,945
Year 2017	173,728	39,106	134,622
Year 2018	165,539	38,511	127,028

Source: Authors' calculations based on HBS 2007 and 2011 data and IMF predictions of economic growth

Table 1 illustrates that beneficiaries are expected to drop in rural areas from around 148,000 in 2014 to about 127,000 in 2018. This decrease can be primarily attributed to the effect of economic growth in rural areas, The effect for the urban areas beneficiaries will be more moderate but still shows a downward trend (falling from about 41,000 in 2014 to about 38,000 in 2018).

Figure 3 also shows that the number of beneficiaries in rural areas is much higher than in the urban areas; in 2014 almost 78% of the beneficiaries lived in rural areas and only 22% lived in urban areas. This can possibly be explained by the fact that opportunities to find a job and participate in the labour market are much higher in urban areas. On the other hand, rural households have on average more children compared to households in urban areas, which is likely to make them more susceptible to poverty. In addition, the uncertainty of climate change may affect agricultural productivity and therefore have a direct impact on poverty of the households living in rural areas. Given the importance of agricultural inputs in the economy of FBiH, it is expected that a positive economic growth will largely increase agricultural output. As a result, the well-being of households in rural areas will increase and the number of the non-contributory beneficiaries will decrease.

Figure 3. The predicted number of beneficiaries of the new social assistance benefit for urban and rural areas as a percentage of the total for the period 2014-2018



Source: Authors' calculations based on HBS 2007 and 2011 data and IMF predictions of economic growth

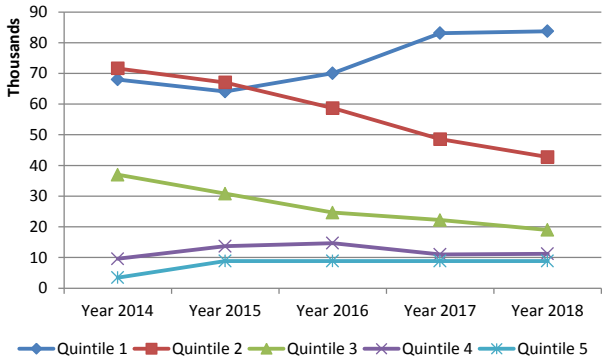
The main concern of the non-contributory social assistance schemes is to deliver the benefits to the poorest household and to minimize the inclusion error, which will decrease the efficiency of the scheme. Figure 4(a) shows the simulated number of beneficiaries of the

non-contributory social assistance by quintiles of consumption expenditures for 2014-2018. Results show that - although the total number of beneficiaries will decrease - the number of beneficiary households in the first quintile is expected to increase from about 68,000 households in 2014 to about 84,000 households in 2018. The figure shows that economic growth will mainly positively affect the beneficiaries in the second and third consumption quintile, which drop from about 71,000 and 37,000 in 2014 respectively to about 42,000 and 19,000 in 2018. The figure also shows that there are households classified as beneficiaries in the highest quintiles indicating possible inclusion errors, i.e. non-poor households wrongly being identified as poor by the PMT. However, these numbers are relatively small (about 10,000 and 3,000 for quintiles 4 and 5 in 2014) but they are expected to increase slightly over the years (to about 11,000 and 9,000 respectively in 2018). This possibly indicates negative externalities of economic growth over the years.

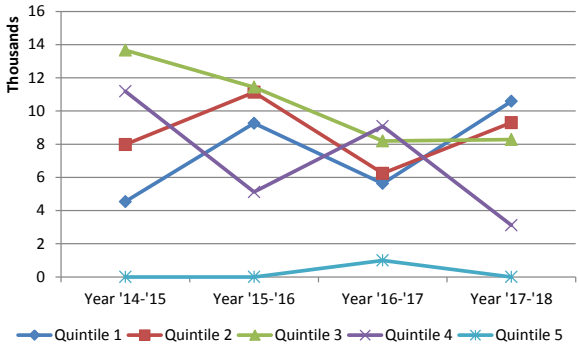
The simulations also allow us to observe the characteristics of beneficiary households dropping out of the new social assistance program throughout the projection period. Figure 4(b) presents the number of households that were eligible for the benefits at the beginning of the period but are no more eligible in the consecutive period. Most of the drop-outs in the period between 2011 and 2014 are expected to be part of the lowest consumption quintiles (about 20,000 and 21,000 beneficiary households drop out of the program for quintiles 1 and 2 respectively). Since at the beginning of the projections most of the beneficiary households were concentrated in these two quintiles this is a logical result. Comparing the impact of the slow economic growth between the two quintiles, it seems to particularly favor the very poor.

However, as the figure 4.b shows, in the period that follows this trend is expected to stagnate. In the period 2014 – 2018, particularly beneficiary households in the fourth quintile seem to be affected from a steady (yet moderate) economic growth given that the number of drop-outs from this quintile is proportionally higher than from the other quintiles (e.g. between 2014 - 2018 only 6-7 % of the beneficiaries come from this quintile but the number of beneficiaries dropping out from the same quintile between 2014-2015 and 2016-2017 accounts for 30% of all the drop outs). However, it should be noted here that our simulations do not allow investigating if the drop-outs are the result of objective non-eligibility to the new program or of the exclusion errors. As such, these numbers can be seen as merely informative of the expected trends.

