



Gender and Taxation Policy discussion paper

Selected municipalities in North Macedonia & property tax



Project financed by
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Project Implemented by Center
for Economic Analyses



Gender and Taxation – Policy discussion paper

CENTER FOR ECONOMIC ANALYSES (CEA)

Tax responsibility project – Towards citizen responsibility and responsible taxes

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Introduction & background

This document was prepared within the Tax Responsibility Project (project) implemented by the Center for Economic Analyses (CEA), financially supported by the EU through the EIDHR program. The preparation of this document, was preceded by numerous activities and outputs including four pilot tests on the effects and impact on the behavior of non-compliant taxpayers by "encouraging" tax compliance behavior and tax "nudging" for specific local taxes.

Many countries, especially the developing ones, face a number of challenges towards increasing public revenues, including the size and scope of the tax base, the significant informal sector present, poor tax system management, limited administrative capacity, and low per capita incomes, savings and investment as well as tax evasion.

Increasing fiscal revenues requires the establishment of an efficient and effective tax system, but also the implementation of measures to improve the level of voluntary tax compliance and improving the tax morale and improving the capacity of the tax administration.

Increasing fiscal revenues requires the establishment of an efficient and effective tax system, but also the implementation of measures to improve the level of voluntary payment of taxpayers' liabilities and their tax morale as well as improving the capacity of the tax administration.

There is evidence from field experiments conducted by the World Bank, as well as other institutions and organizations as well as tax services, that consider the social, psychological, and economic factors that influence taxpayers to make tax decisions. Studies in some countries show that specific messages from tax authorities to taxpayers, such as communicating with targeted taxpayers in order to influence their behavior, can offer a quick and inexpensive solution to increase tax collection.

Tax system interventions that take into account human behavior help individuals / taxpayers to better process information, file their tax returns accurately and in a timely manner, and help tax administration officials improve the way they handle it. do their job.

It is empirically argued and proven that gender as well as other socio-economic and demographic factors influence the tax behavior i.e. being more or less tax compliant. Generally, the empirical studies worldwide, indicate a tendency of higher tax morale and tax compliance in favor of female compared to male.

Researchers seeking to understand the gender dimensions of tax compliance have, for the most part, relied either of the methods of surveys and/or experiments. Although the results are mixed still the majority of them conclude that women are more tax compliant than men. Having this tendency as a conclusion, rarely it is further elaborated on the reasons behind these results. There a variety of reasons that are assumed as

underlying reasons which are predominantly developed by social physiologist, indicating that the reasons why females are more compliant and less self-reliant than males (e.g. Tittle 1980), are due to traditional role of women in society (in this sense today's generation of female are more independent than the former generations, thus should comply less); another possibility argued is that females are more risk averse than males¹, then the lesser degree of involvement of female in the labor market and the different opportunities², etc.

The Concept of Tax Morale³

Taxation as a topic has always been debatable and there have always been diverging opinions about the philosophy behind taxes and taxation in general. Other questions that arise from this topic are who is to pay taxes and at what rates? Is it more essential to collect or to redistribute revenues? Are taxes collected just to correct the deficiencies of the market operations and/or to change the behavior of the economic agents? Is there a fair amount or a fare rate of a specific tax? Are taxes considered only as a legal liability or a morale dimension, as well?

The following categories have to be taken into consideration when adopting a solid tax policy: equality and fairness, safety, effective tax administration, data safety, tax neutrality, economic growth and efficiency, transparency and visibility, minimum tax gap and accountability to the tax payers and the rule of law.

However, there is another aspect that needs to be taken into consideration, and that is tax responsibility and tax morale.

Tax morale is defined as voluntary compliance with tax laws and creation of a social norm of responsibility for paying taxes. "The tax morale measures the perception and the attitudes of tax payers for paying or avoiding taxes." (OECD 2013)⁴. In its principles of good tax administration, the OECD underlines the importance of tax morale by stressing that "promotion of voluntary compliance with the laws has to be a major concern of the tax authorities". Improving the tax morale is one of the aspects that the tax administration has to consider, in addition to the primary concern for collecting tax revenues.

Empirical studies provide evidence about the link between the tax morale and individual characteristics,

¹ Tax Morale and Fiscal Policy, Article 2005, Benno Torgler, Christoph A. Schaltegge

² Benno Torgler; Neven T. Valev (2010). Gender and public attitudes toward corruption and tax evasion. , 28(4), 554–568. doi:10.1111/j.1465-7287.2009.00188.x

³ The section is based on the CEA study: Даночниот морал во Република Северна Македонија: Анализа на факторите на даночниот морал, available at <https://cea.org.mk/wp-content/uploads/2020/06/0.-Analiza-na-danocen-moral-DETERMINANTI-CEA-28052020-so-CIP-2.pdf>

⁴ OECD – State building and Accountability –Tax morale <http://www.oecd.org/tax/tax-global/work-on-statebuilding-accountability-effective-capacity-development.htm>

related to the socio-economic and demographic factors (e.g. age, gender, marital status, geographic area, education level, employment status, financial income, etc.).

In addition to socioeconomic and demographic factors, there are also other contributing factors such as trust in the government, the administration and the legal system i.e. trust in governmental institutions and legal systems will increase, by increasing the responsibility, the political stability and the absence of violence, as well as by the efficiency of the government, the rule of law and control over corruption; then democracy and national pride; happiness and satisfaction with life may serve as basis for higher tax morale.

Compared to the studies of other European countries or the countries which have invested many years into building their tax system, one can conclude that the process of building our national tax culture, as well as building trust in the tax system, is still ongoing, especially if we take into consideration different interpretations of the existing legislation on tax objectives and the frequent amendments to the legislation regarding individual taxes in the last couple of years.

Tax morale and tax responsibility are said to be at a dissatisfactory level, in particular due to the fact that the government has also identified it as a challenge in its analysis. One of the identified findings in our analysis for North Macedonia is that tax payers are not prepared for a tax rate increase, i.e. increasing the levies on the tax payers has a strong effect on lowering their tax morale, as a result of which tax payers become creative with finding solutions for avoiding the tax payment.

On the other hand, just as in other countries, trust in the institutions is particularly important when it comes to the tax payers' good will to pay their taxes. In other words, the greater the trust in the institutions is, the less the citizens need to look for solutions to avoid taxes. Taxes are the price which the citizens have to pay, so that the government can provide services on behalf of the citizens and for their wellbeing. That is why the tax payers perceive the link with the country not only from the victim's point of view and something the predator is forcing them at, but also as a process of exchanging common interests.

The citizens would like to feel as service beneficiaries, rather than just as voters. In this regard, transparency and citizens' participation in the fiscal processes are of paramount importance. The citizens will certainly feel deceived if the taxes are not spent efficiently and in line with their needs. If the citizens think that their interests (preferences) are well represented in the policies, and if they have a feeling that they receive proper public services and goods, their identification with the country is much stronger, and so is their preparedness to contribute to the state by paying their taxes on time. On the other hand, an inefficient state with prevalent corruption may affect the citizens' good will for cooperation, i.e. it may impact negatively citizens' decision for tax compliance. Unfortunately, most of the respondents who took part in the research concluded that they did not trust the state institutions neither at local nor at central level. They also think that, in case they

were to pay higher taxes, those revenues can only be misused, rather than being invested in better quality services.

Tax payers in the Republic of North Macedonia consider themselves as individuals with relatively high moral values, who would accept the tax burden if the taxes collected are to be efficiently distributed by the state institutions. Regardless of anything, the citizens still hope that hard work may contribute to better life and greater success.

The rule of law and the functionality of the democratic system are factors that affect strongly citizens' tax morale. If sanctions for tax evasion are not applied, it can impact negatively citizens' decision for paying their taxes in full and on time. Focus on sanctions, rather than on motivating the citizens to have a feeling of responsibility and a sense of belonging to the community, is typical of a weak country. In this occasion, we have to remind ourselves of the punitive PRO expeditions and inspection bodies in the RNM, which were misused for political and fiscal purposes, beyond the institutions' scope of operations and served as a major instrument of the captured country.

Bringing social justice is one of the observations of this research. In other words, a fair approach would be the one where individuals with higher incomes would have to pay higher taxes. Those with a relatively lower income should be assisted by those who are able to provide assistance. Progressive taxation allows the countries to collect taxes from individuals who have higher incomes, thus creating a more satisfied society. Taxes are used for financing education, healthcare services and other goods for people who are really in need of; Groups focused on tax justice are focused on limiting the volume of the tax legislation and the rules which are beneficial only to a small portion of the population – those who pay taxes, compared to the rest of the population. In other words, tax justice is aimed at everyone fulfilling their civic responsibility – that is paying their share. However, it should be done without hurry and not only with the purpose of fulfilling someone's ideological and political objectives, but also by identifying the wealth categories, the tax subjects, tax base, thresholds, exemptions etc.

One of the conclusions of this research is that tax payers in the Republic of North Macedonia consider themselves as being uninformed regarding the types of taxes and have difficulties differentiating between local and central taxes. Being uninformed or having misinterpretations can lead to an improper implementation of tax regulations for tax payers, and it can become a potential source of tax avoidance or tax evasion. The government is making efforts to improve the exchange of information between the tax authorities and other entities. They are also working on improving the overall transparency in relation to tax issues, as well as the e-services for the citizens. The major objective of this priority is to improve the quality of the services the tax payers receive by the tax authority, to increase the economic feasibility of the procedures, as well as to simplify and to accelerate their application and to reduce the administrative burden

related to them.

