

# NATIONAL TRANSFER ACCOUNTS OF BOSNIA AND HERZEGOVINA **WITH POLICY RECOMMENDATIONS**

# **NATIONAL TRANSFER ACCOUNTS OF BOSNIA AND HERZEGOVINA**

*WITH POLICY RECOMMENDATIONS*

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## Abbreviations

NTA	National Transfer Accounts
LTC	Long-term care
UN	United Nations
BHAS	Agency for Statistics of Bosnia and Herzegovina
EU	European Union
AGENTA	European Union NTA project
BAM	Currency of Bosnia and Herzegovina (Convertible Mark)
BiH	Bosnia and Herzegovina
RS	Republika Srpska
FBiH	Federation of Bosnia and Herzegovina
GDP	Gross Domestic Product
EUR	Euro
LCD	Lifecycle deficit
CBBiH	Central Bank of Bosnia and Herzegovina
TFW	Intra-household transfer
TFB	Inter-household transfer
UK	United Kingdom
FBiHSO	Institute of Statistics of the Federation of Bosnia and Herzegovina
CPG	Centre for Policy and Governance
VET	Vocational education and training
WB	World Bank
EC	European Commission
ETF	European Training Foundation
EIS	Economic Institute Sarajevo
HEI	Higher educational institution
STEM	Science, technology, engineering and mathematics
SMEs	Small and medium enterprises
HSS	Humanities and social sciences
PAYG	Pay-as-you-go
ILO	International Labour Organisation

IMF	International Monetary Fund
SOE	State-owned enterprise
OECD	Organisation for Economic Co-operation and Development
COVID-19	Coronavirus disease 2019
VPFL	Voluntary pension fund law
ADLs	Activities of daily living
IADLs	Instrumental activities of daily living
WHO	World Health Organisation
CSWs	Centres for social work
LSGs	Local self-governments
UNICEF	United Nations Children's Fund
IHME	Institute for Health Metrics and Evaluation
ESPN	European Social Policy Network
NCDs	Non-communicable diseases
VAT	Value-added tax
HE	Higher education

## Introduction

The National Transfer Accounts constitute a complete, systematic and coherent accounting framework of economic flows from one age group or generation to another in a given calendar year (UN, 2013). Age profiles are cross-sectional rather than longitudinal. The key goal of this accounts system is to assess the generational dimension of the economy. According to Lee & Mason (2011:7), the generational economy consists of: (1) the social institutions and economic mechanisms used by each generation or age group to produce, consume, share, and save resources; (2) the economic flows across generations or age groups that characterise the generational economy; (3) explicit and implicit contracts that govern intergenerational flows; (4) the intergenerational distribution of income or consumption that results from the foregoing.

The analysis below is based on the national transfer accounts developed for Bosnia and Herzegovina by the Agency for Statistics of Bosnia and Herzegovina (BHAS), following the United Nations (UN) methodology, using data for 2015 (BHAS, 2023). Comparison with EU-25 countries relies on the AGENTA database for 2010 (Istenič et al., 2016).<sup>1</sup>

The document is organised as follows. The first section presents NTA findings, with the focus on those that are the most relevant from the social sector policy implications.<sup>2</sup> Second section highlights specific findings, provides a brief situation analysis, and recommendations for improvements in the areas of education, youth employment, pension system, healthcare and long-term care (LTC) for older persons.

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<sup>1</sup> Data for Malta, Croatia and the Netherlands are not included, while data for the United Kingdom are. EU-25 average is not weighted.

<sup>2</sup> The term social sector, for the purposes of this document, includes education, youth employment, healthcare, and social protection.



# I Relevant NTA analysis findings

## 1. Life cycle accounts

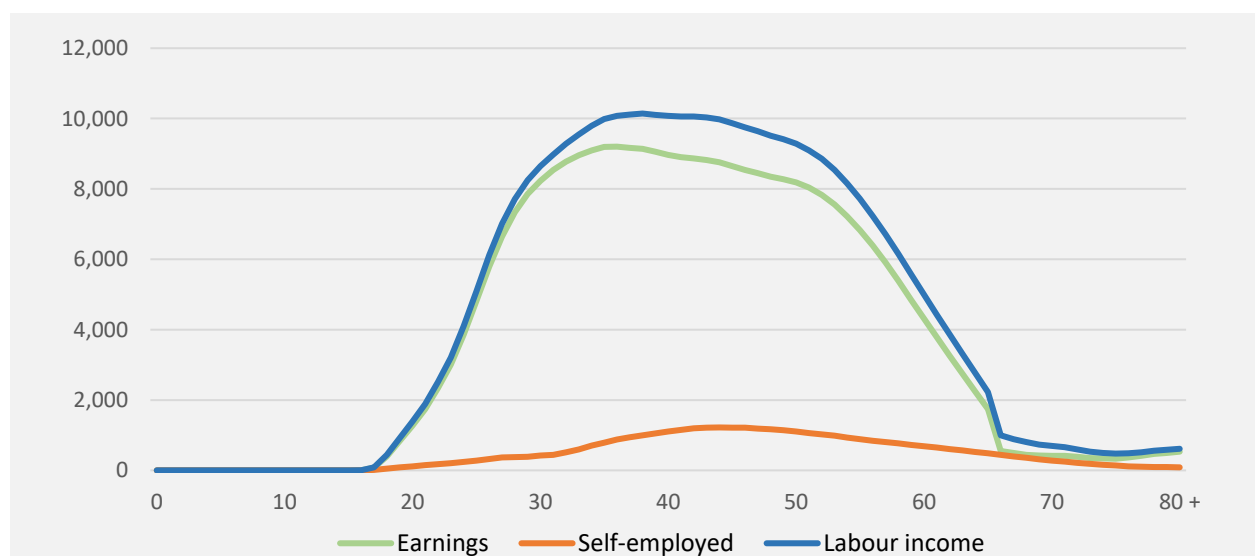
### 1.1. Labour income

Labour income includes wages, contributions paid by the employer, and self-employment income (BHAS, 2023). **In Bosnia and Herzegovina, labour income starts to grow relatively late during the life cycle, and decreases early.** The curve of labour income per capita by age is concave. Labour income first occurs at the age of 16, peaking already at the age of 38. It is relatively stable next five years, and starts slowly to decline afterwards (Figure 1). Up until the age of 24 and after the age of 60, the amounts are below one half of the normalised labour income level in the age group 30-49 (BHAS database, 2023).

Wage income is substantially higher than self-employment income. The self-employment income curve is less concave, indicating its more even distribution through different life cycle stages. Wage income is steadily decreasing at a rather high rate after the age of 55. Self-employment income also decreases with age, but at a much slower pace.

The share of labour income of older people (65+) in Bosnia and Herzegovina stands at 1.7%, and that of youth under 25 – at 3,8%. In the majority of European Union (EU) countries, older people’s share of labour income does not exceed 2%. (D’Albis & Moosa, 2015:15). EU-25 average is 1,8%. In the case of youth, the share in BiH is very different to average values recorded in EU-25 - 6.2%).<sup>3</sup>

**Figure 1:** Age profile of labour income, Bosnia and Herzegovina, 2015 (BAM per capita)



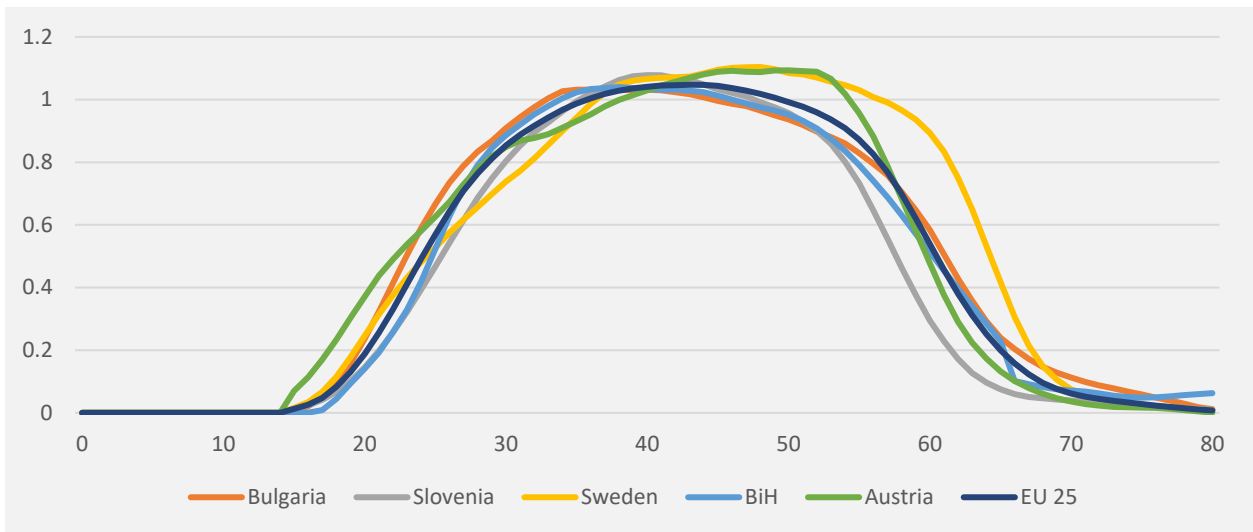
Source: BHAS database (2023)

The age profile of labour income in Bosnia and Herzegovina does not differ much from the new EU member states, except slightly at the youngest ages. In case of older EU members there is also a difference related to 60+ group (Figure 2). Austria and Sweden stand out among European countries (Sambt, Hammer & Istenič, 2021). Austria’s specific

features concern the youngest age groups, owing to the widespread practice of apprenticeships, which encourage early entry into the labour market (D’Albis & Moosa, 2015). Sweden, on the other hand, is a country in which labour income decreases later in the life cycle, with higher employment rates among older workers (Lee & Ogawa, 2008).

<sup>3</sup> Author’s calculation based on the AGENTA database.

**Figure 2:** Age profile of labour income, BiH (2015), Bulgaria, Slovenia and Sweden (2010), normalised values



Note: Age profile of labour income, normalised in relation to labour income in the age group 30-49

Source: BiH database (2023); AGENTA database

Compared to developed countries the peak of the curve in Bosnia and Herzegovina is shifted to the left. In Bosnia and Herzegovina labour income peaks at 39, compared to 49 in Sweden and 50 in Austria. In addition to higher economic activity rates in these generations, such a shape could also be a result of remuneration/rewards policy for older employees or the types of sectors in which they predominantly work.

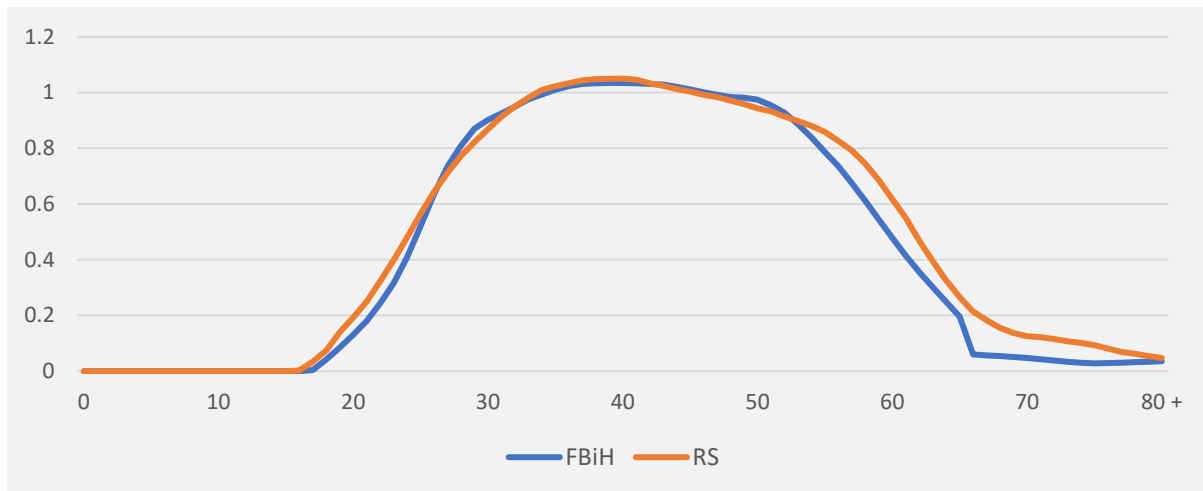
This is in part related to BiH specific circumstances. Namely, during the late 1990s and early 2000s, the country was facing a twofold transition: from war to peace and from (a sort of) controlled (or planned) to market economy. A mass privatisation (using government certificates that were given to all adults in lieu of services that were not adequately remunerated such as serving in war)

was implemented. Companies lost their markets. With outdated technology, low productivity and a lack of access to new capital, many companies went bankrupt. In the absence of foreign investment inflows, unemployment has increased significantly, especially among older workers. Unemployment was structural (long-term) and along with limited government initiatives to strengthen human capital and teaching modern skills, had led to the inactivity of a large part of the working-age population.

There is a noticeable difference in the age profile of labour income between the two entities in Bosnia and Herzegovina (see picture below). It seems that labour income decreases at a lower pace in the Republika Srpska (RS) comparing to the Federation of Bosnia and Herzegovina (FBiH).



**Figure 3: Age profile of labour income, FBiH vs. RS, 2015**



Source: FBiH and RS statistical agencies databases (2023)

A possible explanation for this is the earlier implementation of the pension system reform in the RS.<sup>4</sup> Another explanation is related to the much higher participation of the self-employed in the total income from work in the Republika Srpska. This is due to the greater importance of agriculture in the total employment in this entity (Figures 1 and 2 in Annex).

## 1.2. Consumption

In NTA, consumption is divided into public and private, and additionally into consumption on education, health, and other (consumption on public administration, defence, public lighting, justice, etc.) (BHAS, 23).

**In Bosnia and Herzegovina, consumption on children and youth, as well as on the oldest-old, is less socialised compared to EU-25 countries.**

The age profile of total consumption in Bosnia and Herzegovina shows that after the first year of life,

consumption steadily grows until adulthood, and then stagnates for a long time, albeit with minor oscillations, to finally slightly decrease after the age of 60 (Figure 3). Public consumption is higher than private only for children in the 6-14 age group. In all other age groups, private consumption clearly dominates, even among the oldest-old. This is partly related to, generally, a high share of private consumption in gross domestic product (GDP)<sup>5</sup> - for a number of years, private consumption accounted for three quarters of country's GDP (BHAS, 2023)<sup>6</sup>.

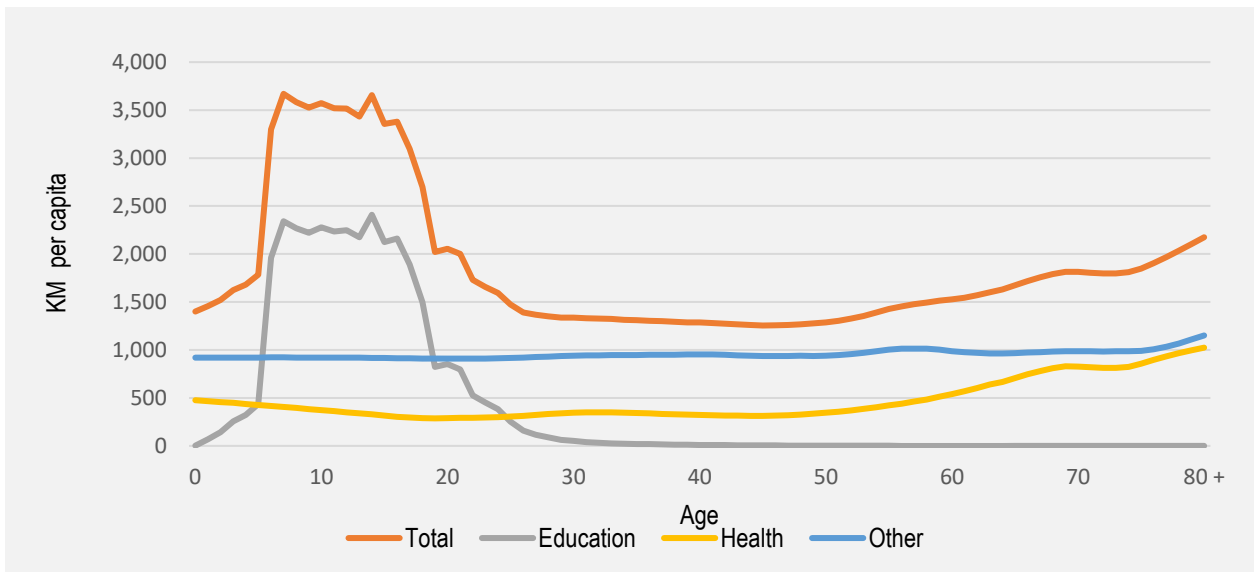
The age profile of public consumption is under the decisive influence of consumption for education and health, considering that consumption for other purposes does not display age-related fluctuations, which is defined by the methodological approach (Figure 4). Namely, public consumption for other purposes is equally allocated to all age groups (BHAS, 2023). Around 80 percent of private spending on education is concentrated in the ages 6 to 18. Public spending on healthcare per capita is steadily rising for the age of 45. It doubles till the age of 60 and triples at age of 75 and beyond.

<sup>4</sup> This will be explained in more detail later in the document.

<sup>5</sup> Measured using consumption approach.

<sup>6</sup> Primarily as a result of high amounts of remittances from abroad – around 10% of GDP.

**Figure 4: Public consumption per capita by age, in total and by components, BiH, 2015**

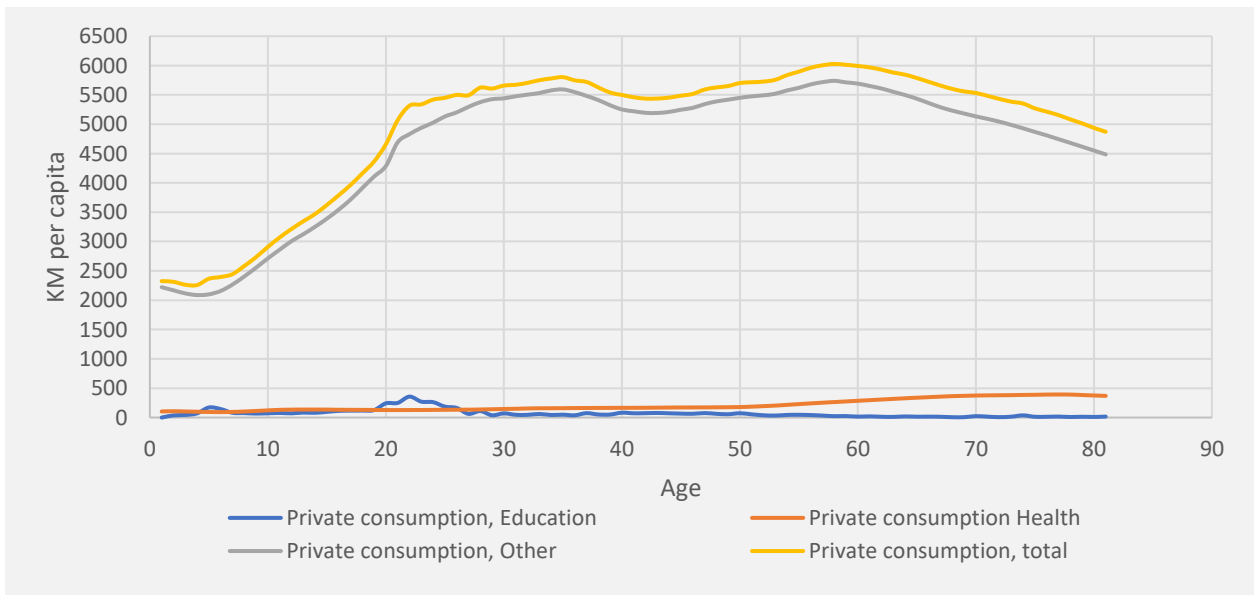


Source: BHAS database (2023)

The curve of private consumption per capita by age in Bosnia and Herzegovina shows a steep incline up to the age of 24, followed by a long stagnation, and finally a continuous decline after the age of 60 (Figure 5). The total level of private consumption is under the decisive influence of other consumption,

the allocation of which by age depends on methodological issues to a substantial extent (BHAS, 2023). The text below will primarily analyse the age profile of private consumption on education and health, given their relevance to social sector policies.

