

Pension reform in (F)BH with a special focus on gender issue

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Abstract

The purpose of the paper is to analyse and examine legal changes and requirements that affect retirement conditions and retirement rights for women in BH. After a discussion of the theoretical background of the gender gap in pensions internationally and in BH, an opinion survey related to pension system reforms was conducted in FBH. The results show that almost 50% of respondents disagree with the statement that women and men should retire at the same age. The results of the binomial logit regression conducted indicate that pensioners and those who are close to the retirement age are less likely, and men are more likely to respond positively to this statement. We conclude that there is a discrepancy between the desire to eliminate gender disparities in pensions and the willingness to conduct necessary reforms since they come as a bitter pill to swallow.

Keywords: pension reform, FBH, gender gap in pensions (GGP), logistic regression

1 INTRODUCTION

Equality between women and men has been recognised as a fundamental value and driver of economic growth in the European Union (EU). This principle was incorporated in the 1957 Treaty of Rome and today it is included in Articles 2 and 3 of the Treaty on European Union and in Articles 8, 153(1) and 157(4) of the Treaty on the Functioning of the EU (Dessimirova and Bustamante, 2019).

However, more than 20% of older women (aged 65 and over) are at risk of poverty or social exclusion in the EU, compared to 15% of older men (European Commission, 2018). But this is only the tip of the iceberg. The EU data also show differences in pensions between men and women and lower pension coverage among women in all EU countries. Eurostat (2020) reports a gender gap in pensions (GGP) showing the percentage by which women's average pension income is higher or lower than that of men. Pension income includes old age benefits, survivors' benefits as well as regular pensions from individual private plans. The GGP includes only raw gaps, which do not consider the underlying labour market and demographic characteristics. In 2018, women in the EU aged over 65 received a pension that was on average 30% lower than that of men in monetary terms (Eurostat, 2020). Although, over time, the GGP has had a falling tendency, the extent of the gap varies widely among the EU member states. Looking at the extremes in 2018, the largest GGP was in Luxembourg, where women aged over 65 received 43% less money through pensions than men, closely followed by Malta (42%), the Netherlands (40%), Austria (39%), Cyprus (38%) and Germany (37%). For the same year, the smallest differences in pensions between women and men were in Estonia (1%), Denmark (7%), Slovakia (8%), Czech Republic (13%) and Hungary (16%) (Eurostat, 2020). Based upon the available administrative data, our results show that the GGP (in 2018) in one BH entity was 13% for old-age pensions.

In theory and empirical research, there are several factors that try to explain the determinants of GGP. In addition to factors related to the history of work and work

patterns of individuals, determinants of the GGP are related to the specifics of the model of the pension system and its reform. At the same time, gender neutral reforms can have different effects on women and men and ultimately result in a gender gap in access to pensions and in pension amounts. The main purpose of this paper is twofold: firstly, we aim to detect characteristics and elements of the pension system design in BH that may have effects on gender equality in old age, and secondly, by using a survey, we evaluate attitudes and opinions of the Federation of Bosnia and Herzegovina (FBH) respondents related to these characteristics and elements.

After the introduction, we provide a literature review that focuses on the determinants of GGP and the effects of pension design on gender equality in obtaining pension rights. Then we briefly analyse the specifics of the pension system and the gender gap in pensions before we turn to the analysis of the pension system and pension reforms in the two BH entities – Republika Srpska (RS) and its reform of 2011 and the Federation of BH (FBH) and its reform of 2018. Special attention is given to legal changes that may have a particularly important impact on women and hence possible effects on the GGP. In the final part we analyse the results of the survey conducted in 2018 – the year when the latest pension system reform was adopted and began implementation in the FBH. Respondents were asked several sets of questions related to pension system reforms. A special focus is on sets of statements that could have effects on gender issues (amount of pensions paid out to women and men, retirement age, survivors' pensions and the ways and methods of determining the amount of payments to the pension system) as important elements of pension system reform. After we had established that there was a discrepancy between the attitudes of respondents in terms of equalising gender differences in pensions and the willingness to support the measures that lead to such a result, we focused our analysis on factors that affect the respondents' attitudes towards the most important statement related to reform changes affecting GGP – the question of whether women and men should retire at the same age. This question has been in the spotlight of discussion in the public forum and in the media, which is an additional reason for this analysis and accordingly have conducted a logit regression analysis. Based upon literature review and results of the survey conducted, in the final part we provide conclusions and recommendations.

2 LITERATURE REVIEW

Research related to the GGP has been gaining academic interest in the last few years. The European Commission (EC) report published in 2013 analysed the GGP in detail for the first time. The report states that the proposed GGP should be measured as the percentage by which the average pension paid out to women is lower than that paid out to men (Bettio, Tinios and Betti, 2013). By using 2009 EU-SILC results for EU27 member states (excluding Croatia), Bettio, Tinios and Betti (2013) carried out a statistical analysis showing that the EU27 weighted-average GGP is 39%. Later research also confirmed the existence of GGP (see for example Arza, 2015; Burkevica et al., 2015; Tinios et al., 2015; Samek Lodovici et al., 2016; Lis and Bonthuis, 2019).

Literature that deals with GGP determinants analyzes several contributory factors. These are, *inter alia*, socio-economic factors, factors related to the history of work and work patterns of individuals, and specific determinants of the pension system. Flory (2012), for a study on Germany, analysed the socio-demographic characteristics of the GGP and concluded that there are intra-country geographical differences in the occurrence of the GGP. Marital status proved to be an important factor since GGP was higher for those who were married and widowed than for the single and divorced. This study also showed that higher the level of education the lower GGP, and that GGP was lower for younger than for older cohorts.

Bettio, Tinios and Betti (2013) argue that the GGP is associated with the shorter careers that women have compared to men. Their research showed that the lowest GGP was found in the public sector and the highest among pensioners who had been self-employed. Marital status also proved significant in their study: GGP was lowest for single and highest for married women, while for divorced women it was somewhere in the middle.

Burkevica et al. (2015) claim that the main determinant of GGP is the gap in life-long earnings. The GGP is also affected by lower or intermittent social security contributions, which arise from caring responsibilities, during pregnancy and a greater propensity for part-time work among women than among men. Their research also indicated that childcare, especially in countries where such a service is too expensive or not well organized, could deepen the GGP.

Arza (2015), in her paper, concluded that the main determinant of GGP is the difference in the life course between women and men. Women's life course is characterized by longer periods of caring for others, lower labour market participation, more part-time employment, and lower wages. All this affects gender equality in pension rights even when the pension system is established on gender-neutral principles.

Similar results were obtained in a study by Samek Lodovici et al. (2016). On the one hand, the results of the study indicate that high GGP is the result of factors related to labour market imbalances (gender gaps in employment, difference in working years, types of employment – full versus part-time jobs, and in pay) and the design of pension reforms. Women with caring responsibilities and women living alone are particularly exposed to low pension benefits and to high poverty risks in old age. On the other hand, pension reforms can also increase the GGP.