In addition to that, another conclusion would be that the tax payers have underlined the need and the usefulness of additional channels for information, such as local offices or hotlines which will provide additional information about the types of taxes, the procedures, the deadlines, methods of payment, as well as about the distribution of the collected taxes, since it is rather challenging to understand and differentiate between it all. But, one of the factors that affect citizens' good will for paying taxes is the simplified procedure for payment. Confusion about one's tax obligations may create resignation and delayed payment of taxes.

Tax Morale Factors in the Republic of North Macedonia⁵

Based on the field research of a relevant sample in the RNM, which was conducted within the project⁶ provides answers about the perception of the citizens' in the RNM about:

- The functionality of the tax system in the RNM,
- Citizens' opinions about taxes,
- How informed people are about taxes and tax system and
- Citizens' trust in the institutions when it comes to spending public funds from collecting taxes.

According to the research, tax payers in the Republic of North Macedonia consider themselves as not being well-informed about the types of taxes, and they also face challenges about differentiating local from central taxes. The knowledge about types of taxes, especially the difference between local and central taxes, is very important in the process of building civil society and citizens' participation in adopting public policies, mostly at local level.

Misinformation or misinterpretation may lead to an improper implementation of tax regulations and it can be a potential source for tax avoidance or tax evasion, i.e. tax non-compliance. However, in spite of the lack of information about types of taxes, tax payers who have had experience and obligations for paying certain types of taxes, have stated that tax payment procedures are simple or very simple. Therefore, it is of paramount importance to increase fiscal transparency which had been eroded for almost a decade now in the RNM.

⁵ The section is based on the CEA study: Даночниот морал во Република Северна Македонија: Анализа на факторите на даночниот морал, available at <https://cea.org.mk/wp-content/uploads/2020/06/0.-Analiza-na-danocen-moral-DETERMINANTI-CEA-28052020-so-CIP-2.pdf>

⁶ See more: <https://cea.org.mk/proekt-za-danochna-odgovornost-kon-graganska-odgovornost-i-odgovorni-danotsi/>

In 2020, research about budget openness has demonstrated that the RNM has improved its fiscal transparency, yet there is still room for improvement, especially when it comes to citizens' participation in public finances (the RNM was ranked zero about citizens' participation in the budget process and the budget cycle, CEA 2020⁷).

One of the taxes that an average tax payer has to deal with is property tax. Since it is a local tax, every LSGU issues annual property tax statement, followed by one or two notifications for those who have not paid their taxes. The property tax return statement and the notification are submitted to every tax payer in hard copy, which makes the tax visible for citizens and also makes citizens informed about this type of tax.

Tax payers in North Macedonia have pointed to the need for having an additional information channel, such as a local office or a hotline, which can offer additional information about the type of taxes, procedures, deadlines, means of payment, as well as the distribution/spending of collected taxes. Simple payment and tax reporting procedures is one of the factors that contribute to citizens' paying their taxes in timely fashion. Possible confusion and misunderstandings about tax obligations may create a feeling of repulsion and delay in tax payment.

The tax payers in North Macedonia have expressed high level of moral values and they perceive themselves as responsible tax payers who always pay their taxes on time. Being led by the social aspect, they believe to a certain degree that those with lower incomes have to pay lower taxes, and even if there is a chance for tax evasion, that would not be their primary option. If asked, the respondents are always in favor of reducing the tax rates for all tax types. The development level of individual moral values has certain effects on tax morale. If an individual nurtures moral values, they will reflect on responsibility for tax.

The tax payers demonstrate their distrust for institutions both at local and at central level, meanwhile demonstrating high level of distrust about the distribution/spending of tax funds allocated for promoting public services. Based on their views, it becomes apparent that citizens consider capital investments as a priority for spending tax money, and they also consider that they lack information about the spending of public revenues, i.e. tax revenues, and they prefer more tangible capital investments. According to the citizens, some of the major priorities for tax revenues investment at local level are: utility services, roads and infrastructure; local economic development.

At a central level, some of the major priorities for tax revenues investment are: healthcare, roads and road maintenance and other capital investments.

⁷ CEA 2020, International Budget Partnership: <https://cea.org.mk/severna-makedonija-go-podobri-svoeto-megunarodno-rangirane-vo-budhetska-transparentnost/>

Moreover, the citizens are against tax increase, and besides that, they are also in favor of progressive tax rates, which they consider as fairer. It demonstrates that tax payers are requesting greater fiscal legitimacy, better distribution of tax revenues, capital projects investments, and they would simultaneously like to have a more transparent and clear public finances system tailored to their needs.

Tax payers in North Macedonia tend to distrust the idea of curbing corruption both at local and central level, since their perception is that the situation has remained unaltered and there is no progress, at least not for the last five years. Transparency International research has confirmed a deterioration in the corruption perception at national level⁸.

Tax payers tend to distrust the belief that increase in tax rates, and consequently increase in tax revenues will result in better quality public services. On the contrary, the expectations are that the revenues will be misused. What is particularly concerning is the survey finding about the respondents' choice of a country of living. Namely, they would choose to stay and live in the Republic of North Macedonia, which has low level of institutional trust, but also lower tax rates, rather than living in a country with more developed where there is higher trust in the institutions and higher life quality, but higher tax rates, as well.

What is indicative in this situation is that there is an implicit resignation when it comes to choosing to live where taxes are lower disregarding lower trust in the institutions and lower life quality. The resignation derives from the shaken trust in the institutions on a long run and it represents a huge risk for the future of the country. Namely, distrust in the institutions is one of the contributing factors for tax morale. If citizens have a constant feeling that their funds are misused by the authorities, there is a risk of lowering the level of tax morale as an answer to the irresponsible spending of tax revenues.

As a consequence of the current views and perceptions of the tax payers, there is a greater dissatisfaction by the level of the democratic system development in the country and its functioning. The citizens have a feeling that they are treated more as voters, and less as public service users. Regarding persons who do not pay taxes, citizens have a general opinion that it is a misuse that has to be sanctioned. Citizens also expect that, in the long run, hard work can contribute to better life and more success. Rule of law and the functionality of the democratic system is another factor that contributes to citizens' tax morale. If sanctions for tax evasion are not applied, it can affect citizens' decision to pay their taxes regularly and in timely fashion.

⁸ Corruption Perception Index, <https://tradingeconomics.com/macedonia/corruption-index>

Gender & taxation concept

The global pandemics that took place in the past couple of years, has without a doubt caused to reemerge the question of the disproportionate burden over women compared to men, regardless of the type of economy. As noted in the World Bank Group (WB) numerous reports and publications, women have suffered heavier job losses⁹ (women lost employment at a higher rate than men)¹⁰, leading to a possible increase in household poverty, as women have undertaken a disproportionate share of the increased responsibilities for childcare and for the care of the elderly and sick family members. The national labor market and social protection measures, in many countries, have enacted to address the economic fallout through different types of aid, however have not addressed these additional burdens on the women. In this context, the pandemic has popularized/re-sparked the discussion of gender related taxation policies i.e. the policies through the tax system as one channel to promote gender equality (as some governments have undertaken spending measures and other tax related measures, none the less all of them have (or should have) considered the effects on gender equality and the economic participation of women).

In this context of global pandemics, tax policy reforms can contribute to enhanced/diminished gender equality, though the so called either explicit or implicit biases, which can either favor or disadvantage women. Explicit biases are those that are designed within the systems through the laws and regulations (nowadays rare worldwide), while implicit biases arise due to systematic differences in behavior (earn, spend, and invest). Implicit gender bias is more pervasive, and most often found in the design of personal income taxes.

Working women on average earn less than men, especially pronounced among the poorest countries, thus it is argued that the progressivity of income taxes can aid to mitigation of gender tax biases. Each and every tax should be considered in these unusual times, of how the tax policies and practices could promote gender equality and eliminate biases.

Gender based taxation, in the form of lower marginal tax rates¹¹ for women, has been proposed/discussed as a desirable reform that might contribute to closing the gender gap by improving women's status in the labor market and within the family. According to Alesina et al.'s (2008¹²) analysis and based on the optimal taxation theory "*a benevolent government should tax less the goods and services which have a more elastic supply. Women labor supply is more elastic than men's. Therefore, tax rates on labor income should be lower for women than for men.*" And according to the same authors, although well-known argument in the literature,

⁹ <https://blogs.worldbank.org/voices/coronavirus-not-gender-blind-nor-should-we-be> <https://www.tax-platform.org/news/blog/Tax-Reform-Gender-Equality-in-the-Post-COVID-Era>

¹⁰ Kugler, Maurice, et al., "The Labor Market Impacts of COVID-19 on Different Types of Workers," Policy Research Working Paper, World Bank (Washington, DC: World Bank), forthcoming 2021.