Figure 4. The total number of the household beneficiaries and the drop-outs, 2014-2018



a) Total number of beneficiary households by quintiles of consumption

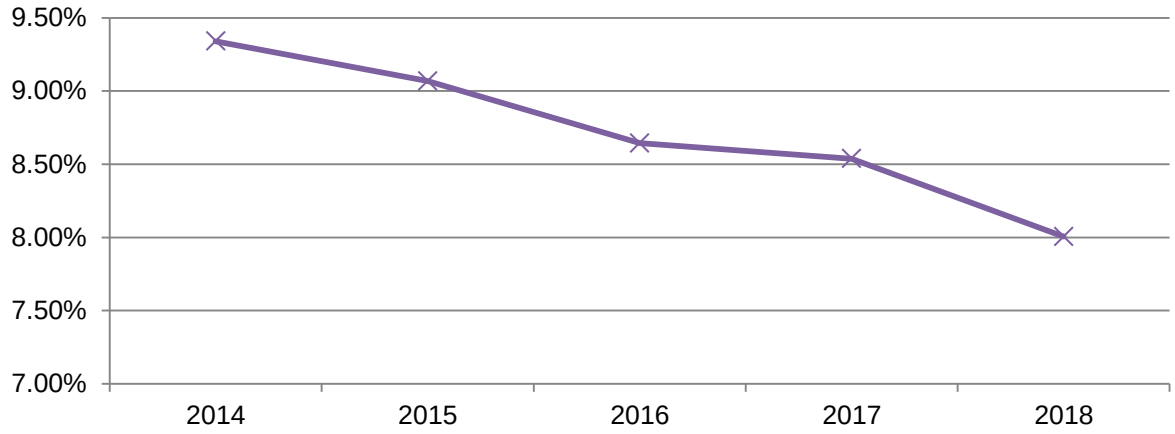


b) Beneficiary households dropping out from the previous period by quintiles of consumption

Source Authors' calculations based on HBS 2007 and 2011 data and IMF predictions of economic growth

Figure 5. below shows that economic growth is expected to lower the number of beneficiaries for the social assistance program even in relative terms to the number of total population. As explained in the methodology section we assume that new program is initiated in 2011 with a program size of 10% of the total population of FBiH. Beneficiary households are expected to fall from 9.34% of the total households in 2014 to 8.1% in 2018. Note that all these predictions are based on the assumption that the demographic composition of the population will remain unchanged during these years (2014-2018). This means that if demographic factors would change, this would be reflected in further changes in the number of the non-contributory beneficiaries as well.

Figure 5. Proportion of beneficiary households for non-contributory SP programs over total number of households in BiH (2014-2018)

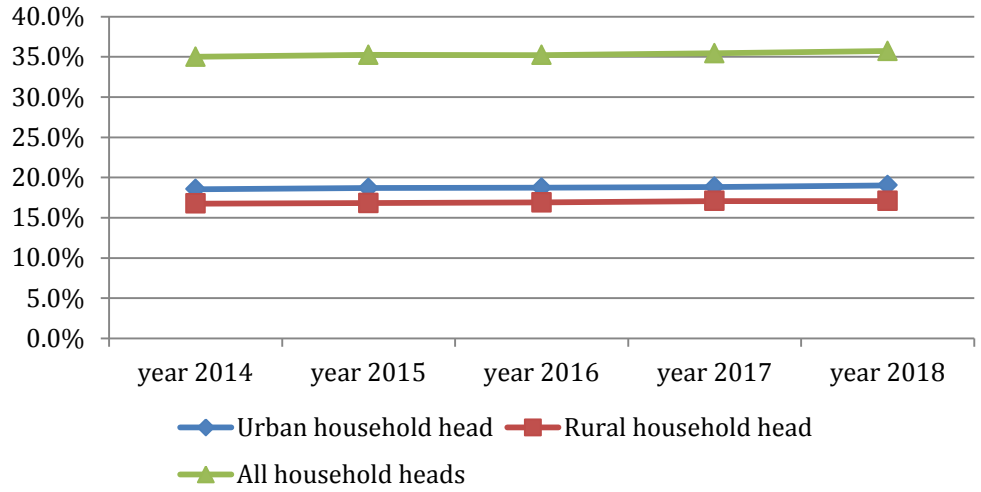


Note: In case the household receives a social assistance benefit under current or draft legislation, all household members are counted as beneficiaries.
Source: Authors' calculations based on HBS 2007 and 2011 data and IMF predictions of economic growth.

In the methodology section we explained that we assume three variables included in the PMT to be affected by economic growth over our relatively short projection period, which will influence the number of beneficiaries of the new social assistance program. These include the labour status of the household head (i.e. whether or not the household head is employed on a permanent contract), the number of the household members participating in the labour market (based on a full or part-time employment contract) as well as the expenditures on utilities (gas, water and electricity, central heating and sewerage system).