**Figure 5: Private consumption per capita by age, total and by components, BiH 2015**

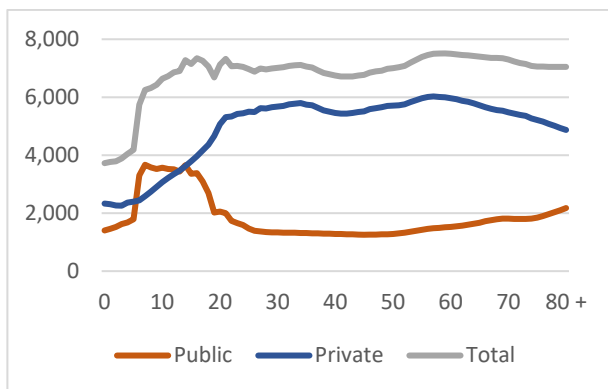


Source: BHAS database (2023)

The curves illustrating total consumption per capita by age and its components, public and private consumption, in the EU-25 are somewhat different from those for Bosnia and Herzegovina (Figure 6 and 7). First, the EU-25 age profile of public consumption largely resembles a U-curve, and that of private consumption – an inverted-U curve, which indicates their complementarity and enables life-cycle consumption smoothing (Samt & Prskawetz, 2011:260). Second, in the EU-25, public consumption (largely on education) dominates compared to the private over an extended period

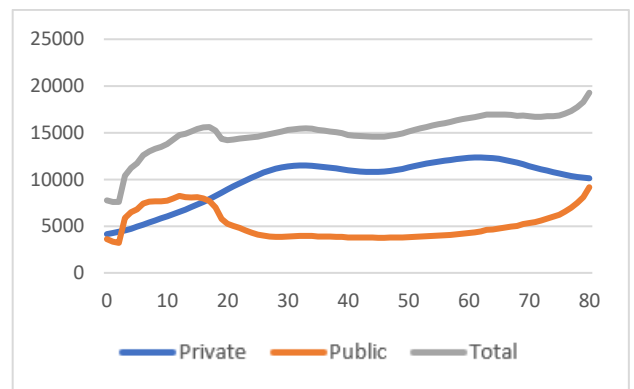
of time in childhood (above 3 and up to 16 years of age). Third, total consumption per capita rises in the oldest age groups and considerably so, also as a result of rising public consumption, primarily on health and long-term care for older people (Kluge, 2009:12). Finally, in the EU-25, private and public consumption on the oldest-old are almost equal. In Scandinavian countries (Denmark, Sweden and Finland), public consumption for the oldest is particularly high and exceeds the private (AGENTA database).

**Figure 6:** Total, public and private consumption per capita by age, BiH, 2015 (BAM)



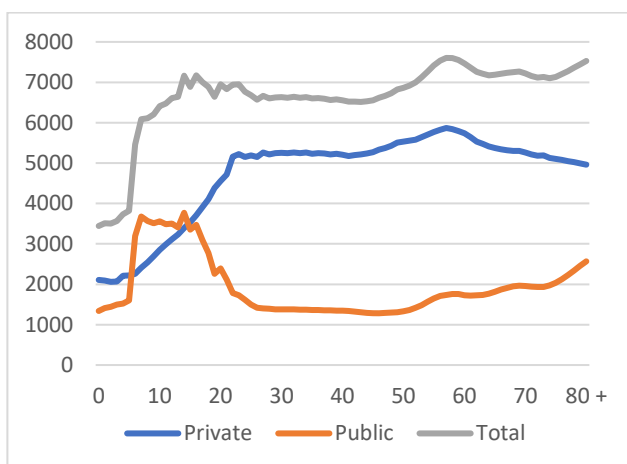
Source: BHAS database (2023)

**Figure 7:** Total, public and private consumption per capita by age EU-25, 2010 (EUR)



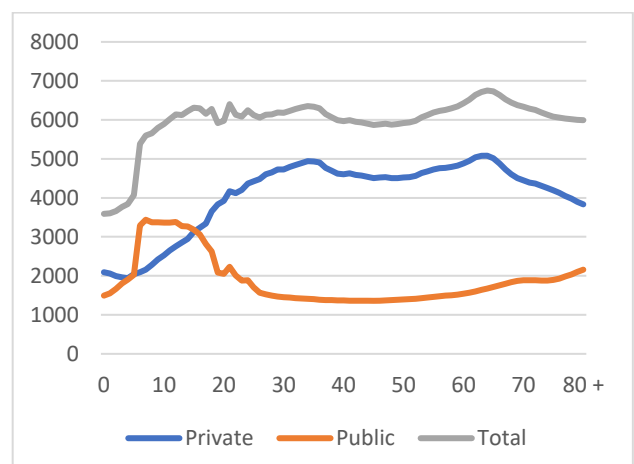
Source: AGENTA database

**Figure 8:** Total, public and private consumption per capita by age, FBiH, 2015 (BAM)



Source: FBiH database (2023)

**Figure 9:** Total, public and private consumption per capita by age, RS, 2015 (BAM)



Source: RS database (2023)

If we compare the two entities (Figures 8 and 9), we again notice certain differences. Private consumption in the RS begins to decline later in the life cycle. This is in line with the findings on income dynamics in this entity. Still, private consumption in this entity declines much faster in the oldest age groups. This decline is not fully compensated by the increase in public spending so that total spending in this entity declines toward the end of life. The opposite is the situation in FBiH.

In both entities private consumption is much higher than public consumption on the oldest-old. Though, the difference is significantly higher in FBiH.

### 1.3. Life-cycle deficit

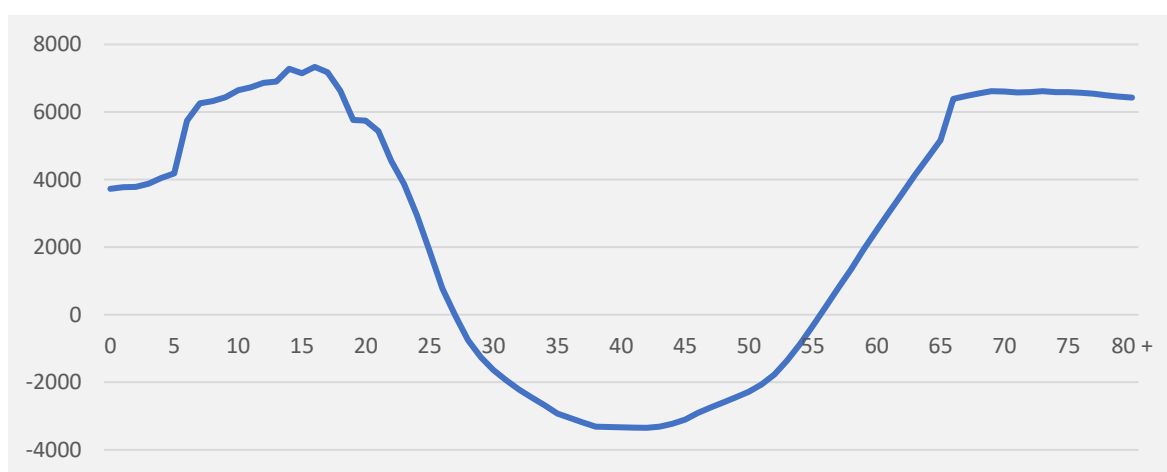
Life-cycle deficit shows the difference between consumption and labour income for a given age. During childhood, in the earliest youth and in older age, labour income is non-existent or low and

smaller than consumption, and the deficit thus incurred is funded through private and public transfers or asset-based reallocations (for example savings).

**In Bosnia and Herzegovina, the period in the life cycle when no deficit is recorded between consumption and labour income is short, somewhat shorter than the EU-25 average and especially than the highest-developed European countries.**

As expected, in Bosnia and Herzegovina, deficit is present among children and youth, as well as in older age. **The period during which there is a surplus, i.e. labour income is higher than consumption, lasts only 29 years**, which is a short time having in mind that life expectancy had reached 76.2 years in 2020 (Eurostat database, demo\_mlexpec). Deficit disappears as late as the age of 28, and re-appears early, at the age of 55 (Figure 10). Deficit is almost equal for the older age and youth.

**Figure 10:** Life-cycle deficit, Bosnia and Herzegovina, 2015 (BAM per capita)



Source: BHAS database (2023)

In the EU-25, the surplus (negative deficit) span is somewhat longer than in Bosnia and Herzegovina, on average 33 years, especially in certain countries (Austria 34 years, Sweden 37 years) (See table below). The first milestone, the point at which youth first incur a surplus, comes two years earlier in Austria than in Bosnia and Herzegovina, and in Sweden the second milestone, the point at which

older people first lose the surplus, occurs as many as 9 years later. In these countries, however, the life expectancy is also longer, at over 80 years (Eurostat database, demo\_mlexpec). In some new EU member states, the surplus span is, as a rule, shorter, with the lowest values recorded in 2010 in Lithuania (26.5) and Romania (27.4 years) (Sambt, Hammer & Istenič, 2021:189).

**Table 1:** Indicators related to life cycle deficit in BiH, Serbia, EU (25), Austria and Sweden

Country	Age at which individuals start incurring surplus	Age at which individuals stop incurring surplus	Negative LCD (duration in years)
Bosnia and Herzegovina	26	55	29
Serbia	27	58	31
Austria	25	59	34
Sweden	27	64	37
EU (25)	26	59	33

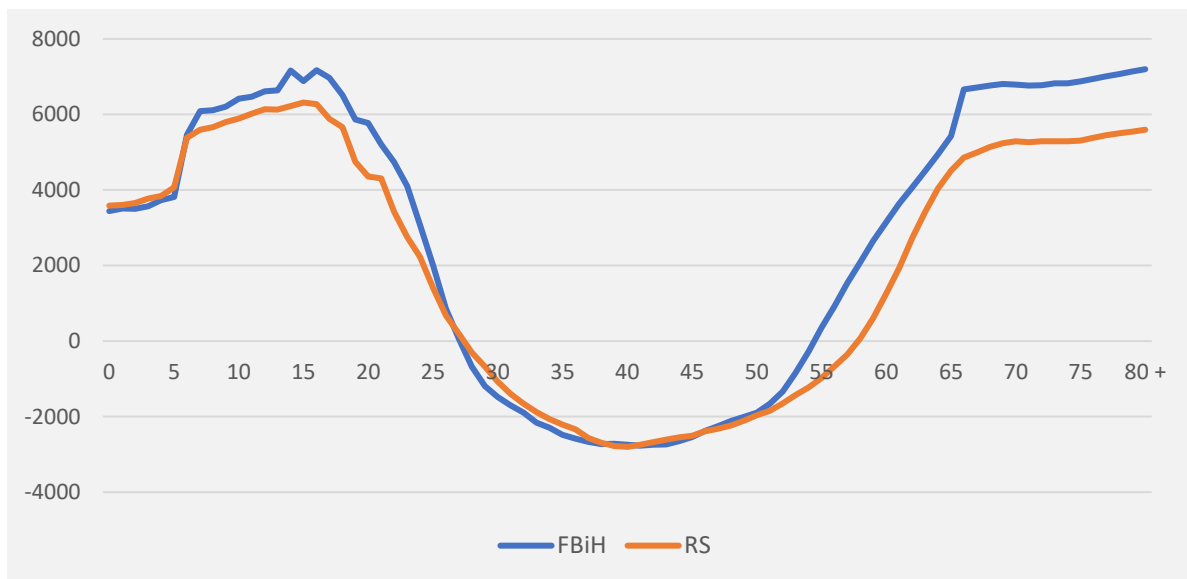
Source: BHAS (2023), Matković (2023) and AGENTA database, author’s calculations

In addition to the surplus span, the total deficit-to-surplus ratio is also important. This ratio stands at 2.9 in Bosnia and Herzegovina, indicating that the surplus covers a third of the total life-cycle deficit. Earlier research points to a generally negative relationship between surplus span and the deficit-to-surplus ratio (D’Albis & Moosa, 2015:14). On average, in EU-25 countries, this ratio stands at 0.8,

and in countries such as Romania and Bulgaria – at 2.6 and 2.7 (AGENTA database). The more favourable<sup>7</sup> deficit-to-surplus ratio means a lower burden on the generations funding most of the excess consumption relative to labour income.

Comparison between the two entities in BiH is on figure below.

**Figure 11:** Life-cycle deficit, FBiH vs. RS, 2015 (BAM per capita)



Source: FBiH and RS statistical agencies data bases (2023)

As can be seen, the surplus period (labour income higher than consumption), is shorter by three years in FBiH compared to RS – 27 and 30 years, respectively. In both entities the deficit disappears as late as the age of 27. Yet, in RS it reappears three years later. Deficit is almost equal for the older age and youth in RS. In FBiH, the deficit is much higher

for the youth. As noted before, the total deficit-to-surplus ratio is also an important indicator. This ratio stands at 3.6 in FBiH compared to 2.1 in RS. In FBiH the surplus covers 28 percent of the total life-cycle deficit. In RS this number is much higher – 48 percent.

<sup>7</sup> Lower values for the indicator.

## 2. Public reallocations among age groups

**Public reallocations** include two reallocation mechanisms between age groups: public transfers and public asset-based reallocations.

### 2.1. Net public transfers

Public transfers consist of in-kind (education, health, and other purposes) and cash (pensions, unemployment benefits, child allowance, etc.) inflows and outflows (taxes, contributions, and other payments to the government by the private sector). Cash transfers are dominated by pensions, whose recipients are older people. According to the NTA methodology, public transfer inflows from child allowances and other benefits geared towards families with children are attributed to adult household members.

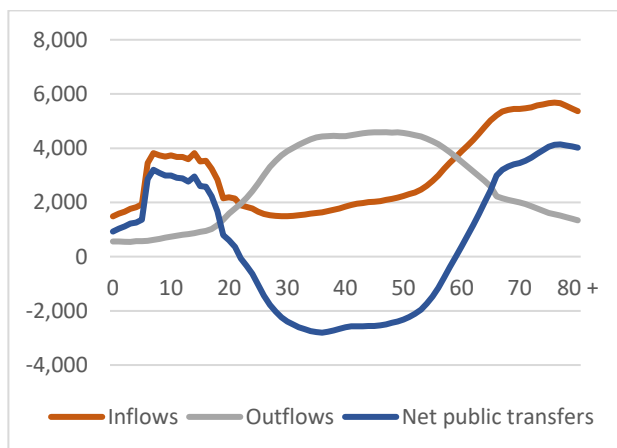
Considering that in-kind inflows are equal to public consumption, the curve of public transfer inflows

per capita by age follows the corresponding public consumption curve, with visibly sharper increase at older ages, due to pension cash transfers (Figure 12). The same regularity is also present in EU-25 countries (Figure 13).

Older persons (65+) in Bosnia and Herzegovina are the recipients of nearly 28% of public transfers, predominantly through pension payments, and children (0-17) – of approximately 20%, in considerable part for education. In per capita terms, inflows are the lowest for children of preschool age, and the highest for the oldest-old (80+).

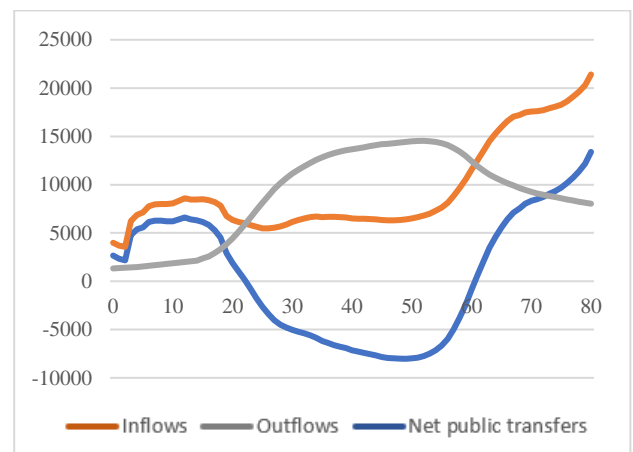
The age profile of net public transfers in Bosnia and Herzegovina shows that they are positive for children and youth (0-20) and for people over 60 years of age. In the EU-25, on average, transfers for youth remain positive somewhat longer, until the age of 23.