¹¹ The marginal tax rate is the amount of additional tax paid for every additional dollar earned as income

¹² Alberto Alesina, Andrea Ichino, and Loukas Karabarbounis, Gender Based Taxation and the Division of Family Chores, OECD, Draft: November 2008, available at <https://www.oecd.org/els/42029340.pdf>

it is not taken seriously as a policy proposal. As they present, on the contrary, most OECD countries effectively impose higher marginal tax rates on married women's decision to participate in the labor market, relative to the tax rate on singles. It is thus considered that, with GBT, women's participation rate and income would increase and the family chores would be allocated more equally among genders. These effects might also make the policy self-financed thanks to the increase in tax revenue due to higher tax rates for men and higher income for women. As Collumbino and Nazrani (2018¹³) consider the case of Italy, they argue that a policy might look particularly appealing for a country like Italy, where "*large gender-gaps persist in participation rates, incomes, occupations and allocation of family chores*". The idea that women's labor earnings should be taxed at lower rates than men's has been the subject of many contributions that are surveyed in Apps and Rees (2009). However, gender based taxation is argued that is in conflict with a principle of universality, that is a major constraint for an implementation of the gender based taxation, and "*that public policy would then explicitly discriminate between individuals on the basis of an innate characteristic: sex, creating a caste society*" (Saint Paul, 2007¹⁴)

As for quite some time gender equality and taxation have been topics in the development policy debate on public finance, financing for development and as well in the debate on the responsibility of the government towards its citizens. Gender equality and women's empowerment was the 3rd MDG (Millennium Development Goal), and the 5th SDG (sustainable development goals). Rarely however, they have been discussed together and potential and existing links. According to the international development community and institutions (UN, OECD, World Bank, IMF, etc.) it is believed and supported that mainstreaming a gender equality perspective into general tax policy analysis can significantly improve the quality of public policy¹⁵.

In these next pages it is not our goal to argue for or against the gender based taxation in North Macedonia, but to present the current situation in the differences and gender gaps between the male and female in the country and discuss the taxation as a manner to contribute to the gender equality and the tax compliance.

Gender responsive budgeting

When we discuss the taxation in the context of gender equality it is inevitable to mention Gender Responsive Budgeting (GRB). The GRB is a concept – and a policy tool – increasingly viewed as a bridge between the two parallel agendas focused on gender and on domestic revenue mobilization. The concept has been initially

¹³Ugo Colombino and Edlira Narazani, Closing the Gender Gap: Gender Based Taxation, Wage Subsidies or Basic Income?, JRC Working Papers on Taxation and Structural Reforms No 03/2018, EC, 2018, available at <https://ec.europa.eu/jrc/sites/default/files/jrc113507.pdf>

¹⁴ Against 'Gender-based taxation', Gilles Saint-Paul, Toulouse School of Economics and Birkbeck College, November 30, 2007, https://www.researchgate.net/publication/4845450_Against_'Gender-based_taxation'

¹⁵ Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) GmbH, Governance and Democracy Division, Why care about Taxation and Gender Equality?, available at <https://www.oecd.org/dac/gender-development/44896295.pdf>.

introduced in Australia (in the 1980s, where the initiative did not last), and since then its implementation has spread to more than eighty countries (IMF, Stotsky, 2016¹⁶).

Gender budgeting was given an additional impetus by the Fourth World Conference on Women, in 1995 in Beijing, which called for ensuring the consideration of a gender perspective and women's needs in budgetary policies and programs¹⁷.

Across the world, adopted measures range from "modified fiscal policies and programs to ensure that the budget contributes to the closing of gender gaps and women's advancement" to collection and analysis of information "on the different needs of women and the differential effects of fiscal policies on women and men".

The most elaborate GRB efforts (for instance in India, Mexico, Austria, Rwanda, and Ecuador) have led to changes in fiscal policies towards health and education or to greater gender-sensitive accountability in public spending. In the majority of countries, however, the most common practice is "setting up relevant administrative machineries or conducting training sessions for public officials" (Stotsky, 2016¹⁸). Thus, while aiming to make women's invisible labor and needs legitimate to the state fiscal and budgetary apparatus, most GRB efforts have not gone too far. Limited in their effect on the distribution of revenue, they have generally not even addressed the ways in which revenue is being mobilized – even though revenue mobilization has been, at times, an equally important consideration in GRB analysis by scholars and early advocates¹⁹. There are an abundance of documents, guidelines, analyses, research on the subject available by many organizations and institutions such as the EIGE²⁰; OECD²¹; UNWOMAN²²; OXFAM²³ and many more. According to the UNWOMEN office in North Macedonia, and supported by SDC and SIDA, "North Macedonia has made significant efforts to advance gender equality and to integrate gender-responsive budgeting in national planning and policy making. Since 2014, a methodology on gender responsive budgeting (GRB) is being implemented by central government institutions in response to the provisions set in the law on equal opportunities of women and men (2012) and the budget circular which uninterruptedly continues to stipulate gender-specific obligations. The current public financial management reform presents an avenue for effective use of gender-responsive budgeting at all levels of policy making and budgeting" a

¹⁶ Janet G. Stotsky, Gender Budgeting: Fiscal Context and Current Outcomes, IMF Working Paper WP/16/149, available at <https://www.imf.org/external/pubs/ft/wp/2016/wp16149.pdf>

¹⁷ Fourth World Conference on Women, United Nations Entity for Gender Equality and the Empowerment of Women - UN Women, available at <https://www.un.org/womenwatch/daw/beijing/platform/>

¹⁸ Janet G. Stotsky, Gender Budgeting: Fiscal Context and Current Outcomes, IMF Working Paper WP/16/149, available at <https://www.imf.org/external/pubs/ft/wp/2016/wp16149.pdf>

¹⁹ Taxing for inequalities: gender budgeting in the Western Balkans Vesna Bojicic-Dzelilovica and Aida A. Hozicb a London School of Economics, London, UK; b Department of Political Science, University of Florida, Gainesville, FL, USA

²⁰ European Institute for Gender Equality (EIGE), Gender budgeting, <https://eige.europa.eu/gender-mainstreaming/methods-tools/gender-budgeting>

²¹ OECD, Gender budgeting, available at <https://www.oecd.org/gov/budgeting/gender-budgeting.htm>

²² United Nations Entity for Gender Equality and the Empowerment of Women - UN Women, www.unwomen.org

²³ Oxfam, <https://policy-practice.oxfam.org/resources/>

process led by both the Ministry of Finance and Ministry of Labour and Social Policy, in partnership with UN Women²⁴.

Current situation of gender differences in North Macedonia

Poverty and gender

The SSO measures the living standard in North Macedonia with the Laeken poverty indicators, among others, based on the Household Budget Survey. The basic poverty indicators for poverty, structured by gender, in North Macedonia indicate, that in 2019 overall there are 22.6% of the population at risk of poverty with almost 1 pp difference between male and female, i.e. 21.1% of males and 22% of females are at risk of poverty.

In terms of the economic activity i.e. employment status, while male face higher poverty rate among those who are employed, unemployed and pensioners, there is higher poverty rate among females who are in the category of labor inactive persons.

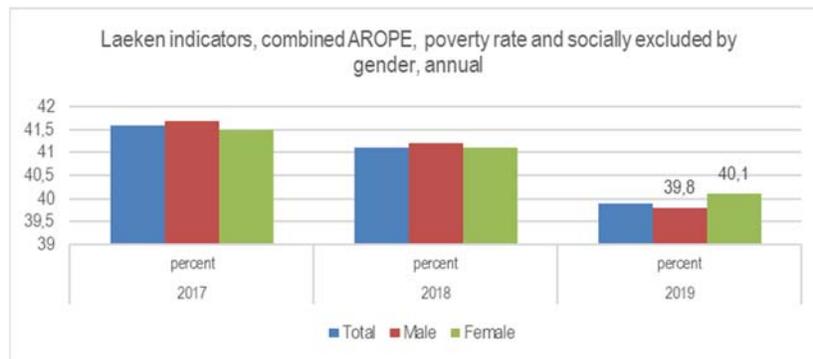
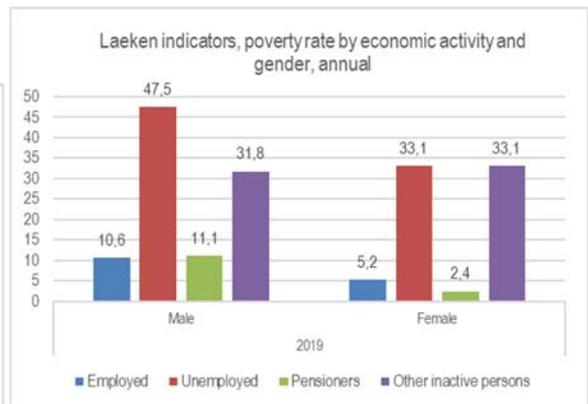
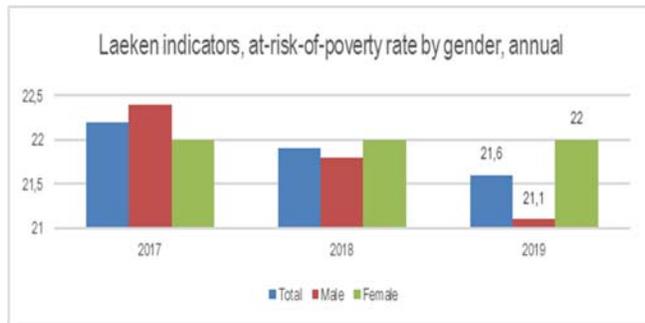
Although these indicators without the context of the labor market, does not pose a striking gender difference and inequality, however once the labor participation rate of women vs. men is presented, the differences are much more striking.

Namely, as presented below, the total inactive female is 63% of the total inactive population. Furthermore, the ratio between the active (employed and unemployed looking for a job) to inactive on the labor market per gender is 48% for male, and 121% among female²⁵. Measured through the AROPE²⁶ the difference between women and men is 1.3 pp gap not in “favor” of female.

