



POLICY PAPER

Improving Business Enabling Environment (BEE) by Decreasing the Tax Wedge on Labor in FBiH

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ABBREVIATIONS

BAM	Bosnian Convertible Mark
BiH	Bosnia and Herzegovina
BEE	Business Enabling Environment
CoE	Center of Excellence for Evaluation and Policy Research
DS	Development Strategy
FBiH	Federation of Bosnia and Herzegovina
GDP	Gross Domestic Product
RS	Republika Srpska
EC	European Commission
EU	European Union
FZS	Federal Office of Statistics FBiH
FZZPR	Federal Institute for Development Programming
GCI	Global Competitiveness Index
NPC	No policy Change Option
OECD	The Organization for Economic Co-operation and Development
PC	Policy Change Option
PIT	Personal Income Tax
RA	Reform Agenda
SME	Small and Medium-sized Enterprise
SEBS	School of Economics and Business in Sarajevo
USAID	United States Agency for International Development

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2. Conduct data analysis and develop survey reports
3. Develop conceptual, methodological, and policy models and present them to relevant ministries, employment bureaus, chambers of commerce, and industry leaders
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Through these activities, the CoE will build close cooperation with key stakeholders, private and public sectors, and academia and promote collaboration and evidence-based decision making at all government levels in BiH.

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EXECUTIVE SUMMARY

The key issue that Bosnia and Herzegovina (BiH) has to address its competitive advantage, with a focus on the competitive advantage of its individual companies. Competitive advantage depends on many factors, but some of the most important determinants are related to labor market policies and, in particular, the tax wedge on labor. The tax wedge on labor measures the extent to which labor income is taxed. Most of the authority (as per the Constitution) for policies in this area are given to the two entities of BiH (Federation BiH (FBiH) and Republika Srpska (RS)). While RS entity has undertaken several changes and policy adjustments in the area of labor taxation, the FBiH has not addressed the tax wedge issue, due to its more complex decision-making process. Also, over the years, BiH has repeatedly received recommendations from the European Commission (EC) to reduce the tax wedge for low-income workers, with the specific goal to reduce informal employment.

The policy challenges for current efforts to reform the tax wedge are twofold. First, such reform is important for the overall economy since the tax wedge represents one of the most important for the business enabling environment (BEE). Second, there is no publicly available assessment of the proposed changes in tax wedge in FBiH by the Government nor the FBiH Parliament. This policy paper analyzes the issue of the tax wedge in FBiH with the purpose of providing relevant findings, policy options, and recommendations for the policymakers.

The methodology used in the preparation of this paper includes quantitative and qualitative research methods. At the same time, we highlight that this policy paper is built on the previously developed Center of Excellence for Evaluation and Policy Research's (CoE) products. So, it is a methodological continuation of two previous reports (*In-depth analysis* and *Policy models*).

Since the present policy problem lies within the government's procedures, and the wide scope of policy instruments that determine tax wedge (The *Law on contributions* and the *Law on Income tax*), the number of policy options included in this policy paper is restricted to two: firstly, maintaining the current state (no policy change) and secondly, addressing proposed changes by the government. We also set two main criteria for the assessment of the policy options. The first is related to the alignment of the policy option with FBiH's strategic documents and European Union's (EU) recommendations, while the second assesses the expected financial impact.

This assessment determines that the legal framework for policy assessment needs to be reformed, the availability of open government data should be increased, and cooperation with academic and non-governmental organizations, sectors should be established. Also, our findings suggest that the proposed policy change would not decrease the tax wedge for low-income earners and cannot effectively decrease informal employment. Rather, the findings suggest that a policy change would actually increase the tax wedge for low-income workers and put an additional tax burden on families with more children. Based on the quantitative assessment, the policy change option will also lead to lower budget and the health fund revenues.

Finally, between the two options we recommend no policy change option, as it still better reflects the strategic directions of the FBiH, and EU recommendations. However, a "no policy change" recommendation means that further efforts are needed to find the right policy mix that would decrease

tax wedge for low-income earners, decrease informal employment and improve competitiveness and business environment.

INTRODUCTION

A 'business enabling environment' (BEE) is a complex set of legal and institutional arrangements that govern how businesses participate and behave within a given market. It involves several stakeholders and sectors and is not the sole responsibility of any one actor. All stakeholders contribute to an environment that is or is not conducive to the establishment and development of businesses.

According to the Global Competitiveness Index 4.0 (GCI 4.0)¹, which measures national competitiveness (defined as the set of institutions, policies, and factors that determine the level of productivity), BiH is at the bottom of this index and is marked as the worst in Europe and North America. BiH is also ranked close to the global bottom on measures including domestic competition (124th), the distortive effect of taxes and subsidies on competition (119th), these low rankings indicate that there are serious systemic problems at the regulatory and policy level that are preventing BiH from becoming a competitive place for economic development and business growth.

One of the most important parts of the BEE, particularly for small and medium enterprises (SMEs) is the institutional and policy framework that regulates the labor market. More specifically, the labor policy on the tax wedge or the tax burden on labor is an important determinant of the business environment. Where, the tax wedge is the rate of labor tax on gross wages (gross wage is the sum of net wage and all taxes paid by an employee), or it is the ratio between the real net wage paid to employees and real gross waged paid by the employers.

The tax wedge, labor-market regulation, administrative transaction costs, investment climate, income inequality, and some other variables (with different signs and intensity), affect both small businesses and the shadow economy.² The personal income tax and tax burden that is imposed by social contributions are important factors for deciding whether to participate in the labor market, an individual's willingness to work, the cost of production, and the competitiveness of BiH companies in the international market. Furthermore, a high tax wedge negatively affects employment opportunities of low-skilled workers by increasing the minimum cost of labor and depressing labor demand in these sectors³, which in turn

¹ World Economic Forum (2019): *The Global Competitiveness Report 2019*. Available at: http://www3.weforum.org/docs/WEF_TheGlobalCompetitivenessReport2019.pdf

² Djankov S, La Porta R, Lopez de Silanes F, Shleifer A. (2001): The Regulation of Entry. <http://rru.worldbank.org/Documents/PapersLinks/551.pdf> [downloaded: 12.03.2006]; OECD (2002): *Measuring the Non-Observed Economy – A Handbook*. Paris, OECD; OECD (2002): *Measuring the Non-Observed Economy – A Handbook*. Paris, OECD.; Schneider F, Enste DH (2002): *The Shadow Economy – an International Survey*. Cambridge, University Press. Mesnard A, Ravallion M. (2003): *Wealth Distribution and Self-Employment in a Developing economy*. <http://www.econ.yale.edu/seminars/NEUDC03/mesnard.pdf> [downloaded: 01.03.2006]; Aidis R (2003): *Entrepreneurship and Economic Transition*. Tinbergen, Tinbergen Institute.; Bartlett W, Cuckovic N, Xheneti M (2005): *Institutions, Entrepreneurship Development and SME Policies in South East Europe*. In: Sixth International Conference on "Enterprise in Transition" Proceedings, Split, University of Split, pp. 1435–1454.

³ Nicoletti, G. and Scarpetta, S. (2004): "Do Regulatory Reforms in Product and Labour Markets Promote Employment? Evidence from OECD Countries", paper presented at the ECB/CEPR Conference "What Helps or Hinders Labour Market Adjustments in Europe", Frankfurt.

impacts informal employment and shadow economy. At the same time, reducing the tax wedge by reducing some or all of its elements has the potential to support job creation.⁴

Policies on labor taxation (social contributions and personal income tax {PIT}) in BiH are constitutionally delegated to its entities, FBiH and RS. As such, in BiH the two entities currently have two different legislative solutions and labor taxation policies. Labor taxation in each of the entities is defined by a series of laws and bylaws which establish liability, the amounts, and methods for payment of social security contributions, personal income tax, and the different types of additional payments from employers to employees such as allowances for hot meals, transportation costs, and holidays. Accordingly, the main regulatory framework that defines the labor taxation system in BiH is the *Law on Personal Income Tax and the Law on Contributions in entities RS and FBiH*. In RS, these laws have undergone frequent changes over the previous two decades. In the FBiH, there have been fewer changes in the legislation. For example, in RS since 2001, the Law on Personal Income Tax and the Law on Contributions has undergone more than fifteen amendments. However, our focus will be on the proposed changes within the FBiH.

