Beyond income inequality in North Macedonia:
AN OVERVIEW

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Introduction

Inequalities have become a global concern in recent years as approximately 20% of global income has concentrated in the hands of the top 1 percent of earners (Alvaredo et al. 2018) who have enjoyed double the growth rates of the bottom half. Inequalities in human development are even more profound: a child born into an environment of high human development in 2000 has a 50-50 chance of participating in higher education, while a child born into a low human development environment has only a 3 percent chance (Human Development Report, 2019). The issue of inequality was at the heart of the Occupy movement protests and has received a huge amount of attention in the media and in policy and research circles. Income inequality, let alone inequalities in general, has seldom been discussed in North Macedonia, despite global debates regarding this topic.

The first fiscal data published in 2017 for this country showed 14% of income was concentrated in the hands of the top 1 percent of earners, reflecting the global situation of income inequality.

Inequality corrodes societies. There is growing body of evidence that inequalities in income and wealth – or inequality of outcomes – cause economic instability (Kaufman, 2018; Ostry et al. 2014), health and social problems (Kirsch and Ryff, 2018), and can concentrate political and decision-making power in the hands of a few, leading to suboptimal use of human resources, resource misallocation, corruption and nepotism, ultimately risking the outbreak of a crisis (Stiglitz, 2012). Widespread social and economic inequalities reduce social mobility across generations (Andrews and Leigh, 2009), undermine social cohesion, as well as inhibiting the adoption by governments of pro-environmental strategies. In general, inequalities in opportunities

entail large social costs. Given all these considerations, inequality has thus emerged as a central issue for the Agenda 2030.

The presence of some inequality, it has been argued, may not necessarily be harmful, as it may provide incentives for people to exercise their productivity, determined by their human capital endowments (Debla-Norris et al. 2015). Most notably, investment in education is expected to result in returns and differentials in labour earnings that spur economic growth, which itself typically generates inequalities. Inequality may also be beneficial in terms of incentivizing innovation and entrepreneurship (Lazear and Rosen, 1981), particularly in developing countries, with a small number of individuals accumulating the minimum capital needed to start a business and attain a good education (Barro, 2000).

The objective of this policy study is to present the state of the art with regard to inequalities in North Macedonia. In particular, we provide a review of existing data on the wider topic of inequalities, first by delving deeper into income inequality, and second by comparative analysis of income inequality with inequality of opportunities. Not much has been written on inequalities in North Macedonia to date, and therefore this study could be

seen as a pioneering study to set the stage. On the downside, however, the study does not attempt to provide answers beyond such setting of the stage, especially not at this point when almost all of the issues to be revealed below require further examination on their own, employing rigorous econometric techniques and with more granulated (micro-)data.

The remainder of this study is organized in six sections. Section 2 presents stylized facts on what we know about income inequality. Section 3 provides a more granular approach to understanding the top 1% of earners. Section 4 presents stylized facts on inequalities of opportunities and raises the question as to whether these inequalities should be the prime concern. Section 5 provides an empirical snapshot of how income inequality is correlated with inequalities of opportunities in North Macedonia. The last section concludes and offers policy recommendations for policy action.

What do we know about income inequality?

The measures typically used to assess income inequality include the Gini coefficient as well as the size and ratios of various income shares of the population, i.e. the widely used S80/S20 ratio, which uses the income shares of the top and bottom quintiles of income distribution. The top 1% of income share is now also frequently used, despite being more frequently based on tax administration data. Survey and administrative data are important not so much on account of the source (administrative data are always more precise and with fuller coverage of all population segments), so much as the unit of measurement. Namely, poverty and inequality analysis – in the standard sense used in the (economic) literature – always uses the household as its unit of analysis, and income poverty and inequality are analyzed through household income per household member. By contrast, administrative data are based on the tax files of each earning individual and they have the power to reveal precisely the share of the top earners. However, combining household-level calculations with administrative data is not possible, at least not as long as they are unaccompanied by additional efforts to match population registries (where these exist).