Chłoń-Domińczak (2017) also found that the main determinants of GGP are past labour market tendencies and the design of pension systems. This study also suggested a different way of calculating GGP through the concept of Forward-looking Gender Pension Gap Index. The index measures the extent to which gender differences in the labour market in association with the design of the pension system can contribute to GGP. The index is based on a set of indicators such as career length, work intensity, and pension system features. The proposed index is

based on weights chosen to reflect expert assessment of the risk posed by selected indicators to the future GGP (Chłoń-Domińczak, 2017). This index is not discussed further in the paper.

Lis and Bonthuis (2019) argue that gender differences in the labour market are a key driver of GGP. They conclude that although pension systems manage to reduce the cumulative inequality of wages from work to different levels in EU countries, the pension system alone cannot solve the GGP that arises from inequalities in the labour market.

Apart from the literature that deals with the determinants and size of the GGP, a great number of authors analyse gender equality and pension design from sociological, political, legal, or feminist aspects. Such analysis does not deal with the size of the GGP.

For example, Even and Macpherson (1994) show that there are differences between men and women in the coverage as well as in the amount of pensions. They show that the percentage of retirees receiving a private pension benefit is 66% for men, but only 24% for women. In addition, gender differences in labour market experience and earnings are much smaller among workers receiving pensions. Approximately two-thirds of the gender gap in pension coverage can be accounted for by differences in labour market histories, even without controlling for income (Even and Macpherson, 1994).

Johnson, Sambamoorthi and Crystal (1999) came to different conclusions since they analysed pension wealth for full-time workers with pension coverage. They concluded that the median pension wealth on the current job was 76% greater for men than for women, and that the gender gap was even larger among workers who had only defined contribution plans on the current job. They also state that gender differences in the wage earned in the current job are the main determinant behind the wealth gap. Their results show that one third of the gender gap in pension wealth could not be explained by gender differences in education, demographics, or job characteristics.

Conclusions provided by Bardasi and Jenkins (2010) are also different from those provided by Even and Macpherson (1994). After analysing gender differences in income from occupational and personal pensions and annuities (“private pension income”, PPI) in Britain conditional on receipt, they conclude that both components of the overall gender gap arise mainly because female characteristics are less well rewarded than male, rather than because women have less advantageous personal characteristics than men (Bardasi and Jenkins, 2010).

Barrientos (1998) analyses the absence of a gender gap in private pension coverage. His conclusions based upon Chilean experience show that working women have rates of personal pension coverage which are marginally higher than men’s since determining factors influence men’s and women’s personal pension plan

contributions in a similar direction. While structural factors, such as the household division of labour and women's disadvantages on the labour market, entail gender differences in the probabilities of personal pension contributions, the design of personal pension plans significantly reduces the impact of employer influence over pension design and provision as another important structural restriction on women's pension affiliation.

Jefferson (2009) provided an exhaustive literature review grouped in accordance with different elements of the pension system (contributions, benefits, financing, and management). The author concludes that there are at least three policy directions that could result in gender equality in pension schemes. The first policy direction is to focus on women's workforce participation and lifetime earnings. The second direction is to address specific features of pension-scheme design to meet the needs of those with interrupted employment patterns and low earnings. A third direction is to improve gender equality by ensuring access to pension benefits on a basis that is independent of individual workforce participation patterns.

Ståhlberg, Kruse and Sundén (2005a; 2005b) conclude that to prevent poverty among retired women and to provide them with an adequate income, pension systems should be public and mandatory. Additionally, pension systems should: provide a minimum of guaranteed benefits, provide incentives to work, should not penalize women by giving a lower rate of return on their contributions, should not penalize the raising of children economically but rather provide compensation to families with young children, have indexed benefits, pay benefits in the form of annuities, allow spouses to share their rights and, ultimately, if benefits are provided for survivors (widowed), the pension system should ensure that these benefits are actuarially fair (Ståhlberg, Kruse and Sundén, 2005a).

3 PENSION SYSTEM SPECIFICS AND GENDER GAP IN PENSIONS

Specific pension design features and characteristics can reproduce or mitigate gender inequalities in pensions. Today, there are several types of pension system design across the world where the question of whether it is private or public has in itself no gender effect on incentives and redistribution. Both public and private pension systems can be mandatory and/or voluntary, are not mutually exclusive, which indicates that these and several other combinations are available in practice. For example, public pension provision with relatively universal coverage is advantageous for women but such schemes generally provide only a modest income and are accompanied by other "pillars" or "tiers" that rely on some form of nexus with employment history (Jefferson, 2009). Pension systems in each country can combine pillars such as: (a) a "zero pillar" of basic non-contributory public benefits; (b) a "first pillar" of mandatory public pensions; (c) a "second pillar" of mandatory private pensions; and (d) a "third pillar" of voluntary pension savings (Arza, 2015). If we are considering relationship between voluntary and mandatory, mandatory annuities favour women more than men (Ståhlberg, Kruse and Sundén, 2005a). However, even with the combinations of tiers and pillars,

other specifics of the pension system shape the impacts that a pension system has on women and men together with other market-related specifics (for example, investment opportunities and risks for private capital accumulation).

The specifics of the pay-as-you-go system (indexed or not) versus the funded scheme are usually in the spotlight of academic discussions (for example, Ståhlberg, Kruse and Sundén, 2005a, 2005b; Jefferson, 2009). These especially relate to the fact that in either case, women are more exposed to risks (for example, risk of low growth or low rate of returns/high volatility in returns, etc.). Individual risk in a funded system with individual accounts indicates that women are, again, at risk of receiving lower retirement income since they are more risk averse than men (even though there are other factors affecting the position of women, for example, marital status). As “the pay-as-you-go system is dependent on changes in the labour force and in productivity, and funded scheme on interest rates in the capital markets” (Ståhlberg, Kruse and Sundén, 2005a: 13), the effect on potential gender inequities depends on the link between an individual’s contributions and benefits.

Hence, yet another specific of the pension system design that might influence gender issues is related to deciding between defined benefit plans (DB) and defined contribution plans (DC). In the DB system (regardless of private or public, Jefferson, 2009), women are favoured in comparison to men since they live longer, “while in the DC system, gender pay gaps translate into relatively lower pension contributions” (Jefferson, 2009: 122). It must be noted that issues of coverage, contributions and benefits calculations are very important in the DB and DC schemes and do not solely rely on financing (Jefferson, 2009). In that sense, regarding specifics of pension age, in DB plans, women are often permitted to retire earlier than men, which means that women could increase their lifetime benefits by retiring early. “In DC plans that are actuarially fair, lifetime benefits do not increase if women retire early” (Ståhlberg, Kruse and Sundén, 2005a: 14). In fact, the redistributive-actuarial model equalises men and women and it is a system based on the direct link between paid contributions and benefits. Some public funds use the so-called “unisex tables” (Arza, 2015) and hence redistribute income in favour of women. Thus, men as a group provide an element of cross-subsidization for women (Jefferson, 2009). To minimise gender gaps and pension-income gaps, benefits formula can be flat or means-tested. Either case benefits women as usually low-income earners. However, a means-tested benefit system favours women as a group even though it carries an additional set of risks related to labour market supply. Also, government-mandated minimum pension benefits or minimum universal benefits together with state contributions, payment of annuities based on unisex tables are some methods of minimising risks related to DC schemes (Jefferson, 2009). Yet, another specific of a pension system might be wage indexation (versus price-indexation of pension benefits), which benefits women more than men (Ståhlberg, Kruse and Sundén, 2005a).