The process of legislative changes to redefine the tax wedge in FBiH started in 2015 with the preparation of the Joint Socioeconomic Reform Agenda (RA) where decreasing the tax wedge was proposed in the following statement:

“A significant reduction in social security contributions (especially for low-wage earners) would reduce labor costs, help to attract investors, and bring more employees into the formal sector (and reduce the prevalence of informal sector employment); yet this cannot be implemented without securing additional funding for extra-budgetary funds.”⁵

At the same time, there was an initiative to include into the taxable base, all non-taxable incomes (hot meal allowance, transportation allowance, annual holiday bonuses, etc.)⁶. The purposes of these changes are to widen the taxable base and decrease the nominal rates of social contributions. From 2015 until today, the only change in the labor market policies was made in 2017⁷, when the FBiH Government, in the *Rulebook on the Application of the Law on Income Tax*⁸, decreased the maximum amount for non-taxable hot meal allowance from 2%, of average net wage per day, to 1% of the average net wage per day. This increased the tax wedge since it decreased the amount of possible non-taxed income that can be given to employees. In order to implement the reform, the draft *Law on Contributions FBiH and Law on Income Tax* have been prepared and adopted by the government in 2017. The proposal has been discussed and amended multiple times, with the final form of the proposal to the Parliament FBiH being made in July 2022⁹. This policy paper will address the issue of the tax wedge in FBiH with the purpose of providing relevant policy options and recommendations for the policymakers.

⁴ Joint Employment Report (2020): and “Tax wedge on labour: shifting tax burden from labour to other forms of taxation”, (2020): *Technical Note for the Eurogroup, ARES*

⁵ Reform Agenda for Bosnia and Herzegovina 2015 – 2018, p 4, <https://europa.ba/wp-content/uploads/2015/09/Reform-Agenda-BiH.pdf> [retrieved 2.10.2021]

⁶ FBiH, 3. Government conclusion 14.04.2015, [retrieved 2.10.2021]

⁷ Official Gazette FBiH nu. 52/16 (*Službene novine FBiH* broj 52/16)

⁸ Article 20. (7) Rulebook on Income Tax. *Official Gazette FBiH 48/21 and 77/21*

Član 20. (7) Pravilnik o primjeni zakona o porezu na dohodak. *Službene Novine FBiH 48/21 and 77/21*

⁹ House of Peoples FBiH “[Prijedlog zakona o doprinosima@ -bos.pdf \(parlamentfbih.gov.ba\)](#) and Amendments [Amandmani doprinosi.pdf \(parlamentfbih.gov.ba\)](#)

This paper is composed of four sections. In the first part, we set the agenda and discuss policy problems. The methodology section provides insight into the methodological approach used to design the policy paper and research the relevant policy models. Next, based on the examination of strategic policy documents, and legislation, we provide relevant policy options and assessment of two policy options. Finally, a feasible policy option will be recommended and its implementation will be discussed.

POLICY PROBLEM DEFINITION

A decrease in the tax wedge would improve the business environment, and competitiveness and decrease informal employment in BiH. The concept of a “conducive enabling environment” is influenced and shaped by the policies and institutions in place¹⁰. One key component of the BEE, relates to tax policies, such as taxation of labor or tax wedge. For example, if the minimum wage is binding, any changes of the tax wedge near minimum wage would have strong impact on formal employment, while an increase of the tax wedge would have negative impact on formal employment. This has been acknowledged by researchers (see for example Kugler & Kugler 2003¹¹; Nickell 2003¹²; and Gruber 1997¹³). Moreover, over the years, BiH has received several recommendations from the European Commission, to decrease the tax wedge and burden on labor in order to decrease the informal economy and enhance competition. The latest recommendation from the EC recommends to BiH:

“The informal economy remains large, at some 25-35% of GDP. It provides (unregistered) employment and income but also distorts competition and erodes the base for taxation and social security contributions. Despite some limited progress in addressing the informal economy, such as improving the degree of registration in the labor market by increasing labor market controls, the informal sector may still account for up to one-third of GDP. The resulting narrow tax base requires rates for taxes and social security contributions to be higher than would otherwise be necessary. This also adds to a significant fiscal burden on labor, which in turn impedes formal employment and negatively affects Bosnia and Herzegovina’s international competitiveness.”¹⁴

Within the same report, one of the main recommendations of the European Commission for Bosnia and Herzegovina is to “Support formal employment by reducing the tax wedge, especially for low-income earners, and other disincentives to work.”¹⁵

Tax wedge reform in FBiH was also mentioned as a priority in the Economic Reform Program of Bosnia and Herzegovina 2021-2023, the FBiH wants to achieve a “...reduction of the total fiscal burden on labor, measured by the Organization for Economic Co-operation and Development (OECD) methodology, as the

¹⁰ König, G., C. da Silva, and Mhlanga, N (2013); “Enabling Environments for Agribusiness and Agro-industries Development: Regional and Country Perspective.” In *Agribusiness and Food Industries Series*, edited by FAO. Rome: FAO.

¹¹ Kugler A., and Kugler, M (2003): The Labor Market Effects of Payroll Taxes in a Middle-Income Country: Evidence from Colombia, *IZA Discussion paper No. 852*, Bonn

¹² Nickell S (2003): Employment and Taxes, *CESifo Working Paper No.1109 (IS THIS REF COMPLETE?)*

¹³ Gruber J (1997), The Incidence of Payroll Taxation: Evidence from Chile, *Journal of Labor Economics*, Vol. 15, No.3.

¹⁴ European Commission, *COMMISSION STAFF WORKING DOCUMENT: Bosnia and Herzegovina 2020 Report Accompanying the Communication from the Commission to the European Parliament, the Council, the European Economic, and Social Committee, and the Committee of the Regions 2020 Communication on EU Enlargement Policy*, p. 50, Brussels, 6.10.2020, https://ec.europa.eu/neighbourhood-enlargement/system/files/2020-10/bosnia_and_herzegovina_report_2020.pdf [retrieved 2.10.2021]

¹⁵ *Ibid*, p. 47,

sum of taxes and contributions in relation to the employer's cost of labor on the basis of work, from the current 36.42% to 35.22%”¹⁶ without stating at what level of wage this tax wedge is computed. At the same time the *Development Strategy 2021-2027* (DS FBiH)¹⁷, sets the goal of decreasing the tax wedge and “...improvement of the overall competitiveness of the companies. It is necessary to decrease entrepreneurship with the decrease in tax burden on labor, especially for low wage workers...and to support formal employment.” Furthermore, the DS FBiH assumes that decreasing the burden on the economy (labor) will bring an increase in tax-competitiveness and by that, increase the overall competitiveness of the economy (see Table 1).

Table 1. Tax wedge in FBiH ¹⁸ , (2019)			
Indicator	Source	Baseline (2019)	Target
Tax wedge on the minimal gross wage in FBiH, %	FZS, FZZPR	31,3	27,0
Tax wedge on the average gross wage in FBiH, %	FZS, FZZPR	38,3	34,0

Note: FZS is the Federal Office of Statistics FBiH; FZZPR is the Federal Institute for Development Programming

Source: *Development Strategy FBiH*, www.fzzpr.gov.ba

The proposed changes to the tax wedge in DS FBiH 2021-2027 are based on “neutral” revenue collection with the broadening of the tax base, and by adding non-taxable incomes into the taxable base. It was left unclear how the tax wedge can be decreased with neutral revenue and by the inclusion of currently non-taxable incomes for workers, since the non-taxable incomes are a proportionally higher part of incomes for the low-wage earners.