North Macedonia exhibited moderate inequality of income as measured by the Gini coefficient, at 31.9% in 2018.[1] This measurement is based on the Survey of

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[1] The Gini coefficient can appear in its market form, i.e. before any taxes and social transfers apply, and in its net form, i.e. after taxes and social transfers. In this article we refer to the Gini in its net form, (the Gini on disposable income), unless otherwise noted.

FIGURE 1

Gini coefficient – European countries, 2018 (or the latest available)
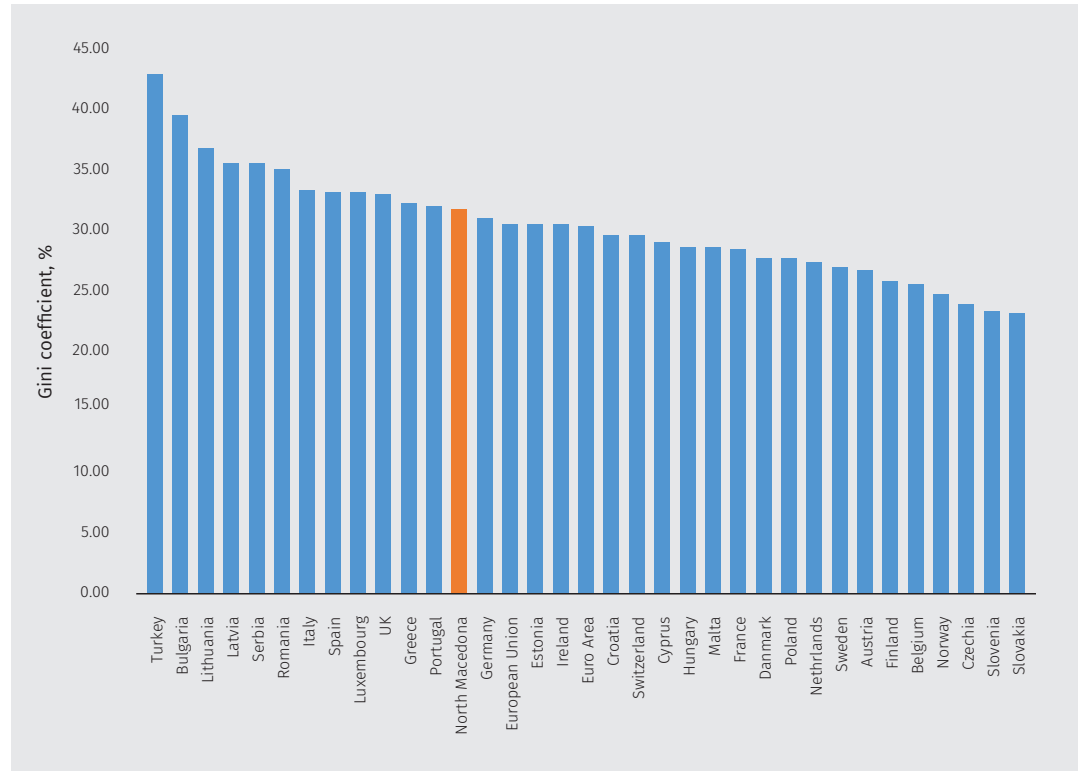
Source: Eurostat

Income and Living Conditions (SILC)[2] conducted in the country since 2010. **Figure 1** suggests that Macedonian income equality is similar to that of Germany and the EU average, slightly better than that of some EU members (notably Italy), but worse than others, such as Scandinavia.

Figure 2 observes the Gini coefficient in North Macedonia over time, and adds the S80/S20 ratio. Note that because the SILC has only been published since 2010, our series start only in that year. Both income inequality measures note a declining trend past 2010: the Gini drops from 40.9% to 31.9%, constituting a remarkable decline over eight years, while the S80/S20 marks even stronger decline from 11.3 to 6.2.

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2   Many specialists have argued that the EU-SILC methodology, which was originally developed to suit advanced EU counties in which poverty and material deprivation are not seen as major issues, does not lend itself well to middle-income countries such as North Macedonia. In particular, because the EU-SILC methodology does not place much weight on income/consumption in kind or on self-employed income (as do HBS methodologies), it systematically under-reports incomes from these sources. As such incomes are generally concentrated towards the bottom of the income distribution, the EU-SILC methodology may produce biased/ inaccurate estimates of income poverty and inequality.