**Figure 12:** Net public transfers, inflow and outflow, per capita by age, BiH, 2015 (BAM)



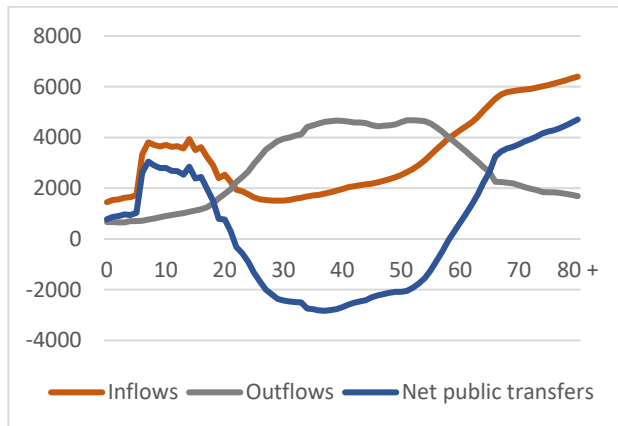
Source: BHAS database (2022)

**Figure 13:** Net public transfers, inflow and outflow, per capita by age, EU-25, 2010 (EUR)



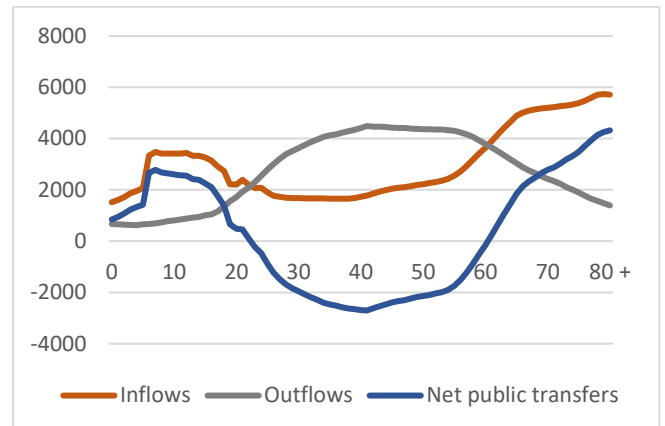
Source: AGENTA database

**Figure 14:** Net public transfers, inflow and outflow, per capita by age, FBiH, 2015 (BAM)



Source: FBiH database (2023)

**Figure 15:** Net public transfers, inflow and outflow, per capita by age, RS 2015 (BAM)

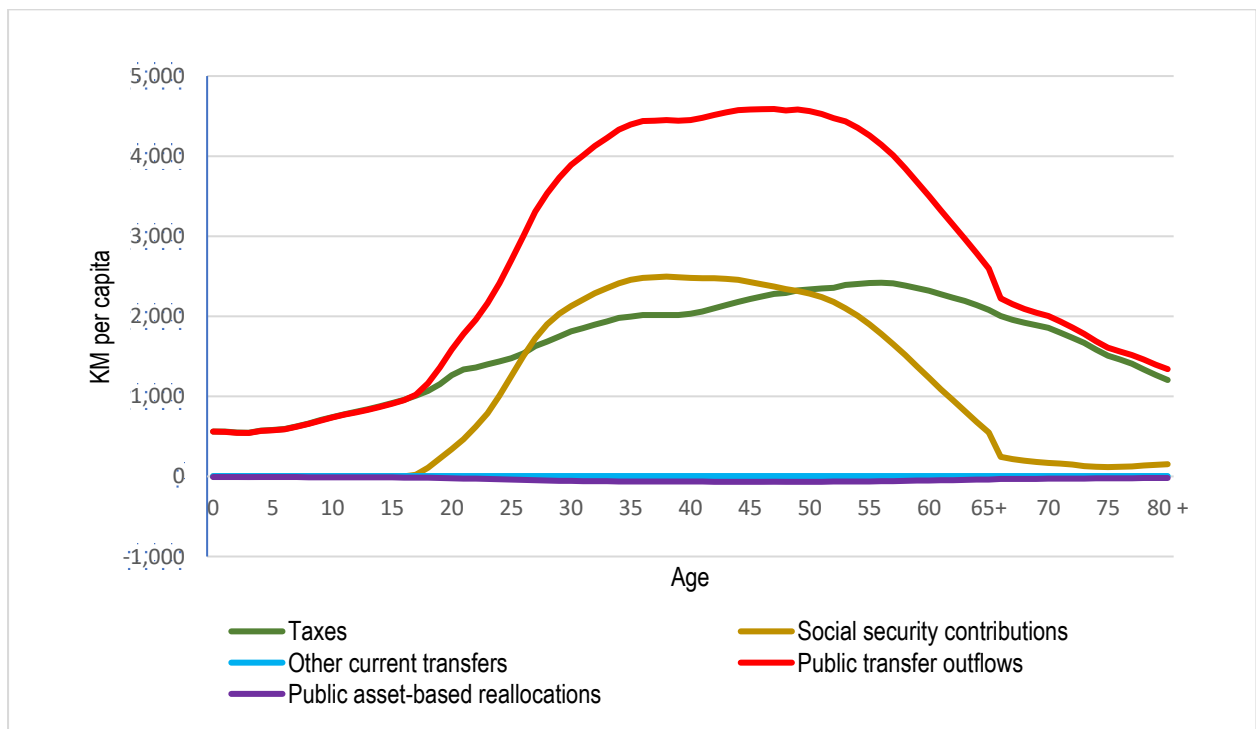


Source: RS database (2023)

Figures 14 and 15 show net public transfers in two entities. Older persons (65+) in RS are the recipients of nearly 33% of public transfers, predominantly through pension payments. The share for FBiH is six percentage points lower. In RS children (0-17) – are recipients of approximately 17%, in considerable part for education. This share is three percentage points higher in FBiH.

As expected, the curve of public transfer outflows per capita by age and by source shows that the greatest financial burden in Bosnia and Herzegovina is borne by the middle-aged generations (Figure 16)

**Figure 16:** Public transfer outflows by source, Bosnia and Herzegovina, 2015



Source: BHAS database (2023)

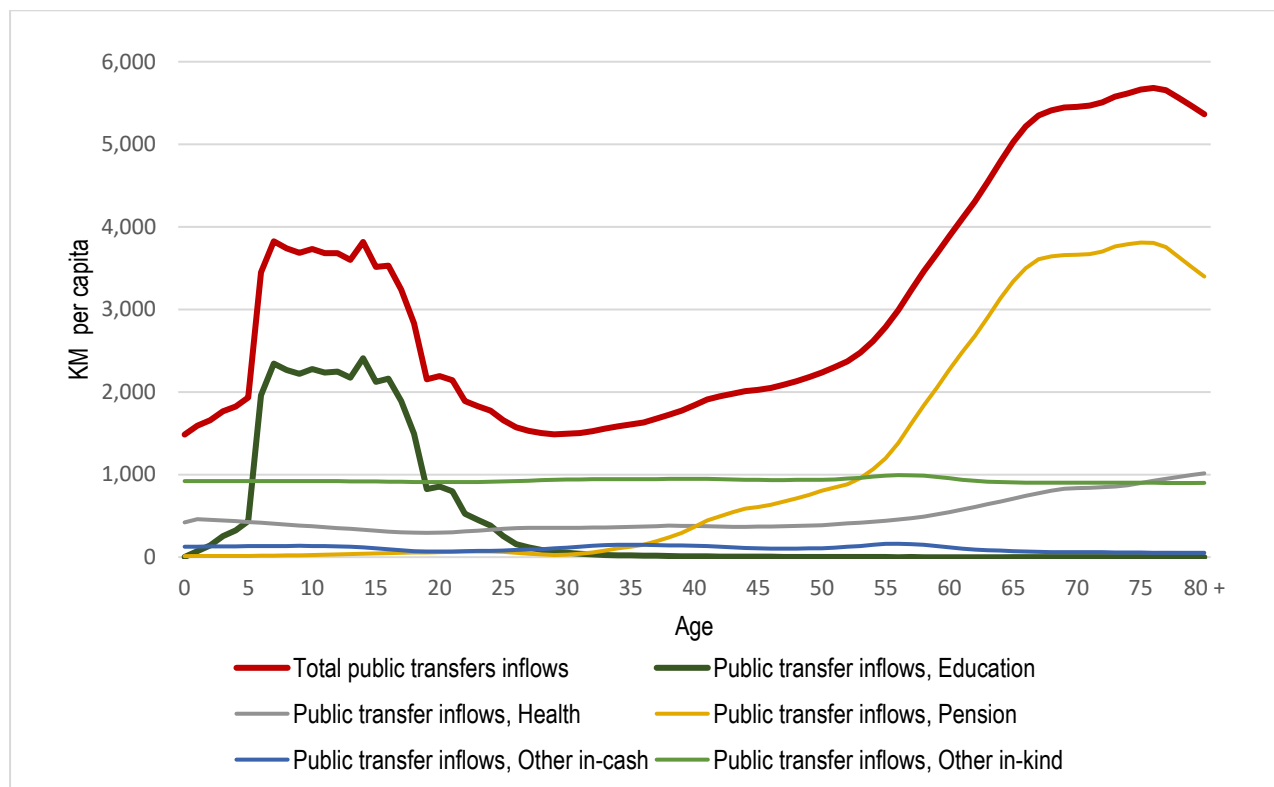


In Bosnia and Herzegovina, as opposed to other countries, even taxes, which accounts for almost 60% of total outflows<sup>8</sup>, are not attributed equally between age groups. They are steadily increasing

up to the age of 57 and steadily decreasing afterwards.

Total public transfer inflows by purpose are presented on figure below.

**Figure 17:** Public transfer inflows by purpose, Bosnia and Herzegovina, 2015



Source: BHAS database (2023)

Public transfers inflows for the younger population are predominantly in kind and for the purpose of education. For the older population transfers inflows are determined by pensions and public health expenditure. Public transfers in cash are negligible.

Herzegovina, net public asset income is negative (due to interest on public debt); thus, public asset-based reallocations are negative (Figure 18).

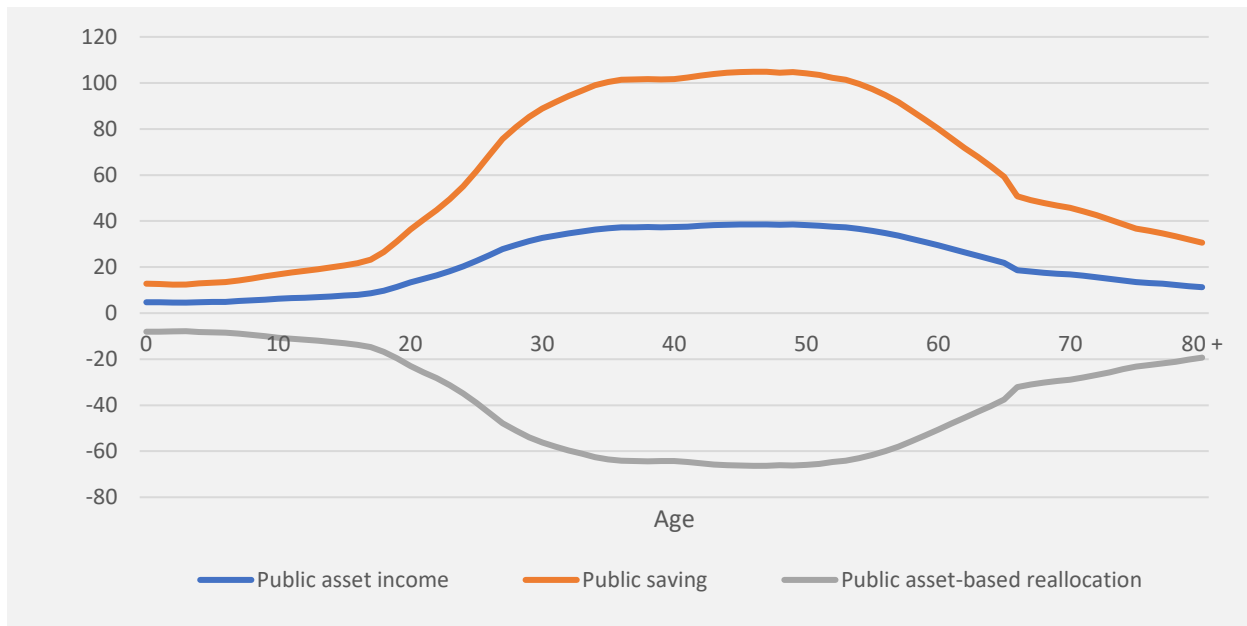
The greatest burden of negative reallocations is borne by middle-aged generations. However, this burden is low when compared to the income per capita due to the low level of public debt in BiH – between 30 and 35 percent of GDP (CBBiH, 2023).

## 2.2. Public asset-based reallocations

Public asset-based reallocations are equal to public asset income less public savings. In Bosnia and

<sup>8</sup> Primarily consumption taxes.

**Figure 18: Public asset-based reallocation, Bosnia and Herzegovina, 2015**



Source: BHAS database (2023)

### 3. Private reallocations across age groups

**Private reallocations** consist of *private transfers* and *private asset-based reallocations*.

#### 3.1. Private transfers

Private transfers can occur between (inter-household transfers) and within households (intra-household transfers).

The net intra-household transfer (TFW) curve by age shows that in Bosnia and Herzegovina, children and youth (0-27) are net TFW recipients (Figure 19).

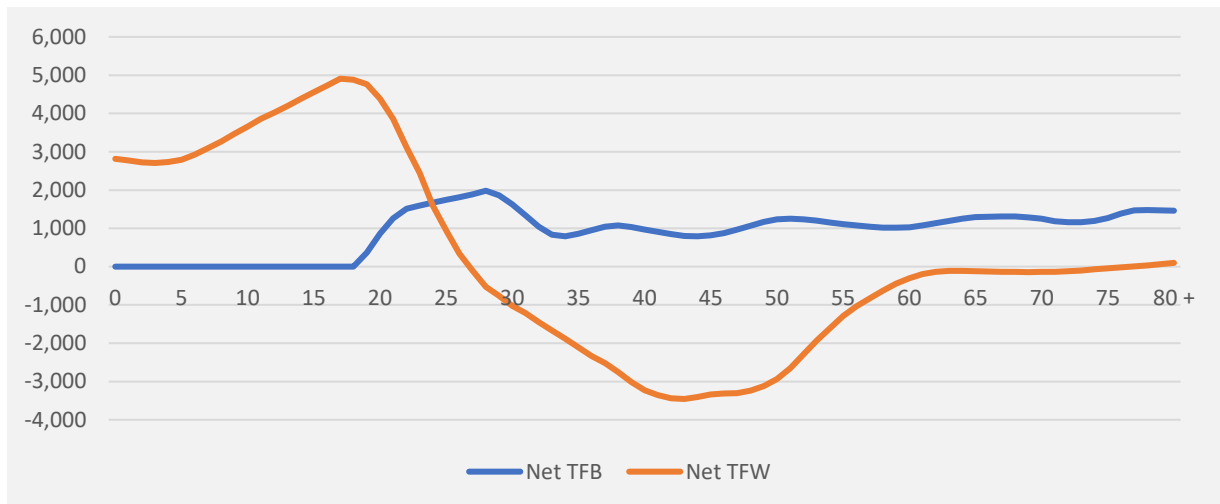
Contrary to what was expected, just a small proportion of older people (77+) are net TFW recipients. Thus, the total net TFW for the 65+ age groups is also negative, indicating that older

persons' contributions to the household exceeds the transfers received by them. The shape of the EU-25 curve is very similar on average (AGENTA database).

Inter-household transfers (TFB), in the form of child maintenance, remittances from abroad and the like, can also take the form of inflows and outflows. Methodologically, these transfers are attributed to the household head, and children therefore cannot be TFB recipients.

The curve of net TFB per capita by age shows a sharp increase with age after the age of 18. The 23-29 age group receives somewhat more (Figure 19). After the age of 30 TFB decreases and stabilises in almost whole 35+ age group.

**Figure 19: Net intra- and inter-household transfers, Bosnia and Herzegovina, 2015 (BAM per capita)**

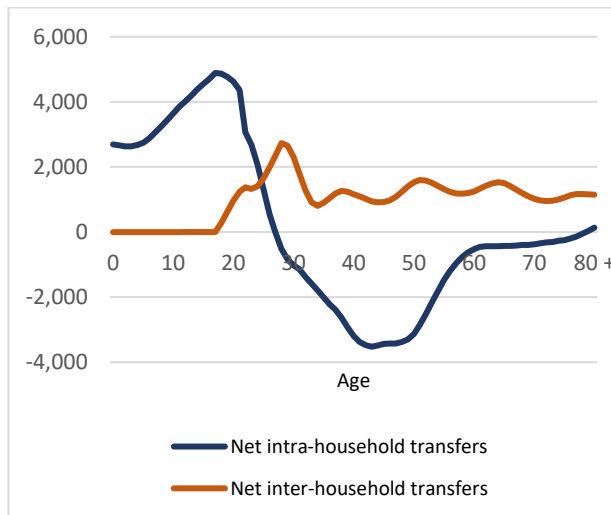


Source: BHAS database (2023)

The fact that outflows are low (BHAS, 2023) and net TFB are highly positive for all age groups gives rise to the conclusion that remittances from abroad account for the largest proportion of TFB.<sup>9</sup> In the EU-25, on average, net TFB are only positive for the

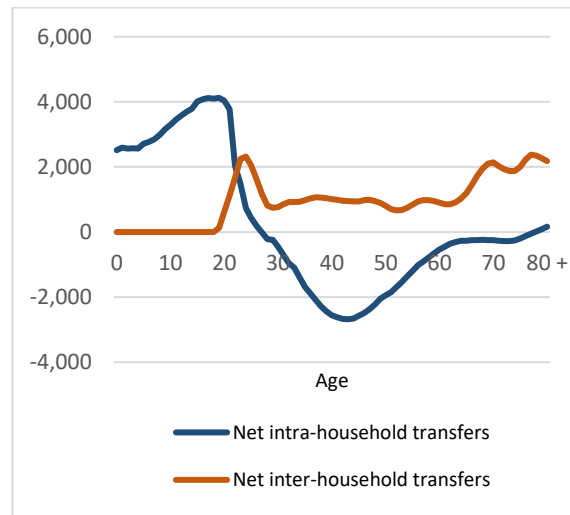
population in their twenties and thirties (Figure 3, Annex). In Romania, Bulgaria and Serbia the curve is similar to that in BiH (AGENTA database and Matkovic, 2022).

**Figure 20: Net intra- and inter-household transfers, FBiH, 2015 (BAM per capita)**



Source: FBiH database (2023)

**Figure 21: Net intra- and inter-household transfers, RS, 2015 (BAM per capita)**



Source: RS database (2023)

<sup>9</sup> Emigrant remittances are treated as transfer inflows and their amount is low in the majority of countries (Mason & Lee, 2011:72). In a closed economy, the sum of all TFB would equal zero. In an open economy, the sum can be positive and significant if households from one country transfer funds to households in another country (Lee & Donehower, 2011:196).

Comparison between FBiH and RS is presented on figures 20 and 21. Patterns are similar. The only noticeable difference is related to increasing net intra-household transfers for the 65+ age group in RS. This can be related to somewhat lower pensions in this entity vs FBiH (270 and 337 Euros, respectively).

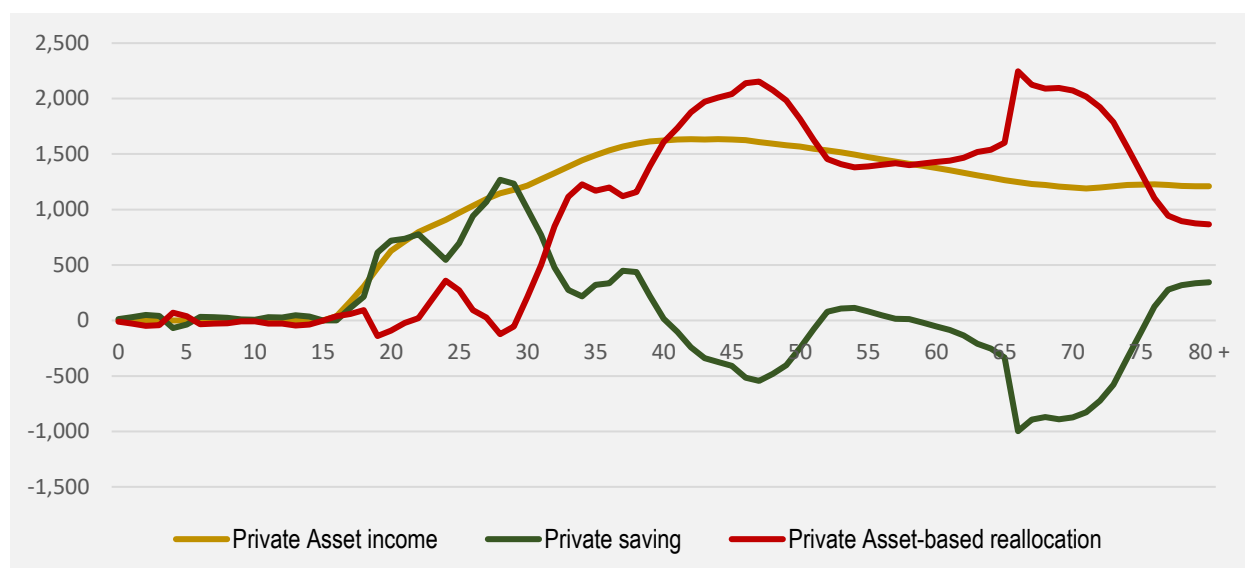
### 3.2. Private asset-based reallocations

Private asset-based reallocations represent the difference between private asset income and private savings.