²⁴ National Planning and Budgeting, article, available at <https://eca.unwomen.org/en/where-we-are/north-macedonia/national-planning-and-budgeting>

²⁵ In 2020 there are 379 thousand females active on the labor market (out of whom 325 employed and 54 thousand unemployed) and 461 thousand not active on the labor market; at the same time there 565 thousand males active on the labor market (out of whom 470 employed and 96 thousand unemployed) and 276 thousand not active on the labor market; Data of SSO labor market data, 2021

²⁶ At risk of poverty or social exclusion, AROPE, corresponds to the sum of persons who are either at risk of poverty, or severely materially and socially deprived or living in a household with a very low work intensity



Source: SSO, www.stat.gov.mk, Labor market data, Laeken indicators, 2021

Labor force and labor participation gender differences

Women in North Macedonia compared to men, face less favorable situation on the labor market, which can be seen by the lower employment rates and lower labor market participation rates. The gender gap in both employment and labor participation is quite large and above the EU average.

Women represent 41% of the total labor force (vs. 60% of men), and 62% of women are inactive on the labor force (vs. 38% of men). It is much less likely for female to be active in the labor market than men (based on SSO data of LFS).

The low participation rate is a “loss” since the productive capacity is underutilized i.e. foregone. In a study of Cuberes & Teignier (2016²⁷) for multiple countries among which for North Macedonia, they estimate that the long run total income loss due to gender gaps is amounting to 20% (for data of 2011).

Table 1 Gender differences on the labor market in North Macedonia for 2020

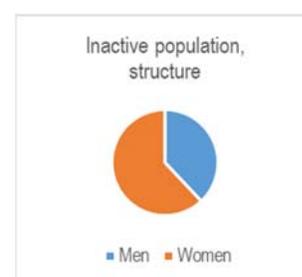
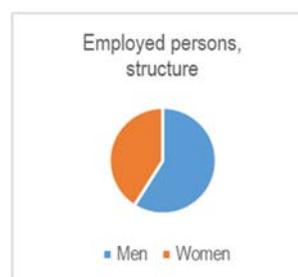
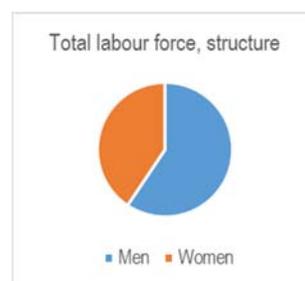
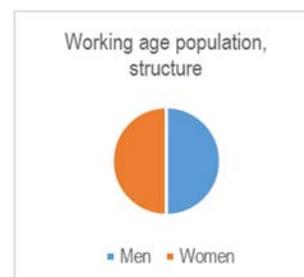
	Working age population		
	Total	Men	Women
Absolute number	1.685.589	843.707	841.881
Structure by gender in %	100	50	50

	Total labour force		
	Total	Men	Women
Absolute number	950.858	566.178	384.680
Structure by gender in %	100	60	41

	Employed persons		
	Total	Men	Women
Absolute number	794.909	471.564	323.344
Structure by gender in %	100	59	41

	Unemployed persons		
	Total	Men	Women
Absolute number	155.949	94.614	61.335
Structure by gender in %	100	61	39

	Inactive population		
	Total	Men	Women
Absolute number	734.731	277.529	457.201
Structure by gender in %	100	38	62



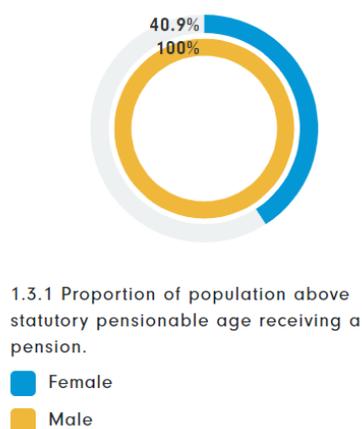
Source: based on data of the SSO of North Macedonia, Labor Force Survey for 2020, www.stat.gov.mk

²⁷ Cuberes, David; Teignier, Marc (2016). Aggregate Effects of Gender Gaps in the Labor Market: A Quantitative Estimate. Journal of Human Capital, 10(1), 1–32. doi:10.1086/683847

From a tax perspective due to the inactivity and productivity which is underutilized, there is a significant potential loss of possible incomes and income taxes that are not earned (forgone). This is also related to the taxes in the form of social benefits that are lost as well.

This is further reflected in the gender gap of social security in the elderly age through pension as well. According to the UNWOMAN's Count²⁸, measuring the performance of the SDG for Gender equality, for North Macedonia, the indicators for gender gap for prisoners receiving pension is significantly large. While 100% of men receive pension (as proportion of the persons of statutory pensionable age) this percentage of women is only 41%.

Figure 1 Proportion of population above statutory pensionable age receiving a pension



Source: data from <https://data.unwomen.org/>

Gender earning gap

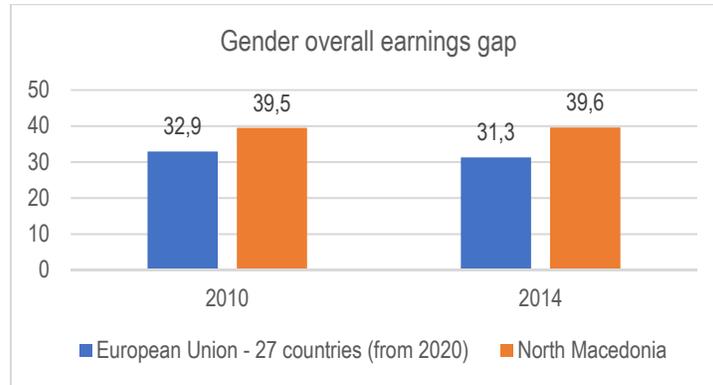
According to the EUROSTAT data for the EU countries including North Macedonia for the available periods of 2010 and 2014 the gender overall earning gap²⁹ as a synthetic indicator is evident, on an EU level but more pronounced when compared to the situation in North Macedonia.

²⁸ United Nations Entity for Gender Equality and the Empowerment of Women - UN Women, Women Count, North Macedonia, available at <https://data.unwomen.org/country/north-macedonia>

²⁹ EUROSTAT description: The gender overall earnings gap is a synthetic indicator. It measures the impact of the three combined factors, namely: (1) the average hourly earnings, (2) the monthly average of the number of hours paid (before any adjustment for part-time work) and (3) the employment rate, on the average earnings of all women of working age - whether employed or not employed - compared to men.

It indicates that considering the hourly earnings, monthly hours paid and the employment rate in a composite index, women regardless if employed or unemployed earn in average only 31% of what man earn.

Figure 2 Gender overall earnings gap, Eurostat synthetic indicator

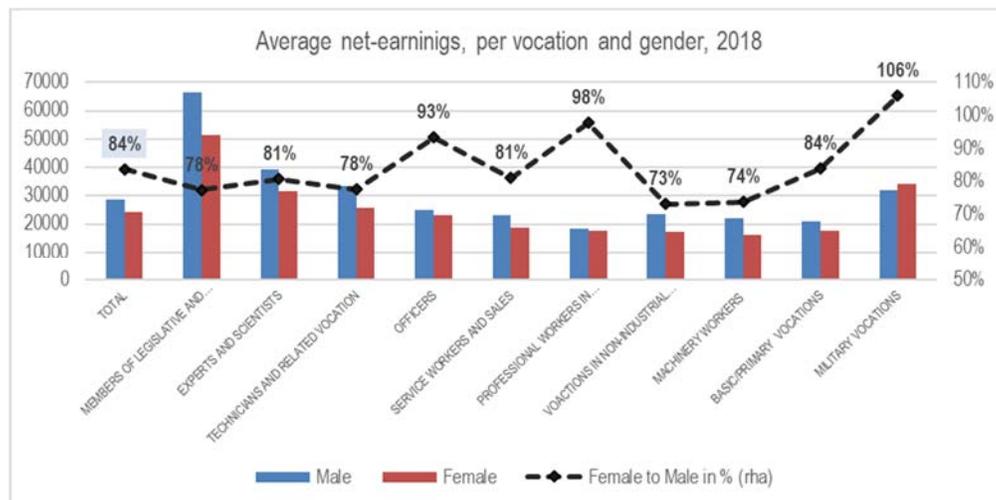


Source: EUROSTAT, Gender overall earnings gap

According to the latest national SSO statistics for the average net earnings, (assessed once in four years) in 2018 the gender gap in North Macedonia is still significant. In average, regardless of the vocation, female's net earnings are 84% of male's net earnings.

There are larger or minor differences i.e. gap, among employees' earnings of different gender, in favor of male in almost all vocations. These are especially pronounced with largest differences in technical vocations, non-industrial workers, among primary vocations as well as the executive and legislative bodies.

Figure 3 Average net-earnings per vocation and gender for 2018 in North Macedonia



Source: SSO, www.stat.gov.mk, Average net earnings

Gender gap status in short: North Macedonia

There are large gender gaps in:

- labor-force participation,
 - earnings among workers, and
 - the decision to start a business.
- The country is placed 73rd out of 156 in the latest WEF's 2021 Global Gender Gap Report² overall ranking (drop of 3 places compared to 2020), with a scoring of 0.715 (in a range from 0-1), and on a sub-index level for:
 - economic participation and opportunity, with a score 0.647
 - educational attainment, 0.977
 - political empowerment, 0.267
 - health and survival, 0.977



Source: WEF's 2021 Global Gender Gap Report, https://www3.weforum.org/docs/WEF_GGGR_2021.pdf

- There is a 20 percentage point gap in labor-force participation between women (41 percent) and men (60 percent).
- Sixty two percent of the inactive population is female, which is 54% of the total working age female population (vs. 33% of male)
- Although with higher education than men, women earn on average 16 percent less than men in comparable posts
- Estimates are that 27% of landowners are female¹

(¹<https://www.fao.org/3/cb0173mk/CB0173MK.pdf>)

(² https://www3.weforum.org/docs/WEF_GGGR_2021.pdf)

Women also experience discrimination in the inheritance of property. Although the legal framework on inheritance promotes gender equality, in practice the situation is not such. Furthermore, the constitution provides incentives for siblings living on their parent's property to be heirs of the property, whereas those that do not live on the property have the right to renounce their inheritance. In practice, women married away from their parents' houses are expected to renounce their share of inheritance, thus the inheritance and property transfer within the household privileges men. It is estimated that 73% of all property owners are male while 27% are female.