The FBiH *Law on Contributions and Income Tax* were prepared and adopted by the government in 2017 and since then, the draft has been discussed and amended into the final proposal that is currently (last updated August 2022) in the form of a Proposal before the Parliament FBiH¹⁹. The proposal assumes changes in:

- Pension insurance contribution rate from 23% to 17.5%
- Health care contribution rate from 16.5% to 13.5%
- Unemployment insurance tax rate from 2% to 1.5%
- All non-taxable incomes to be included in taxable base with possible Catering 4.5 BAM (Article 17. e)
- All contracts’ Temporary Individual Income, to pay contributions for Pensions 17.5% and Health 13.5%
- Personal income tax rate in FBiH – up to 800 BAM – 0%, rate 13 % above 800 BAM, without deductions based on dependent family members

¹⁶ Directorate for Economic Planning BiH, *Economic Reform Program of Bosnia and Herzegovina 2021-2023*, p 30, <http://www.dep.gov.ba/default.aspx?pageIndex=1&langTag=en-US>

¹⁷ Federal Development Planning Institute, *Development Strategy FBiH 2021-2027*, www.fzzpr.gov.ba, [retrieved 10.10.2021]

¹⁸ Average non-taxable incomes are included (hot meal allowance, transportation allowance, holiday allowance)

¹⁹ House of Peoples FBiH “Prijedlog zakona o doprinosima” -bos.pdf (parlamentfbih.gov.ba)

The main shortcoming of the proposed reforms in FBiH is that they do not clearly describe changes in the tax wedge and tax burden at the different levels of income and family status, or their expected impact on key economic variables or the revenue from social contributions, or personal tax. The tax wedge is an important issue from a business perspective and from the perspective of policy relevance. However, there is no publicly available assessment of the proposed changes for the tax wedge in FBiH, neither on the Government or Parliament's website. Furthermore, the process of making amendments is not followed by gathering evidence on policy expected outcomes. A reform in the business environment is crucial as changes in the tax wedge must have publicly available government assessment and non-government independent analysis, which would enable informed public debate with the purpose of finding best possible policy solutions.

METHODOLOGICAL FRAMEWORK

In this part of the report, we will provide a brief summary of the methodology, simulation design, and results. This policy paper builds on the findings of previous CoE reports, which provided desk reviews and policy simulations. So, it is a methodological continuation of previous studies, including their respective methodological frameworks where the research team employed a mixed method approach to conducting this study. The team drew their analysis from a wide array of quantitative and qualitative methods and data. These methods include:

1. Desk research and literature review of the theoretical and legal framework that regulates tax wedge in FBiH and policy-related documents.
2. Quantitative assessment done by using a dynamic macroeconomic simulations model and static simulations using accounting identities and accounting rules in FBiH.

The theoretical review and the literature review analyzed the relevant documents, laws, and strategies related to the tax wedge extensively. Based on the findings of those reviews, we prepared a quantitative assessment. The quantitative analysis used a series of simulations. For the simulations, we use a structural macroeconomic model for the dynamic assessment of the FBiH and accounting identities, to further strengthen the results of the model simulations. The model is a set of simultaneous equations, behavioral, and identities programmed in EVIEWS 9. This model has been estimated based on annual data from 80 demographic and economic variables, over the period 2000 to 2019. However, for some variables, the period for which data are available is shorter. Data is collected from sources including the Agency for Statistics of BiH, FBiH Statistics Institute, the Indirect Tax Authority of BiH, FBiH Tax Administration, Central Bank of BiH, HWWI Commodity Price Index, ministries of finance at the entity and the state level. The model for FBiH is comparable to the model for BiH, as described in Weyerstrass and Grozea-Helmenstein (2009)²⁰. One difference is that the latter model also includes a set of supply-side variables determining potential GDP via a production function. Due to the lack of capital stock data on the entity level, the model for the FBiH cannot contain such a supply part. Further details on the model are available in the CoE's previously mentioned study.

²⁰ Weyerstrass, K. (2009): A Macroeconometric Model for Bosnia and Herzegovina, *Eastern European Economics*, Vol. 47, No. 5, 61-90.

We used publicly available data from the FBIH to create a model to assess the dynamic effects of changes in contribution rates. However, this is just one part of the assessment, since the dynamic simulation cannot account for the inclusion of such allowances (hot meal, transportation, and holiday allowance). As such, we complement the findings from the dynamic model simulation with analysis using static tools, specifically accounting calculations that compare current policy outcomes with the expected outcomes after policy interventions. We divide this complex intervention into steps. The first step is dedicated to the dynamic solutions of two scenarios: the current state (no policy change) and another addressing the proposed changes in contribution rates by the government.

Data was collected from various sources including the Agency for Statistics of BiH, entity Federal Statistics Agency, the Indirect Tax Authority of BiH, FBIH Tax Administration, Central Bank of BiH, the HWWI Commodity Price Index, and ministries of finance at the entity and the state level. The dynamic macro-econometric model provides broader behavioral responses of economic agents at the macro level; however, it cannot capture distributional aspects of the tax wedge for different income levels, with the presence of non-taxed incomes such as meal allowance, transportation allowance, and holiday allowance affecting wage earners differently. To overcome this issue, we combine static analysis with the results of the dynamic simulation and include non-taxed income into the taxable base. Our approach could theoretically be improved by developing a microeconomic modeling tool, and then combining simulations from macro and micro simulations. We could not implement this approach due to the lack of micro data (Survey on Income and Living Conditions {SILC} is not done in BiH) and the timeline for this research.

The proposed policy change impacts the economy through different channels; either directly (decrease, increase, or neutrality in government revenue) or indirectly, by raising the disposable income of private households (decrease in contributions). Reductions in the social security contribution rate decrease the tax burden on labor income. By reducing the tax wedge between gross and net wages, they reduce the pressure on gross wages in wage negotiations, and by the inclusion of currently non-taxable income into the taxable base, we assume an increase in net wages. Thus, a decrease in contributions decreases labor costs, stimulating and providing incentives for companies to employ more workers and increasing disposable income, and stimulating the economy. At the same time, the inclusion of currently non-taxable income into the taxable base works in the opposite direction, increasing labor cost and decreasing disposable income. The changes in policies that relate to currently untaxed income are not possible to assess using the model and we will analyze them separately, in order to provide needed evidence, we use static accounting identities.

The design of the simulations of proposed changes in policy is made in consecutive steps.

- The first step is simulating changes in social contributions using a dynamic macro-model.
- Second is the inclusion of non-taxable items into the taxable base.
- Third is changes in social contribution rates for temporary individual work and income.
- Fourth is the presentation of current and new tax wedge
- Fifth is presentation of changes in personal income tax from the perspective of families with children.

POLICY OPTIONS/CONTEXT

Table 2. Overview of fiscal policy experiments and estimation design		
Policy instrument	Current – No policy change	Government Proposed Policy Change
Pension insurance contribution rate	23%	17.5%
Health care contribution rate	16.5%	13.5%
Unemployment insurance tax	2%	1.5%
Nontaxable income	Tax free: 1 % of average wage 9,5 BAM, Transportation cost, Holiday allowance	All non-taxable incomes included into taxable base. Catering 4,5 BAM Article 17.e
Contracts temporary individual income	Deductible 20 or 30 % Pensions 6% Health 4 %	Pensions 17.5% Health 13.5%
Personal income tax rate in FBiH	10% rate Basic personal deduction 3,600 KM Deduction based on a dependent family member. Differentiated height of deduction, i.e., 150 BAM monthly for a dependent spouse and the first child, 210 BAM monthly for dependent second child, 270 BAM monthly for dependent third and each subsequent child.	Up to 800 BAM - 0% rate 13 % above 800 BAM Assumed to be neutral fiscal effect.

Policy option 1. No policy changes

No policy change means that the current tax wedge framework is not changed. This would mean that there will be no progress in improving the business environment in the area of tax wedge, and no improvement in BEE, competitive advantage of local companies, or decrease in informal employment. At the same time, no progress would be made in fulfillment of EU Commission recommendations concerning decreasing the tax wedge.

Policy option 2. The government proposed a policy change

Our research in this area resulted in the findings presented below. The first findings relate to the legal framework for the assessment of policies and availability of data. The second findings relate to the analysis of expected impact of the proposed policy change.

A) A legal and statistical framework

1. In the process of assessing the proposed policy changes in the area of labor taxation, there are no publicly available documents on the expected impact of proposed policy changes. Based on our research and the documents available on the websites of the Government and Parliament there are also no publicly available analyses of the academic or CSO community for the proposed policy change.

Public availability of data needed for evaluation of labor market policy is very limited, or non-existent. This limits civic and academic involvement in the policy dialogue.