Private asset income first occurs at the age of 16 (with entry into the labour market), after which it rises until the early forties. After that, it slightly declines (Figure 22).

Private savings in Bosnia and Herzegovina are close to zero or negative during most of the life cycle – savings are negative between the 40s and 50s and between the age of 55 and 75. Longer positive spans occur in youth, between the age of 18 and 40. Savings amounts are relatively small. Savings per capita are the highest at the age of 28. In the middle age, savings are spent or consumption is funded by borrowing (Figure 22).

**Figure 22:** Private asset income, savings, and private asset-based reallocations, BiH, 2015 (BAM per capita)



Source: BHAS database (2023)

The age profile of savings in Bosnia and Herzegovina differs drastically from the EU-25 average (Figure 3, Annex). In these countries, the profile takes the shape of an inverted-U curve,

savings are negative only until the age of 27, the peak is reached at the age of 55, followed by a decrease to lower, but still positive levels in older age.

## 4. Deficit funding

In Bosnia and Herzegovina, consumption deficits of children and youth are covered through public and private transfers, while older people's deficit is additionally funded through asset-based reallocations as well (Figure 23). Private transfers as a source of deficit funding among older persons actually predominantly consist of remittances from abroad.

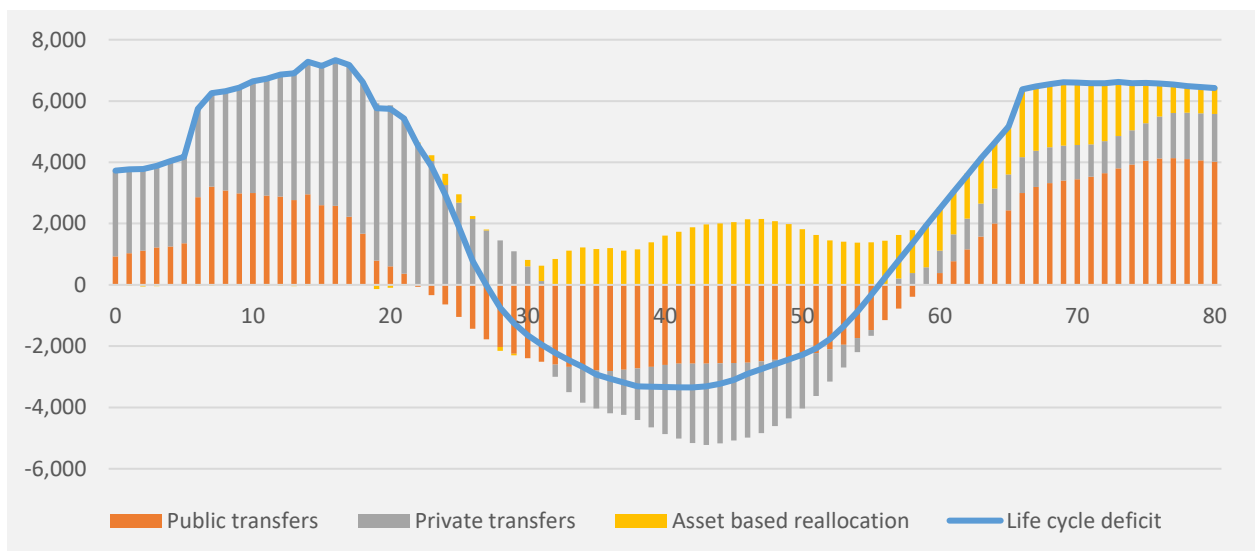
The younger portion of BiH's dependent population receives a somewhat higher value of transfers than the older portion. Children and youth's deficit is funded primarily through private transfers, and that of older people through public transfers. The analysis of aggregate data in the BHAS database on the total amount of net transfers shows that in BiH, these are slightly higher for children and youth in

age groups with a consumption deficit (0-26) than for older persons (58+). Transfers per capita are also higher on average for the younger dependent population. However, the structure by type of transfer is notably different. Private transfers are the predominant source of deficit funding for children and youth, and public transfers for older persons.

In EU-25 countries, per capita transfers to the younger dependent population are also higher than those awarded to older people, especially if in-kind transfers, time, and unpaid work dedicated to children are taken into account in addition to cash transfers (Gál, Vanhuyse & Vargha, 2018).

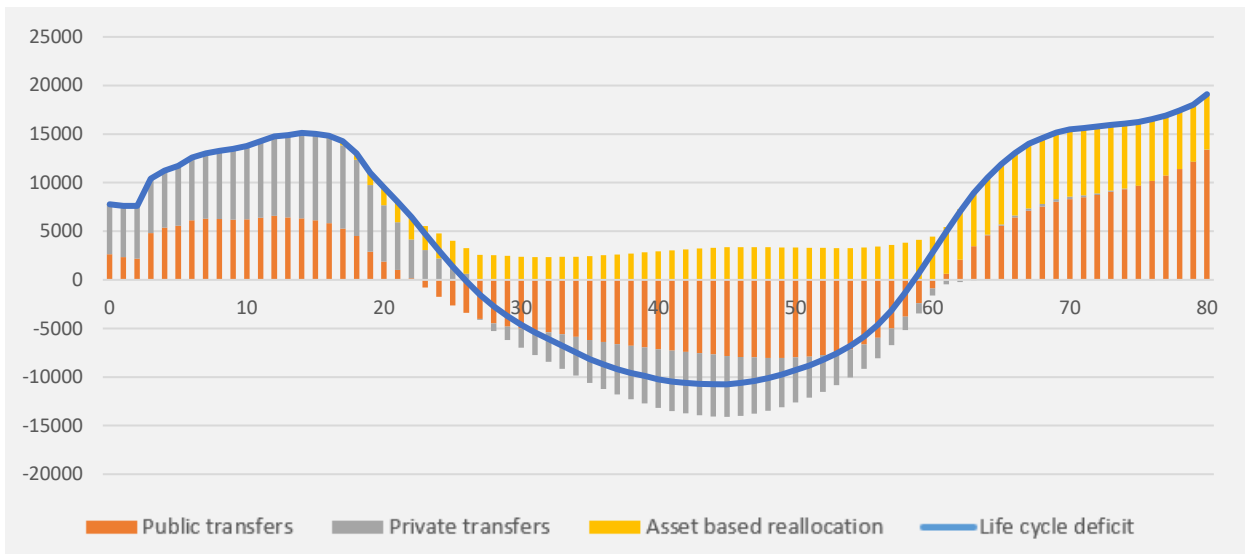
Contrary to the widely accepted one-sided narrative about the conflict of generations and intergenerational transfers as a sneaky grab for resources by the old, who represent a burden on the earners (Fürnkranz-Prskawetz et al., 2017:16), Gál, Vanhuyse & Vargha (2018) indicate that the misleading notion of gerontocracy is caused by the fact that only public transfers are visible, making transfers to older people much more socialised than those awarded to children and youth. With development, support to older persons shifted to the entire society, while investments in children and youth are largely provided by private resources.

**Figure 23.** Life-cycle deficit funding per capita, BiH, 2015



Source: BHAS database (2023)

**Figure 24.** Life-cycle deficit funding per capita, EU-25, 2010



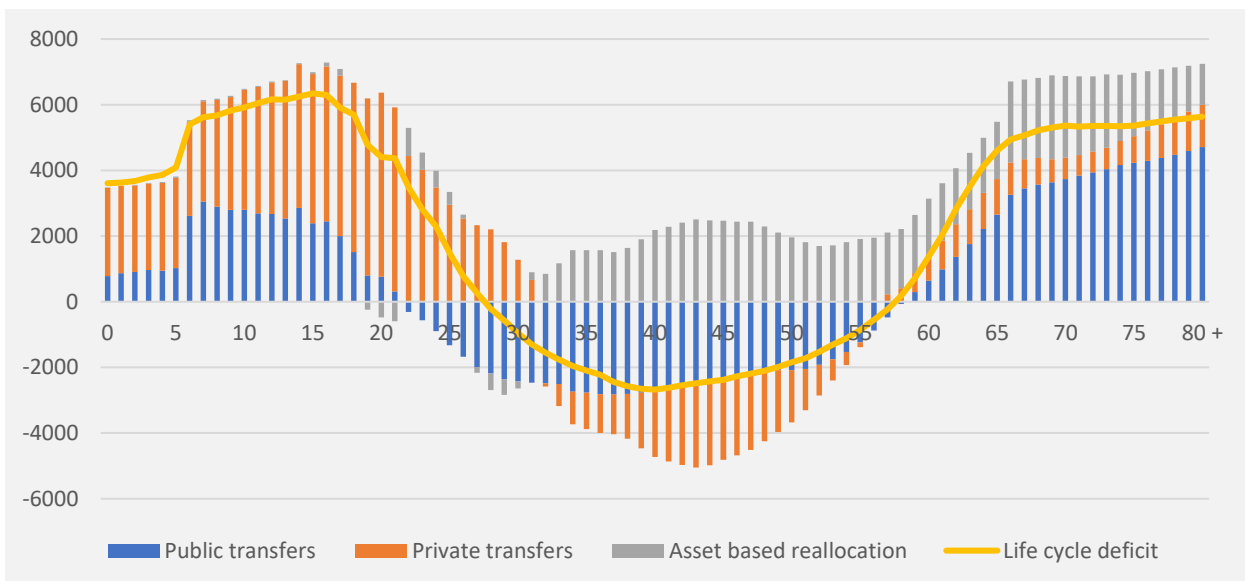
Source: AGENTA database

Differences regarding deficit funding in BiH and in EU countries are multiple. First of all, in the EU-25, private transfers to the younger population are less prominent relative to the public ones. There is also a notable difference in funding older people's deficit, where private transfers are almost non-existent, and asset-based reallocations are more prominent. In the EU-25, the shortage of labour income in older age compared to consumption is

covered from private savings to a considerably greater extent.

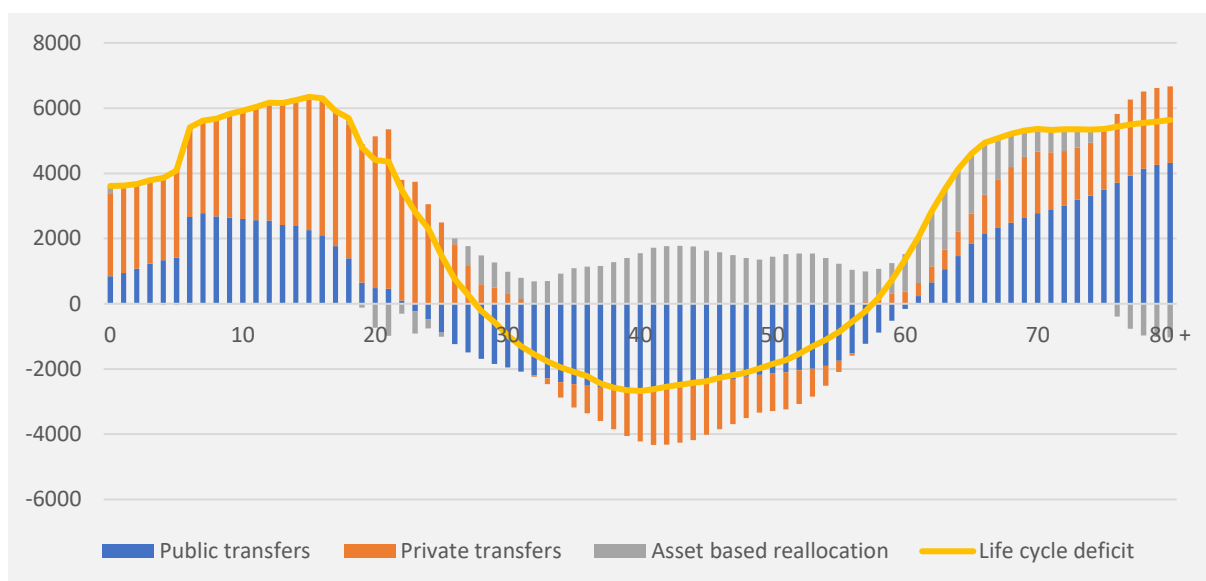
Life cycle deficit funding data on the entity's level are presented on figures below. Private transfers are much more important in RS compared to FBiH. Also, asset-based reallocations are more important in FBiH than in RS.

**Figure 25.** Life-cycle deficit funding per capita, FBiH, 2015



Source: FBiH database (2023)

**Figure 26.** Life-cycle deficit funding per capita, RS, 2015



Source: RS database (2023)

## II Implications for social sector policies

### 1. Education

Several findings derived from NTA research are of particular importance for improving policies and measures in the area of education in Bosnia and Herzegovina. The analysis of public and private consumption per capita by age, as well as the burden on middle-aged generations, who largely provide for the deficits of children, youth and older persons, call for further reflection on interventions, primarily in the area of pre-school education and improving the access to and quality of education in general.

#### 1.1. Additional NTA findings of particular relevance for the area of education

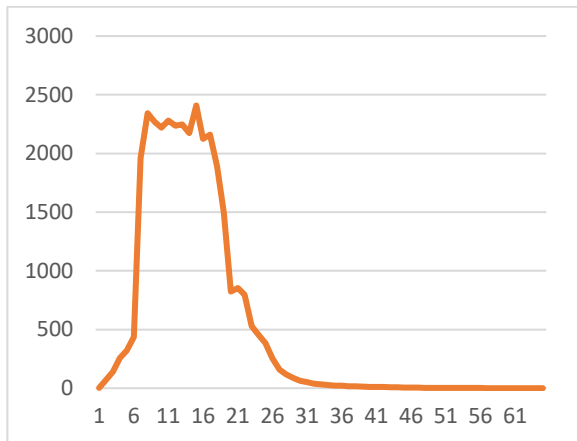
The curve of public consumption on education per capita by age in Bosnia and Herzegovina follows a steep incline, reaching the highest values during primary and secondary education, dropping significantly at the age in the life cycle when university education is attained, and records very

low values after the age of 26 (Figure 27). 80% of public consumption on education is concentrated in the 6-18 age group. For the 6-24 age group this number increases to 93%.

The shape of the curve of public consumption on education per capita by age differs from the EU-25 average, primarily in the preschool part. This implies substantial consumption at the youngest age with higher coverage rates in these countries (Figure 28). These differences can also be attributed to methodological issues, considering that according to BHAS, consumption for the preparatory pre-school programme in BiH is included in education, while for kindergartens it is included in social protection (BHAS, 2023). Public consumption attributed to middle-aged generations is also somewhat higher in the EU-25. Public consumption on education of the population beyond the age of 40 is somewhat higher in certain countries (Belgium, Sweden, and Finland, for example) than average (AGENTA database).

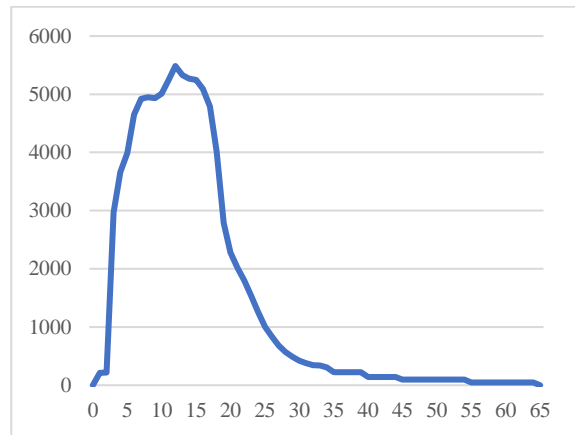


**Figure 27:** Public consumption on education per capita by age, BiH, 2015



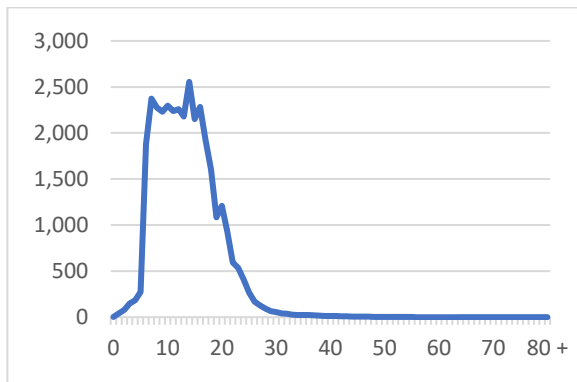
Source: BHAS database (2023)

**Figure 28:** Public consumption on education per capita by age, EU-25, 2010



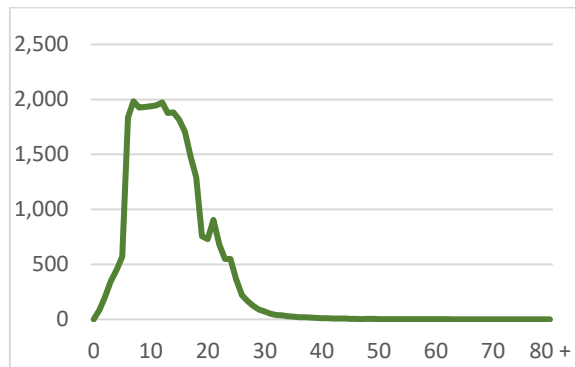
Source: AGENTA database

**Figure 29:** Public consumption on education per capita by age, FBiH, 2015



Source: FBiH database (2023)

**Figure 30:** Public consumption on education per capita by age, RS, 2015

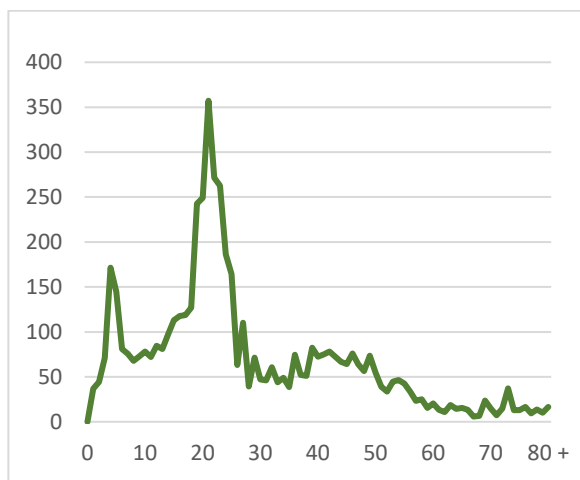


Source: RS database (2023)

The age profile of private consumption on education in BiH shows that expenditures for these purposes are concentrated in the youngest age group and among the university student

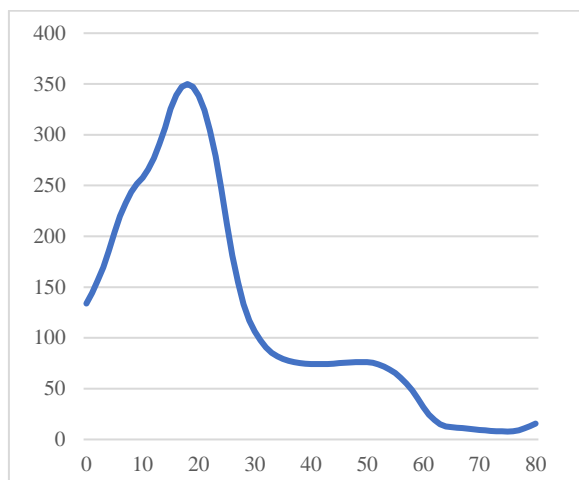
population (Figure 31). The shape of the curve is, in fact, a result of the policy on user contribution to funding pre-school and higher education institutions, including those in the private sector.