Figure 6 shows that one of the main drivers of the decrease in the number of beneficiaries (the employment status of the household head) is slightly increased during the period 2014-2018. Economic growth is expected to create more job opportunities and will inevitably offer more long-term employment opportunities. This is reflected in the results of the labour market participation models which predict an increase of full-time employment for household heads from 34.9% in 2014 to 35.7% in 2018.

Figure 6. The relative number of household heads employed (on a permanent contract) in rural and urban areas as a percentage of the total households in FBiH for the period 2014-2018.



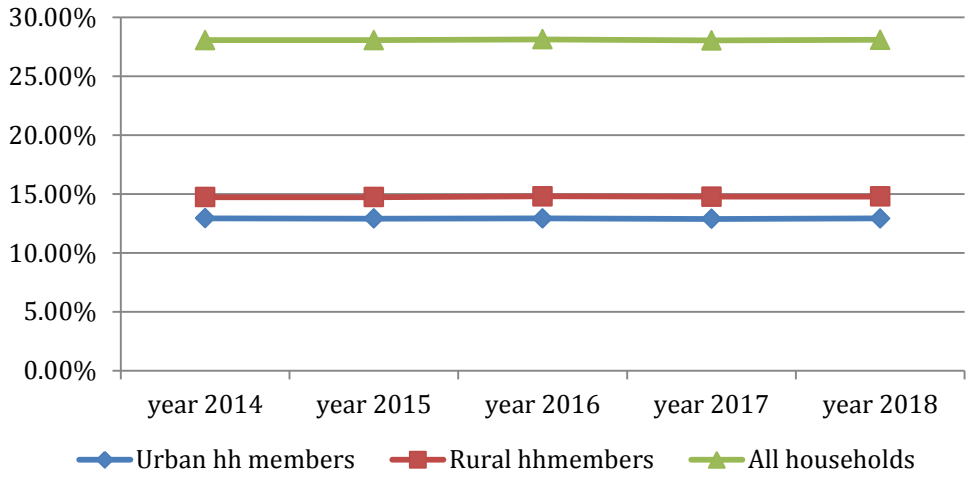
Source: Authors' calculations based on HBS 2007 and 2011 data and IMF predictions of economic growth

The number of household heads having a permanent employment contract seems to be a slightly higher in urban areas (53% of the total number of households heads permanently employed in 2014), yet, this difference is not as accentuated as the difference in beneficiaries presented in Figure 3. This may be the case because agricultural activities are mostly seasonal in the rural areas and hence favoring the number of part-time contracts. However, simulations show that economic growth is not going to affect such differences in the next years.

Contrary to the number of household heads employed with a permanent contract, the number of household members that are employed in full or part-time jobs is expected to follow constant trends for the entire period from 2014 to 2018 (see figure 7). This constant trend will most likely reflect the growth in employment of permanently employed household heads,as the other members do not have to increase their employment to maintain the same standard of living.

As in the previous case, the figure does not show a significant change over the years for urban and rural areas either. The (almost) constant trend in employment of other household members will be maintained for both urban and rural households.

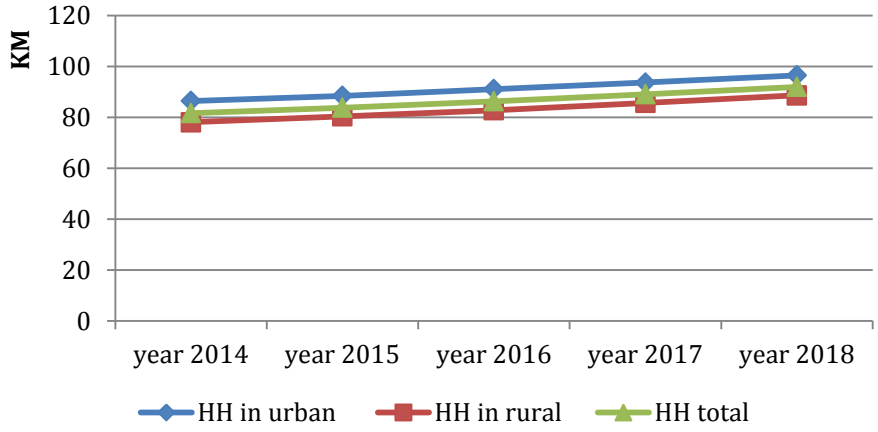
Figure 7. The relative number of household members employed (on a partial or full term contract) in rural and urban areas as a percentage of the total population in FBiH for the period 2014-2018.



Source: Authors' calculations based on HBS 2007 and 2011 data and IMF predictions of economic growth

One determinant of eligibility for targeted non-contributory social protection benefits that does remain constant during our projection period is the amount households spend on utilities. Figure 8 shows that the economic growth from 2014 to 2018 is expected to have a positive impact on the level of utility expenditures per household. For the total population they are expected to rise from an average of 82 KM in 2014 to an average of 92 KM in 2018.