FIGURE 2

Gini coefficient of North Macedonia, 2010-2018
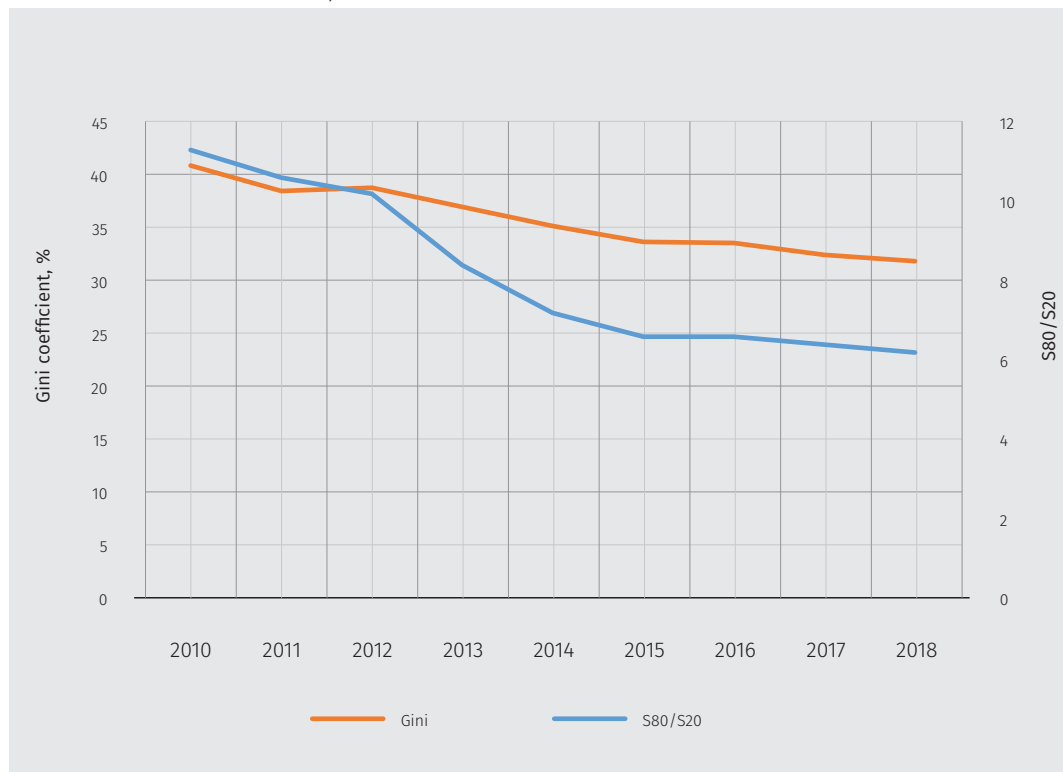
Source: SSO-SILC.

However, observing income inequality in North Macedonia only beyond 2010 may obscure the whole picture of inequality. We therefore endeavour to use alternative sources of information. **Figure 3** observes the Macedonian Gini coefficient over quite a long time span, utilizing the World Inequality Database (https://wid.world/country/macedonia/). This reputed database is now widely used in economics, with dozens of papers published in top journals. However, the database also has its critics (e.g. Jenkins, 2015) and hence should be used with a note of caution. The data suggest that North Macedonia had a Gini coefficient hovering around 27% when it became independent in 1991 and that this figure immediately soared in the first years of transition. The privatization of state-owned capital, which concentrated the then state assets in the hands of few socialist directors (latter commonly known as 'the oligarchs'), involving massive lay-offs of workers,

likely contributed to the sharp increase of income inequalities, rising to about 36% in 1996. After a period of moderation, income inequality started increasing again, with a more moderate trend from around 2004 until 2010. Subsequently, a declining trend is observed, which corroborates the SILC-based estimates in **Figure 2**.