Gender issues in taxation

As of 2005 the OECD and other organizations began to recommend that countries should prioritize tax and spending cuts to stimulate economic growth i.e. "taxing for growth". Throughout the following period the dominant focus of the OECD in particular, continued to be on tax and spending changes as most likely to promote economic growth.

The following phase called "going for growth" recommends that the countries which reduce corporate and top personal income tax rates and at the same time continue to use tax subsidies and tax holidays to reward overseas business investment; raise larger shares of total revenues with flat-rated property, VAT, and environmental taxes; reduce employment, income security, and housing benefits; eliminate trade barriers; and increase married women's involvement in paid work³⁰. In the past two decades both OECD and IMF had begun to address growing gaps between rich and poor and the income and gender inequalities was incorporated in the interest and research.

In this direction the literature led to the notion that increasing women's involvement in paid work could drive GDP growth, a focus that has been to a higher degree incorporated within the fiscal policies in high income countries, but less in lower income countries.

Each tax can and should be considered specifically in analyzing the gender perspectives and possible inequalities. The institutions of different rank and coverage, including Ministries of Finance, tax managing offices, gender equality institutions as well as the nongovernmental organizations, all need resources to develop capacity to evaluate the impact of tax and other fiscal policies have on gender equality.

In the least, it is necessary to benchmark the many gender effects of specific types and instances of tax laws, changes in tax laws and other fiscal policies, to ensure that impacts are consistent with the goals of taxing

³⁰ Kathleen Lahey, Gender Taxation and Equality in Developing Countries Issues and Policy Recommendations, 2018, <https://gender-financing.unwomen.org/en/resources/g/e/n/gender-and-taxation-discussion-paper>

for gender equality in the longer term, and promote accountability for gender equality in tax laws through implementation and monitoring procedures.³¹

A government (at a different level) should be able to track if the implementation of gender-equal taxation, as it will contribute to transparency of tax systems and gender budgeting, especially for the monitoring of the SDG implementation³². In order to have an effective implementation and monitoring of taxing for gender equality it is of essence to have adequate data and data gathering systems as well as statistics that incorporate gender disaggregated socio-economic and tax/expenditure data.

Furthermore, the data availability and quality will determine the scopes and possibilities for conducting adequate monitoring and analyses or even take corrective measures in assessing tax and fiscal policy options.

<i>Taxes and gender issues - general³³</i>		
<i>Personal income tax</i>	<i>Corporate income tax</i>	<i>Value added tax</i>
<p>- High income countries unlike lower and middle-income countries, collect more taxes through progressive personal income taxes (PIT) than through VAT-consumption tax;</p> <p>- PIT related tax law may have gender related issues such as:</p> <p>*not considering the ability to pay, in cases when in a country there is partial relief for minimum basic living costs which are costlier for women due to their lower average income than men;</p> <p>*equitable taxation, in cases when there are flat taxations, special tax exemptions that classifies the taxpayer, is likely to be more beneficial for those with higher incomes</p>	<p>-Corporations are taxed as separate legal entity and the general global trend for reduction of the CIT rates for 'taxing for growth' under the justification that in that manner the corporate investments will increase:</p> <p>- the gender issue arises when we empirically perceive that women are outside of the corporate businesses, and they are predominantly in the unincorporated sector, thus the structural gender differences produce different tax liabilities, after tax incomes, accumulated capital and wealth for these two types of businesses</p> <p>-thus every time the corporate tax rates are reduced relative to PIT the gender differences between after tax profits earned by women-led vs</p>	<p>-VAT as consumption tax, among the less developed countries is the predominant tax that contributes to the public revenues. Distributional studies imply that rising more revenues from progressive PIT to fund social protection combined with VAT reduced reliance, reduces after-tax inequalities among low incomes.</p> <p>- VAT is flat tax on consumption however considered regressive in impact since as tax on consumption only those with higher income can avoid paying VAT on full income by saving some of the income, but is intensified for those who are near or below the poverty levels.</p> <p>- Consequently is regressive by gender as it takes a larger share of the income of females, as a gender</p>

³¹ Ibid.

³² Ibid.

³³ Kathleen Lahey, Gender Taxation and Equality in Developing Countries Issues and Policy Recommendations, 2018, <https://gender-financing.unwomen.org/en/resources/ge/n/gender-and-taxation-discussion-paper>

<p>*efficiency in tax administration when there are countries when there is joint taxation of adult couples and usually women end up in paying more compared to singles and</p> <p>*adequacy of revenues when the social security benefits are proportional to the income, thus women are more affected as they are with lower employment rate.</p>	<p>men-led business increase as men's wealth in corporate shares, accumulated corporate assets and profits grow larger.</p> <p>Barriers to incorporation:</p> <p>-Women are often entrepreneurs and self-employed by necessity not choice (including women in agriculture), trapping the women in the area of micro businesses, and consequently unequal access to financing.</p>	<p>with lower incomes and lower ability to pay.</p>
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Source: Based on *Gender Taxation and equality in developing countries*, UNWOMAN, 2018

Findings of the national tax morale survey & gender differences³⁴

Gap between men and women & their tax behavior in North Macedonia

The conclusions in this sections are based on a primary data gathered from field surveys with a tailored questionnaire, on a representative sample comprised of heterogeneous population by using a multi-staged random sample of one thousand respondents, conducted on the territory on North Macedonia in the beginning of 2020.

Men in North Macedonia, compared to women, consider themselves as being more informed about taxes at both central and local level. On the other hand, women from urban areas are more informed compared to their male counterparts.

Regarding the perception about the central tax payment system and how clear it is, there are no differences between men and women. Six out of ten taxpayers consider the tax payment system at central level to be clear (understandable). Namely, compared to their female counterparts, the number of males with high school education, higher education and/or MA and PhD who think that the payment procedure is simple is twice as higher.

³⁴ Based on the CEA publication Даночниот морал во Република Северна Македонија Профил на даночните обврзници, available at <https://cea.org.mk/wp-content/uploads/2020/06/0.-Tax-payer-profile-socio-demo-economic-analysis-FINAL-CIP-08062020.pdf>

Regarding the justifying statements about tax avoidance, there are no significant difference between men and women. Over 50% of the respondents think that the tax avoidance is a misuse and has to be adequately sanctioned. Simultaneously, the perception about the level of corruption among local and central authorities is that it has remained unaltered or has even deteriorated, with no particular differences between men and women (consentaneous).

On the other hand, compared to their male counterparts, women tend to think more that tax avoidance is unacceptable if sanctions are lenient and they also think that tax fraud is unacceptable, which may indicate to a rather higher tax morale among women compared to that among men.

There are differences between men and women regarding the attitudes towards increasing the tax rates with the purpose of receiving better public services. Male taxpayers think that, in case when higher taxes are paid, the probability of receiving better services would be higher, unlike their female counterparts who think that an increase in tax rates would not bring them better services. It all indicates to potential differences in the level of trust in the public sector and effective spending of public money.

Although there are no greater differences between men and women regarding tax morale and tax behavior, the statements indicate that, unlike men, female taxpayers in RNM appear to be more disciplined when it comes to tax compliance. Since men are being better informed about taxes, as a result of it, they have better understanding of the national tax system and believe that the tax system is unfair. This, in turn, makes them more prepared to take risks unlike women. Just as Bordignon (1993) explained in his work that male tax payers are more prepared to take risks compared to women, it can provide an explanation as to why men are less disciplined when it comes to tax compliance compared to women.

Greater tax discipline for tax compliance can partially be assigned to the gender gap on the labor market. Compared to the highly developed European countries, the Republic of North Macedonia still marks a significant gender inequality and a gap between men and women on the labor market. Men participate with 59,9% on the labor market, compared to women who are represented by 40,1% on the labor market as employed. Regarding the inactive population, 37.7% are men and 62.3% are women (2019).

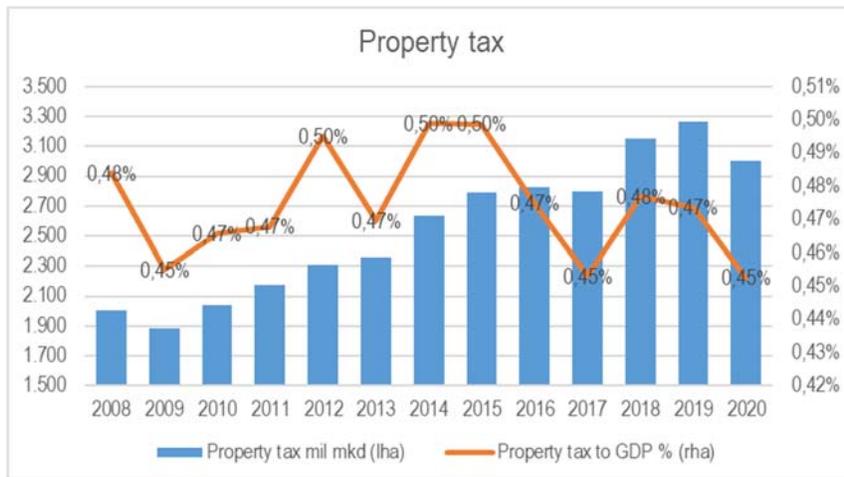
In addition to that, the pay gap between men and women is large as well. Hence women, in addition to being less active on the labor market, also may "fear" the risk of losing their jobs or failing to find a job. All those factors can contribute to women's better compliance, which in turn leads to greater discipline and higher tax morale.