Policy, as proposed by the government, would result in:

B) Results from the model

1. Results of the simulations show that government-proposed policy change would, as can be expected, shift variables of nominal and real GDP growth to a higher level over the simulation period. This shift is most evident in the first year of the policy change, but afterward, growth rates converge to the no policy change scenario. (See table 5 in Appendix)
2. If we compare “Policy change option” (PC) to “No policy change” (NPC), in terms of impact on employment and unemployment (Table 6 Appendices), we find a shift in PC in 2022, generating about 30,000 new jobs in FBiH. This amount is in line with the Theoretical framework and Conceptual model presented in Product 3, i.e., a decrease in social contribution rates leads to increased labor demand and increased employment. However, our simulation presents a diminishing increase or a phasing out of the impact of policy change on employment since, as time passes, this impact decreases from 30,000 additionally employed in the first year of intervention or in 2022 to, in 2026, about 10,000 more employed with PC, comparing to NPC
3. Revenue collection from health social contributions (presented in Table 8 of appendices), as one would expect, would decrease. As the health contribution rate in the PC option drops from 16.5% to 13.5% i.e., for the 3 percentage points (p.p.), the revenue collected in the health funds also decreases. This decrease amounts to 180 mil. Bosnian Convertible Mark (BAM)²¹ or 12%, in 2022 with a gradual increase till the end of the forecasting period in 2026.
4. In the case of the projected revenue to the Pension Fund (presented in Table 9 in Appendix), NPC estimates a return to a growth pattern in 2021 and then gradually increase from 2,093 mil. in 2022 to 2,419.9 mil. in 2026. Again, the effects of the decrease in health contribution rate from 23% to 17.5% will result in a decrease in revenue to the pension fund by 386.5 mil. or 18.5% of revenue, in 2022. This revenue loss is gradually increasing, comparing to the baseline, and it amounts to 474.4 mil. in 2026.
5. Projected revenue to Unemployment Insurance Fund, (presented in Table 10 Appendix) the effects of the decrease in contribution rate from 2% to 1.5% will decrease revenue to the insurance funds for the 34.3 mil. in 2022, and with a gradually increasing gap, to the baseline, ends with 41.7 mil. In 2026.

C) Results from the static accounting simulations.

6. The introduction of policies to reduce contributions and labor costs may effectively increase employment and real and nominal GDP, but it comes at the cost of revenue to the public funds, as we have presented in the previous section. To compensate for this loss, government **policy prescribes the** inclusion of currently non-taxable income into the taxable base or the tax wedge. We account for the expected impact of the policy change to revenue of the funds, by applying new contribution rates total of 32.5% (health 13.5% + pension 17.5% and unemployment insurance 1.5%), on previously non-taxed income. We provide four options depending on the

²¹ All amounts are in Bosnian Convertible Marks (BAM)

assumed elasticity of this relationship (see Table 11 Appendix). The total revenue to the three government funds (Health Fund, Pension Fund, and Employment Insurance) may range from 426.8 million (in that case all additional taxing cost is taken by employers, in which case complete previously non-taxed items are in full paid to employees with all taxes due) (See Table 11 column 5) to the 288.1 million in the case additional cost is all taken by employees, on the expense of their income (Table 11, column 8).

7. The next step of the assessment changes in contribution rates for temporary and individual work and income. We approximate the impact of the policy change on the revenue to public funds (in the case of policy change). The simulation is based on the assumed two possible alternative possibilities about existing health insurance. The first is that all employees that work in temporary and individual work have existing health insurance (Table 12, part B, column 1) or the second, that all employees don't have health insurance and that they are obliged to pay full health contribution insurance (Table 12, part B, column 2). In the first case results show that, with the policy change, the collection of contribution revenues would amount to 46.2 million or 22.2 million more than without policy change (Table B column 3). In the second case, with the health contribution included, the total revenue of contributions amounts to 81.8 mil. 57.8 mil. (Table B column 4) more, in comparison to the current amount. In addition to this, an increase in the PIT is expected, for the first case 5.3 mil. And in the second 0.7 mil. Finally, we can say that the impact of the policy change is positive and can range between 27.5 million and 58.5 million. However, we have made a very strong assumption that once the taxation for temporary and individual work starts, the amount of work will remain the same and no tax evasion will take place.
8. As a result of the policy change, we account for the three options for the resulting change in tax wedge (see Table 16 in Appendix). The policy change will bring an increase in tax for low-income workers. The tax wedge would increase even in the case that companies prepare their food in restaurants, which is a strong assumption since most companies do not have space or facilities for that. When wages reach an average level, the effect of the policy change is neutral, and then with the wage increase, the tax wedge decreases. The decrease in tax wedge revenues from higher wage brackets is compensated by an increase in revenues from low-wage earners.
9. Compared to the current situation the policy change would bring an additional burden to families with more children. The policy change (see Table 17 in Appendix) would bring to a slight decrease in income tax to families with one child and with an income of about 1500 BAM. At that level of income, there is a break-even point from which tax due is increasing with the new policy. This break-even point for families with two children is just above 800 BAM and for families with three children, the new policy would increase tax due at all levels of income.

Criteria for the evaluation of the policy options and the best option

We identify two criteria for the evaluation of the policy options. These criteria include stated government policy goals including goals defined in the strategic long-term documents and operational mid-term documents and EU recommendations in the area, and the expected financial impact of the proposed reforms.

Table 3. Criteria and policy options			
	Criteria explanation	Current policy set- no policy change	Proposed policy change
Criteria 1. Stated policy goals and EU recommendations	<p>Development Strategy 2021-2027 (DS FBIH)²², sets the goal of decreasing the tax wedge and the "...improvement of the overall competitiveness of the companies. It is necessary to decrease entrepreneurship with the decrease in tax burden on labor, especially for low wage workers...and to support formal employment."</p> <p>"A significant reduction in social security contributions (especially for low-wage earners) would reduce labor costs, help to attract investors and bring more employees into the formal sector (and reduce the prevalence of informal sector employment); yet this cannot be implemented without securing additional funding for extra-budgetary funds."²³</p> <p>European Commission recommendation for BiH is to "Support formal employment by reducing the tax wedge, especially for low-income earners, and other disincentives to work."²⁴</p>	<p>Current policy is not satisfactory and does not provide the necessary improvement in the business environment. Current policy is not satisfactory and does not fulfill EU recommendations</p>	<p>The policy change will bring an increase in tax for low-income workers. This is the opposite direction of the government stated policy goals and EU recommendations. The policy change will not support decrease in informal employment. The policy change would decrease tax wedge on the higher levels of salaries.</p>
Criteria 2. Expected financial impact	<p>Based on the simulations we provide the expected financial impact of the proposed policy change</p>	<p>Financial impact of no-policy change results in the growth of the funds' revenues, based on the economic growth and represents the baseline and benchmark for the assessment of the second option</p>	<p>Health fund decrease 180 mil. Pension fund decrease 386 mil. Unemployment Insurance Fund decrease 34 mil. Additional revenue would be generated from previously non-taxed income in a range from 288 mil to 427 mil. Additional revenue would be generated from taxing temporary and individual work contracts between 27.5mil. and 58.5 mil</p>

²² Development Strategy FBIH 2021-2027, *Federal Development Planning Institute*, www.fzzpr.gov.ba, [retrieved 10.10.2021]

²³ *Reform Agenda for Bosnia and Herzegovina 2015 – 2018*, p 4, <https://europa.ba/wp-content/uploads/2015/09/Reform-Agenda-BIH.pdf> [retrieved 2.10.2021]

²⁴ *Ibid*, p. 47.

RECOMMENDATIONS

Our key recommendations are based on the research findings and a comparative analysis of the current knowledge and legal framework. The recommendations are as follows:

The policy change should bring about a decrease in revenue collection for the budget and the funds. The expected loss of revenue should be compensated on the expense side (pensions, health expenses), should be decreased. The FBiH should reform the labor tax in line with its own declared strategic goals, EU recommendations and the current policy change proposals need to be revised:

- FBiH government should reconsider the proposed policy change since its expected impact is not aligned with the stated strategic goals or EU recommendations.
- At this stage we cannot recommend a specific mix of policy interventions, since they could be based on dozens of possible options. However, FBiH should undertake reforms in labor market policies, ensure the implementation of EU recommendations and decrease the tax wedge for low-income workers that would decrease the size of the informal sector.