FIGURE 3

Gini coefficient of North Macedonia, post-tax national income, 1983-2014
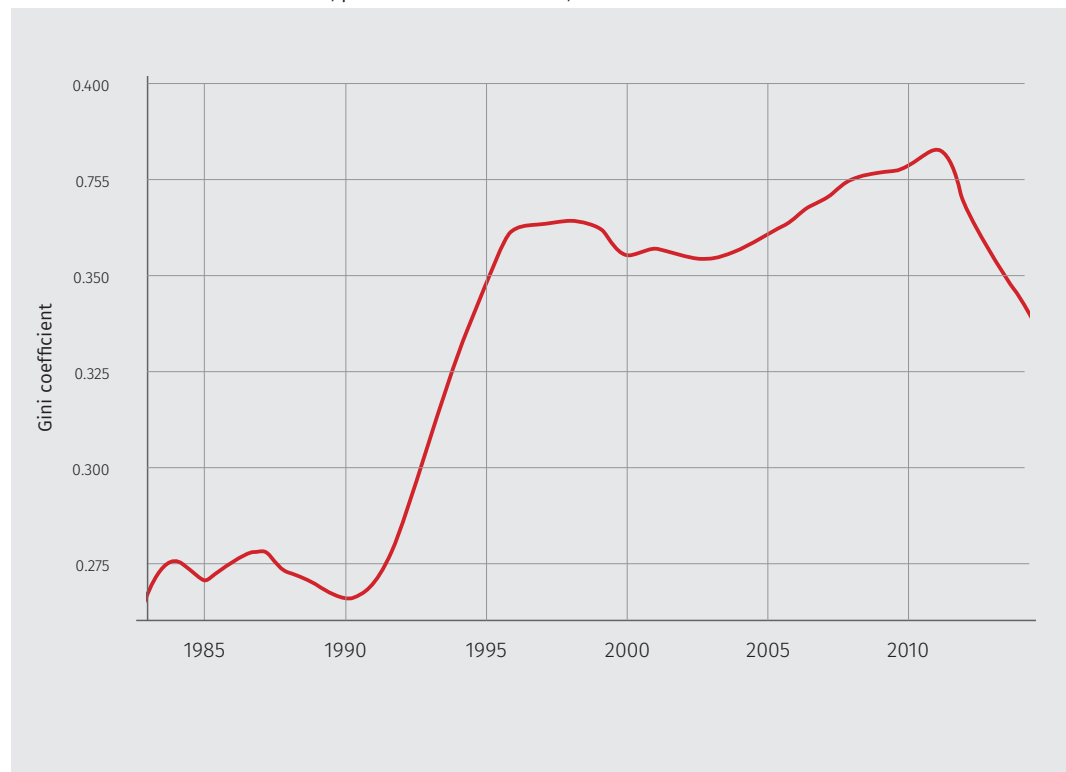
Source: World Inequality Database.

A declining Gini coefficient suggests that the position of poorer segments of the population improves relative to that of the rich. Indeed, this is observable in **Figure 4**, which presents the quintile income shares and suggests that the share of the lowest 40% increased by 5.6 percentage points (p.p.) between 2009 and 2017, while the share of the middle 60% increased by 7 p.p., both at the expense of a reduction in the share of the top quintile.

The favourable picture that emerges from the last decade has not been always the case. A longer-span look at accustomed income shares suggests distinct patterns (**Figure 5**). The position of the bottom 50% worsened in the first transition years due to massive lay-offs and companies' closures and did not pick up until around 2011. This is closely mirrored by the income share of the top quintile. The middle class – here defined as the middle 60% - stagnated since 1983, with some worsening in the late 1990s and continuous worsening beyond

2001 until 2010 when it started picking up (a trend also shown in **Figure 4**).

These graphs are thus quite indicative and provide early insights about the determiners of income inequality in North Macedonia. First, levels of inequality were severely exacerbated by the privatization process of the 1990s. Second, weak social policies, including the absence of a minimum wage policy, caused the left part (i.e. the poorer segments) of the income distribution unable to follow the income growth trend in the richer segments, which contributed to rising inequality throughout the 2000s.