**Figure 31:** Private consumption on education per capita by age, BiH, 2015



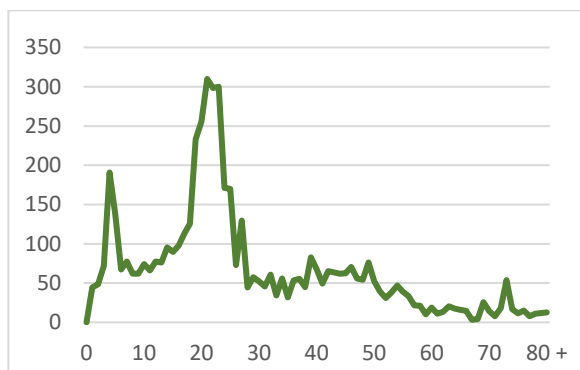
Source: BHAS database (2023)

**Figure 32:** Private consumption on education per capita by age, EU-25, 2010



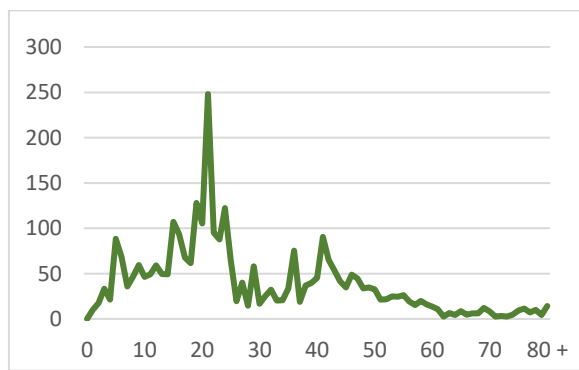
Source: AGENTA database

**Figure 33:** Private consumption on education per capita by age, FBiH, 2015



Source: FBiH database (2023)

**Figure 34:** Private consumption on education per capita by age, RS, 2015



Source: RS database (2023)

The curve for BiH is different from the EU-25 curve. In these countries as well, private consumption on education is concentrated among children and youth, but it rises steadily with age, peaking only once at the age of 18, with the completion of secondary education, and then gradually decreases (Figure 32). In some countries, such as Slovenia, private consumption on education of the youngest is predominant in this age profile, because of co-funding of pre-school institutions (Sambt, 2009). There are no similarities with BiH, however, in the portion of consumption related to youth, considering that in Slovenia, studies are mainly funded from public sources. In countries in which higher education is funded from private sources

(UK, Hungary), private consumption peaks as late as the age of 22 (AGENTA database).

### 1.2. Pre-school education

Consumption on education of the youngest in Bosnia and Herzegovina has not been “socialised” to the same extent as in EU countries. Private consumption on education at preschool age is considerable, with potentially adverse effects on children from poorer strata.

This finding is significant, taking into account the convincing and ample evidence that early

childhood development is decisive for overall educational outcomes, with unavoidable economic effects on society as a whole. Cognitive abilities and socio-emotional skills at an early age are clear predictors of later social and economic situation (Heckman, 2008). Crawford, Dearden & Meghir (2010), researching the phenomenon of 'August babies' in England, documented long-term lower educational outcomes of children born in August, who started school on 1 September, as the youngest in their class, and lagged behind children born in earlier months of the same year. Feinstein (2003) showed on the 1970 cohort data in the United Kingdom, that the test results from the earliest age (22 and particularly 42 months) correlated with ultimate educational outcomes at the age of 26, that there were differences among children depending on their socio-economic background, as well as that children from wealthier strata were able to catch up with family support, in case they lagged behind.

Heckman, Pinto & Savelyev (2013) established that, owing to a change in personality skills, the Perry Programme in the USA, focusing on the most vulnerable children at an early age, considerably improved their outcomes later in life, including the attained education level, earnings, as well as the acceptance of healthy lifestyles and reduction in crime-related incidents. Cattani et al. (2022) reference the evidence that the first three years are decisive for child development, warning that intervention must be multi-sectoral, and that it should include in particular intensive family support.

The importance of early childhood development is also confirmed by many studies focusing on the negative effects of neurological, cognitive, and socio-emotional development of infants and young children in residential care institutions (Mansell, Knapp, Beadle-Brown, & Beecham, 2007; The St. Petersburg-USA Orphanage Research Team, 2008; Browne K., 2009; Bakermans-Kranenburg, et al., 2011).

In the light of such convincing evidence, it is clear that, in the long term, investments in early childhood development yield enormous benefits and high returns, and that intervention later in the life cycle represents the more costly option (Heckman, 2008). Heckman & Masterov (2007) highlight that investing in early development of vulnerable children is a rare option that does not

involve an equity-efficiency tradeoff, but rather simultaneously reduces inequalities and raises the productivity of society at large.

**Total expenditures for preschool education** in Bosnia and Herzegovina amounted to 3.1% of the GDP in 2021. The structure of sources of financing is as follows: public expenditures (58.2%), private expenditures (38.8%) and funds from abroad (3%) (BHAS, 2022). In overall education expenditures preschool education participates with 7.0%. In public expenditures on all levels of education, preschool education participates with 4.5%. This share in private expenditures is 28.7%. Expenditures for early (preschool) education of children in Bosnia and Herzegovina are significantly behind compared to developed countries and in relation to the 2030 sustainable development goals. The analysis of the structure of the spending of funds for preschool education shows a strong dominance of current expenditures (98.6% in 2021).

Significant share of private sources for financing the early education of children (children up to six years of age) **makes children from poor families and/or families just above the poverty line particularly vulnerable**, as well as families that are marginalised on any basis (social, economic, health, financial, status, other situation) or belong to minority groups (Roma, migrants, children on the move) or live in rural, border, mountainous and other hard-to-reach areas without access to infrastructure (transportation, health, education, telecommunications, culture).

**The cost of preschool education services** is also a limiting factor in enabling more children to attend this form of education, and many parents are deterred by the costs. Although the legislation establishes the obligation to provide preschool education, the founders of preschool institutions often do not provide sufficient financial support for children to attend this form of education. Prices vary depending on the institution, as well as the share of costs that parents or guardians pay for their children's preschool education. The price of attending a preschool institution ranges from 100 to 400 KM for a full-day stay, and from 50 to 200 KM for a half-day stay. The short mandatory preschool program (maximum 200 hours) is free in the Federation of Bosnia and Herzegovina and the Brčko District; it is also free in Republika Srpska,

where this program is not mandatory, but is fully implemented.

**The coverage of children in preschool education in BiH is increasing, but it still lags significantly behind the EU countries.** Coverage of the youngest children, aged 6 months to 3 years, was 24.1% in 2022/23, and 75.9% of children aged 3 to 5.5 (BHAS, 2023). In the same school year, in BiH there were 38,762 children in preschool institutions, which is 16.8% more than the year before. Of this number, 60.7% of children were in public institutions. Low preschool coverage is partly explained by insufficient capacities. In 2022, 6,804 children were not enrolled due to lack of accommodation capacity (BHAS, 2023).

The most important recommendation based specifically on the NTA analysis is that **more funds need to be allocated to develop pre-school education and reduce the family burden** caused by expenditures on these purposes.

Increased public investments under the circumstances should **primarily come from the higher level of government – entity or cantonal level.** Having in mind the overall importance of pre-school education, and low budget funds available to a considerable number of municipalities, there are no compelling arguments for additional burden of funding to be borne predominantly by the local level. Options include introducing earmarked transfers for underdeveloped local self-government (LSG) units, funding the wages of all kindergarten teachers and teaching assistants in pre-school education, establishing a fund for alternative free-of-charge part-time programmes, investing in further development of infrastructural capacities, subsidies for a broader coverage of disadvantaged children in all or only less developed LSGs, covering operational costs for the preparatory pre-school programme, etc.

The **prices and levels of parent contribution set at the local self-government level should be reviewed in more detail.** This recommendation is valid having in mind the enormous differences in this respect in some communities, especially if the share of higher-level government funding is included.

One of the key recommendations is certainly to **increase the coverage of children of preschool age, especially the youngest** (between 6 months and 3 years) and children from vulnerable groups in order

to ensure early learning and skills acquisition. It is clear that any increase of the number of children attending pre-school education would require additional public funds. If the increase of coverage were realised through part-time free-of-charge programmes, several times per week, this would not necessarily imply an additional burden in terms of private consumption.

**Multi-sectoral support and direct financial benefits to families** are also important to include children with developmental disabilities and children from Roma and other vulnerable families. At the local level, it is important to strengthen inter-sectoral committees, as well as to provide social care services, in particular children's personal attendants and family outreach workers, in order to assist parents in meeting administrative requirements for the inclusion of children. Financial support could be awarded on a one-off basis, at the beginning of the school year, when the child first starts pre-school, or regularly to cover transport costs.

It is essential to **expand the practices of funding private service providers from public sources**, and where private-sector services are not available, invest in infrastructure to increase capacities and ensure the sufficient number of places in pre-schools. Research shows that the vouchers introduced in Serbia led to an increased number of enrolled children (UNICEF, 2022, p:72). Similar positive results have been achieved in Sarajevo Canton with the program of conditional vouchers. In just 5 years, the number of children in kindergartens increased from 4.2 to 7.6 thousand (FBiHSO, 2023). The main drawback of this solution is the significant fragmentation – Canton Sarajevo and Una-Sana Canton are the only administrative units where preschool education is financed through higher levels of government (CPG, 2021). Additional private sources of funding can be secured through tax-free companies' support to childcare. For example, this solution is applied in

Croatia.<sup>10</sup> Of course, these solutions imply changes in income taxes laws in both entities.

**Raising the awareness of parents and the community** of the importance of early childhood development is also necessary for a more complete coverage.

The **development of diversified programmes to improve preschool education** represents one of the key prerequisites for increasing the coverage of children with early learning. Monitoring attendance by age, share of the most vulnerable individuals, quality of various programmes (playtime workshops for children not attending full-time), (kindergarten on wheels)), their accessibility, funding modality and the like, will represent inputs for assessing the efficiency and further development of various delivery modalities and curricula at the pre-school level.

**Increasing the quality** is necessary, in order that the increase of coverage and higher investments yield the desired results both at the individual level and on the broader social plan. This entails, inter alia, continued professional development of kindergarten teachers, more teaching assistants to ensure inclusion, conceptualising and implementing accreditation, as well as improving monitoring and evaluation systems and support provided to pre-school institutions.

### 1.3. School to work transition

Educational system in Bosnia and Herzegovina is among the weakest in the Balkans (ETF, 2013). Ever since the reform process started more than twenty years ago<sup>11</sup>, similar diagnoses and recommendations were reiterated, suggesting that policy acceptance was followed by only partial

implementation (Parkes, 2010). Although receiving much attention and some efforts are being made to align the vocational education and training (VET) system with the EU standards, the results have been meagre<sup>12</sup>. According to the constitutional setup, the system of education in Bosnia and Herzegovina is highly fragmented which means that legislation and policy regulations have to be adopted and harmonised by all 14 levels of education.<sup>13</sup>

Education outcomes in BiH are well below expectations. VET programmes in BiH are not aimed at increasing practical training and reducing skill gaps in order to meet market needs. Education in general, particularly secondary education is thought to be too broad and insufficiently practical to equip graduates with the types of skills needed to be employable at the workplace (WB, 2009).

Unemployment rate in Bosnia and Herzegovina is 13.6% (BHAS, 2023). Majority of these unemployed are secondary graduate students. What is most worrisome is that about half of the unemployed are first time jobseekers. The unemployment rate among 15–24-year-olds, although decreasing, is still 32% (32.5% for male and 30.8% for female) (BHAS, 2023). It is difficult for young secondary vocational school graduates to find a job. In labour statistics, they could be found under the label Discouraged, as a subcategory of the inactive population i.e. among those who are not classified as persons in employment or as unemployed persons. The main obstacle to vocational school graduates' entry into employment is the lack of labour demand with a particular lack of jobs of kinds that fit the educational attainment of the population. This is related to the lack of a comprehensive reform package, part and parcel of which should be the VET system. Social cohesion

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<sup>10</sup> "Remunerations for the costs of regular care of children of workers paid to the workers account based on documentation of preschool education institutions or other institutions who care for preschool children", Rulebook on Income Tax, Article 1, available at: [https://narodnenovine.nn.hr/clanci/sluzbeni/2019\\_08\\_80\\_167\\_2.html](https://narodnenovine.nn.hr/clanci/sluzbeni/2019_08_80_167_2.html)

<sup>11</sup> The VET reform in BiH started in 1998 with the Green Paper VET Policy and Strategy. It included a list of recommendations for VET reform in the light of harmonisation with EU developments in the VET field. These recommendations were accepted by the ministries, agencies and institutions at all levels in entities and cantons. In 2001 the White Paper VET Policy and Strategy was launched.

<sup>12</sup> A new Nomenclature of Occupations was adopted in 2004 at the entity level. A Law for Agency for Pre-primary, Primary and Secondary Education was adopted in 2007. The Development Strategy for VET for the Period 2007-13 has been adopted as has a VET Framework Law (in 2008) and a "Baseline of the Qualifications Framework in BiH" (in 2011).

<sup>13</sup> Two entities (FBiH and RS) and Brcko district, and ten cantons in FBiH.

and integration of these groups of youth is becoming more and more fragile.

As stated in EC (2016), there is a worrying perspective on the ability of higher education systems in BiH to deliver the qualified personnel that are needed to support future economic growth. It produces too many graduates relative to the needs of the labour market<sup>14</sup>, leading to high graduate unemployment rates. In making the transition from HE to the labour market, graduates face a lack of available jobs. Many graduates pass through several jobs and multiple spells of unemployment before settling on a well-matched job. This transition is not helped by a relatively low level of cooperation between HEIs and employers in relation to curriculum design and recruitment. Employers often find that the skills that graduates have been taught are insufficient and that further training is needed (EIS, 2019).

A major barrier facing students in their transition from educational institutions to the labour market is their lack of work experience. The graduate survey shows that those with work experience are more likely to find a job, and one well matched to their level of qualification. Various initiatives to introduce internships during studies have mostly failed due to a lack of willingness by private employers to offer internships to final year students.

Overall, the research findings suggest that further measures need to be taken to ease school to work transition in BiH. Education institutions need to **modernise curricula and teaching methods**. For example, in a case of higher education institutions (HEIs), it is recommended more student-centred approach to learning based on small discussion classes, student presentations, teamwork assignments, and analytical and practical problem-solving exercises<sup>15</sup>. Also, in a case of HEIs, it is necessary to remove incentives to HEIs to enrol too many students to provide high quality education.<sup>16</sup>

The relevance of study programmes should be improved by encouraging **cooperation between education institutions and employers**.

Cooperation is necessary when designing schools' curricula, providing work experience opportunities and internships, and recruitment of new workers. This will ensure better alignment of curricula and learning outcomes to labour market needs. Cooperation can be promoted through different channels such as employers participating in education institutions boards or business advisory boards, but also local employment councils, and similar institutions.

**Enrolment policy and scholarships** can be used to channel students towards priority educational programs, usually those focused to STEM subjects. More information needs to be provided to young people on labour market development and expected outcomes for different study programmes. This could be done through **outreach programmes to schools** in partnership with public educational guidance services.

Where not already established, the **accreditation of HEIs and study programmes should be carried out**, and rigorous quality assurance measures should be applied to raise the quality of HE services. External evaluation of HEIs should be carried out in accordance with the European Standards and Guidelines for Quality Assurance.

Steps should also be taken to tackle **corruption in the entry process** through greater transparency in regulations and procedures. Relevant institutions should strengthen inspections, ensure compliance with assessment and grading regulations and expand the power of ethics committees.

**Active labour market policies (e.g. training activities) should be better focused on recent graduates**. Employers should be encouraged to expand training programmes for new graduate recruits through tax deduction of the costs of employer-sponsored training and use of training subsidies or vouchers. Training for micro, small and medium sized firms that employ graduates and have supply linkages to foreign investors should be prioritised. Governments should fund graduate training schemes for knowledge-intensive SMEs, which lack resources to fund such schemes.

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<sup>14</sup> There is a large oversupply of graduates, especially from HSS study fields, and most of all from the broad field of Business, Administration & Law. At the same time, there is a shortage of graduates from Information & Communication Technologies and STEM study fields of Natural Science, Mathematics & Statistics.

<sup>15</sup> For more detailed insight in higher education connection to the labour market see European Commission (2016).

<sup>16</sup> Imposing stricter criteria for enrolment, stricter progression conditions and additional support from teaching staff may contribute to better completion rates.



## 2. Pension system

One of the greatest challenges facing countries with shrinking populations and pronounced demographic ageing is ensuring pension system sustainability. There are researchers who believe that the most important insights provided by NTAs is related to this area of social policy (Lee & Mason, 2011). These authors highlight the need for older persons to fund their own deficit via private savings as much as possible.<sup>17</sup> This would create room to reduce the burden of supporting older people, borne by the working-age population, while maintaining adequate pension levels. Here, it is also worth noting that the middle, productive part of the population is equally burdened by supporting youth. The only difference is that transfers to the young are private and invisible compared to the visible public transfers to older people.

General conclusion of the majority of research on pension systems in EU countries is the necessity for continuous reforms and long-term perspective.

### 2.1. NTA findings of particular relevance for the pension systems in BiH

In Bosnia and Herzegovina, labour income declines substantially early in the life cycle, already upon attaining the age of 55. The labour income to consumption surplus span lasts only 29 years, and the deficit occurs as early as the age of 55. These values are somewhat lower than in the EU-25<sup>18</sup>. They are also lower compared to some neighbouring countries. In Serbia the surplus lasts for 31 years and the deficit occurs at the age of 58. The overall deficit-to-surplus ratio is unfavourable, indicating that employment and productivity growth is crucial to reducing the burden on the working-age part of the population. In the longer

term, population ageing compels exploring all available solutions for pension system sustainability.

Around 28% of total public transfers is directed at older people (65+), predominantly through pension benefits. It is still below EU-25 countries where it stands at 35.4%, on average (author's calculations based on BHAS and AGENTA databases).

Compared to the average annual labour income in the 30-49 age group, total public inflows in Bosnia and Herzegovina are rather low - 20.9 in relative terms. Much lower than in Romania, Bulgaria, and Slovenia, countries with the lowest value of this indicator in the EU (approximately 28). A half of the public inflows is channelled to the working-age population (20-64) - 10.5 times the average labour income in the 30-49 age group. These numbers for the older people (65+) and for children and youth (0-18) are 5.8 and 4.4, respectively (author's calculations based on the BHAS database, 2022). Inflows for children and youth are lower compared to the EU-25 average - approximately 6. Also, such small differences between older people's and working-age population's inflows are recorded by few other countries (Austria and Greece, but also the UK, where inflows for older people are even higher than for other age groups) (Chlon - Dominczak, et.al., 2019:82-3).