It is often believed that survivor’s pensions favour women more than men because women live longer. However, survivor’s pensions can be received by both women

and men and hence the survivor's pension system is a redistribution in favour of couples (Ståhlberg, Kruse and Sundén, 2005a).

4 PENSION REFORMS IN BH AND GENDER

BH is a sovereign state located in Southeast Europe and on the Balkan Peninsula. The Dayton Peace Agreement, which is BH's Constitution, states that BH consists of two entities: the Federation of BH (FBH) and Republika Srpska (RS) in addition to one District (Brčko District). According to the latest available data, BH has a population of 3,531,159 inhabitants (BHAS, 2020a) of whom there are 670,792 pensioners (BHAS, 2020b).

Since a pension system can be used as an instrument to mitigate gender differences (Dessimirova and Bustamante, 2019), we provide information related to reforms of pension the system in BH. From 1943 until independence in 1992, BH was a part of SFR Yugoslavia, one of its six republics. In that period, the pension system of BH was organised similarly to pension systems of the Soviet bloc countries. After the end of the war in BH (1992-1995) and the new Constitution that the Dayton Peace Agreement brought, BH's two entities were put in charge of organising the pension system in BH. Hence, during 1998 these entities created the legal bases for and organised two separate pension and disability insurance funds that operate under entity laws. Since both pension insurance systems were developed out of the pre-war system, the pension systems in the RS and the FBH were similar in many elements. In both entities, the basic principles that pension and disability insurance relied on were reciprocity, intergenerational solidarity, and compulsory payments for all employees. Thus, the pension systems were designed as Pay as You Go (PAYG) systems. Citizens who were not compulsorily insured could exercise their rights from pension and disability insurance through voluntary insurance. However, despite the constitutional requirement to provide basic income for all citizens, the coverage of the statutory contributory pension scheme was virtually limited to the formal employment sector (ILO, 2009).

The most recent pension system reforms in BH took place in different years in the two BH entities. The new Pension and Disability Insurance Law was passed in 2011 in the RS and in the FBH in 2018. Although the two laws have brought substantial changes, both entities' pensions systems are still organised as PAYG systems operating under the same principles of reciprocity, intergenerational solidarity, and compulsory payments for all employees. The voluntary insurance option for citizens is also left as an option in both entities. As noted in the previous section, the characteristics of the pension system design described do not have an impact on gender. In BH, the second and the third pillar of the pension system are not yet developed, which could even have a positive impact on the position of women; in the first pillar of the pension system, men and women are provided with (more or less) equal access to public pensions, while this might not be the case with the other two pillars, where access could be more difficult for women. However, Tinios et al. (2015) state that "countries with developed multi-pillar pension systems such as the

Netherlands, United Kingdom, Switzerland, and Denmark are still found all through the spectrum of GGP in Europe” (Tinios et al., 2015: 56).

One significant legal change applied in both entities under the pension system reforms relates to the change in the calculation of a pension. The change in both entities introduced the points system which directly correlates the amount of a pension with the amount of contributions paid and the payments history. Hence, in both entities, the amount of the old-age pension received by the insured is calculated by multiplying the annual value of the personal coefficient by the value of the assigned point (Articles 43 and 44 of the Law on Pension and Disability Insurance in the FBH and the RS, respectively, Official Gazette of the FBH 13/18 and Official Gazette of the RS 134/11).

The personal coefficient is calculated by dividing the total amount of salaries (which represents the insurance basis of the insured) by the average annual salary for the same year. The calculation of the annual personal coefficients in both entities starts from 1st January 1970 and excludes several years due to the war in BH (1992, 1993, 1994 and 1995 in the FBH and 1992 and 1993 in the RS). With this change, although gender neutral (the law does not differentiate special terms for men and women), the reform reflects the conditions operating in the labour market. As noted in section 3, gender pay gaps translate into relatively lower pension contributions from women in DC schemes. Hence, according to Tinios et al. (2015) it could lead to an increase in gender differences. With pension system reforms under way, the adopted and implemented changes caused concerns for many workers receiving the minimum wage across BH. Namely, in BH, a great number of paid out salaries are earned in the shadow economy especially for minimum wage workers in BH¹ through the mechanism of grey pay or envelope salaries. This issue affecting the insurance basis was recognised more than a decade ago in the ILO reports. ILO (2009) stated that “only the public sector and large-sized (mostly foreign) private companies reported the actually paid wages. For a large part of private sector employers, it is a common practice to pay only the minimum wage through official channel[s] (e.g., bank transfer) to their employees and pay any others in cash” (ILO, 2009: 8). The minimum wage in BH is received by more than a quarter of BH employees – 26.3% of total employees (Papić, 2017) and women dominate among the lowest paid workers in the labour market (Agencija za ravnopravnost polova, 2018). There is a particularly large number of employed women in several sectors such as health care, education, agriculture, and the informal sector.

Many women are employed under fixed term, through part-time employment contracts or are excluded from the formal labour market, so they work in the grey economy (Agencija za ravnopravnost polova, 2018). According to the latest

¹ The estimated size of the shadow economy in BH for 2015 (latest available year) was 29.9% of GDP using the MIMIC approach (Medina and Schneider, 2018).

available data from the Agency for Statistics of BH for 2019, the employment rate of women in BH was 26.7% and was lower than the employment rate of men which is 44.6%. In the same year, the unemployment rate for women was 18.8% and for men 13.6%. (BHAS, 2019a). According to the data from the Labour Force Survey from 2019, as many as 61.1% of unemployed women and 59.9% of men have been looking for a job for more than two years. This length of job waiting leads to a high inactivity rate, which in 2019 was 67.1% for women and 48.3% for men (BHAS, 2019b). The reasons for the high rate of inactivity in the labour market may be that women have given up looking for work or cannot work although they wish to. The common reasons for such situation are caring responsibilities and unpaid family work. The two entities' Labour Laws entitle women to a full year of maternity leave. During this period, they are also entitled to monetary compensation. However, women on maternity leave often do not receive such compensation and are under pressure to return to work while on leave, and some even lose their jobs if they become pregnant. In addition, women on maternity leave do not receive equal compensation in all parts of the country, and the payment depends on the woman's residence (Cancho and Elwan, 2015). Women in BH face additional barriers in the labour market, such as: longer waits for their first job, longer interruptions in work experience due to maternity leave or care for elderly and sick family members – caring responsibilities and unpaid family work, inability to enter the labour market primarily due to age, changes in the labour market which cease to demand certain type of work-lack of employment opportunities in the labour market (Hasanbegović, Dizdar and Agić, 2019). In addition, in BH, there is also a gender gap between paid and unpaid work, with the participation of women in unpaid work estimated at 70% (Agencija za ravnopravnost polova, 2018). Furthermore, there are visible gender differences in the hourly rate in favour of men. These differences are noticeable at all levels of education, age groups, occupations, and industries. Considering the population working for wages or per diems and limiting the age to the range of 15-64 years, gender differences in the hourly rate are estimated at 9% of the average hourly rates of male workers (Cancho and Elwan, 2015).