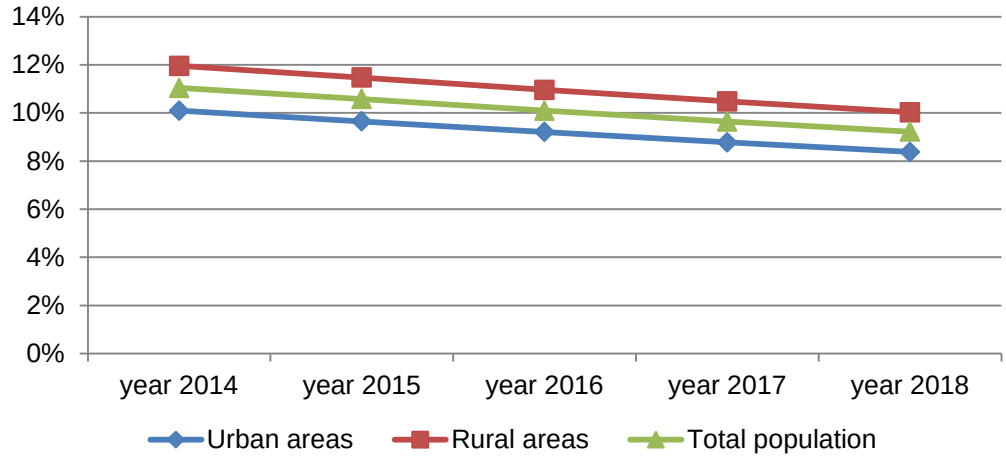
Figure 8. The level of utility expenses from 2014 to 2018



Source: Authors' calculations based on 2007 and 2011 HBS data and IMF predictions of economic growth

Figure 9 shows that the average share of utility expenditures in household budgets ranges from 8.4 to 12.0%of the total household consumption (figure 9). The figure shows that economic growth is expected to increase the total consumption of households comparatively more strongly than households' expenditures on utilities. The share of these expenditures will decrease during the period 2014-2018 in both urban and rural areas. However, the figure also shows that - relative to consumption -households in rural areas pay more for utilities than their counterparts in urban areas. This can partly be explained by the lower average consumption in the rural areas.

Figure 9. Utility expenses as a share of post-transfer consumption of households for the period 2014-2018



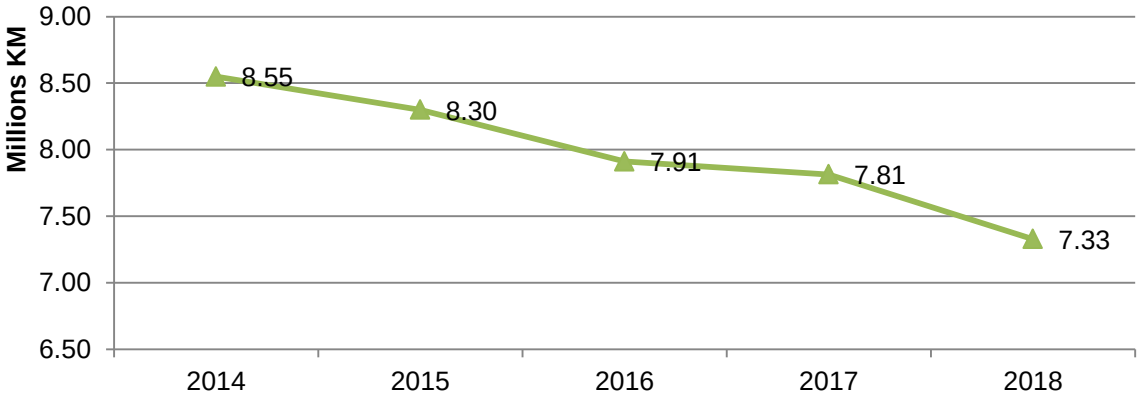
Source: Authors' calculations based on 2007 and 2011 HBS data and IMF predictions of economic growth

It should be noted that in this study we do not directly correct for inflation the PMT threshold and the benefit values. Yet, we do use the economic growth to predict the rise in consumption and utility expenditures and therefore take into account any rise because of economic development of the country. However, in real life both the PMT threshold of 333 KM, and the benefit values of 45 KM per household member should be carefully assessed against the minimum standards of living and adjusted accordingly. Not indexing benefits inevitably leads to a decline of their purchasing power and thus to a decrease of their adequacy (i.e. over time, they will decrease as a share of household consumption after allocation of transfers).

4. *The predicted budget spent for the period 2014 - 2018*

The results on the number of beneficiaries were used to calculate the predicted budget needed to cover eligible applicants. As shown above, the total number of the beneficiaries is expected to decrease during the period 2014-2018 as a result of the positive effect of economic growth on a number of factors, including increased labour market participation as well as increased levels of total expenditure on consumption and utilities. Figure 10 shows that the budget needed to cover the total program (assuming a fixed benefit of 45KM per household member) will drop from 8.55 million KM in 2014 to 7.33 million KM in 2018.