No policy change option better reflects the goals of strategic directions of the FBiH and EU recommendations and revision of the government proposal is needed.

There is also a need to increase the usage of evidence to inform policy decisions by reforming the legal framework for policy assessment, increasing the availability of statistical data, and building the capacity of stakeholders to integrate data and evidence into decision-making.

The legal framework for policy development and regulatory impact assessment needs to be amended:

- In order to inform the public, the government should prepare and make publicly available the expected impact (via an Impact Assessment) of proposed public policy changes.
- To increase transparency, all evidence should be made publicly available and important public policy changes must go through a rigorous assessment process and public debate.
- Impact Assessment documents should be signed by the formal proposer of the policy and should be amended as the policy is amended or changed.
- Government should strengthen statistical offices and improve coordination among them and start with a SILK survey in the country. Tax authorities should make publicly available data sets.
- Government should enable and adopt the utilization of academic and non-governmental sectors' ability to provide necessary analysis in the areas that cannot be fulfilled by public sector experts. In order to increase the government's capacity for policy assessment, at different levels, it should establish alliances with research think-tanks and institutes in academia and support the development of relevant assessments and evaluations.

CONCLUDING REMARKS

This policy paper analyzes the reforms proposed by the entity FBiH government with the purpose of decreasing the tax wedge and improving the business environment, or the proposed changes in the Law on contributions and Law on income tax.

Reforms are needed but they must have clearly stated objectives and evidence that the policies are in line with stated objectives. Our findings suggest that the proposed reforms increase the tax burden on the low-skilled/low-wage part of the labor force, which is contrary to the stated objectives provided the strategic documents of FBiH and the EU's recommendations. While decreased social security contributions decrease the tax wedge, including currently non-taxed incomes, meal, transportation, and holiday allowance in the taxable base works in the opposite direction and increases the tax wedge for the low income/skill workers, with an expected decrease in their income and increase in the informal economy. These results clearly contradict the EU recommendations for BiH.

At the same time, we could not find any publicly available fiscal impact assessment of these policies despite policymakers claiming fiscal neutrality in the media. There are no publicly available documents detailing the expected impacts on employment, pension, and health funds, or any other economic or social variables. These expected-impacts documents are necessary for accountability and transparency, especially after all the amendments that took place. Our findings suggest a non-neutral fiscal impact and the need to secure additional funds to sustain pension and health funds. Furthermore, the loss of revenue between two policy options would increase over time.

It is necessary to redesign the policies, and align the expected results with the declared goals, and make the corresponding impact assessments and fiscal impact assessments publicly available. While the strategic document prescribes the need for reform of the approach to the tax wedge, it remains unclear what data is used to support these claims, as well as expected benefits.

Finally, even though proposed policy change is not preferable option, the current legislation in the field of employment taxation, directly related to tax wedge, (Contributions to Pension Fund, Contributions to health fund, Unemployment insurance, Personal income tax) should be improved in order to decrease tax wedge for low earners and decrease informal employment. Current policy proposals do not fully address the stated strategic goals of FBiH nor EU recommendations and policy makers should continue to seek opportunities to decrease tax wedge and provide stimulus for growth and development.

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APPENDICES

Detailed Simulation and analysis design

To ensure the research provides comprehensive findings and timely recommendations for policy makers to consider, the research team split the design and analysis into the following steps/phases.

- The first step is dealing with changes in social contributions.
- Second is inclusion of currently non-taxable income items into taxable base.
- Third is changes in social contribution rates for temporary individual work and income.
- Fourth is the presentation of current and new tax wedge and,
- Presentation of changes in PIT from the perspective of families with children.

These steps are presented in Table 2. Their impact is discussed separately and each of them can be considered as a separate methodological approach to policy assessment.

First step changes in social contribution rates

Regarding the reduction in social security contribution rates scenario, we assume the rates that are proposed in the Proposal of the Law on Contributions in FBiH (currently under consideration of the Parliament of FBiH), with amendments. For determining the macroeconomic impacts of change in fiscal policies or change in contributions rates, we perform policy experiments in which we change the level of contribution rates. We estimate the impact of the change in wage contribution, as a fiscal policy instrument, by performing simulations with our macro-econometric model. In order to make results the comparable, we also run a “no policy change” or baseline simulation. This includes forecast for the period 2022 to 2026, assuming plausible paths for exogenous variables like world demand and international raw material prices, as well as the fiscal policy instruments. Then, in the Scenario 1 we implement changes to the policy instruments (SSC), and perform a new simulation. We then calculate the differences in important macroeconomic aggregates or variables of interest between the Scenario 1 and the baseline simulation. The assumptions and settings, result in paths of the macroeconomic aggregates of the FBiH during the period 2022 to 2026, forming the basis for the dynamic impact of change in the SSC, including impact on employment, real and nominal GDP, collection of revenues on health contribution fund, pension fund, funds collection for compulsory unemployment insurance.

For the baseline simulation, we assume that, due to the Corona pandemic (in line with currently available data²⁵), demand from the FBiH’s most important trading partners decreased by 4.8% in 2020, and rose by 4.25% in 2021, and keeps rising by 1.5% from 2022 onwards, which is a conservative scenario. World raw material prices were assumed to collapse by 26% in 2020 (having decreased by 9% in 2019), before rising by 30% in 2021 and by 5% in 2022, and then by 2% annually from 2023 onwards. For the Federation’s working-age population, we assume a continuation of the declining trend, while the number of pensioners

²⁵ Primary international data is drawn from: UNECE, Price Indices by Indicator, Country and Year.

[https://w3.unece.org/PXWeb2015/pxweb/en/STAT/STAT_20-ME_4-](https://w3.unece.org/PXWeb2015/pxweb/en/STAT/STAT_20-ME_4-MEPI/0_en_MECCPriceInterestY_r.px/?rxid=6265c0c0-40e4-47be-aa05-506625c9fb13)

[MEPI/0_en_MECCPriceInterestY_r.px/?rxid=6265c0c0-40e4-47be-aa05-506625c9fb13](https://w3.unece.org/PXWeb2015/pxweb/en/STAT/STAT_20-ME_4-MEPI/0_en_MECCPriceInterestY_r.px/?rxid=6265c0c0-40e4-47be-aa05-506625c9fb13) and Eurostat, GDP and main components (*output, expenditure and income*),

https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=nama_10_gdp&lang=en , Oesterreichische

Nationalbank (OeNB) is the central bank of the Republic of Austria,

<https://www.oenb.at/isaweb/report.do?report=6.9> and, Centralna Banka BiH <https://www.cbbh.ba>

should continue to rise. Regarding the fiscal policy variables, or tax wedge variables, we decreased social security contribution rates according to, the proposed changes by the government of FBiH. More precisely, we decrease health contribution rates by 3 pp. (by 1.5 pp on the side of employers and 1.5 pp on employees). Pension contribution rate is decreased from 23% to 17.5%, or by 5.5 pp (by 2.75 pp on the side of employers and 2.75 pp on employees' side).

The Second step assumes the inclusion of currently non-taxable income (NTI) into taxation. Since our simulation assess the impact of changes to the tax wedge and, in this case, revenue to public funds, we use legally defined amounts for hot meals, transportation and holiday allowance. Then we perform static simulation and compute the amount of contributions that would be paid on these amounts for the number of workers that was estimated for 2021.

Step three assumes changes in contribution rates for temporary individual work and income. In the FBiH, according to current legislation, an employer can hire employee/s for work which is of temporary character. The employer prepares a contract and is obliged to pay compensation to the employee. For this work, a naturalized person is hired, the tax base is decreased by 20% or 30% (an intellectual work that assumes authorship tax base is decreased by 30%) and the employer is obliged to pay social contribution rates, 4% and 6% for health and pension insurance respectively. The employer also pays 0,5% for a tax on both protections from natural hazards and Common Water tax. Personal income tax on such contracts is paid at 10% rate. For non-residents accounting is slightly different but does not significantly change this assessment. This contracts' modality is used for accounting of additional payments in different kind of additional payments to full time workers, who perform some additional tasks for their employers such as participation in different boards and commissions. In order to estimate the impact of the policy change on public revenue, we use new rates and then compute the difference.