Introduction of the points system, which provides a closer link between contributions and benefits, may have dual effects. According to Samek Lodovici (2016), the first is that workers are encouraged to pursuit a longer career and therefore stimulates a greater participation by women in the regular labour market. The second effect relates to several aforementioned labour-market conditions (women earn less than men on average and work with irregular and interrupted career patterns). As a result, women are more likely to be more heavily penalised than men (Samek Lodovici et al., 2016: 21). However, the points system has several advantages that ought to be noted such as: it enables a fairer evaluation of the entire length of pensionable service (the same value of points for each year and each amount of salary), a precise calculation of the value of pensions for each point, it is administratively easier to apply and is more transparent and understandable to users (FBH Government, 2013).

Another legal change that may have an effect on the position of women in pension is the change in the system of the calculation of the pension. The previous system of calculating pension basis provided the legal possibility for taking only “the best employment years” for calculating pensions whereas the new system takes all the years for calculating pensions. The literature suggests that this shift may penalise women with irregular and interrupted career patterns (Samek Lodovici et al., 2016: 26).

Compared to previous legal solutions, the current pension system reform has brought changes related to old-age pensions in both entities. In the FBH, Article 40 of the new Law on Pension and Disability Insurance remains an earlier provision, that the right to a standard old-age pension is acquired from the age of 65, with a minimum of 15 years in service and a minimum of 20 years of paid pension insurance for both genders. Additionally, the legal right to an old-age pension is obtained when the insured person reaches 40 years of paid pension insurance, regardless of age (Official Gazette of the FBH 13/18). Current FBH legislation still recognises the early retirement option (Articles 142 and 143). Under such legal provisions, a man is entitled to an early old-age pension if in 2018 he was 60 years and six months old and had 35 years and six months of paid pension insurance. This condition increases by six months (half a year of life and half a year of paid pension insurance), so that in 2027 it reaches the general conditions for old-age pension. For women, the condition for early retirement in 2018 was the age of 55 years and 6 months and 30 years and six months of paid pension insurance. As with the legal provisions for men, every year, the condition increases by six months (half a year of life and half a year of paid pension insurance), so that by 2037, the conditions for retirement for men and women will be equalized. In addition, insured persons over the age of 62 and 40 years of paid pension insurance are entitled to early retirement.

In the RS, the new pension system law equalizes the condition for men and women to retire, and according to the provisions of Article 41 of the Law on Pension and Disability Insurance of the RS, the right to an old-age pension is exercised by both men and women at the age of 65 and at least 15 years of paid pension insurance (Official Gazette of the RS 134/11). Legal provisions in the RS also recognize the early retirement option. Under the current law, an insured person (male) can exercise the early retirement right for old-age pension when he turns 60 years of age and has a history of 40 years of paid pension insurance. For women, the same criteria for early old-age retirement are 58 years of age and 35 years of paid pension insurance. In addition, as in the FBH case, Articles 177 and 178 regulate the period of transition until 2024. Hence, the condition for early retirement for a woman in 2012 with 15 years of paid pension insurance who was entitled to an old-age pension was that she had to be 60 years and four months old. Each subsequent calendar year, the condition increased by one year until she reached 64 years and four months in 2018. An insured man with 40 years of paid pension insurance in 2013 could retire at the age of 56, and in each subsequent year this condition

increased by 4 months, so that in 2024 he would have 59 years and eight months and 40 years of paid pension insurance. An insured woman in 2013 could exercise the right to an old-age pension at the age of 54 with 35 years of paid pension insurance. The age requirement increases by four months each year so that by 2025 it ought to reach the general requirement for women (58 years).

Changing conditions for old-age and early retirement and differences in conditions between women and men have been part of the pension system reforms in many countries. However, the direction of change and the justification for it have changed over the years.

In the second half of the twentieth century, in almost all OECD countries, a significant decline in the old-age requirements was recorded. The average pension age in 30 OECD countries fell from 64.3 years in 1949 to 62.4 years in 1993 for men. For women, the fall over the same period was also just under two years, from 62.9 to 61.0 years in 1993 (OECD, 2011). Explanations for earlier female retirement may be found in the following aforementioned factors: women have fewer healthy years of life in relation to their entire life expectancy, caring responsibilities, unpaid family work or lack of employment opportunities in the labour market (Burkevica et al., 2015; Samek Lodovici et al., 2016).

However, from the late 1990s until today, most countries have been implementing reversed reforms in comparison to those until 1990 and have been increasing paid pension insurance. In addition, the gradual equalization of the age at which the right to an old-age pension for men and women is exercised is a reform that has been implemented by almost all EU member states. In 2015, in 11 member states (BG, CZ, EE, HR, IT, LT, AT, PL, RO, SK, UK), women could still exercise the right to lower statutory retirement ages than men. Following recent reforms, by 2020, gender differences in retirement years would remain in only six countries (AT, BG, HR, CZ, PL and RO). After 2020, Samek Lodovici et al. (2016) stated that only two EU member states (BG and RO) were expected to continue to have gender differences in retirement ages.

Such changes could have a twofold effect on the GGP. The first effect could be positive since due to the increase in the number of years women spend in the labour market, an expected long-term positive impact on the adequacy of women's pension rights and a reduction in the GGP could occur. However, the other effect on the GGP might be that the higher retirement age can increase the burden of caring for women since it does not consider the fact that older women are burdened with unpaid family jobs and care for their relatives and grandchildren (Samek Lodovici et al., 2016).

In terms of survivor's pensions that might also affect the size of the GGP in BH, both entities' laws have dealt with this issue as well and have tightened the use of pension rights in this section. According to the provisions of both laws, a widow is

entitled to a survivor's pension if on the day of death of the spouse, she has turned 50 years of age and for a widower if he has turned 60 years of life. Other legal provisions remained unchanged from the previous legal solutions. In addition, a spouse from a divorced marriage has the right to a survivor's pension in the FBH, if the Court has determined the right to alimony (note the previous legal conditions related to age). In the RS, in addition to the spouses from a divorced marriage, a spouse from an extramarital union has the right to a pension under the same conditions.

Issues related to survivor's pensions' retirement rights usually affect women more than men since women usually live longer than men and are traditionally younger than their male spouses. Women who have not achieved their own pension rights may be particularly vulnerable in old age if they are not entitled to a survivor's pension or some other form of entitlement such as the social pension as it is called. Bettio, Tinios and Betti (2013) emphasize that survivor's pensions can have significant effects on reducing the GGP. The paper by Tinios et al. (2015) has showed that even if the age group over 80 years is excluded from the analysis, the GGP excluding survivor's pensions remains equally large.