Figure 10. The total predicted budget for the new social assistance program



Source: Authors' calculations based on 2007 and 2011 HBS data and IMF predictions of economic growth

This decrease will be mainly result from the decline in the budget needed to cover rural beneficiaries (from 6.73 million KM in 2014 to 5.62 million KM in 2018), while the budget for urban beneficiaries will decrease to a lesser extent (from 1.82 million KM in 2014 to 1.71 million KM in 2018). This can mainly be explained by the much higher number of beneficiaries in rural areas at the beginning of the projection period.

The overall decrease in the budget for social benefits may create some fiscal room for increasing expenditure for other social programs. One of the major problems of any social assistance schemes are the long-term beneficiaries who are difficult to pull out of the poverty trap. Active labour market programs like job promotion programs or specialized vocational trainings for these categories could be financed within the same fiscal space.

5. *Summary of the results*

Overall, the results of our projections show that economic growth is expected to have a significant decreasing impact on the number of beneficiaries of the new social assistance program. More precisely, positive economic growth in the future will lead to a decrease in the number of beneficiaries over time if the proxy means test is applied to determine the eligibility to the program. As a consequence, budgets needed to cover this program will decrease to cover both beneficiaries in urban and in rural regions.

However, despite the overall negative effect of economic growth on the number of beneficiaries and budget needed to cover them, one of the main challenges for the government is find a way to control and adjust the benefit scheme in order to avoid possible negative externalities. As shown by the analysis – in spite of the fact that beneficiary numbers are expected to decrease in both rural and urban areas – a moderate economic growth is likely to have a larger impact on rural beneficiaries than on the urban ones. This means that urban beneficiaries tend to stay relatively more dependent on their benefits. The government could try to intervene by creating more jobs for the poorest urban residents through job promotion programs or vocational trainings for low-skilled workers.

The simulations in this report illustrated also that a certain proportion of the beneficiaries of the program come from the highest quintiles. The numbers are relatively small but not negligible. Yet, it was shown here that in times of economic growth beneficiaries in the highest quintiles tend to drop out in higher proportions than in the lowest quintiles (we showed that about 30 percent of the dropouts in 2015 or 2017 will be from the forth quintile). While this is a positive trend, the government should try to prevent the opposite situation (i.e., when in time of slow economic growth people from the highest quintiles may enter the program thus increasing the inclusion error). The results presented here suggested that even in times of moderate growth this can be the case as the proportion of beneficiaries from the higher quintiles seems to increase over the years.

All the predictions in this report are based on the assumption that the only factor affecting labour market participation or level of expenditures is the economic growth and all other factors are held constant. However, it is necessary to recognize that other factors (like the demographic structure and population numbers, level of education, health care, productivity, retirement age, etc.) can affect employment and the level of expenditures. All these factors may affect positively or negatively the number of eligible applicants in the future, and hence the budget needed to finance the program. Moreover, the current exercise did not take into account inclusion or exclusion errors which both can affect greatly the numbers and characteristics of the beneficiaries.

Annex 1. Technical details on the simulation methodology

This report combines different quantitative techniques to analyze the effects that the economic growth may have on household expenditures on consumption, labour market participation as well as utility expenditures and therefore on the potential number of beneficiaries of social transfers in the Federation of Bosnia and Herzegovina.

We first recognize that the economic growth has a direct effect on household expenditures on consumption but this effect may not be the same for all deciles of per capita consumption. This means that while the whole population is affected by the economic growth, this effect may differ substantially between consumption deciles. Some of these deciles may gain more from a positive economic growth while some other may gain less (and this may even become negative in certain circumstances). The relative expenditure on consumption, (over total household expenditures), is especially different for the lower quintiles as the poor spend proportionally more on food than on investments and luxuries. In order to capture this effect between two different years (2007 and 2011), when only cross-sectional micro-level data are available for each year, we have used the propensity score matching (PSM).

The PSM technique is used to match households with similar characteristics from cross-sectional surveys conducted in 2007 and 2011. PSM helps in identifying individuals with similar characteristics over different years in the absence of an experimental set up, where we would be able to construct counterfactuals. The propensity scores that estimate the probability of households with similar characteristics to participate in each of the surveys help to identify counterfactuals in 2007 and 2011. After these counterfactuals are identified we can use them to observe the changes in consumption over the years and estimate the effect of the economic growth in consumption. This would capture the real change over the years not for the total population but for people having similar characteristics and therefore produce more accurate estimates. Thus, PSM creates a situation similar to an experiment where everyone has the same probability of participating in the consecutive year, and this probability is balanced among the participants and not participants and conditional on observed variables. The variables used for calculating the propensity score correspond to observable characteristics of households that are stable over the years. These variables include: the household size, age of the head of the household, urban/rural area residence of the household, highest level of education completed by household head (primary, secondary or college/university/PhD), permanent employment of household head, pension status (age-related or premature), marital status, number of children below 18 years old, as well as gender of the household head. Table 2 shows the results for the logistic regression that was used to generate propensity scores for both years 2007 and 2011.