Step four tax wedge calculation

In this part we shall present the calculation of tax wedge for FBiH based on the latest data, and contribute by providing evidence for the tax wedge for different incomes.

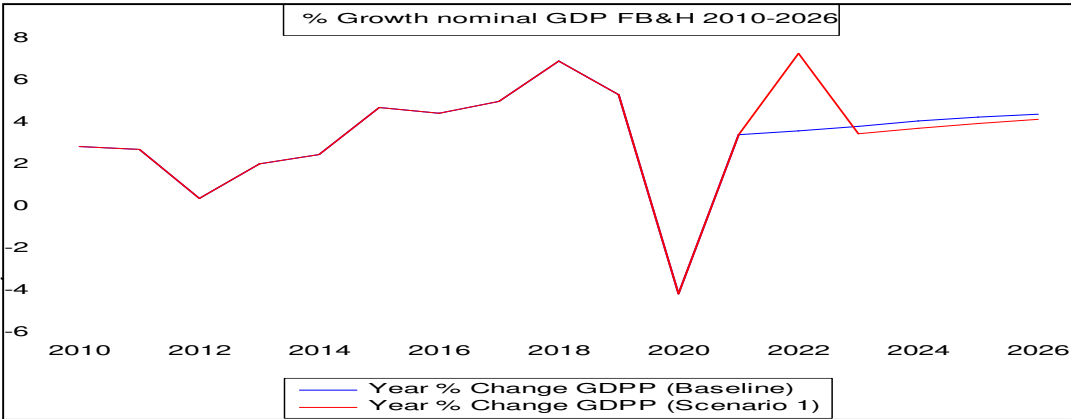
Step five. In this step we present burden of tax wedge on families. Currently in FBiH there is a PIT 10% rate with deductions, since the proposed changes assume neutral effect of tax revenue, our intention is to provide some evidence on families with children.

RESULTS

STEP 1: Changes in social contribution rates

In this section, we present the results of the dynamic analysis described in the policy scenario for Step 1, based on design described in Table 4. We estimate two scenarios for the respective macro-economic aggregates, such as real and nominal GDP growth, employment and unemployment, collections to health fund, collections to pension funds. Figures 7, 8 and 9 present real, nominal, and growth rate of nominal GDP in two scenarios. We can see the effect of the decrease in wage contributions on these macroeconomic variables. Since the expected policy change starts in 2022, we can see increase in variables and continuation of growth, with an upwards shift and at higher level.

Figure 1: Annual percentage growth rate of nominal GDP FBiH



In the Scenario 1, we can see sharp increase in the nominal GDP in 2022, which is the first year of the reform (social contribution rates decrease), with additional growth induced by policy change, and then moderation around rates that are forecasted in the baseline, but at a higher level.

This growth of GDP brings a reduction in unemployment. Nominal unemployment²⁶ first rises in 2020 to 321, 581 due to the pandemic and then drops gradually from 2021 afterwards. The number of employed follows the reverse trend with the expected recovery in 2021 to an average of 523,500, with a further increase to 592,713 in 2026. Of course, this would lead to a further decrease in the unemployment rate. However, this favorable development is not only caused by the real GDP growth, but also by the decline of the population as a result of aging population and migration.

Source: authors' own calculations

²⁶ We use nominal numbers of unemployed and employed in order to see more clearly impact of the policy change

Table 6. FBiH Number of employed and unemployed in the baseline and scenario 2019-2026								
Indicator	2019	2020	2021	2021	2022	2023	2024	2025
EMP (Baseline)	531,483	520,162	523,540	523,540	533,339	550,317	565,399	579,345
EMP (Scenario 1)	531,483	520,162	523,540	523,540	563,319	572,891	583,930	595,878
UN (Baseline)	313,570	321,581	315,309	315,309	304,854	286,755	270,624	255,924
UN (Scenario 1)	313,570	321,581	315,309	315,309	280,988	275,343	267,113	257,194

If we compare the No Policy Change Baseline and Scenario 1, in terms of impact on employment and unemployment (Table 6) we can see a shift in Scenario 1 in 2022, which brings about 30,000 new jobs in the FBiH. This is in line with the Conceptual model presented Figure 2 which, in the case of decrease in social contribution rates, shift in demand for labor curve and increase in number of employed. However, our simulation presents a slow phasing out of the impact of policy change on employment since as time passes this impact decreases from 30,000 additionally employed to about 10,000 more employed in 2026.

Table 8 presents revenue collection from social contributions to health insurance in the Baseline forecast and Scenario 1. The baseline scenario estimates recovery in the revenue collection of health funds during 2021 and a gradual increase from 1496.1 million KM (mil.) in 2022 to 1469.3 mil. in 2026. As one would expect, the effects of a decrease in the health contribution rate from 16.5% to 13.5% i.e., for 3 percentage points (p.p.), will result in decrease in revenue to the health funds. This decrease amounts to 180 mil. or 12%, in 2022 with gradual increase till the end of forecasting period.

Table 8. FBiH Revenue collection from Health and social contribution 2019-2026 (mil. BAM)								
CONTHEALTH	2019	2020	2021	2022	2023	2024	2025	2026
Scenario 1	1,461.10	1,450.60	1,483.00	1,316.40	1,356.60	1,401.00	1,449.20	1,500.90
Baseline	1,461.10	1,450.60	1,483.00	1,496.10	1,547.00	1,603.80	1,665.00	1,730.00
Deviation	0	0	0	-179.8	-190.3	-202.8	-215.9	-229.1
% Deviation	0	0	0	-12	-12,3	-12.6	-13	-13.2

Source: authors' own calculations

In the projected revenue of the Pension Fund, presented in Table 9, the baseline scenario estimates return to a pattern of growth in 2021 and then a gradual increase from 2093 mil. in 2022, to 2419.9 mil. in 2026. Again, the effects of the decrease in health contribution rate range from 23% to 17.5% i.e., for the 5,5 pp. will result in a decrease in revenue to the health funds of 386.5 mil. Or 18,5% of revenue, in 2022 and with a gradually increasing gap, to the baseline, and it ends with 474.4 mil. in 2026.

Table 9. FBiH Revenue Collection from Pension social Contribution 2019-2026 (mil. BAM)								
CONTENSION	2019	2020	2021	2022	2023	2024	2025	2026
Scenario 1	2.035,70	2.022,70	2.074,70	1.706,50	1.758,70	1.816,10	1.878,50	1.945,50
Baseline	2.035,70	2.022,70	2.074,70	2.093,00	2.164,10	2.243,40	2.329,10	2.419,90
Deviation				-386,5	-405,4	-427,4	-450,5	-474,4
% Deviation				-18,5	-18,7	-19	-19,3	-19,6

Source: authors' own calculations

In the case of the projected revenue to Unemployment Insurance Fund, presented in Table 10, baseline scenario estimates return to their growth pattern, from 182,2 mil. in 2022 and then a gradual increase to 209,2 mil. in 2026. Again, the effects of the decrease in contribution rate from 2% to 1.5% or 0,5 pp will result in a decrease in revenue to the health funds for the -34,3 mil. in 2022, and with gradually increasing gap, to the baseline, ends with 41,7 mil. In 2026.

Table 10. FBiH Revenue Collection from Pension social Contribution 2019-2026 (mil. BAM)								
UN_CONTR	2019	2020	2021	2022	2023	2024	2025	2026
Scenario 1	182	183.8	180.7	147.9	152.2	156.9	162	167.5
Baseline	182	183.8	180.7	182.2	188.1	194.7	201.7	209.2
Deviation				-34.3	-35.9	-37.8	-39.7	-41.7
% Deviation				-18.8	-19.1	-19.4	-19.7	-19.9

Source: authors' own calculations

By measures that reduce contributions and labor costs, we can effectively increase employment and real and nominal GDP, but it comes at the cost of revenue to the public funds.