Rights from survivor's pensions are derived from traditional family patterns, namely the role of gender (breadwinner model), which includes economic support to family members' roles (in most cases for women) after the death of the partner. However, the increasing percentage of divorces, the large number of women who do not marry on the one hand, and the increasing participation of women in the labour market on the other, are leading to this traditional approach being increasingly reconsidered. Samek Lodovici et al. (2016) believe that to improve the position of women, including pension coverage and to reduce gender stereotypes, individual pension rights rather than survivor's pension rights should be adopted. Also, the focus should be on the role of women in the labour market and not in the family (regardless of whether as a wife or a widow, Samek Lodovici et al. 2016). Along those lines, Arza (2015) argues that survivor's pensions for the widowed have also been losing effectiveness for the protection of elderly women as families change. Survivor's pensions also raise the issue of the redistribution of pensions for single people and divorced couples (Arza, 2015).

However, it should be emphasized here that reconsideration of the need to exercise the right to a survivor's pension may be more relevant in countries with developed welfare systems. However, in BH, social protection is inefficient and not focused on the real needs of beneficiaries and with a very low impact on poverty reduction, where only 18% of people from the poorest fifth of the population receive cash benefits through social protection programs (Direkcija za ekonomsko planiranje BH, 2009). Under such circumstances, survivor's pensions can only be viewed through the prism of improving the social status of this vulnerable group and reducing the gender gap. In this sense, the inclusion of divorced and unmarried spouses can lead to an improvement in the position of women, while tightening the conditions for retirement from a deceased spouse could worsen the position of women.

4.1 PENSION SYSTEM IN BH

In the total population of pensioners in BH, more than a half are women (51.6%) (BHAS, 2020b). If we look at the structure of pensions (table 1), the highest share of pensions paid to the beneficiaries goes to old-age pensions (61.4%), survivor's pensions (29%) and the rest (9.6%) to disability pensions. Data provided in table 1 for the period 2014-2018 show that the number of old-age and survivor's pensions' beneficiaries is continuously increasing while the number of disability pensioners has had a falling trend². Pension and disability insurance are regulated by two entities' social security contributions laws. Hence, pension and disability insurance are financed through obligatory contributions at the rates of 23% in the FBH (17% paid by employee and 6% paid by the employer) and 18.5% in RS (paid by the employee).

TABLE 1

Overview of the number of pensioners by years, pension categories and gender in BH

Pension category	2014		2015		2016		2017		2018	
	m	f	m	f	m	f	m	f	m	f
Old-age	247,420	118,596	258,555	122,522	259,308	133,850	267,068	136,933	272,828	139,328
Disability	54,287	24,437	49,015	21,119	47,937	22,095	44,614	20,626	44,309	20,244
Survivor's	9,412	186,408	9,336	186,002	7,894	187,317	7,659	186,926	7,443	186,640
Total	311,119	329,441	316,906	329,643	315,139	343,262	319,341	344,485	324,580	346,212

N.B. Number of men and women in the survivor's pensions section is estimated since the Pension and Disability Insurance Fund of the RS does not classify this type of pension by gender.

Source: BHAS (2020b).

Official statistics indicate that in June 2020, the average pension paid in the RS amounted to BAM 342 (EUR 174.9) while in the FBH it was somewhat higher and amounted to BAM 418 (EUR³ 213.7). The very low pensions in both BH entities reflect the macroeconomic indicators in the country. BH faces several macroeconomic issues such as high emigration rates and ageing population (Pijalović et al., 2018; Begović et al., 2020), high unemployment rates especially among women and young people, slow and sluggish economic growth characterized by, *inter alia*, high, and inefficient public consumption and by trade deficits (see BHAS, 2019a). With the outbreak of COVID-19 in 2020, BH's GDP is expected to fall by 3.2% in 2020 (Kikoni and Schiffbauer, 2020) and the economic recovery in the next two years is also expected to be slow.

Table 2 provides information related to the GGP in the RS for old-age and disability pensions from 2014 to 2019. The GGP shows the percentage by which women's average pension income is higher or lower than that of men. It has been calculated based upon the actual administrative data on the size of average pension income for women and men, and as noted in table 2, separately for old-age pensions (including early-retirement old-age pensions) and for disability pensions. Survivor's pensions were excluded from the analysis. If we look at the movements in both types of

² With the outlier in 2016 when the number of women receiving disability pensions was increased.

³ Fixed exchange rate between EUR and BAM, EUR 1 = BAM 1.95583.

pension categories, we can see the following trend: in 2014, the GGP for both pension categories was almost equal and in 2019, the GGP indicator for both types of pensions started moving in different directions. Hence, over the observed period, the GGP for old-age pensions narrowed from 16.4% to 11.5% while it widened for disability pensions from 16.6% to 19.1%. The movements in the GGP over the period indicate that the reform changes have had consequences in the form of increasing or decreasing the GGP. On the one hand, the reduction in the GGP for old-age pensions may be a consequence of the reform changes whereby the right to exercise the old-age pension for women and men is becoming more equal. As indicated in the previous section, in the observed period 2014-2019, the old age retirement age for women in the RS increased while for men it remained unchanged at 65. This legal change means that women spend more time at work and consequently, there is a reduction in the size of GGP. On the other hand, the size of disability pensions could be determined by several factors primarily related to the methods of calculation. Disability pensions in the observed period have been calculated by the introduced points system with the full-service period calculation, which means that pensions are proportional to contributions paid. Regarding the life-course patterns of women and characteristics of the labour market in BH (for example, women dominate among the lowest paid workers, have interruptions in their work experience due to maternity leave or care for elderly and sick family members, gender differences in the hourly rate in favour of men, etc.), GGP in the RS for disability pensions increased over 2014-2019 period. We have only analysed the GGP in the RS due to the fact that in FBH we were officially informed that there is no track of the financial data necessary to calculate the GGP in FBH.

TABLE 2

The size of GGP (in %) by pension category in the RS

Pensions	2014	2015	2016	2017	2018	2019
Old-age	16.4	15.5	14.7	13.5	12.6	11.5
Disability	16.6	17.1	17.5	18.1	18.7	19.1

N.B. as previously noted, Pension and Disability Insurance Fund of the RS does not classify survivor's pension beneficiaries by gender.

Source: Pension and Disability Insurance Fund of the RS, 2020; own calculation.

5 AN ANALYSIS OF ATTITUDES TOWARDS PENSION SYSTEM REFORMS IN THE FBH THAT COULD AFFECT THE POSITION OF WOMEN

In February 2018 we conducted a public self-administered online survey. During four weeks of data collection, we acquired 623 responses by using the exponential non-discriminative snowball sampling technique. The survey was based on the Eurobarometer survey 161/wave 56.1 conducted in 2001. Since the original questionnaire was conducted almost two decades ago, it had to be slightly modified to reflect the FBH specifics. These especially relate to legal and cultural characteristics which were included in the questionnaire after we obtained comments from two public sector experts. In addition, to avoid misinterpretation in the statements

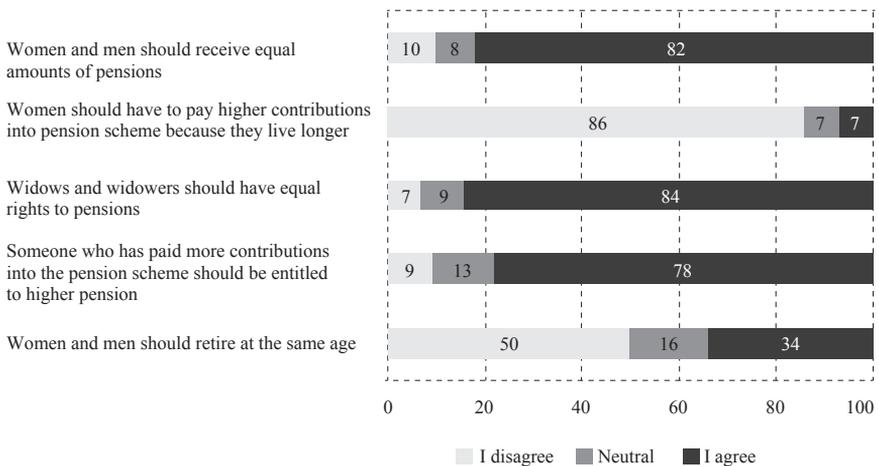
and questions in the survey, the survey was translated into the local language and then translated back to English.