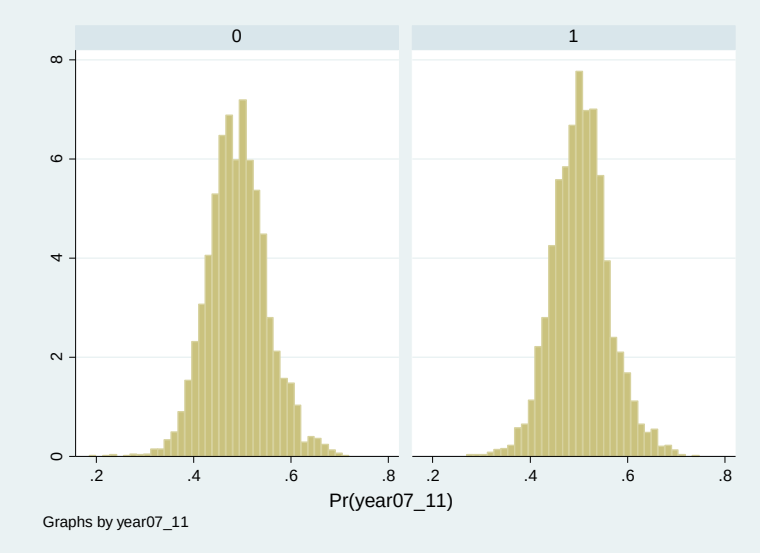
Table 2. The results of the logit model used to calculate the propensity scores for participation in years 2007 or 20111

Variables	Coefficient	S.E.
Household size	-0.13***	(0.02)
Age of the household head	0.01**	(0.00)
Gender of the household head	-0.05	(0.08)
Household head: Marital status	-0.03	(0.03)
Household lives in urban/rural area	-0.17***	(0.05)
Number of children below 18	0.08**	(0.04)
Education level completed	0.09***	(0.02)
Household head: Secondary education completed	-0.34***	(0.10)
Household head: Higher degree of education	-0.21***	(0.08)
Household head: Employed (permanent contract)	-0.18***	(0.06)
Household head: Pensioner (age-related or premature)	-0.03	(0.06)
Constant	0.21	(0.24)
Observations	**9,115**	

Note: [1] – The dependent variable here is a dummy indicating the year of the survey. Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

The histograms in figure 11 show the distribution of propensity scores (i.e., the suitability of matching) between households for years 0 (2007) and 1 (2011). The figures show a relatively good basis for matching households with similar characteristics.

Figure 11. Histograms of the propensity scores for years 2007 and 2011



Source: Authors' calculations based on 2007 and 2011 HBS data and IMF predictions of economic growth

The level of consumption for matched households between 2007-2011 and the economic growth between these two years is then used to estimate growth coefficients that will indicate how economic growth influences the consumption for each of the consumption deciles. As explained above, after the matching of households, we have calculated a coefficient for each decile that is the percentage change in per capita consumption (per OECD equivalent scale)

in 2011 compared to 2007, (net of the inflation effect) over the percentage change in overall economic growth between these two years.

$$Growth\ coeff_i = \frac{(cons'11_i - cons'07_i / cons'11_i)}{(GDPgrth'11 - GDPgrth'07 / GDPgrth'11} \quad (1)$$

Equation 1 gives this growth coefficient for each of the deciles where i represent the i-th decile; *cons'07* and *cons'11* represent expenditures on consumption for years 2007 and 2011 respectively, and the *GDPgrth'07* and *GDPgrth'11* represent the GDP growth for the years 2007 and 2011 respectively. Table 3 shows the growth coefficients for each of the deciles. The figure shows that the economic growth is expected to affect more positively the the lowest deciles (except for the 10th decile which also has a relatively high coefficient).

Table 3. Coefficients correcting for the effect of economic growth on consumption

Decile of the consumption	Coefficient correction for the effect of economic growth on consumption
Decile 1	2.178
Decile 2	2.721
Decile 3	2.824
Decile 4	2.518
Decile 5	2.389
Decile 6	2.256
Decile 7	2.007
Decile 8	1.880
Decile 9	1.126
Decile 10	2.142

Source: Authors' calculations based on 2007 and 2011 HBS data and IMF predictions of economic growth

We have further assumed that that the economic growth will also have an impact on the labour market participation and utility expenditures. Therefore we have varied these variables in our simulations for the period 2014-2018. The causal relationship that exist between the consumption and the labour market participation is influenced by the endogeneity between these two variables, i.e. expenditures on consumption may be determined by the employment status but also employment status may be determined by the amount of disposable incomes that are spent on consumption. In order to get unbiased estimates for the employment status (household head was employed or had permanent contract) we have used the instrumental variable regression. Equation 2 gives an overview of the models used:

$$LMparticip_j = \beta_{0\ j} + \beta_{1..n\ j}(x_{1..n}) + \beta_{n+1\ j}(log.consump. = \gamma_{0\ j} + \gamma_{1..m\ j}(x_{1..m})) \quad (2)$$

Where, "j" is the particular year, $x_{1..n}$ (age and age square, household size, gender, marital status, the level of education of the head of the household) are the explanatory variables used to explain labour market participation, and $\gamma_{1..m}$ are the instrumental variables used to explain expenditures on consumption. The variables chosen to instrument for level of expenditures on consumption participation were; the number of persons per room, the garage in the dwelling, the phone in the dwelling as well as the fact whether the household uses another apartment or house in addition to the main dwell. Estimations are done separately for urban and rural areas given the different characteristics that they may have. The models have used the simulated consumption from step one, i.e. household per capital

(OECD equivalent scale) consumption adjusted with the growth factor as from equation 1. Table 4 shows the IV regression analysis results for FBiH for the period 2014-2018. The simulated log of post-transfer per equivalent OECD scale consumption at the beginning of each year is used as an instrumental variable.