Second step

In the second step, we present how the inclusion of currently non-taxable income into the taxable base of the tax wedge will have an impact. In this step, we use the amount of currently non-taxed incomes from the RAD survey from the Statistical Institute of FBiH, which is based on the data on non-taxable income from legal entities (firms) with 10 or more employed. From this data we derive the average non-taxed income for this group (since in the survey some workers have not received any amount of non-taxed income) of workers and then apply this average to the full number of employed in FBiH. Within this assumption, we pair with a conservative number of employees from the projection from the model in 2022, which amounts to 523, 540 employees.

We prepared a static accounting simulation for this task. We did not account for the potential increase in the number of employed (due to the decrease in contribution rates), since the inclusion of currently non-taxed income into taxable base will work in the opposite direction, or an increase in the tax wedge.

We will only account for the expected impact on government revenue to the funds, by applying new contribution rates total 32,5% (health 13.5% + pension 17.5% and unemployment insurance 1.5%). The net effect will depend on the elasticities of labor supply and demand, and market power of labor and employees. It will also depend on how they are going to split any new costs imposed on income. Since we

do not have data for (?) demand and supply for labor functions and elasticity's, we provide four options of this relationship in Table 11. The first option is that employers take all the expense of the policy change and in that case, workers' net income will increase by the whole amount of previously non-taxed income items. The second and third options assume that employers take 80% or 70%, respectively, of the new cost. The last case assumes complete expense is shifted to workers and the total employers' cost is exactly the same as before the policy change (new cost is included in previous amount of non-taxed income and amount becomes gross amount). From Table 11, we can see that the total revenue to the three government funds may range from 426.8 mil. (in the case that all additional taxing cost is taken by employers) (See Table 11 column 5) to the 288.1 mil, in the case additional cost is all taken by employees (Table 11, column 8).

Table 11. Inclusion of non-taxed income into taxable base

Monthly	Per employee	Number of employees	Total amount (NET) 1 x 2	Gross Total amount (NET)/0,675	Contributions and un. insurance (4-3) 100% (All non-taxable benefits remain the same for the workers)	80%	70%	67,5% (Total cost for employers, same as no policy change)
	1	2	3	4	5	6	7	8
Hot meal	103	523.540	53.693.715	79.546.245	25.852.530	20.682.024	18.096.771	17.450.457
Transportation	26	523.540	13.358.064	19.789.724	6.431.660	5.145.328	4.502.162	4.341.371
Holiday allowance	13	523.540	6.822.598	10.107.552	3.284.954	2.627.964	2.299.468	2.217.344
Total monthly	141	523.540	73.874.377	109.443.521	35.569.144	28.455.316	24.898.401	24.009.172
Annual								
Hot meal	1.231	523.540	644.324.584	954.554.939	310.230.355	248.184.284	217.161.249	209.405.490
Transportation	306	523.540	160.296.765	237.476.689	77.179.924	61.743.939	54.025.947	52.096.449
Holiday allowance	156	523.540	81.871.173	121.290.627	39.419.454	31.535.563	27.593.618	26.608.131
Total annual	1.693	523.540	886.492.522	1.313.322.255	426.829.733	341.463.786	298.780.813	288.110.070

Source: authors' own calculations

Step three

Step three assumes changes in contribution rates for temporary and individual work and income. We will perform a static accounting calculation exercise, which can approximate the impact of the policy change on the revenue to public funds. The starting point for this simulation is the current amount of the contribution and taxes collected. We use data on accounted and paid contributions, according to the FBiH Tax Authority data for 2020, more precisely data according to AUG and ASD forms (AUG is the form for the temporary work and the ASD form is defined for all incomes from commissions, boards etc.). The policy change treats all kinds of temporary individual work as the same and we can assume gross revenue collection as a sum of current revenues from both AUG and ASD.

Contribution rates in the Proposal of Law on Contributions for temporary work are the same as the contribution rates for regular work for the employer. The difference is made based on the existence of health insurance, if the employee has health insurance (is paying health contributions by having another full-time job), then she/he is obliged to pay contribution for pension and not for health.

According to the new *Proposal on Law on Income*, the accepted tax break (amount allowed to be deducted to compute tax base) on the income from temporary work is 10% (article 45.)

As we noted earlier, the new income tax is 13% on incomes above 9600 BAM annually, and we apply this rate for the income from temporary work.

In Table 12 we present the simulation, which is based on two assumptions about existing health insurance. First, is that all employees that work in temporary and individual work, have existing health insurance (Table 12, part B, column 1) and the second assumption is that all employees don't have health insurance and that they are obliged to pay health contribution insurance (Table 12, part B, column 2). In the first case results show that, with the policy change, the collection of contribution revenues would amount to 46.2 mil. or 22.2 mil. (Table B column 3) more than at the moment. In the second case, with the health contribution included, the total revenue of contributions amounts to 81.8 mil. and it is 57.8 mil. (Table B column 4) more, in comparison to the current amount. In addition to this, an increase in the PIT is expected, for the first case 5.3 mil. and in the second 0.7 mil. Thus, we can finally say that the impact of the policy change is a positive one and can range between 27.5 mil. and 58.5 mil.

Finally, we need to highlight that in this analysis, we have made a very strong assumption that once the taxation for temporary and individual work starts, the amount of work will remain the same and no tax evasion will take place.

Table 12: Contributions for temporary and other individual work					B	(1)	(2)	(3)	(4)	
	Current policy	AUG	ASD	Total		New policy (AUG+ASD)	Health insured	Without health insurance	Change in Revenue – All Workers insured (Table B column 1 – Table A column 3)	Change in Revenue – No Workers insured (Table B column 2 – Table A column 3)
1	Gross temporary and individual work (3/0,25)	213.994.183	79.129.337	293.123.521	1	Gross temporary and individual work (AUG+ASD from current)	293.123.521	293.123.521		
2	Tax break (25% - averaged)	53.498.546	0	53.498.546	2	Tax break (10%) 1 x 10%	29.312.352	29.312.352		
3	Income-tax base (row 4/0,1)	160.495.637	79.129.337	239.624.975	3	Income-tax base (1-2)	263.811.168	263.811.168		
4	Total contributions	16.049.564	7.912.934	23.962.497	4	Total contributions 31,5%	46.166.954	81.781.462	22.204.457	57.818.965
5	PIO-pensions (6,0%)	9.629.738	4.747.760	14.377.498	5	PIO-pensions (17,5%)	46.166.954	46.166.954		
6	ZZO-health (4,0%)	6.419.825	3.165.173	9.584.999	6	ZZO-health (13,5%)	0	35.614.508		
7	Income tax base (3-6)	154.075.812	75.964.164	230.039.976	7	Income tax base (3-4)	217.644.214	182.029.706		
8	Income tax (7 x 10%)	15.407.581	7.596.416	23.003.998	8	Income tax (7 x 13%)	28.293.748	23.663.862	5.289.750	659.864
								total net effect	27.494.207	58.478.829

Source: FBiH Tax Authority and authors' calculations

Step four: Tax wedge calculation

Tax wedge is the ratio of net income of an employee, to the total cost of an employer. This amount changes over time, depending on government policies and, in the case of BiH, on the movement in average wage. Part of the currently non-taxed income is the meal allowance that is defined as 1% of average wage in FBiH, which means that movement in average wage will impact the legally defined tax wedge. Tax wedge is also dependent on the size of income due to tax breaks. We calculate tax wedge on the four levels of gross incomes, first is the minimum wage (589,60 KM), 67% of average wage (1023,09 KM), at average wage (1527 KM), and at 167% (2550 KM) of average wage, with the maximum legally allowed use of non-taxed incomes. In other words, we construct a hypothetical tax wedge based on the current and future legal framework.

In this part, in Table 13, we present the calculation of current tax wedge for the FBiH based on the latest data available, presented in Table 14, which shows the tax wedge in the case of changes in the policies proposed in the *Proposals of laws on contributions and income tax*. Table 15 presents the tax wedge if all companies use opportunity to provide food in company, as is possible by a new law, in amount 4,5 BAM, and we treat this as an in-kind income for the worker and cost for the employers. Finally, in Table 16 we provide a comparison of all three solutions.

In addition to this, we need to highlight that the minimum wage is as presented as a minimal gross hourly wage, times 176 working hours (22 working days), as it is defined by collective agreements. For the current tax wedge, the average personal tax break coefficient 1,5 is used, or the assumption that average worker has a 450 BAM tax break (personal 300 and having one dependent person), for the variant with the policy change we use a tax break amounting to 800 BAM, as is defined in the proposal. Income above that amount is taxed, in no policy change by 10%, and with policy change with 13%.