Property tax compliance – selection of LSGUs

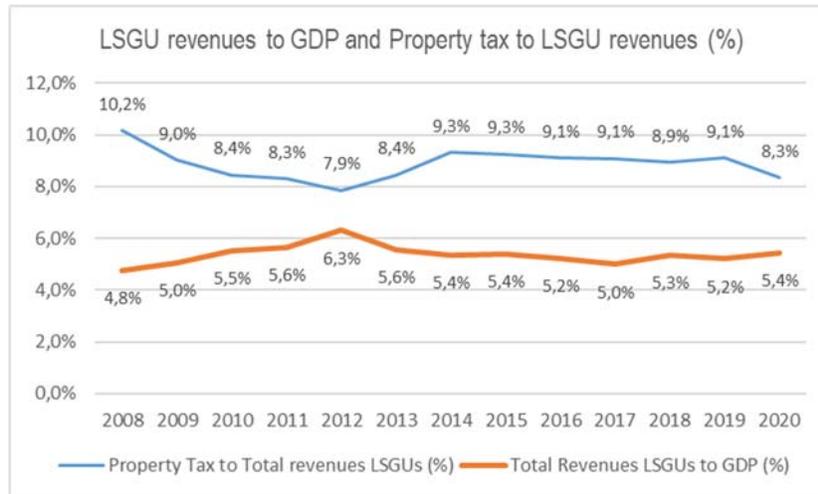
Property tax collected by the local government in North Macedonia as a contribution to the economic output provide relatively small and stable contribution of around 0.5% of the annual GDP. The contribution varies from lowest 0.45% to maximum 0.5% throughout the past decade.

Cumulatively for all 81 LSGUs in North Macedonia, the share of property tax collected as percentage of the total municipal revenues after 2014 shows slight declines with more significant drop in 2020, likely due to the Covid-19 effects, among other possible reasons.

The marginal annual growth of the total revenues per year have been slightly higher compared to the average annual growth of the property taxes collected. The average growth of the total revenues of the municipalities from 2008 to 2020 have been 5.3% while property tax revenues have in average grown by 3.6% in the same period.



Source: calculations based on data from MF local budgets



Source: calculations based on data from MF local budgets

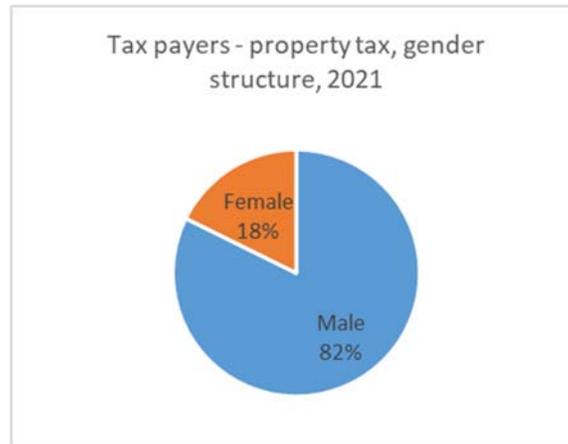
Gender structure of tax payers for property tax – selection of municipalities

Looking at the specific cases per municipalities from a gender perspective and structure, based on data gathered per municipality for 2021, for four specific municipalities, the data will be presented on a cumulative basis.³⁵

We considered a total sample of the records covering over 31 thousand tax payers (physical entities), owners of property, all physical entities. The data confirms that there is a significant gender ownership structure gap in North Macedonia.

The sample structure from the most recent records shows that 18% female versus 82% male own taxable real estate property. There are slight variations on a local level however, the gap is large (“the most” balanced is one of the LSGUs with ratio of 26% to 74%, in favor of men)

³⁵ The specific municipal data are not disclosed



Source: cumulative calculations, based on municipal records

In terms of degree of compliance, we divide the tax payers as compliant and non-compliant based on the existing balance for property tax i.e. non-compliant all tax payers in the records of the municipality with open balance for property tax, regardless of the amount owed, and compliant tax payer those with balance zero and do not owe any amount for property tax (the cut of dates are mid 2021).

Based on the four municipalities we have as a sample; the cumulative results indicate a significant overall non-compliance rate when it comes to property tax (for physical entities). Overall, less than half of the tax payers have fully paid their property tax liability on time (cutoff date mid 2021 for 2020). Regardless of the amount owed (cumulated debt), as well as regardless of the time when the liability has past the due date, we consider the overall balance per tax payer.

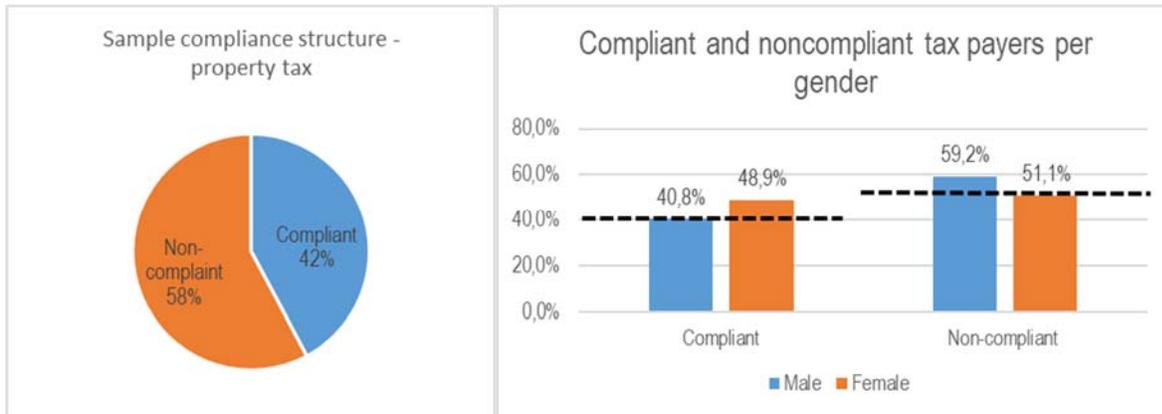
Merely 42% of all tax payers have fully paid their property tax throughout the period (compliant), while 58% of all tax payers (records of the LSGUs³⁶) have an open balance (overdue liability) for property tax. Within groups, there are vast variations among the municipalities, with a municipality with lowest ratio of compliant taxpayers: 26% to 74% and with highest ratio of compliant taxpayer of 83% to 17% non-compliant taxpayers. This implies that the local self-governments, depending on own created taxpayers profiles should consider different policies and measures to ensure that compliance is improved, which was already discussed in the CEA Tax project study of Property tax challenges³⁷ and should determine the local challenges.

The data show attention-grabbing results confirming the general global perception that women as tax payers are with higher tax morale, i.e. are more compliant, a finding that was also found on a national level based on the self-perceptions of women in North Macedonia as well. Based on the sample, cumulatively for the four

³⁶ The LSGUs in North Macedonia face a challenge (among other) with obsolete databases of taxpayers as well, that may affect the rate.

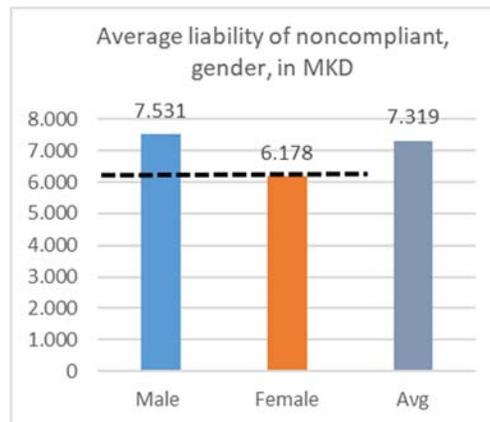
³⁷ Based on CEA Study: Предизвици во системот за локални даноци кај општините во Северна Македонија: Фокус на данокот на имот, available at <https://cea.org.mk/predizvitsi-vo-sistemot-za-lokalni-danotsi-kaj-opshtinite-vo-severna-makedonija-fokus-na-danokot-na-imoto/>

municipalities in North Macedonia women are by 8 pp more compliant than men (compared within their gender group).



Source: cumulative calculations, based on municipal records

Furthermore, the average liability of the male tax payer for property tax, considered as non-compliant is amounting to 7,531 denars versus the average female non-compliant tax payer with a liability for property tax of 6,178 denars (82% of the average amount owed by male tax payers).



Source: cumulative calculations, based on municipal records

Based on the RCT conducted in four municipalities in North Macedonia through behavioral nudging in property tax payment, the cumulative results for all tax payers treated with three types of letters with three different messages, indicates that there is an indication that women with liabilities for property tax react to

letters as well as men however with different magnitudes and frequency which is much dependent on the local context.