Table 4. Instrumental variable probit regression results for employment of household head: (permanent contract)

VARIABLES	Year 2014		Year 2015		Year 2016		Year 2017		Year 2018	
	Coef	se	coef	se	coef	se	coef	se	coef	se
Age of the hh head	0.23***	(0.02)	0.24***	(0.02)	0.24***	(0.02)	0.24***	(0.02)	0.24***	(0.02)
Age squared of the hh head	-0.00***	(0.00)	-0.00***	(0.00)	-0.00***	(0.00)	-0.00***	(0.00)	-0.00***	(0.00)
Log of the hh size	0.11	(0.09)	0.07	(0.08)	0.08	(0.08)	0.08	(0.08)	0.09	(0.08)
Gender of the hh head	0.45***	(0.10)	0.45***	(0.10)	0.45***	(0.10)	0.45***	(0.10)	0.45***	(0.10)
Marital status of hh head (married)	0.11	(0.11)	0.13	(0.11)	0.13	(0.11)	0.13	(0.11)	0.13	(0.11)
Hh head : Secondary education completed	0.35***	(0.08)	0.39***	(0.07)	0.36***	(0.08)	0.38***	(0.07)	0.36***	(0.07)
Hh head : Higher degree of education	0.59***	(0.14)	0.64***	(0.13)	0.62***	(0.14)	0.65***	(0.13)	0.64***	(0.13)
Simulated log of post-transfer per equivalent OECD scale consumption at the begining of the year[1]	1.04***	(0.16)	1.03***	(0.15)	1.04***	(0.16)	1.03***	(0.16)	1.04***	(0.16)
Constant	-12.11***	(1.02)	-12.20***	(1.02)	-12.34***	(1.05)	-12.37***	(1.07)	-12.56***	(1.10)
athrho	-0.27***	(0.09)	-0.24***	(0.09)	-0.25***	(0.08)	-0.22***	(0.08)	-0.22***	(0.08)
lnsigma	-0.79***	(0.01)	-0.77***	(0.01)	-0.80***	(0.01)	-0.81***	(0.01)	-0.83***	(0.01)
Number of observations	**4,587**		**4,587**		**4,587**		**4,587**		**4,587**	

Note: Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1; [1]- Natural logarithm of post-transfer per equivalent OECD scale consumption at the beginning of the year is instrumented using the number of persons per room, the garage in the dwelling, the phone in the dwelling as well as the fact whether the household uses another apartment or house in addition to the main dwell.

After the estimation of the above model we predict the labour market participation of the household head. The outcomes of the model are adjusted around values “0” (non-working or not having a permanent contract) and “1” (working under a permanent contract) by encompassing to the nearest match (i.e. values that are lower than 0 or lower than 0.5 are encompassed to 0 and so on).

The number of the household members employed with full or part time is predicted using the Negative Binominal Regression Method (NBRM) which is mostly used for modeling count variables, This model was chosen over Poisson or Zero Inflated Poisson (ZIP) model given the more realistic predictions that it gave. It can be considered as a generalization of Poisson regression since it has the same mean structure as Poisson regression and it has an extra parameter to model the over-dispersion. The explanatory variables are age, age square, the household size, the level of education of the head of the household, the natural logarithm of post-transfer per equivalent OECD scale consumption at the begin of the year the number of

children younger than 18 years old or number of children between 6-13 years old respectively for urban and rural areas. The tables 5 and 6 show the results of the negative binominal regression for the number of the household members employed with full or part time in both urban and rural areas.

Table 5. Results of the NBRM model for the number of the household members employed with full or part time– Rural areas