Currently non-taxed incomes include, as described by current legal provisions, meal allowance as 1% of average net wage per day, or 217 BAM for 22 working days in one month, transportation allowance, as a monthly rate equal to the ticket of public transportation or 53 BAM, and holiday allowance that can be paid to employees without tax or contributions in amount of 50% of average net monthly wage, per annum, which is about 493 BAM pa, or 41 BAM monthly. The average net monthly wage for the period January-August 2021 is 985 BAM.

The following tables present the tax wedges in different cases.

Table 13. Tax wedge 2021 current law

	Minimum wage	67% average wage	100% average wage	167% average wage
Gross basis for SSC accounting	589,60	1023,09	1.527,00	2550,09
SSC from wage	182,78	317,16	473,37	790,53
PIO (17,0%)	100,23	173,93	259,59	433,52
ZZO (12,5%)	73,70	127,89	190,88	318,76
NEZ (1,5%)	8,84	15,35	22,91	38,25
PIT base	-43,18	255,93	603,63	1.309,56
PIT tax (10%)	0,00	25,59	60,36	130,96
Net wage	406,82	680,34	993,27	1.628,61
Tax free income	311,00	311,00	311,00	311,00
SSC on wage	61,91	107,42	160,34	267,76
PIO (6,0%)	35,38	61,39	91,62	153,01
ZZO (4,0%)	23,58	40,92	61,08	102,00
NEZ (0,5%)	2,95	5,12	7,64	12,75
Additional tax on wage (ZS + OVN)	4,07	6,80	9,93	16,29
Additional tax (rehab)	2,95	5,12	7,64	12,75
Total due	251,70	462,09	711,64	1.218,28
Total expense	969,52	1.453,43	2.015,90	3.157,89
Tax wedge	25,96%	31,79%	35,30%	38,58%

Table 14. Tax wedge Policy change in contributions rates and income tax

	Minimum wage	67% average wage	100% average wage	167% average wage
Gross basis for SSC accounting	589,60	1023,09	1.527,00	2550,09
SSC from wage	191,62	332,50	496,28	828,78
PIO (17,5%)	103,18	179,04	267,23	446,27
ZZO (13,5%)	79,60	138,12	206,15	344,26
NEZ (1,5%)	8,84	15,35	22,91	38,25
PIT base	-402,02	-109,41	230,73	921,31
PIT tax (13% new law)	0,00	0,00	29,99	119,77
Net wage	397,98	690,59	1.000,73	1.601,54
Tax free income	0,00	0,00	0,00	0,00
Additional tax on wage (ZS + OVN)	3,98	6,91	10,01	16,02
Additional tax (rehab)	2,95	5,12	7,64	12,75
Total due	198,55	344,53	543,91	977,32
Total expense	596,53	1.035,11	1.544,64	2.578,86
Tax wedge	33,28%	33,28%	35,21%	37,90%

Source: authors' own calculations

Table 15: Tax wedge in 2021; change in contributions rates and income tax

	Minimum wage	67% average wage	100% average wage	167% average wage
Gross basis for SSC accounting	589,60	1023,09	1.527,00	2550,09
SSC from wage	191,62	332,50	496,28	828,78
PIO (17,5%)	103,18	179,04	267,23	446,27
ZZO (13,5%)	79,60	138,12	206,15	344,26
NEZ (1,5%)	8,84	15,35	22,91	38,25
PIT base	-402,02	-109,41	230,73	921,31
PIT tax (13% new law)	0,00	0,00	29,99	119,77
Net wage	397,98	690,59	1.000,73	1.601,54
Tax free income	99,00	99,00	99,00	99,00
Additional tax on wage (ZS + OVN)	3,98	6,91	10,01	16,02
Additional tax (rehab)	2,95	5,12	7,64	12,75
Total due	198,55	344,53	543,91	977,32
Total expense	695,53	1.134,11	1.643,64	2.677,86
Tax wedge	28,55%	30,38%	33,09%	36,50%

Source: authors' own calculations

Table 16 presents a summary of the three options for a tax wedge. Surprisingly, the policy change will bring an increase in tax for low-income workers. The tax wedge would increase even in the case that companies prepare their own food in the restaurants, which is a strong assumption since most companies do not have space or facilities for that. When wages reach an average level, the effect of the policy change is neutral, and then with the increase in wage, the tax wedge decreases. Government claims there is a neutral revenue/fiscal effect and this makes sense mathematically, since the decrease in tax wedge revenues from higher wage brackets, is compensated by an increase in revenues from low wage earners. The reform seems to be an example of what is known as 'King John redistribution reforms', by which, the 'haves' redistribute from 'have nots'²⁷. The issue with these kinds of reforms is that they increase the informal economy and put an additional burden on low-income workers, especially in the case of a monopsony power, on the side of employers.

Table 16: Tax wedge comparison

	Minimum wage	67% average wage	100% average wage	167% average wage
Tax wedge current tax wedge	25,96%	31,79%	35,30%	38,58%
Tax wedge Policy change	33,28%	33,28%	35,21%	37,90%

²⁷ On King John redistribution see more at: Glaeser, E and Shleifer, A (2002): [The Injustice of Inequality](#), No 9150, NBER Working Papers, National Bureau of Economic Research, Inc.

Tax wedge with Tax break for 4,5 BAM catering	28,55%	30,38%	33,09%	36,50%
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Source: authors' own calculations

Policy change-step 5 Personal Income Tax change and impact on families

In addition to the previous pages, which deal with dynamic and static estimations of proposed changes on macroeconomic variables and revenue collection, in this section we provide one more accounting exercise and present a comparison of the income tax (PIT) to be paid at different levels of income and different family sizes. We assume a family as being a couple with one person working and examples of having one child, and two or three children. We make calculations based on one month and compare current legislation with the proposed policy changes in terms of income tax. Currently a tax break is given to each worker in the amount of coefficient one (300 BAM), additionally for the dependent spouse coefficient 0.5 (150 BAM), first child coefficient 0.5 (150 BAM), second child coefficient 0.7 (210 BAM) and for the third and every next child, a coefficient of 0.9 (270 BAM). Income received above deductible tax break is currently taxed at 10%. Changes in the Law on Personal Income Tax (PIT) are proposed and the draft of the PIT Law assumed a 0% rate up to the 800 BAM, and 13% from 800 onwards.²⁸ The proposed reforms include an increase in tax free brackets to 800 KM and an increase in the personal tax rate to 13 % on the higher wages. The government is assumed to have an overall neutral fiscal effect but no analysis has been provided and also the distributional effects for different groups have not been made publicly available during the consultation process.

Table 17 shows that the policy change would bring to slight decrease in income tax to families with one child and with an income of about 1500 BAM. At that level of income, there is an even break from which tax due is increasing with the new policy. This break-even point for families with two children is just above 800 BAM and for the families with three children the new policy would increase ax due at all levels of income.

²⁸ FBiH House of Peoples, BiH [Prijedlog Zakona o porezu na dohodak bos.pdf \(parlamentfbih.gov.ba\)](#) and Amendments [Amandmani_porez-dohodak.pdf \(parlamentfbih.gov.ba\)](#)

Table 17: PIT Current and Policy change (one person employed- couple with children)

Income Taxable base	PIT due Current Policy			Proposed new policy -800 BAM 13%
	tax 1 child	tax 2 children	tax 3 children	tax
400	-20	-41,00	-68	-52
500	-10	-31,00	-58	-39
600	0	-21,00	-48	-26
700	10	-11,00	-38	-13
800	20	-1,00	-28	0
900	30	9,00	-18	13
1000	40	19,00	-8	26
1100	50	29,00	2	39
1200	60	39,00	12	52
1300	70	49,00	22	65
1400	80	59,00	32	78
1500	90	69,00	42	91
1600	100	79,00	52	104
1700	110	89,00	62	117
1800	120	99,00	72	130
1900	130	109,00	82	143
2000	140	119,00	92	156
2100	150	129,00	102	169

Source: authors' own calculations