Namely, while in some municipalities women respond more than men i.e. with higher frequencies, in other municipalities the women do not respond to any (nudging) messages sent with a letter. In the randomized controlled trials, we treated a sample of the non-compliant tax payers with three different letters, with messages which 1) nudge the *social norm* or framing bias, when tax payers do not want to be generally different from the rest of the community; 2) message with explicitly emphasizing the *public good* benefits from the local taxes collected, and 3) and *deterrence* message emphasizing the possibility for forced collection of the liabilities due³⁸.

In the first round of the experiment among the municipalities, the results indicated that different messages have a different effect on the behavior of taxpayers by gender. The local effect by gender structure of the different messages in the sample shows that among those taxpayers who have been treated and have fully settled their debt after the receipt of the letter, there is a difference in gender response.

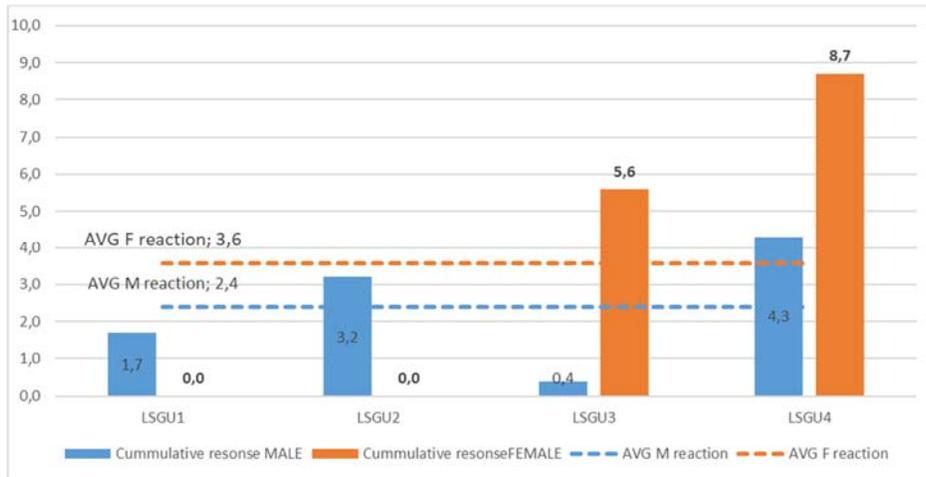
In total, on average for all three treated groups, regardless of the message, 7.8% of women fully settled their arrears, while 10.5% of men - taxpayers paid their property tax debt. The size of the effect per message shows a different picture:

- 10.4% of all women treated with a letter with a message for a social norm fully paid their liability, almost equal as 10% of men paid when treated with the same message.
- 4% of females treated with a letter message for the public good as value paid their liability in full, compared to 9.6% of males.
- deterrence message also has an effect on women, but to a lesser extent compared to men. Of the treated sample of women, 9.2% responded positively to a deterrence letter, and 12% of male taxpayers.

The general conclusion for all three municipalities is that women with partially lower intensity are affected by communication messages regardless of the message, mainly due to the lower intensity of the message for public good. However, it should be noted that the number of women in the sample, based on the actual distribution of property ownership by gender, is significantly lower, and much fewer female taxpayers have outstanding liabilities. In the sample of taxpayers, 14% are female and 86% are male. Furthermore, in two municipalities the females who responded to the nudge with paying the debt responded much more intensely to the public good and social norm messages and much less to the deterrence message.

³⁸ For more Промовирање на даночна одговорност преку увид во однесувањето на даночните обврзници
Случај: Данок на имот во избрани пилот општини во Северна Македонија, see more <https://cea.org.mk/wp-content/uploads/2021/03/1.-CUMMULATIVE-Analiza-16032021.pdf>

In the second round of RTCs, in three of the same and one additional municipality, the effects show slight difference. While in two out of four municipalities female tax payers respond to the received letters is almost nonexistent in the other two the reaction is larger than that of male. For example, one municipality while only 0.4 percentage of male responded with payment (% of treated males with all three letters who fully paid their overdue liability, reduced by the same category of control group), while 5.6 % female fully paid their liabilities.

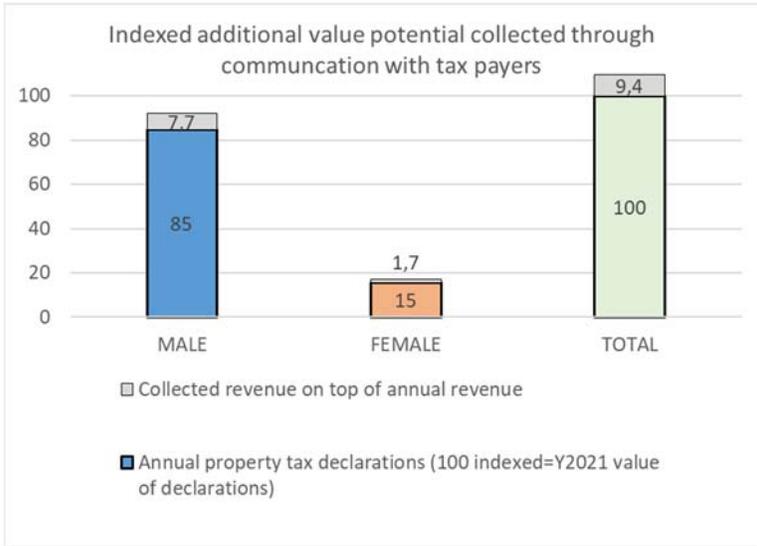
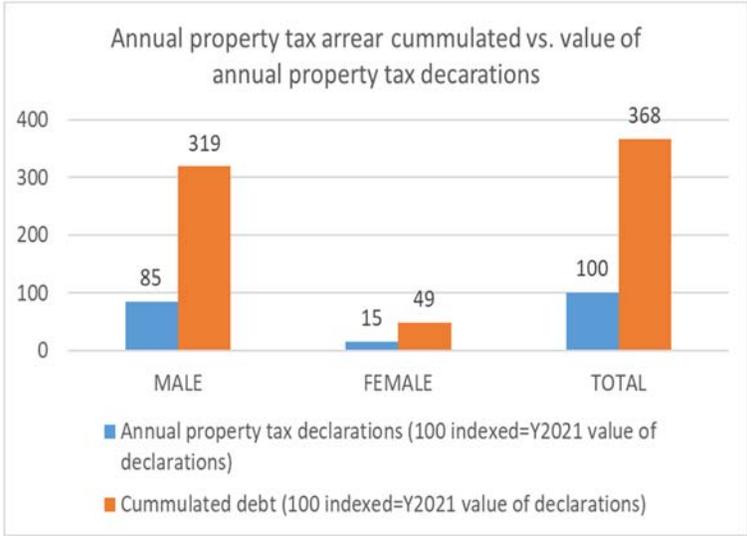


In order to assess a basic assumption for projection of the effect if implemented fully and regularly the effects can be significant. The selected municipalities overall on a cumulative basis have significant size (amount) of cumulated receivables for property tax (the amount and relative value varies in each municipality, while in some lower in other is very high, compared to the annual value of all property tax declarations issued (expected revenue). Cumulatively compared to the annual expected value of property tax (sum of all property tax declarations issued for 2021) the liabilities amount is almost 4 times larger (3.7 times).

It should be noted that this is a situation that is often result of: obsolete property tax databases, cumulated receivables for many years, no practicing of write-offs of receivables even after legally set deadlines, and no practice of debt collection (also set in the legislative).

Under these circumstances full debt collection thus is not feasible however under the assumption that the size of cumulated debt is relatively large throughout all municipalities and we can assume that the average response by females is 3.6% of the cumulated debt, and male react with 2.4% when adequately addressed we can assume that with an overall and organized process there is a possibility to collect additional 9.4% over the annual value of property tax.

	MALE	FEMALE	TOTAL
Annual property tax declarations value for sample (100 indexed=Y2021 value of declarations)	85	15	100
Cumulated property tax debt to annual property tax value (100 indexed=Y2021 value of declarations)	319	49	368
Collected revenue on top of annual revenue	7,7	1,7	9,4
Revenue collected on top of annual property declaration (100 indexed=Y2021 value of declarations)	92,2	17,2	109,4



Probability testing of the findings: treatment for non-compliant tax payers

This part of the document reports the PROBIT estimation results of the database collected during the social field experiment in four municipalities in North Macedonia (LSGU1, LSGU2, LSGU3, LSGU4). With the social field experiment, we tried to affect tax compliance by influencing property tax taxpayers' beliefs depending on different messages/letters they received: social norm, public good and deterrence. Results indicate that different messages proved to be effective depending on the municipality.

Methodology

We employ baseline summary statistic with an OLS regression of the pre-treatment variable in question on treatment dummies and a constant term. We also employ PROBIT model to estimate the causal effects of the treatment messages on tax compliance.

Baseline summary statistic with an OLS regression

Observations are unstructured presented the number of taxpayers per municipality. In the OLS regression the dependent variable is a binary variable (1=paid; 0=not paid), takes the value 1 if the taxpayer paid some amount of the total tax liabilities for the period of the experiment. The constant captures the value for the control group (no message). The social norm, public good and deterrence variables show the difference in MKD between the treatment groups and the control group. Results of the OLS regressions are presented in the next table.

Table. Baseline summary statistics from the OLS regression

Municipality Dependent Variable	Constant (1)	Social norm (2)	Public good (3)	Deterrence (4)
LSGU1 paid	0.112*** (0.000)	-0.010 (0.744)	-0.117 (0.586)	0.016 (0.620)
LSGU2 paid	0.265*** (0.000)	-0.026 (0.561)	-0.010 (0.816)	-0.027 (0.540)
LSGU3 paid	0.258*** (0.000)	0.039 (0.403)	0.067* (0.150)	0.054 (0.248)
LSGU4 paid	0.314*** (0.000)	0.015 (0.664)	0.020 (0.559)	0.033 (0.323)

The constant captures the value for the control group (no message). Columns (2)-(4) show the difference between the treatment groups and the control group. Monetary amounts are in Macedonian denars (MKD). Probabilities are in parentheses.