The respondents' attitudes regarding pension system reform changes that might affect the position of women (potentially increase or decrease gender gap) were assessed by using a five-point Likert-type scale (1 – “absolutely disagree”, 2 – “disagree”, 3 – “neither agree nor disagree”, 4 – “agree”, 5 – “absolutely agree”). Responses were grouped as follows: responses 1 and 2 were grouped as disagreeing responses, 3 as a neutral response and 4 and 5 as agreeing responses.

More than 80% of our respondents believe that there should not be any gender differences. The statement that women and men should receive equal amounts of pensions was responded to positively (82%) and only 10% disagreed (8% were neutral). The results from Chi-square test ($\chi^2(1) = 0.2306$, $p\text{-value} = 0.631$) indicate that at 5% significance level, there is no statistically significant relationship between the responses to this statement and the gender of the respondents.

FIGURE 1

Attitudes of respondents regarding pension system reform elements that might affect pension gender differences (in %)



Source: Authors.

However, if we analyse the pension system reform changes that might affect the position of women, we notice an inconsistency in the responses (figure 1). On the one hand, the obtained responses that are gender-sensitive are in line with the previous statement. For example, only 7% of respondents agreed with the statement that “women should pay more into the pension system because they live longer”, while 84% agreed with the statement that “both widows and widowers should have equal rights to pensions”. On the other hand, the attitudes of respondents that contain a certain trade-off show a discrepancy with the willingness to eliminate the gender differences in pensions. The statement that “someone who has paid more

contributions into the pension scheme should be entitled to higher pension” received 78% positive responses. This change could lead to an increase in the GGP (i.e., tighter linking of the amount of pensions with the amount of paid contributions). However, the statement “that women and men should retire at the same age” received only 34% of positive responses even though this change could lead to narrowing of the GGP.

In the previous discussion, we have determined that equalising retirement age for women and men could narrow the size of the GGP. We have also determined that our respondents did not agree on the statement that women and men should retire at the same age, so in the next section we analyse what factors are behind their attitude.

5.1 METHODOLOGY AND MODEL SPECIFICATION

To examine the attitudes and perceptions related to equalized retirement conditions for men and women in the FBH, we have investigated what factors are behind the attitudes of the surveyed respondents. So, the questionnaire included a standard set of socio-economic questions and specific questions related to the status of the pension system, potential reform options and self-reported standard of living. In table 3, we provide summary statistics of the selected variables collected from the sample survey. Based on the collected data, we have calculated that our sample includes 61.2% female and 38.8% male respondents.

From table 3, we can see that more than three quarters of respondents are not retired (76.2%) and more than three-quarters of respondents have obtained at least a university degree (76.9%). In terms of respondents’ ages, the greatest number of respondents (31.5%) are in the 35-44-year-old age group even though the average age of the sample was 47.8 years. Respondents were asked to estimate and self-report their living standard. Almost a half of respondents (49.8%) assessed their current self-reported standard of living as average, while only 2.3% of the respondents stated that they were poor or very poor. As a response to the average monthly net household income from all sources (self-reported net monthly income), out of the total of 601 respondents who answered this question, most respondents (25.3%) reported that the monthly income of the household was above BAM 2,500. In addition, almost a third of the respondents stated that they live in a household where the net monthly income is BAM 1,000 or less.

As a response to the statement regarding arrangements through which pensions should be provided, more than 60% (61.7%) of respondents declare that they should be financed through public funds followed by employer’s direct payment to personal accounts of the employee (25.0%), and only 13.3% via private arrangements between individuals and insurance companies, banks. Two thirds of the respondents in the sample live with a partner (66.4%) while one third (33.6%) are single.

TABLE 3
Sample description (in %)

Factor	Category	Female	Male	Total
Status	0 = Not Retired	79.5	71.0	76.2
	1 = Retired	20.5	29.0	23.8
Age	1 = 15-24	3.8	2.2	3.2
	2 = 25-34	18.4	13.1	16.4
	3 = 35-44	33.0	29.2	31.5
	4 = 45-54	16.2	16.2	16.2
	5 = 55-64	12.9	16.6	14.3
	6 = 65+	15.7	22.7	18.4
Education	1 = Without primary education	0.5	0.0	0.3
	2 = Primary education	0.8	0.0	0.5
	3 = Secondary education	19.7	19.1	19.5
	4 = Qualified worker	0.8	5.9	2.8
	5 = Short-cycle tertiary education	10.1	8.0	9.3
	6 = Bachelor or equivalent	41.1	37.7	39.8
	7 = Master or equivalent	19.3	17.0	18.3
	8 = Doctor or equivalent	7.7	12.3	9.5
Self-reported net monthly income	1 = BAM 350 or less	5.1	2.2	4.0
	2 = BAM 351-700	11.1	12.6	11.7
	3 = BAM 701-1,000	12.4	14.7	13.3
	4 = BAM 1,001-1,500	17.6	13.4	16.0
	5 = BAM 1,501-2,000	16.8	16.4	16.6
	6 = BAM 2,001-2,500	13.2	13.0	13.1
	7 = More than BAM 2,500	23.8	27.7	25.3
Self-reported standard of living	1 = Very poor	1.1	0.4	0.8
	2 = Poor	1.4	1.7	1.5
	3 = Just getting along	14	10.3	12.6
	4 = Average	50.0	49.6	49.8
	5 = Comfortable	24.3	27.3	25.5
	6 = Very comfortable	8.9	9.4	9.1
	7 = Rich	0.3	1.3	0.7
Pensions should be provided through	1 = Private arrangements	12.1	15.0	13.3
	2 = Employer's direct payment to employee's personal account	26.9	22.0	25.0
	3 = Public funds	61.0	63.0	61.7
Marital status	0 = Single	58.0	79.7	66.4
	1 = With partner	42.0	20.3	33.6

N.B. Not-retired category includes self-employed, house persons, other white collars, managers, students, manual workers, and unemployed.

Source: Authors.