In Bosnia and Herzegovina, the deficit in older age is primarily funded from public and private transfers (Figure 35). In the EU-25, the lack of labour income in older age compared to consumption is covered from savings to a much greater extent. It seems that negative savings in middle age compromises these generations' capacity to save for older age. This stresses the importance of developing the 'third pension system pillar' in Bosnia and Herzegovina.<sup>19</sup>

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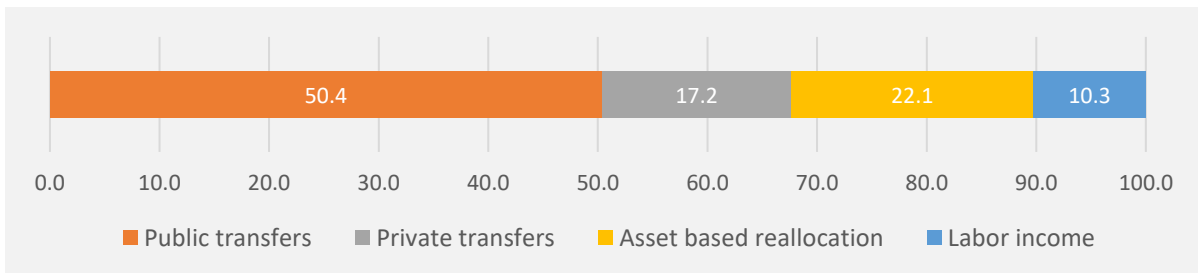
<sup>17</sup> It is worth noting that in countries where investment opportunities are limited, and private pension funds predominantly invest in government bonds, (future) taxpayers, who need to pay off this debt, will be burdened. Essentially, under such conditions, funding deficits from own savings would not differ from providing funds from public pay-as-you-go (PAYG) schemes (Barr, 2002).

<sup>18</sup> One has to have in mind that life expectancy is also shorter in BiH compared to these countries.

<sup>19</sup> Third pillar refers to voluntary insurance with private pension funds (in World Bank terminology).

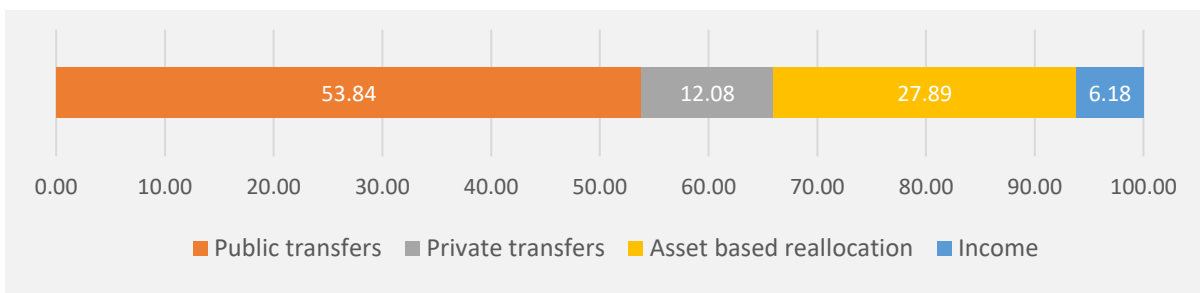


**Figure 35.** Funding of older people’s consumption (65+), Bosnia and Herzegovina, 2015.



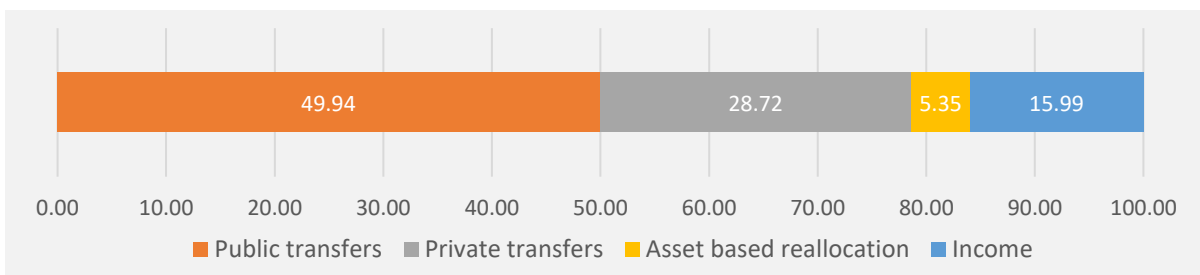
*Source: Calculations based on BHAS (2023) database*

**Figure 36.** Funding of older people’s consumption (65+), FBiH, 2015.



*Source: Calculations based on FBiH (2023) database*

**Figure 37.** Funding of older people’s consumption (65+), RS, 2015.



*Source: Calculations based on RS (2023) database*

The early reduction in labour income, the short period in the life cycle where no consumption deficit is incurred, and the predominant reliance on public transfers as a funding source in older age pose conceptual dilemmas and press for further reforms to enhance pension system sustainability and pensions adequacy. The key necessary changes certainly concern extending working lifespans, but other, more general issues need to be tackled as well.

## 2.2. Pension system challenges

Two entities in Bosnia and Herzegovina have been operating separate public pension systems.<sup>20</sup> Performances of both FBiH and RS pension systems face similar challenges: **low support ratio, high pension expenditures, and low pension adequacy.** They are undermining the pension system's financial and social sustainability. FBiH's support ratio<sup>21</sup> has been stagnating over the past several years. In October 2023, it stood at a very low level of 1.24 contributors per pensioner, generating pressure on central budget transfers that amounted to 1.25 percent of GDP in 2018. Replacement rates<sup>22</sup> offered by the FBiH pension system are among the lowest in the region. In October 2023, the average gross replacement rate stood at 29.8 percent, resulting in a net replacement rate of 46.3 percent, slightly above the International Labour Organization (ILO) benchmark of 40 percent. On the other hand, the pension contribution rate in FBiH of 23 percent of gross wage was above the rates in many other countries (IMF, 2021). Overall pension expenditures in 2022 stood at 10 percent of FBiH's GDP, which placed them above half the European countries. The RS support ratio, 1.18 contributors per pensioner, has been slightly below that of FBiH. Due to lower contribution rate in RS, 18.5 percent, and very similar replacement rates, higher transfers from the central budget of around 2 percent of GDP, were required to finance overall pension expenditure that stood at 10.1 percent of RS' GDP in 2022.

At the heart of the challenges faced by pension systems in both entities are several of its features. In both entities, the **retirement age is 65 years (male/female), with at least 15 years of pensionable service.** In FBiH retirement is possible at any age with 40 years of contribution. General retirement threshold is not low compared to EU countries, especially considering the shorter life expectancy in Bosnia and Herzegovina (Eurostat database, demo\_mlexpec).

Raising the retirement age does not necessarily lead to longer working life spans if early retirement options remain available, including through accelerated pensions. The **effective retirement age** in both entities in BiH is significantly below the pensionable age of 65. Unfortunately, this indicator is available only for the RS: there, in October 2023, the average effective retirement age at which the old-age pension is claimed was 61,1 for older age pensions and 51,8 for disability pensions (RS PF, 22 November 2023). New old-age pensioners' average length of pensionable service is fairly low compared to EU countries' average (European Commission, 2021a).

In FBiH 13.2 percent of total pensioners are disabled. Similar share is recorded in RS (12.5 percent). This is almost 50 percent higher than the EU average. It reflects both the history of conflict and the relatively generous definition of disability employed. Disability pension in both entities can be claimed at any age.<sup>23</sup> Although the general rules for disability pensions set down in legislation appear favourable and have, over the years, remained unchanged, the relative share of disability pensions has been decreasing. One of the reasons for this is that the pension funds have tightened up on the rules governing the implementation of disability pension provisions.

Both entity laws have provisions granting **privileged benefits for war veterans.** These include so-called 'double years' of insurance for years spent in army service during the 1992-1995 conflict (for which contributions were never paid) and other rights granted under general legislation and *lex specialis* legislation. As a result, both entity pension systems have a considerable number of pensioners with war veteran status. According to the FBiH data, the system provides around 45,000 privileged and special pensions to war veterans and the military. These privileged pensions, awarded at much younger ages and with far fewer years of contribution, provide higher benefit levels than regular pensions.

<sup>20</sup> Republika Srpska (RS) led the reform process by launching a pension reform in 2011. The goal was to restore its fiscal balance and reduce pension contribution arrears. Reforms in the Federation of Bosnia and Herzegovina (FBiH) have been implemented in 2018, resulting in a system with similar parameters to those of RS.

<sup>21</sup> Number of contributors divided by number of pensioners.

<sup>22</sup> Entity pension funds do not have estimates of individual replacement rates. Only the systems' replacement rates (i.e. the proportion of the average pension to the average wage) are available.

<sup>23</sup> Stricter rules apply if the disability was caused outside work than if the disability was caused by a work injury or work-related disease.

Finally, the contributor coverage is exceptionally low—only 32.5 percent—due to early retirement and disability retirement but also inactivity, especially female, and informal economy. The coverage of contributors in RS is higher compared to FBiH - 53 percent.<sup>24</sup> **Early old-age retirement penalties** in FBiH amount to 0.33% per month (approximately 4% per year). The effectiveness of this provision is questionable, because the guaranteed minimum pension is set rather high compared to the average wage, thereby rendering the penalties ineffective (at least for low-income earners).<sup>25</sup> Early retirement in FBiH is phased out by 2026 (men) and by 2036 (women). In RS early retirement is allowed with 60 years and 40 years of contributions (men), or 58 years with 35 years of contributions (women). In RS the lowest pension is set depending on the years of service. It is lower by 20% for 30-40 years of service, up to 40% for 15-20 years of service. Considering that the alternative retirement requirement is 40 years of pensionable service regardless of age, those who started working very early can retire without any penalties.<sup>26</sup>

In both entities, penalties essentially do not apply to **accelerated pensions**. Those who fulfil all the requirements can retire based on older age without any reductions. It is estimated that more than 5 percent of employed individuals in FBiH are employed in occupations assessed as hazardous and arduous (that is, miners, military, and police), and are thus eligible for early retirement. This is more than twice the EU average. Accelerated pensions for these occupations can be as high as 50%, in the case of FBiH, leading to the low regular retirement age for this type of insurance. The age limit for accelerated pensions in the RS is 55 years. Such an arrangement can be justified only if these beneficiary groups actually live shorter.

In almost all EU-27 countries with penalties in place, pension benefits increase for those who continue working beyond the retirement age (OECD, 2021a). In FBiH **pension bonuses** are awarded in case of retiring after reaching the retirement age.<sup>27</sup> Old-

age pensioners are able to work, pay contributions and have their pension benefits re-calculated.<sup>28</sup>

The **missing contributions** issue exists on several levels in both BiH entities. They are estimated to be almost 10 percent of GDP for public sector employees only (IMF, 2022). One dimension is that of employers (both state-owned enterprises [SOEs] and private enterprises) that have de facto ceased operations, but their employees have not had their pensions contributed to and some cannot retire even if they meet time in service and age requirements. There is also a dimension of individuals seeking their service period and pension contributions without having received wage remuneration or even having worked. This is particularly the case of workbooks having been deposited in formally existing yet inoperative companies. Another aspect is the still operating employers that have systematically been delaying or have stopped paying contributions for all their employees and only make contributions for those retiring in a given year 'to catch up'. There are SOEs, private enterprises, self-employed, and also local governments and entity institutions that have not made pension contributions, whose employees and retirees have irregular contribution records.

### 2.3. Extending working lifespans

The key recommendation specifically based on the NTA analysis is that pension system reform measures need to be designed to **extend working lifespans**. Extending working lifespans in the context of an ageing population ensures the simultaneous achievement of both adequacy and sustainability within the pension system. According to Barr (2019), the problem is not that people are living longer, but that they are retiring too soon. Mason & Lee (2013) indicate that life expectancy has a greater impact on consumption growth than on labour income due to the inadequately set retirement age and early retirement options. Raising the retirement age, introducing bonuses and penalties in cases of later or earlier retirement,

<sup>24</sup> This helps keep the contribution rate lower than FBiH.

<sup>25</sup> Based on the data for 2023, cumulative reduction may not exceed 22.5%.

<sup>26</sup> For example, men who start working at 18 and have an uninterrupted working lifespan of 40 years can retire without pension reduction at the age of 58.

<sup>27</sup> For each month of later retirement (after age of 65), the pension is increased by 0.166666%.

<sup>28</sup> The ruling of the FBiH Constitutional Court from May 2023 challenged the provisions of the Law on Pension and Disability Insurance, which contested the right to work for early retired persons or persons receiving a disability pension.

and reducing options for early labour market exit are among the key measures to extend working life spans within the pension system.

Some EU countries, such as, for example, Germany, Belgium, France and Spain, have already introduced legislative provisions to gradually raise the retirement age to 67 by 2030, and nearly all countries with different retirement ages for men and women foresee equalising them (European Commission, 2021). Seven countries have introduced automatic linking of the retirement age to older people's life expectancy, although in some systems the implementation is delayed until the middle of this decade.

Recommendations concerning the pensions system that would have an impact on extending working life spans can be summarised as follows.

**Recommendations aimed at further raising the retirement age** include further explicit gradual increases of the pension threshold for below 65 persons with 40 years of service. Additionally, an explicit retirement age increase for pensioners with only 15 years of pensionable service should also be considered, as well as further raising of the minimum early retirement age. In case of applying the first option, the recommendation is to formulate indicators whose change would trigger a review of the current retirement age, such as, for example, life expectancy gains for older persons and healthy life years, the incidence of disability among older workers, share of employees in physically demanding jobs, etc.<sup>29</sup> Introduction of an automatic link to older persons' life expectancy is also worth considering. Finally, in the context of considering measures to extend working lifespans, another suggestion is to review the legal provision on mandatory retirement for public-sector employees.

**Recommendations for raising the effective retirement age** have so far primarily related to the need to tighten the provisions enabling early retirement for hazardous and arduous occupations. The measures could be formulated in line with the principles of actuarial and horizontal equity, and the recommendation regarding the retirement age is to increase the number of years that the

insurance beneficiaries need to spend in the relevant jobs in order to be eligible for accelerated pensions, i.e. in order to be credited with increased pensionable service. Revision of all work positions with early retirement eligibility due to occupational hazards will be the starting point in the redesign of this system, making it compatible with the modern labour market.

**Recommendations for penalties and bonuses** were formulated primarily in the context of understanding that, other conditions being equal, individuals that retire before reaching the retirement age, in theory receive their pensions longer, and those who work longer receive them for a shorter time. In the case of penalties, the recommendation is that reductions applicable to early old-age retirement should also apply to accelerated pensions, except for occupations with lower life expectancies. Also, increasing the amount of penalties for insurance beneficiaries who are the furthest away from the regular retirement age could be considered. A prerequisite for introducing bonuses requires additional research, especially having in mind their potentially regressive character. It is crucial to gain a deeper insight into the reasons influencing the decision on retirement, so as to understand to which extent penalties, bonuses, and the overall pension policy affect the withdrawal from the labour market, and to which extent solutions should also be sought in other domains – employment, health and education policies.

#### 2.4. Other reform measures

**Trimming further generation of new pension arrears**<sup>30</sup> through pension and tax reforms and economic growth is regarded as priority in both entities. Elimination or reduction of the stock would require creating a setting with no further pension contribution arrears generated, criteria for recognition and filtering of qualifying service period and determining the level of insured pension base. Necessary steps need also to include the analysis of the outstanding arrears, public communication

<sup>29</sup> The values of these indicators must also be kept in mind if an automatic link to older people's life expectancy is introduced, especially when specifying the relationship between these two parameters, size of steps and pace of change.

<sup>30</sup> Colloquially known as 'missing pension contributions'.

campaign, and preparing a deficit and debt reduction strategy, and its financing plan.

In both entities, further parametric pension reforms to improve adequacy organically by extending service periods (that is, by raising retirement age and eliminating early retirement) needs to be done. However, with such pension measures becoming globally politically difficult to launch, both entities need to continue working on developing the appropriate **voluntary pensions administrative and supervisory framework** and stimulating voluntary pension savings to improve the pension adequacy in the long run. The voluntary pension system has been operating in RS since 2017. There is currently only one private voluntary pension fund in RS, but the outlook of the industry's expansion is positive. RS has prepared a legal framework to introduce automatic voluntary opt-out enrolment system in 2020, but its implementation has been delayed due to COVID-19. Establishing voluntary pension funds in FBiH has been slower than expected. The Law on Voluntary Pension Funds (VPFL) in FBiH was enacted in July 2017, with all its supplementary acts prepared and

published by end-2017. However, no licence for pension fund management was either issued or applied for until September 2023.

Certain arrangements within the pension system can affect the duration of the period in the life cycle when labour income is earned, and thus also the age profile of the deficit or surplus and its total amount. However, the effectiveness of these measures also depends on other factors which affect the decision to retire, primarily on the labour market situation, including employers' willingness to retain older employees. Health status, attained material standard, future life plans etc. are also important. It is, therefore, essential to **consider other measures, outside the pension system**, such as, for example, increased availability of certain health services (rehabilitation, for instance) and training and retraining opportunities for older workers, as well as introducing the lifelong learning approach in the education system. Of course, the fact that the total labour income and deficit are also influenced by older workers' productivity should not be neglected.

### 3. Health care

Analyses of public and private consumption per capita by age, as well as the unfavourable total deficit-to-surplus ratio, point to the need to formulate additional measures and policies, primarily in the area of long-term care for older persons and overall improvement of healthcare, so as to ensure more adequate protection, as well as further human capital development.

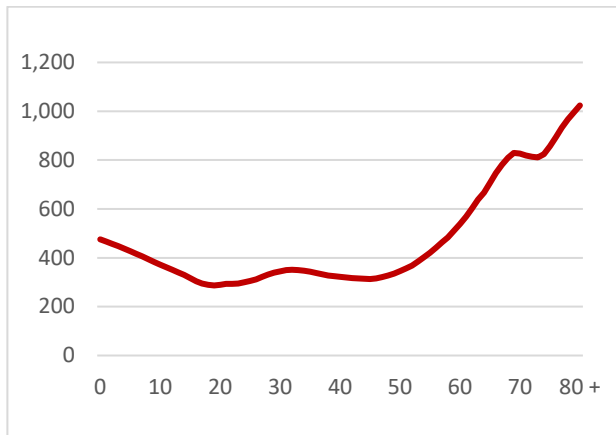
#### 3.1. Healthcare additional NTA findings

The curve of public consumption per capita by age on healthcare shows that public consumption for

these purposes is high in BiH during the first several years of life; thereafter, it decreases and remains at approximately the same level for a long time during the life cycle, only to grow rapidly with ageing (Figure 38). Out of the total public consumption on health in BiH, 30 percent is attributed to older persons (65+).

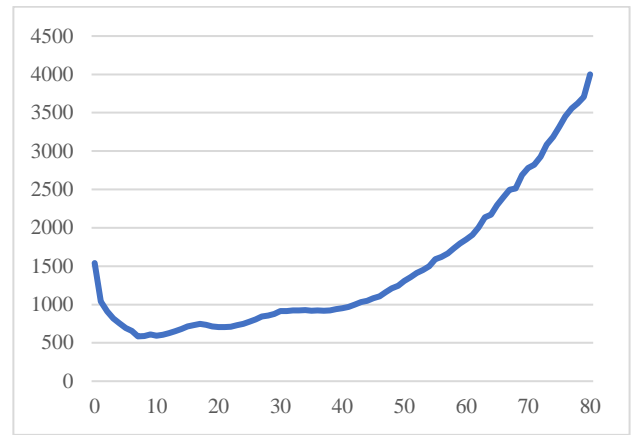
The most pronounced difference compared to the age profiles of public consumption on healthcare in EU-25 countries is in the 15-50 age group, where it continuously records a slight growth (Figure 39). In BiH health consumption is relatively stable in this period. A similar age profile as in Serbia is found only in Bulgaria and Slovakia.