*** p<0.01, ** p<0.05, * p<0.1.

The results from the table illustrates that:

- For LSGU1:
 - More than 11% paid as a control group
- For LSGU2:
 - Some 27% paid as a control group
- For LSGU3:
 - Some 26% paid as a control group
 - The public good letter influences the property tax taxpayers' beliefs significantly
- For LSGU4
 - More than 31% paid as control group

PROBIT model

To estimate the causal effects of the treatment messages on tax compliance we employ PROBIT model. The model takes the following algebraic form as in equation (1):

$$Prob(Y_i = 1|X) = \Phi(\alpha + \beta_1 T1_i + \beta_2 T2_i + \beta_3 T3_i + \gamma Z_i + \delta_{is}) \quad (1)$$

where Y is the binary outcome variable equal to one if the individual taxpayer-i meets her tax obligations in the period; T-are binary variables representing the three treatment messages (T1=Social norm; T2=Public good; and T3=Deterrence), Z-is a vector of control variables comprising taxpayers' observable characteristics (age and gender) and δ -is a set of strata fixed effects.

In the next table we present the average treatment effects of the probit estimation described in equation (1). Dependent variable is a binary variable (1=paid; 0=not paid) and it takes the value 1 if the taxpayer paid some amount of the total tax liabilities. Estimations for the three municipalities include the three treatment messages (social norm, public good and deterrence), and fixed effects. The control variables are for age and gender.

Table. Probit regression statistics

	LSGU1	LSGU2	LSGU3	LSGU4
Constant	-1.032 (0.303)	0.419 (0.251)	0.039 (0.232)	0.084 (0.193)
Social norm	-0.067 (0.170)	-0.022 (0.186)	0.125 (0.137)	0.039 (0.094)

Public good	-0.095 (0.175)	0.001 (0.140)	0.193 (0.136)	0.051 (0.093)
Deterrence	0.088 (0.168)	-0.065 (0.143)	0.157 (0.137)	0.093 (0.093)
Age	-0.001 (0.004)	-0.019 (0.003)	-0.012 (0.003)	-0.010 (0.002)
Gender	-0.207 (0.166)	0.218 (0.138)	0.044 (0.110)	0.120 (0.085)

Dependent variable used in each regression identified in the header. The set of regressions includes the three treatment messages, control variables and block-level fixed effects. Note that the interpretation of the coefficient values is complicated by the fact that estimated coefficients from a binary model cannot be interpreted as the marginal effect on the dependent variable³⁹.

Number of observations n for LSGUs, n1=774; n2=781; n3=793, n4=1567.

The results from the table illustrates that:

- For LSGU1:
 - Gender is statistically significant. Male have higher tax compliance behavior than females in LSGU1.
 - The H-L and the Andrews test statistic show mixed results in testing goodness of fit of the probit regression⁴⁰.
- For LSGU2:
 - Age and gender are statistically significant. The older the taxpayer the less tax compliance in LSGU2. Male have higher tax compliance behavior than females in LSGU2.
 - The H-L and the Andrews test statistic show satisfying goodness of fit of the probit regression⁴¹.
- For LSGU3:
 - The public goods and deterrence letters influence the property tax taxpayers' beliefs significantly.
 - Age is statistically significant for tax compliance in LSGU3. The older the taxpayer the less tax compliance in LSGU3.
 - The H-L and the Andrews test statistic show satisfying goodness of fit of the probit regression⁴².
- For LSGU4:
 - Age and gender are statistically significant. Male have higher tax compliance behavior than females in LSGU4.

³⁹ See more: http://www.eviews.com/help/helpintro.html#page/content%2FImdep-Binary_Dependent_Variable_Models.html%23ww37432.

⁴⁰ Ibid.

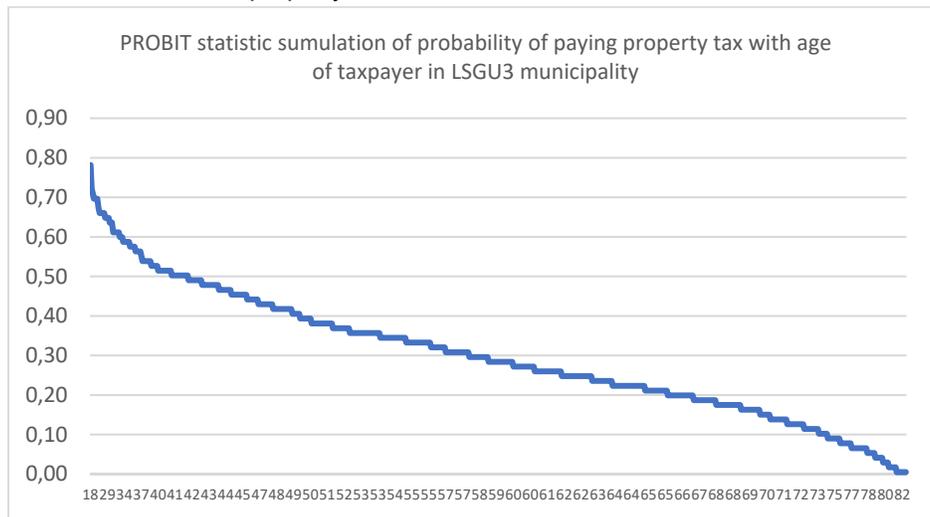
⁴¹ Ibid.

⁴² Ibid.

- The H-L and the Andrews test statistic show satisfying goodness of fit of the probit regression⁴³.

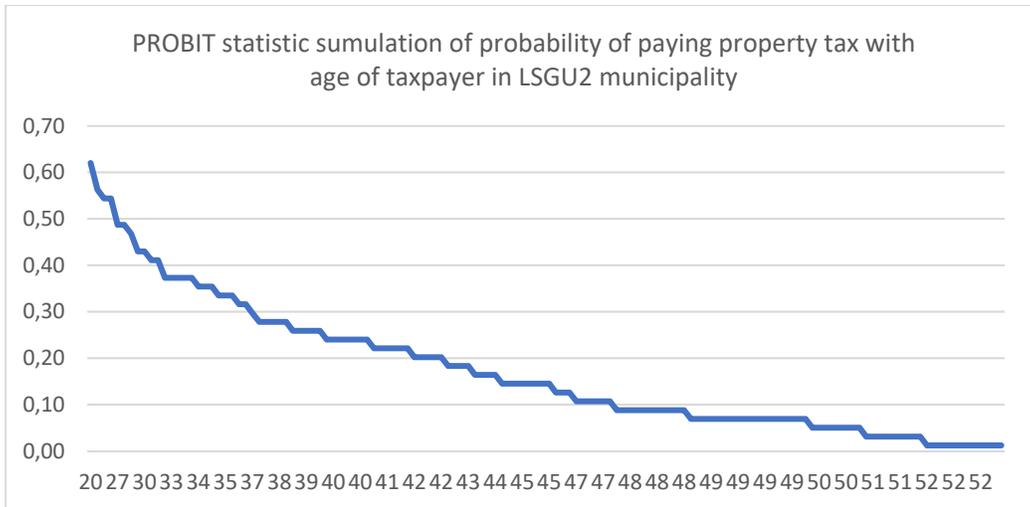
Probability to pay local taxes depending on age of taxpayer

- LSGU3
 - Highest probability to pay local taxes is 78%
 - More than 50% probability to pay local taxes if younger than 40 years
 - Those older than 82 do not pay local taxes, to be deleted from database or to update the database for that property



- LSGU2
 - Highest probability to pay local taxes is 62%
 - More than 50% probability to pay local taxes if younger than 27 years
 - Those older than 52 do not pay local taxes, to be deleted from database or to update the database for that property

⁴³ Ibid.



- LSGU4
 - Highest probability to pay local taxes is 77%
 - More than 50% probability to pay local taxes if younger than 49 years
 - Those older than 98 do not pay local taxes, to be deleted from database or to update the database for that property

Conclusions & Recommendations

- Based on a national wide representative sample survey for tax morale in North Macedonia, females have shown higher tax morale compared to male;
- Gender gap in North Macedonia is pronounced in several areas not in favor of women, including at risk of poverty, labor market participation, social security at elderly age as well as earnings gap;
- The gaps between male and female in the various areas cause indirect inequality through tax policies as well, primarily due to the fact that females have less disposable income, less social security, are less active in the business sector as owners;
- Gender gap structure in property ownership in North Macedonia is large, as predominant owners of properties are males;
- In line with the findings, even though represented with significantly lower percentage, females are more tax compliant compared to the males in the sample;
- Out of the non-compliant tax payers in the sample, overall males respond more frequently to tax nudging messages compared to non-complaint tax payers - females; nevertheless, out of those who respond to nudges females do not prefer deterrence messages;
- There is limited availability of gender disaggregated data in the attempts to assess the impact of different tax policies (or fiscal policies) have over female and males, both on national or local government level, thus as a result there is limited research on the subject;
- Considering the different impact, the tax policies have on the different genders there is a necessity for the policy makers to assess the impact on gender equity, and to detect and potentially remove any gender distortions that may be present towards achieving better gender equity;

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