5.2 SHOULD WOMEN AND MEN RETIRE AT THE SAME AGE? THE RESULTS OF THE CONDUCTED SURVEY IN THE FBH

To conduct research related to the statement whether women and men should retire at the same age, we have compiled the answers to this statement as a dichotomous variable, as follows: “I absolutely disagree” and “I disagree” were coded as zero (0), neutral responses were not considered and responses “I absolutely agree” and “I agree” were coded as one (1). Since we had to exclude neutral responses, the size of the sample was reduced to 516. Based on the conducted Chi-square test, we have determined a statistically significant relationship between the response to this statement and gender of the respondents ($\chi^2(4) = 10.6504$; $p\text{-value} = 0.031$).

A binomial logistic regression was conducted to estimate the effects of socio-economic variables of the respondents to the statement related to the equalized retirement age for men and women in the FBH. Hence the dependent variable in the model was the statement whether women and men should retire at the same age. We have included a set of socio-economic independent or explanatory variables, such as employment status, gender, age, self-reported income and standard of living, education, marital status, and attitudes towards means of providing pensions. The results of the regression are provided in table 4.

With a significance level of 0.05, the statistically significant variables are: pensioners, gender and age (at the significance level of 0.05), while education and marital status have a significance level of 0.1. The results of the logit regression model show that pensioners and those who are close to the retirement age (54–64-year-old cohort) are less likely to respond positively to the statement, whereas men and respondents with a tertiary level qualification or higher are more likely to respond positively to this statement. These results are in line with the expectations since those age cohorts closer to fulfilling the full legal or early retirement conditions in the FBH, under the new law of 2018, are less likely to agree that women and men should retire at the same age. The same conclusion, but with a different sign can be reached for men, who believe that women should retire at the same age as they do.

Furthermore, the results of the Chi-square test show that with a significance level of 0.10 there is a statistically significant relationship between the answer to this question and the age of the respondents ($\chi^2(20) = 28.4570$; $p\text{-value} = 0.099$). Regarding the effect of the marital status variable on its own, the results imply that, as expected, the respondents that live with a partner are less likely to respond positively to the statement than respondents who are single. Other variables such as self-reported income and standard of living and the means of providing pensions were not statistically significant. To test the suitability of the model specification, we used two tests: the linktest and the Hosmer-Lemeshow test. The results of the linktest indicate that the selected model is well specified (LR $\chi^2(2) = 48.30$; $p\text{-value} = 0.000$). Similarly, the results of the Hosmer-Lemeshow test indicate that the selected model fits the data well (HL $\chi^2(8) = 3.95$; $p\text{-value} = 0.861$).

TABLE 4
Regression coefficients of binomial logit regression

EQU_c	Women and men should retire at the same age
Pensioners	-1.440**
Education	0.450*
Gender	0.486**
Age	
2	-0.985
3	-0.709
4	-0.685
5	-1.292**
6	-0.116
Self-reported income	
2	1.167
3	0.854
4	1.008
5	0.342
6	0.162
7	0.537
Self-reported standard of living	
2	-0.219
3	0.362
Pensions should be provided through	
2	-0.158
3	0.236
Marital status	-0.431*
Const.	-0.316
Observations	448

N.B. Education: dichotomous variable where respondents with a tertiary level or higher were coded as "1" and respondents with qualifications below tertiary level by "0".

Self-reported standard of living: ordinal variable where "Below average"=1; "Average"=2 and "Above average"=3.

** $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.*

Source: Authors.

We also examined the presence of multicollinearity through the assessment of inflation variance factors (VIF). The results showed that there are no variables that cause a serious problem of multicollinearity ($VIF < 10$). The average VIF value of all explanatory variables is 5.2.

6 CONCLUSION

Although equality between women and men is one of the foundations of the EU, in practice, there are still differences in rights and in living conditions between women and men. Women over the age of 65 are specifically at a high risk of social exclusion. Therefore, it is not surprising that there is a growing interest in studying trends and determinants of the GGP across European countries. Even though it has had a falling trend over the past few years, the GGP in EU countries is still high

and according to the latest available data it amounts to 30%. It is interesting to note that among the EU members with the lowest GGP are the countries of the former Soviet bloc such as Estonia, the Czech Republic and Hungary. BH can also be added to the low GGP group of countries since GGP for old-age pensions in the RS is 13% according to the most recent and available data.

According to most authors, the size of the GGP is determined by factors divided into two basic groups: (i) determinants related to labour market conditions, and (ii) determinants related to the design of the pension system. On one hand, in the labour market, women work fewer years than men since women have caring responsibilities for children and older family members, women are more often employed part-time and do temporary jobs, and ultimately women are paid less than men. On the other hand, determinants related to the design of the pension system include several legal provisions that can act both ways: they can deepen or reduce the GGP even when they are not designed as gender specific.

Changes in legislation resulting from recent pension reforms in the RS in 2011 and in the FBH in 2018 which could have the greatest impact on the GGP are: the introduction of the so-called points system for calculating pensions; the introduction of the full-service period calculation; changes in the legal conditions to old-age and early retirement – gradual equalization of retirement conditions for women and men; introduction of stricter conditions (increase in the widow(er)'s age) for exercising the right to a pension after the death of the spouse and granting the right to a pension to the spouse from a divorced marriage or extramarital union (RS). These changes may have a dual impact on the GGP which was shown in the example of movements of the GGP in the RS in the period 2014-2019 where old-age GGP narrowed and disability GGP widened.

In the FBH survey conducted in 2018, citizens were asked questions related to the pension system reform. Most respondents agreed with the statements: that women and men should receive equal amounts of pensions, that widow(er)s should have equal rights to pensions and that someone who has paid more contributions into the pension scheme should be entitled to a higher pension. They disagreed with the statements that women should have to pay higher contributions into the pension scheme because they live longer, and that women and men should retire at the same age.

The results indicate a discrepancy between the readiness to eliminate the difference in pensions between women and men and the ability to conduct necessary reforms since they come as a bitter pill to swallow. Hence, even though responses indicate a desire to eliminate the GGP (women and men should receive equal amounts of pensions), at the same time, respondents also believe that pensions should be directly associated with paid contributions and that women and men should not retire at the same age. Therefore, we wanted to test and analyse the reasons for such a situation. The results from binomial logit regression model show that pensioners and those who are close to retirement age are less likely to respond positively to the statement, whereas men are more likely to respond positively to this statement.

Apart from the problem of gender inequality, we should not forget the difficult conditions in which pensioners – both women and men are living in both the RS and the FBH, which is why increasing pensions and improving the standard of living of pensioners must be a priority for policy makers.

If the policy makers wish to decrease or even close the GGP, they ought to implement several measures related to labour market conditions. Determinants related to labour market conditions are influenced by different macroeconomic factors and different policies (employment policy, birth policy, social policy, care policy for the elderly and children, gender policy, education policy, etc.). So, improving the position of women, BH requires changes in conditions, cross-sector action, and time for the policies to act. Depending on data availability, future research will include analysis and comparison of GGP trends in BH (FBH and RS) and the EU, as well as panel data analysis of the effects of labour market conditions on the size of the GGP.

Disclosure statement

All authors state that they do not have any financial or other substantive conflict of interest.