**Figure 38:** Public consumption on healthcare per capita by age, BiH, 2015.



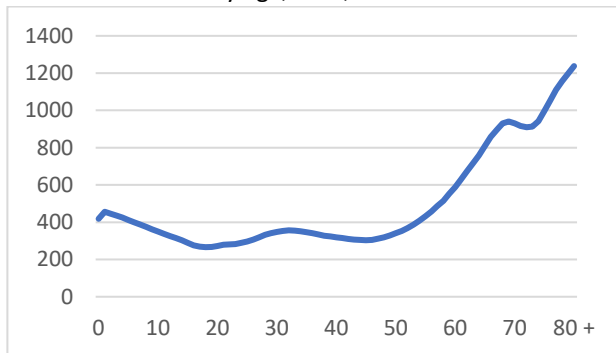
Source: BHAS database (2023)

**Figure 39:** Public consumption on healthcare per capita by age, EU-25, 2010.



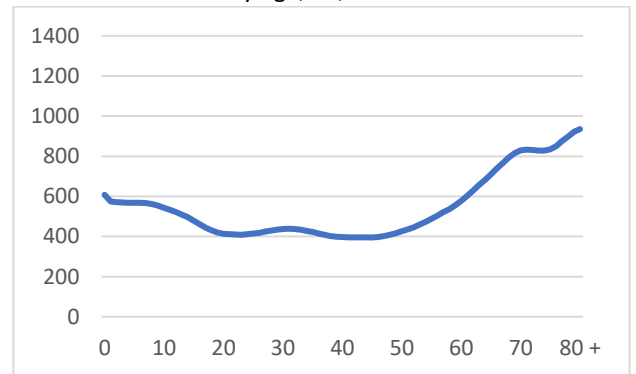
Source: AGENTA database

**Figure 40:** Public consumption on healthcare per capita by age, FBiH, 2015.



Source: FBiH database (2023)

**Figure 41:** Public consumption on healthcare per capita by age, RS, 2015.

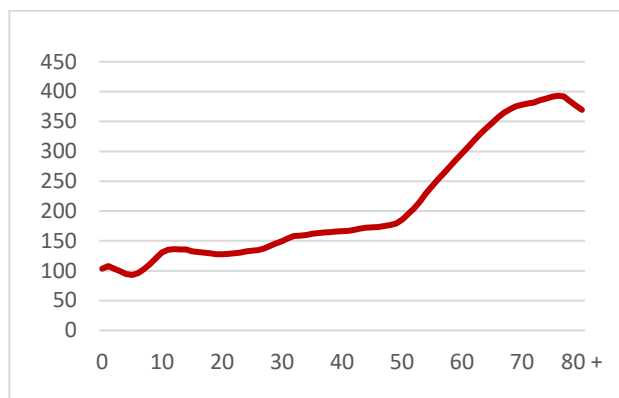


Source: RS database (2023)

The curve of private consumption on healthcare per capita by age in Bosnia and Herzegovina illustrates very low allocations for child healthcare until

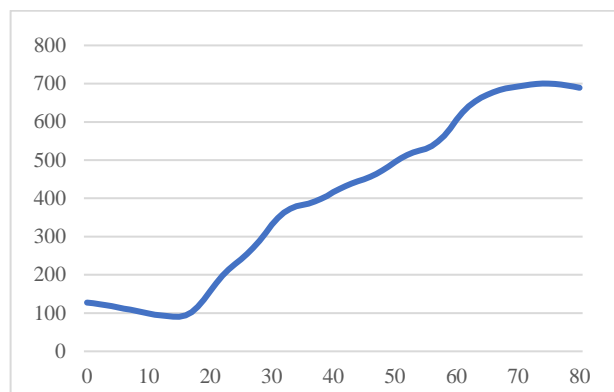
primary-school age, followed by a mild and gradual increase, and finally a steeper incline in older age (Figure 42).

**Figure 42:** Private consumption on healthcare per capita by age, BiH, 2015.



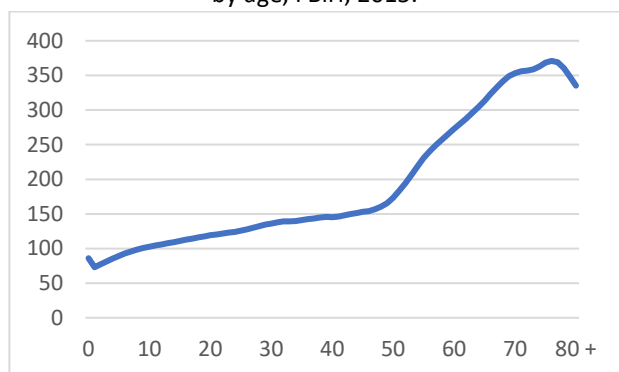
Source: BHAS database

**Figure 43:** Private consumption on healthcare per capita by age, EU-25, 2010.



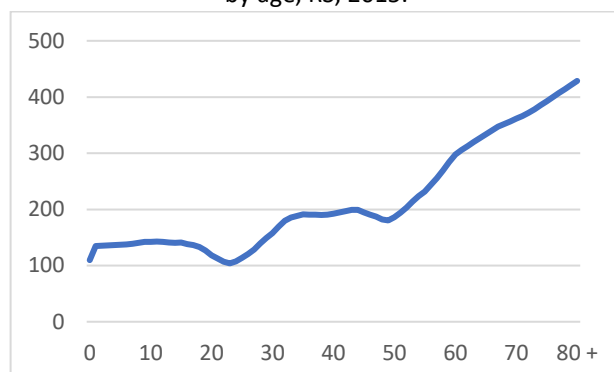
Source: AGENTA database

**Figure 44:** Private consumption on healthcare per capita by age, FBiH, 2015.



Source: FBiH database

**Figure 45:** Private consumption on healthcare per capita by age, RS, 2015.



Source: RS database

The age profile is similar to the consumption model found also in EU-25 countries, except for younger age. In these countries, on average, slightly decreasing private consumption for children is found up to the age of 18. Also, a smaller increase is registered in the case of the older population. A decline in consumption among the oldest-old is also registered in these countries. However, it is offset by increased public consumption (Figure 43). The most pronounced decrease of private consumption among the oldest-old is found in Austria, Sweden, and Ireland.<sup>31</sup>

## 2.2. Long-term care (LTC) for older persons

Consumption on healthcare for older persons in Bosnia and Herzegovina has not been 'socialised' to the same extent as in EU countries, which is partly a result of small public allocations for long-term care - 0.55% of the country's GDP. Spending on LTC in the health realm has been stable at 0.10% of GDP. In terms of purchasing power standards (PPS), it was 9.33 PPS per inhabitant in 2017, which was among the lowest in Europe (Eurostat, 2020).

Long-term care (LTC) includes a number of services and benefits in the area of healthcare and social protection to individuals in need of constant medical care and/or support in performing everyday activities over longer periods of time. The

<sup>31</sup> See the AGENTA database for individual countries.



support entails: personal care, assistance to perform basic activities of daily living (ADLs), (such as walking, eating, dressing, grooming, toileting, etc.) and assistance with instrumental activities of daily living (IADLs), such as preparing food, shopping, transportation, and the like.<sup>32</sup>

In all societies, even today, the largest part of long-term care is provided by the family through unpaid, informal engagement (WHO and World Bank, 2011). With development, the public sector assumes a more prominent role in addressing these needs. The inferiority of savings as the way to ensure protection from LTC-related risks, as well as the insufficient efficiency of private insurance, provide considerable scope and rationale for state intervention in this area (Barr, 2019).<sup>33</sup>

In the future, the demand for LTC is expected to rise due to population ageing, longer impaired life expectancy, reduced unpaid support from the family in the context of women's employment growth and a growing share of older single-person households. The greatest challenges in the domain of LTC policy are accessible and affordable quality services, ensuring adequate workforce, providing support to informal carers, as well as containing the rise in expenditures for these purposes (Social Protection Committee & European Commission, 2020).

Long-term care models vary widely across developed countries, but nearly all system reforms include deinstitutionalisation and development of community-based services. High mortality in older people's care homes during the COVID-19

pandemic has reinforced arguments in favour of deinstitutionalisation (Knapp et al., 2021).

LTC system in Bosnia and Herzegovina is underdeveloped,<sup>34</sup> and its financing relies primarily on families. Under the social protection legislation, families are responsible for providing for their dependent family members, whether these are people with a disability or are older and frail. Government support is provided only if family income falls below the income threshold (which differs according to entity and canton). Pension entitlements are taken into consideration when assessing eligibility for benefits, together with the income of responsible family members.

The most commonly used government assistance under the heading of LTC is placement in an institution of social protection. In 2018, only 8.9% of beneficiaries had their stay in an institution covered in full by social services, while 18.7% had their costs covered partially (Agency for Statistics of BiH, 2019, p. 64). The overall number of persons aged 65 and over in an institution is on the increase: in 2014 the figure was 3,308 (0.66% of persons aged 65 and above), whereas in 2018 it reached 5,147 (1.1% of persons aged 65 and above).<sup>35</sup> One of the reasons for this increase, besides population ageing and young families' migration abroad, is the unavailability of home-based services. Furthermore, care allowances are provided for different status categories of persons with disabilities. Under the social protection legislation at the entity level, disability benefits are not means tested, so that pension benefits do not preclude access to disability benefits. Exceptions to this are

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<sup>32</sup> For a broader definition see OECD (2022) or Social Protection Committee and European Commission (2020).

<sup>33</sup> Barr indicates, inter alia, that in the case of LTC, due to a very long period, the risk becomes uncertain, so it is impossible to calculate premium costs (Barr, 2019:147).

<sup>34</sup> Social protection responsibility in BiH is the responsibility of the two entities. In FBiH, social protection is shared responsibility between the entity and ten cantons. The provision and financing of services, such as home care and assistance, placement in institutional care, foster care, and other services, are devolved to local government level (i.e. cantons and municipalities). Each canton is responsible for enacting its social protection legislation and, depending on its needs and financial possibilities, may guarantee additional rights and benefits. Although RS is centralised, the RS Law on Social Protection (Official Gazette of the Republika Srpska 37/12) stipulates shared competences for social protection between the entity and municipalities, and thus foresees shared responsibilities for the financing of benefits and the provision of services. In both entities, lower levels of government (i.e. cantons and municipalities) may provide and finance extended rights beyond those stipulated by the general social protection legislation. The administration of all benefits and services for people in social need are administered by municipal centres for social work (CSWs) or social services.

<sup>35</sup> Estimate based on data from Agency for Statistics of BiH (2019, p. 64) and 2013 Census data.

pensioners belonging to the FBiH Pension Fund who are entitled to a disability pension, and whose disability was caused by an injury at work or a work-related illness: some of them are entitled to so-called 'compensation for physical impairment', which precludes them from claiming disability benefits under the social protection legislation. Care allowances are means tested when provided under cantonal legislation.

The most important recommendation specifically based on the NTA analysis is that **more funds need to be allocated for long-term care and the financial burden on older persons for these purposes needs to be reduced**. General recommendations regarding the LTC system in BiH focus on reducing system fragmentation and increasing the coverage of older persons, with special focus on developing community-based services and improving the cash benefits system.

In the area of funding, in addition to the general finding that in the future, a larger proportion of public expenditures should be allocated for LTC, several recommendations are of particular importance. Under the given circumstances of shared responsibilities for the system, it should be clearly delineated which part of the needs would be funded by health insurance, which part by cash benefits, and which out of pocket, with possible LSG contribution.

Improved LTC services coverage depends primarily on increased palliative care capacities and services within the health system, as well as on the further development of social care services within LSG mandate. A prerequisite for preventing and delaying institutionalisation is increased coverage of older people with community-based social care services. From the LTC perspective, the priority is to introduce home care services in municipalities and cities in which they are still not available, and also to expand day care centres and supported housing for older persons.

**Recommendations in the domain of improving the cash benefits** system include disconnecting the LTC benefit entitlement from the pension and disability insurance system, tying benefit amounts to the intensity of individual support needed, accompanied by a shift to functional, rather than medical criteria, as well as widening the scale of benefit amounts.

A prerequisite for increased coverage by both services and cash benefits is to **improve information provision to older persons about their rights**, especially by LSGs.

In the area of quality, the key additional recommendations include addressing system fragmentation through **better intersectoral co-operation** between health and social institutions. Other recommendations that would lead to quality improvement refer to improving control mechanisms, organising appropriate training and professional development, improving employees' financial status, reviewing home care service standards to ensure the suitable intensity of service provision in all LSGs, uniformity of eligibility criteria for beneficiaries, and the like.

### 2.3. Healthcare challenges and policy recommendations

Investments in high-quality healthcare ensure a healthier workforce, enable longer working lives, and also reduce population loss. Improving human capital in this respect also increases the capacity of the working-age population to bear the costs of the dependent population and provide for the second demographic dividend.

Bosnia and Herzegovina's overall key health outcomes are in a line or slightly above the region average. In 2017, life expectancy at birth was 77.4 years and under age 5 child and maternal mortality rates were 5.9 per 1 000 and 10 per 100 000 live births, respectively (World Bank, 2020). The latest available data (2012) on child health showed that mortality rates for under age 5 Roma children were much higher (24 per 1 000 live births) and that one-quarter of Roma children were stunted, while 8% were seriously lagging behind the rest of the population in growth (UNICEF, 2020).

Cardiovascular diseases and lung and colorectal cancers are the leading causes of premature death, and deaths from diabetes grew by over 20% in 2007-17 (IHME, 2020). Lack of exercise, tobacco consumption and a traditional diet based on meat and carbohydrates are the main risk factors. In 2019, 9% of the population had diabetes, and 24% of men and 29% of women were obese, compared to 6.4% and 19%, respectively, in the average OECD country (OECD, 2020; OECD, 2017; WHO, 2013).

Levels of exposure to harmful outdoor air pollution are among the highest in Europe.

The entities have independent health protection systems: while public health care in Republika Srpska is centralised, each canton in the Federation of Bosnia and Herzegovina has its own health insurance fund and corresponding cantonal ministry of health. A total of 13 subsystems at the entity and canton levels leads to duplication and higher coordination costs and prevents economies of scale in healthcare management. Partly due to administrative costs, Bosnia and Herzegovina allocates a very high proportion of resources to health care: per capita expenditure is above the regional average, and expenditure in terms of GDP is the highest among neighbouring economies and close to the EU average (9%) (WHO, 2022). Yet, 78% of the population considers the quality of health care to be low or very low. In a 2016 multi-country survey, 48% of respondents were satisfied with the healthcare system, the lowest percentage in the region (World Bank, 2020).

Unclear oversight of expenditures, absence of medical centre performance assessments and accountability, and lack of merit-based hiring and overstaffing in nonmedical functions are some of the key issues in the public health sector (World Bank, 2020). As in neighbouring economies, doctors and nurses are emigrating abroad in search of better working conditions, and even though there are more medical staff now compared to the end of the war, Bosnia and Herzegovina has the lowest number of doctors per capita in the region after Albania (WHO, 2020). There is no special legal framework to purchase medication, which instead falls under general public procurement regulations. This has led to frequent delays in the supply of essential drugs. Informal payments for health care are frequent, as they are in the rest of the Western Balkans (Mejsner and Karlsson, 2017). A small but growing number of patients are turning to comparatively more efficient and available private-sector clinics and pharmacies, especially when it comes to dentistry, diagnostics, over-the-counter medicines and therapeutic and specialist services: 2.7% of health expenditure was spent at private health providers in 2016, higher than the EU average of 2.2% (Friedrich Ebert Stiftung, 2017).

In 2018, an estimated 20% of Republika Srpska inhabitants were without health insurance, either because they were not registered (14%), or because

employers did not pay their health insurance contributions on time (6%) (ESPN, 2021).

Some 90% of the population in the Federation of Bosnia and Herzegovina was registered as insured in 2017, but this estimation does not include people with unpaid employer contributions. Coverage varies significantly across cantons in the Federation of Bosnia and Herzegovina. Since each canton operates its own insurance system, which is in turn dependent on local labour market conditions, services covered also vary widely (EIS, 2023). The rate of out-of-pocket payments (29% of total health expenditure) is lower than the regional average but still double the rate in EU and OECD countries (EIS, 2022). Private-sector providers are not generally covered under public health insurance and need to be paid in full by patients.

There is considerable room for improving the quality and efficiency of healthcare. Recommendations for improving healthcare can be summarised under several segments.

**The preventative care component of Bosnia and Herzegovina's primary healthcare sector needs to be strengthened.** The key problems are identified in the area of insufficiently developed preventive care. Too many people in BiH die prematurely or are incapacitated by preventable diseases and injuries. To improve prevention, measures need to be primarily directed on reducing risky behaviours (smoking, unhealthy diet, alcohol use), strengthening the role of primary health centres, as well as comprehensive screening programmes. As a first step, two action plans for the prevention and control of NCDs were endorsed and included a nationwide programme to improve the quality of and access to standardised cardiovascular risk assessment and management services in primary health care and family medicine (WHO, 2019).

Related to health care funding, a general recommendation is to **discontinue excessive reliance on payroll contributions** that threatens the financial sustainability of the system. In general, health care in both the Federation of Bosnia and Herzegovina and Republika Srpska are financed by a comprehensive system of social security contributions (making up 91% and 87% of revenue, respectively), participation fees for certain services and government transfers. This makes the systems highly dependent on the performance of the labour market, which is characterised by informality, rising

emigration and grim prospects from demographic factors. Although the total number of people registered as employed has risen incrementally, health expenditure has consistently exceeded revenues, and debt to suppliers and tax authorities runs into the hundreds of millions (EUR) (EIS, 2023). Significant additional funding can be secured through abolishing or reducing the VAT taxes for medicines and pharmaceutical devices and/or channeling a portion of the excise payments to the health sector.

It is also necessary to introduce **performance-based funding for service providers**, as well as to consider modalities for efficient integration of the private sector into the system, which would also entail paying for part of the privately provided services out of public funds. Financial incentives should be conceived in such a way as to ensure a more prominent role of primary healthcare and new models of care, such as out-patient clinics. Improving the systems for performance evaluation and payment to healthcare institutions by means of diagnosis-related groups and quality bonuses, as well as improving wage calculation systems in primary healthcare centres in order to adequately reflect employees' workload and performance should be considered and included in health care development plans (EIS, 2023).

Recommendations to increase coverage and reduce inequalities, and even unmet needs, relate to mitigating regional differences by optimising the healthcare institutions network, developing LTC

services for older persons and focusing on further improving access for residents of Roma settlements, as well as other vulnerable groups. In the Federation of BiH about 10% of each canton's revenues are pooled across cantons and are allocated to the health fund on the entity level with the aim of enhancing equity through redistributive capacity. Although in theory patients can access health services in all cantons, the funds are primarily used to purchase high-cost medicines for tertiary care and new therapies in cancer care (Guzvic et al., 2018), leaving patients with limited choice for secondary care services such as cardiology services or long waiting lists. The federal government's failure to secure the Fund financing in the same amount (as 10 cantons do) further deepens the regional differences in this entity.<sup>36</sup> A universal healthcare system would resolve the issue of incomplete coverage, which most certainly is a source of inequalities.