VARIABLES	Year 2014		Year 2015		Year 2016		Year 2017		Year 2018	
	Coef	se	coef	se	coef	se	coef	se	coef	se
Age of the hh head	0.03***	(0.01)	0.03***	(0.01)	0.03***	(0.01)	0.03***	(0.01)	0.03***	(0.01)
Age squared of the hh head	-0.00***	(0.00)	-0.00***	(0.00)	-0.00***	(0.00)	-0.00***	(0.00)	-0.00***	(0.00)
Log of the hh size	0.99***	(0.05)	1.00***	(0.05)	1.00***	(0.05)	1.01***	(0.05)	1.01***	(0.05)
hh head: Secondary education	0.08**	(0.04)	0.08**	(0.04)	0.07*	(0.04)	0.07**	(0.04)	0.06*	(0.04)
Hh head: Higher education degree	0.25***	(0.06)	0.22***	(0.06)	0.22***	(0.06)	0.22***	(0.06)	0.21***	(0.06)
Simulated log of post-transfer per equivalent OECD scale consumption begin of the year	0.22***	(0.03)	0.32***	(0.03)	0.32***	(0.04)	0.32***	(0.04)	0.33***	(0.04)
Number of children between 6-13 years old	-0.09*	(0.05)	-0.11***	(0.04)	-0.10***	(0.04)	-0.11***	(0.04)	-0.10***	(0.04)
Constant	-3.30***	(0.34)	-3.93***	(0.35)	-3.96***	(0.36)	-3.98***	(0.37)	-4.10***	(0.37)
Lnalpha	-21.11	(0.00)	-21.11	(0.00)	-21.11	(0.00)	-21.11	(0.00)	-21.11	(0.00)
Number of observations	**2,844**	**2,844**	**2,844**	**2,844**	**2,844**	**2,844**	**2,844**	**2,844**	**2,844**	**2,844**

Note: Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 6. Results other NBRM model for the number of the household members employed with full or part time – Urban areas

VARIABLES	Year 2014		Year 2015		Year 2016		Year 2017		Year 2018	
	coef	se	coef	se	coef	se	coef	se	coef	se
Age of the hh head	0.02**	(0.01)	0.02**	(0.01)	0.02**	(0.01)	0.02**	(0.01)	0.02**	(0.01)
Age squared of the hh head	-0.00***	(0.00)	-0.00***	(0.00)	-0.00***	(0.00)	-0.00***	(0.00)	-0.00***	(0.00)
Log of the hh size	1.31***	(0.07)	1.32***	(0.07)	1.30***	(0.07)	1.31***	(0.07)	1.31***	(0.07)
hh head: Secondary education	0.25***	(0.06)	0.25***	(0.06)	0.25***	(0.06)	0.25***	(0.06)	0.25***	(0.06)
Hh head: Higher education degree	0.42***	(0.07)	0.40***	(0.07)	0.41***	(0.07)	0.40***	(0.07)	0.41***	(0.07)
Simulated log of post-transfer per equivalent OECD scale consumption begin of the	0.29***	(0.04)	0.32***	(0.04)	0.30***	(0.04)	0.32***	(0.04)	0.31***	(0.04)

year										
Number of children between 6-13 years old	-0.24***	(0.03)	-0.24***	(0.03)	-0.24***	(0.03)	-0.24***	(0.03)	-0.24***	(0.03)
Constant	-3.52***	(0.38)	-3.76***	(0.38)	-3.64***	(0.39)	-3.82***	(0.39)	-3.76***	(0.39)
Lnalpha	-21.90	(0.00)	-21.90	(0.00)	-21.90	(0.00)	-21.90	(0.00)	-21.90	(0.00)
Number of observations	**1,743**	**1,743**	**1,743**	**1,743**	**1,743**	**1,743**	**1,743**	**1,743**	**1,743**	**1,743**

Note: Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

The above estimated models are used to predict the number of household members participation in the labour market. The outcomes of the model are adjusted around full numbers by encompassing them as explained in the probit model above.

The impact of the economic growth on the utility consumption is predicted using the assumed relationship that expenditures on utilities have with expenditures on consumption. Again, as before, this is estimated by deciles (where *i* represents the *i-th* decile) in order to correct for different trends between rich and poor households (equation 3). The beta coefficients are used to predict the expenditures on utilities on consecutive years based on deciles of consumption.

$$Log(Utility\ expend.)_i = \beta_{0\,i} + \beta_{1\,i} * [\log(consumption\ expend.)_i] \qquad (3)$$

In the final step the projected level of consumption, the predicted labour market participation and the level of expenditures on utilities are used to update the proxy means tested scores as displayed in the report “New targeting methods for BiH, Part II”. Other characteristics are assumed to remain constant. The simulated proxy means tested score is used to determine whether households receive the benefit in that certain year. The level of benefit is thereafter used to estimate the post-transfer consumption (assuming a 33% probability of consumption).

Annex 2. Correlation results of the main variables used in the simulation exercise

Table 7 gives the correlation analysis conducted to test for the association between the monthly per equivalent (OECD) scale consumption and the variables that are varied in the period 2014-2018. The analysis is based on the LSMS data for 2011. As we can see from the table, all correlations are positive showing that the an increase in the economic growth will increase the labour market participation and the utilities expenses. As it is shown in the report, such increase will have a negative impact on the number of the beneficiaries of non-contributory social benefits in BiH Federation.

Table 7. Pairwise correlation coefficients for the variables used in the simulation and consumption expenditures (per OECD equivalent scale)

	Household head employed, permanent contract	**Number of household members employed (full or part time)**	**Log of utility expenses (electricity, gas, central heating, water/sewage, waste)**
Monthly per equivalent scale consumption (OECD 1), excluding civilian benefits	0.2030*	0.1108*	0.3628*
Monthly per equivalent scale consumption (OECD 1)	0.2013*	0.1085*	0.3621*

Note: Stars indicate statistical significance at 0.95