REFERENCES

1. Agencija za ravnopravnost polova, 2018. *Gender akcioni plan Bosne i Hercegovine za period 2018-2022. godina*. Sarajevo: Ministarstvo za ljudska prava i izbjeglice.
2. Arza, C., 2015. *The gender dimensions of pension systems: policies and constraints for the protection of older women*. New York: UN Women.
3. Bardasi, E. and Jenkins, S. P., 2010. The gender gap in private pensions. *Bulletin of Economic Research*, 62(4), pp. 343-363. <https://doi.org/10.1111/j.1467-8586.2009.00336.x>
4. Barrientos, A., 1998. Pension reform, personal pensions and gender differences in pension coverage. *World development*, 26(1), pp. 125-137. [https://doi.org/10.1016/s0305-750x\(97\)10009-2](https://doi.org/10.1016/s0305-750x(97)10009-2)
5. Begović, S. [et al.], 2020. An investigation of determinants of youth propensity to emigrate from Bosnia and Herzegovina. *Economic Research-Ekonomska Istraživanja*, 33(1), pp. 1-17. <https://doi.org/10.1080/1331677x.2020.1754267>
6. Bettio, F., Tinios, P. and Betti, G., 2013. *The gender gap in pensions in the EU*. Luxembourg, Publications Office of the European Union.
7. BHAS, 2019a. *Bosna i Hercegovina u brojevima 2019*. Sarajevo: Agencija za statistiku Bosne i Hercegovine.
8. BHAS, 2019b. Labour Force Survey 2019. *Thematic Bulletin*, No. 10.
9. BHAS, 2020a. Women and men in Bosnia and Herzegovina. *Thematic Bulletin*, No. 3.
10. BHAS, 2020b. *Structure of pensions in BH*. BHAS. Sarajevo. Sarajevo: Agencija za statistiku Bosne i Hercegovine.
11. Burkevica, I. [et al.], 2015. *Gender gap in pensions in the EU: Research note to the Latvian presidency*. Vilnius: European Institute for Gender Equality (EIGE).
12. Cancho, C. A. and Elwan, N., 2015. *Bosnia and Herzegovina – Gender disparities in endowments, access to economic opportunities and agency*. Washington, D.C.: World Bank Group.
13. Chłoń-Domińczak, A., 2017. *Gender Gap in Pensions: Looking Ahead: Study*. Brussels: European Parliament.
14. Dessimirova, D. and Bustamante, M., 2019. *The gender gap in pensions in the EU*. Brussels: Policies Directorate-General for Internal Policies.
15. Direkcija za ekonomsko planiranje BiH, 2009. *Strategija socijalnog uključivanja Bosne i Hercegovine*. Sarajevo: Direkcija za ekonomsko planiranje BiH.
16. European Commission, 2018. *The 2018 Pension Adequacy Report: current and future income adequacy in old age in the EU. Volume 1*. Brussels: European Commission.
17. Eurostat, 2020. *Closing the gender pension gap?* (7 February 2020).
18. Even, W. E. and Macpherson, D. A., 1994. Gender differences in pensions. *Journal of Human Resources*, 29(2), pp. 555-587.
19. FBH Government, 2013. *Strategija reforme penzijskog sistema u Federaciji Bosne i Hercegovine* (prijedlog). Sarajevo: Predstavnički dom Parlamenta FBH.
20. Flory, J., 2012. *The Gender Pension Gap: Developing an Indicator Measuring Fair Income Opportunities for Women and Men*. Berlin: Federal Ministry for Family Affairs, Senior Citizens, Women and Youth.

21. Hasanbegović, D., Dizdar, A. and Agić, N., 2019. Metodologija izrade izvještaja. *Narandžasti izvještaj*, (5), pp. 10-11.
22. ILO, 2009. *Report on Pension Reform in Bosnia and Herzegovina*. Budapest: International Labour Office.
23. Jefferson, T., 2009. Women and retirement pensions: A research review. *Feminist Economics*, 15(4), pp. 115-145. <https://doi.org/10.1080/13545700903153963>
24. Johnson, R. W., Sambamoorthi, U. and Crystal, S., 1999. Gender differences in pension wealth: Estimates using provider data. *The Gerontologist*, 39(3), pp. 320-333. <https://doi.org/10.1093/geront/39.3.320>
25. Kikoni, E. and Schiffbauer, M. T., 2020. The Economic and Social Impact of COVID-19. *Western Balkans Outlook*, No. 148085. Washington: The World Bank.
26. Lis, M. and Bonthuis, B., 2019. *Drivers of the gender gap in pensions: evidence from EU-SILC and the OECD pension model*. Washington: The World Bank. https://doi.org/10.1596/978-1-4648-1455-6_ch18
27. Medina, L. and Schneider, F., 2018. Shadow economies around the world: what did we learn over the last 20 years? *IMF Working paper*, No. 2018/17. <https://doi.org/10.5089/9781484338636.001>
28. OECD, 2011. *Pensions at a Glance 2011: Retirement-income Systems in OECD and G20 Countries*. Paris: OECD. https://doi.org/10.1787/pension_glance-2011-1-en
29. Papić, Ž., 2017. *Siromaštvo i radničko siromaštvo u Bosni i Hercegovini: Socijalna kriza u Bosni i Hercegovini – Socijalna nejednakost – šta da se radi?* Sarajevo: Forum lijeve inicijative.
30. Pijalović, V. [et al.], 2018. The analysis of perceptions and attitudes related to ageing in the Federation of Bosnia and Herzegovina. *Public Sector Economics*, 42(3), pp. 255-278. <https://doi.org/10.3326/pse.42.3.2>
31. Samek Lodovici, M. [et al.], 2016. *The gender pension gap: Differences between mothers and women without children*. Brussels: European Parliament, Policy Department Citizens' Rights and Constitutional Affairs.
32. Ståhlberg, A. C., Kruse, A. and Sundén, A., 2005a. Pension design and gender. *European Journal of Social Security*, 7(1), pp. 57-79. <https://doi.org/10.1177/138826270500700104>
33. Ståhlberg, A. C., Kruse, A. and Sundén, A., 2005b. Pension design and gender: Analyses of developed and developing countries. *Gender Issues*, 22(3), pp. 6-45.
34. Tinios, P. [et al.], 2015. *Men, women and pensions*. Luxembourg, UK: Publications Office of the European Union.
35. Zakon o mirovinskom i invalidskom osiguranju Federacije Bosne i Hercegovine (Službene novine FBH br. 29/98, 49/00, 32/01, 75/05, 59/06, 4/09).
36. Zakon o mirovinskom i invalidskom osiguranju Federacije Bosne i Hercegovine (Službene novine FBiH 13/18).
37. Zakon o osnovnim pravima iz penzijskog i invalidskog osiguranja (Službeni list SFRJ, br. 35/72, 18/76, 58/76, 22/78 and 74/80).
38. Zakon o penzijskom i invalidskom osiguranju Republike Srpske (Službeni glasnik RS br. 32/00, 40/00, 37/01, 32/02, 40/02, 47/02, 110/03 and 67/05, 33/08, 01/09, 106/09, 118/09).
39. Zakon o penzijskom i invalidskom osiguranju Republike Srpske (Službeni glasnik RS br. 134/11).