In the area of quality and efficiency it is recommended to continuously update and promote best practices among health care institutions. The obligation for healthcare institutions to develop and implement quality improving clinical procedures and standard operating procedures. Development or action plans for health sector human resources development is also suggested.<sup>37</sup> Data improvements, especially on healthcare expenditure statistics, introducing integrated monitoring of public, as well as private service providers, measures to combat corruption are also recommended (EIS, 2023).

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<sup>36</sup> This obligation is prescribed by law.

<sup>37</sup> Particularly having in mind shortages and emigration of healthcare professionals.

## Concluding remarks and recommendations

National transfer accounts provide the basis for numerous assessments and reviews. From the social sector policy perspective major findings can be summarized for the state, and entity level, as follows.

First, **considerable labour income, as well as a surplus over consumption, is generated for a relatively short period of time in the life cycle.** Labour income starts to grow relatively late during the life cycle, and decreases early. This leaves limited funds available for public support to children and older people as well as leaves the working age population with limited or no savings for older age.

Second, the **socialisation of care for the youngest and the oldest is at a relatively low level.** Public consumption is higher than private only for children in the 6-14 age group. In all other age groups, private consumption clearly dominates, even among the oldest-old.

Third, in BiH, the **period in the life cycle when no deficit is recorded between consumption and labour income is relatively short.** Deficit is almost equal for the older age and youth. Aggregate surplus is relatively low. The surplus covers just a third of the total life-cycle deficit. Its increases are a kind of prerequisite for enabling easier provision of funds for the dependent population's needs and consumption. This requires an increase in productivity across all sectors and employment of unemployed and inactive populations. In addition, in sectors where there is a lack of skilled workers that cannot be easily replenished through training (upskilling and reskilling) programmes, it would be needed to develop immigration programmes for attracting skilled workers from other countries. The programmes would have to have a strong integration character to avoid segregation of foreigners and to attract the whole families and not only individuals. This is especially important as it has been proven that the first generation of immigrants tends to have higher fertility in comparison to the domicile population, hence ensuring access to a larger pool of younger human capital for a longer period of time.

Finally, consumption deficits of children and youth are covered through public and private transfers.

The younger part of BiH's dependent population receives a somewhat higher value of transfers than the part allocated to the older population. **Children and youth's deficit is funded primarily through private transfers, and that of older people through public transfers.** When compared to EU countries, it can be seen that private transfers to the younger population are more prominent than the public ones. This clearly shows the burden families have in terms of education and care for children. Having in mind that it is mostly women caring for children and family, and that there is a limited number of public pre-school education institutions (especially in rural areas), this puts women in their most productive period of life out of the labour market, hence diminishing both family income and country economic development.

Older people's deficit is additionally funded through asset-based reallocations as well. As regards to funding older people's deficit, in EU private transfers are almost non-existent. In EU countries the shortage of labour income in older age is to a considerably greater extent covered with private savings. However, private savings in Bosnia and Herzegovina are close to zero or negative during most of the life cycle, putting the older population at the brink of poverty, especially older women and those living in rural areas. To avoid financial shortfalls after retirement and to overcome poverty in older age, it would be beneficial to enable voluntary pension payments into the 2<sup>nd</sup> and/or 3<sup>rd</sup> pillar of the pension fund. Also, it would be beneficial to attract an older population into the labour market beyond mandatory age (65) for retirement. This would help both the individuals to improve their living conditions, but also the business sectors to gain access to experienced human capital and the public sector to ensure sufficient funding for the provision of public services.

In addition to the above, it should be highlighted that activation and active labour market policies, including activation in the labour market of the recipients of financial social assistance benefits and persons with disabilities would have an accelerating effect on socio-economic development of society as having more employed population decreases life-cycle deficit and contributes to strengthening of



public services such as health care. Finally, all policies and measures outside the social sphere that are conducive to employment and productivity growth and economic development will help ease the burden on middle-aged generations supporting children, youth, and older members of the population. In other words, different population groups have different needs for joining the labour market that should be taken into consideration in advance such as policies tackling work-life balance or childcare and long-term care as basic preconditions for female working-age population to have time for paid employment.

Several findings derived from NTA research are of particular importance for improving policies and measures in the area of education. The analysis of public and private consumption by age, as well as the burden on middle-aged generations, call for further interventions in the area of **pre-school education and improving the access to and quality of education in general**. Significant share of private sources for financing the early education of children makes children from poor families, marginalized and minority groups, or families that live in rural and other hard-to-reach areas particularly vulnerable. The cost of preschool education services is also a limiting factor in enabling more children to attend this form of education, thus preventing their parents from engaging in the labour market. The most important recommendation based specifically on the NTA analysis is that more funds need to be allocated to make childcare and pre-school education more accessible and affordable, hence reducing the family burden caused by expenditures for these purposes. Increased public investments in childcare and pre-school education under the circumstances should primarily come from the higher levels of government – entity or cantonal level as municipal authorities cannot make such capital investments at current rate of tax distribution and beyond funding allocated for running the existing pre-school institutions. Where public pre-school institutions do not currently exist or cannot be built in a short period of time, it is essential to expand the practices of funding private service providers from public sources. Multi-sectoral support and direct financial benefits to families are also important to include children with developmental disabilities and children from Roma and other vulnerable families.

In addition to providing relevant childcare services, it is also important to strengthen the **quality of formal and informal education**. This, along with life-long learning, would contribute to strengthening human capital in the country, ease school to work transition and enable earlier and faster access to the labour market, hence expanding to total years in employment and reducing the life-cycle deficit. To achieve higher quality of education, education institutions need to modernise curricula and teaching methods. Also, the relevance of study programmes should be improved by encouraging cooperation between education institutions and employers. Enrolment policy and scholarships can be used to channel students towards priority educational programs, usually those focused to STEM subjects that might yield higher productivity in the labour market. Where not already established, the accreditation of HEIs and study programmes should be carried out, and rigorous quality assurance measures should be applied to raise the quality of HE services.

In BiH, labour income declines substantially early in the life cycle. The overall deficit-to-surplus ratio is unfavourable, indicating that employment and productivity growth is crucial to reducing the burden on the working-age part of the population. In the longer term, population ageing compels exploring all available solutions for pension system sustainability. The deficit in older age is primarily funded from public and private transfers. It seems that negative savings in middle age compromises these generations' capacity to save for older age. The key necessary changes certainly concern extending working life spans through further raising the retirement age above 65 years of age and possibly beyond 40 years of service.

**Other related reform measures** include trimming further generation of new pension arrears through pension and tax reforms and economic growth. Both entities need to continue working on developing the appropriate voluntary pensions administrative and supervisory framework and stimulating voluntary pension savings to improve the pension adequacy in the long run. This also assumes attracting more 65+ population into the labour market where existing pensioners would be enabled to continue receiving their pensions while still contributing not only to themselves but to the pension and health insurance system as well. This could also reduce poverty among the 65+

population that had not complied with minimum years in service (currently 15 in both entities). For them this would represent an opportunity to reach minimum years in service and ensure stable and long-term income in older age. In both cases, this would provide opportunity to the business sector to gain access to substantially experienced human capital, although at lower productivity due to a drop in productivity in older age. However, investments in employment of the older population would come at lower costs in comparison to attracting younger skilled workers from abroad. In both cases, it would be essential to invest in health services (prevention and rehabilitation, for instance) and training and re-training opportunities to keep skills of existing human capital at the level required in the labour market.

Analyses of public and private consumption per capita by age, as well as the unfavourable total deficit-to-surplus ratio, point to the need to formulate additional measures and policies, primarily in the area of **long-term care for older persons in their places of residence and overall improvement of healthcare**, so as to ensure more adequate protection, as well as further human capital development.

Long-term care (LTC) includes a number of services and benefits in the area of healthcare and social protection to individuals in need of constant medical care and/or support in performing everyday activities over longer periods of time. The most important recommendation specifically based on the NTA analysis is that **more funds need to be allocated for long-term care** and the financial burden on older persons for these purposes needs to be reduced. General recommendations regarding the LTC system in BiH focus on reducing system fragmentation and increasing the coverage of older persons, with special focus on developing community-based services and improving the cash benefits system. One good example is the current draft Law on the provision of social services in FBiH that would enable government institutions to establish partnerships with relevant legal entities to provide social services at private homes of older persons. If the Law is adopted, this would reduce the need of older persons to relocate to institutions but stay at home and request necessary services at only a fraction of institutional care. In addition, residential social services would employ a number of women to act as long-term carers, hence

increasing the active population in the labour market.

**Recommendations in the domain of improving the cash benefits** system include disconnecting the LTC benefit entitlement from the pension and disability insurance system, tying benefits to the intensity of individual support needed, accompanied by a shift to functional, rather than medical criteria, as well as widening the scale of benefit amounts. A prerequisite for increased coverage by both services and cash benefits is to improve information provision to older persons about their rights, especially by LSGs. In the area of quality, the key additional recommendations include addressing system fragmentation through better inter-sectoral co-operation between health and social institutions.

Investments in high-quality healthcare ensure a healthier workforce, enable longer working lives, and reduce population mortality. There is considerable room for improving the quality and efficiency of healthcare. The preventive care component of Bosnia and Herzegovina's primary healthcare sector needs to be strengthened as preventive information and services significantly reduce the costs of medical treatments. Also, healthier workforce will stay longer in the labour market and reduce absenteeism from work.

It is also necessary to introduce performance-based funding for service providers, as well as to consider modalities for efficient integration of the private sector into the system, which would also entail paying for part of the privately provided services out of public funds. This approach would ensure better coverage with healthcare services, especially in more rural areas and strengthen the quality of health care services, hence ensuring better health of the population.

Finally, having in mind population ageing that would change the balance of financial transfers towards increased health care services and payment of pensions, it is necessary to work on increasing productivity in all sectors of society. Higher productivity would not only ensure higher household income that could be invested in own development, but also it would ensure higher savings in the most productive age that could serve to cover the needs of the population in older age, as it is the case in more developed countries.

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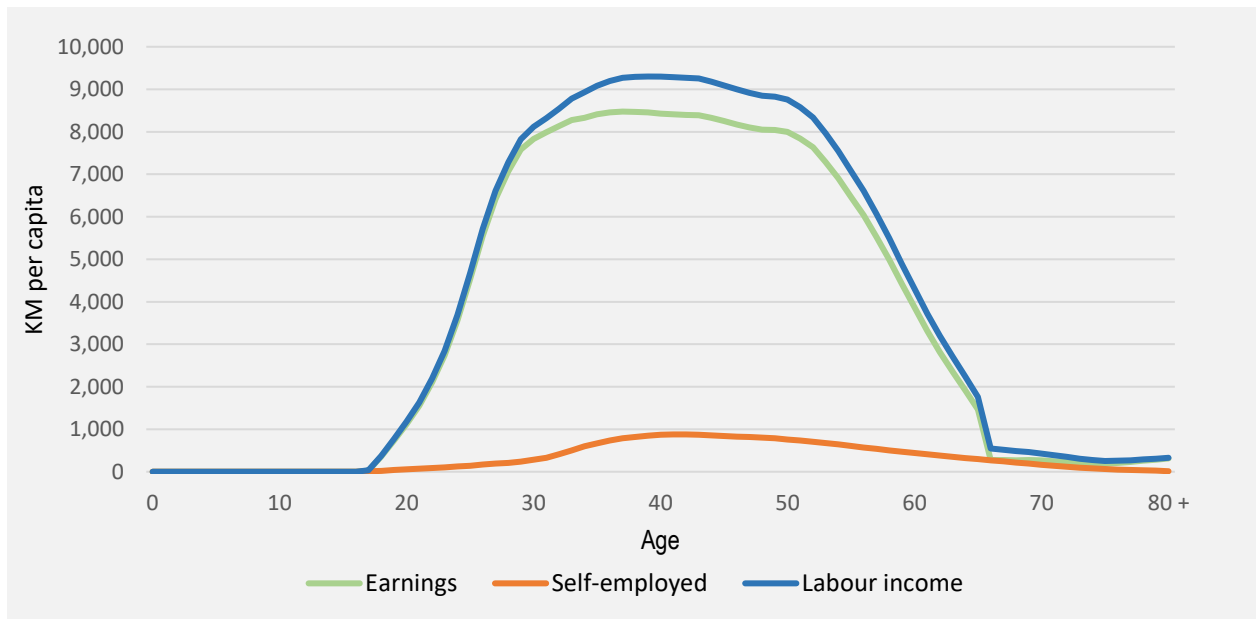
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## Annex

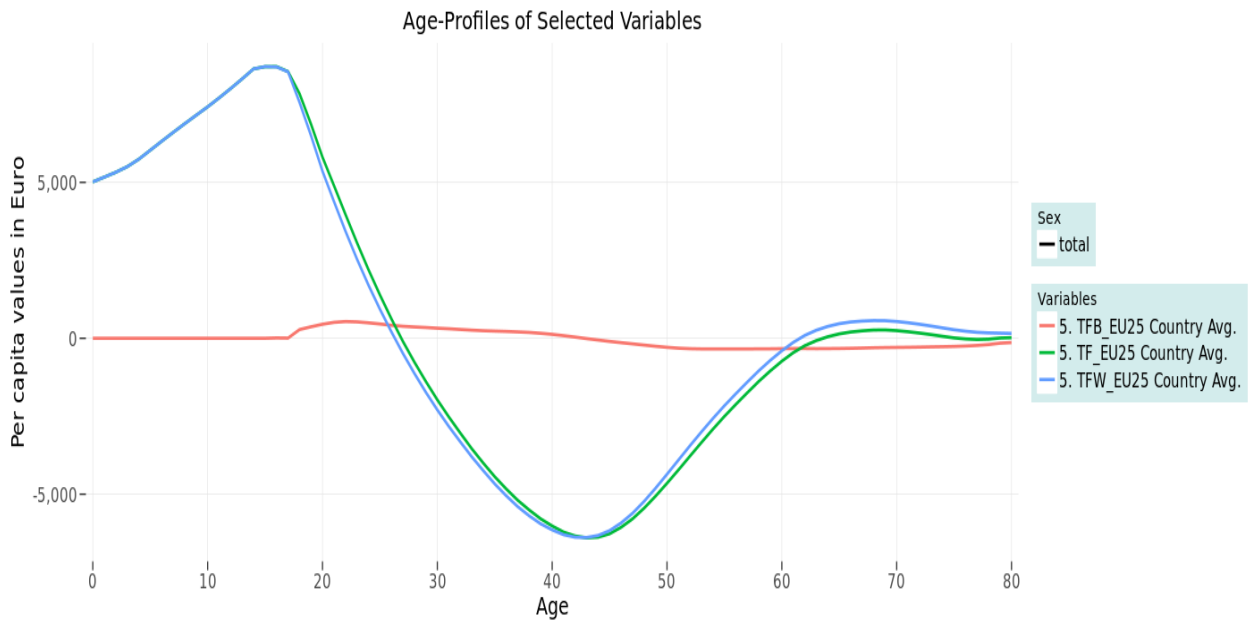
**Figure 46.** Age profile of labour income, Federation of BiH, 2015 (BAM per capita)



**Figure 47.** Age profile of labour income, Republika Srpska, 2015 (BAM per capita)

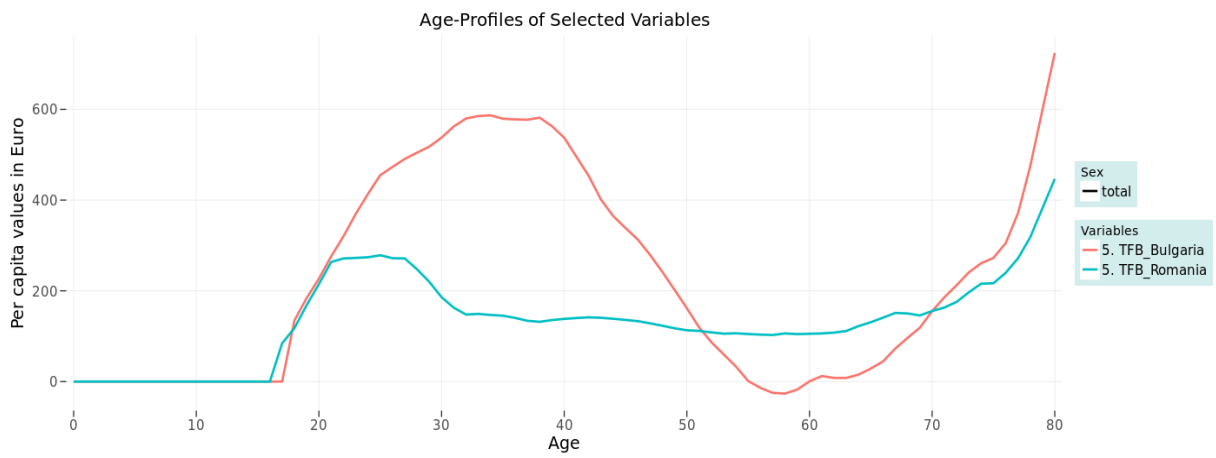


**Figure 48. TFB and TFW in EU25**

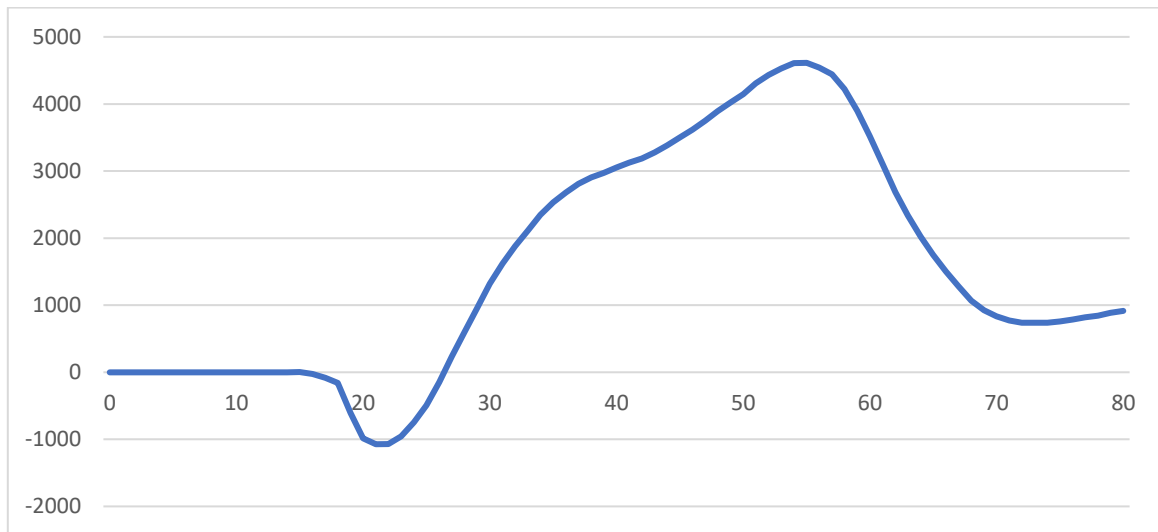


Source: AGENTA database

**Figure 49. TFB and TFW in Bulgaria and Romania**



**Figure 50.** Age profile of private savings, EU-25, 2010.



Source: AGENTA database, Istenič et al. (2016)



NATIONAL  
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