The 2010s saw potentially large 'interventions' in the left side of the income distribution, which reversed the trend of rising inequality. These interventions included ad-hoc pension increases, increases in social assistance, the introduction and subsequent increases of a minimum wage, all of which brought

FIGURE 4

Income shares of North Macedonia, 2009-2017
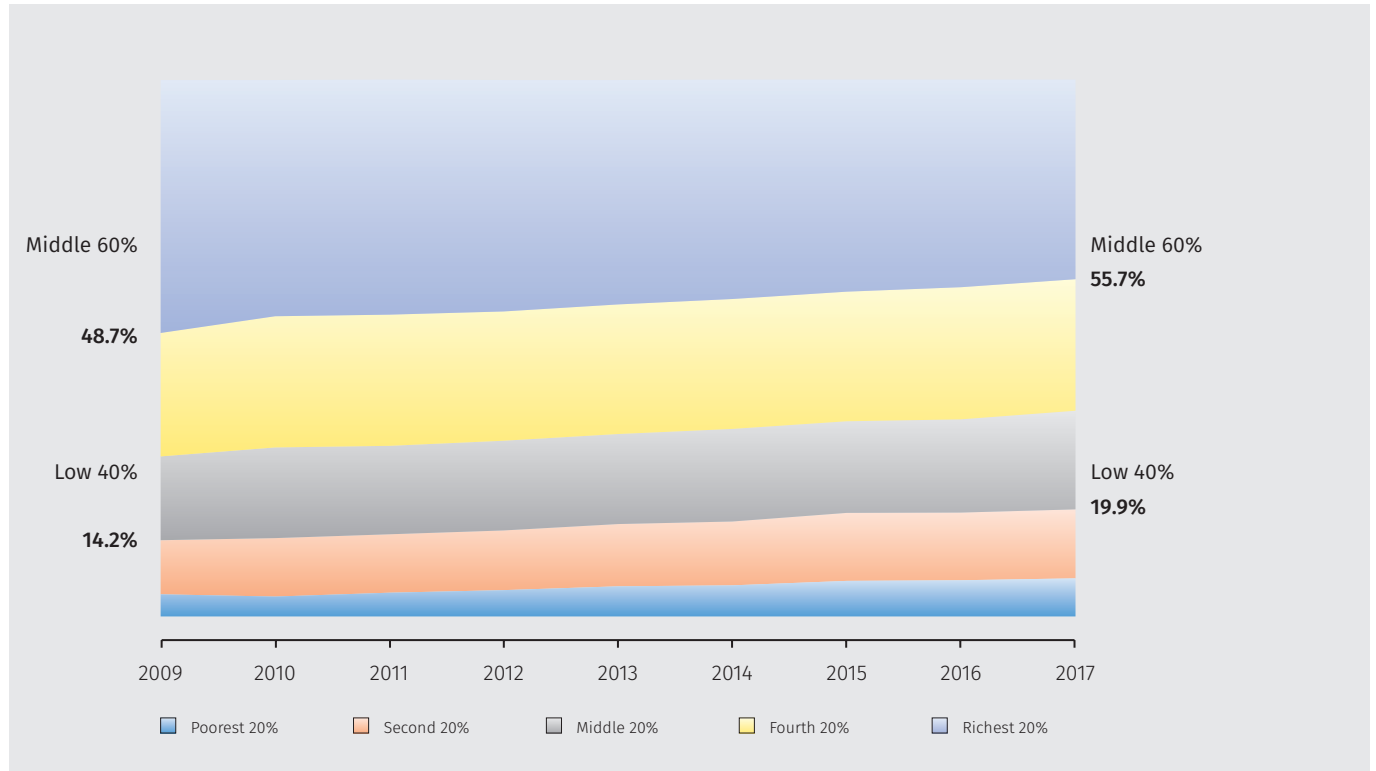
Source: SSO-SILC & World Development Indicators

FIGURE 5

Income shares (bottom 50%, middle 60% & top 20%) of North Macedonia 1983-2014

Source: World Inequality Database.

considerable relative improvement for poorer segments. The role of increasing minimum wages in reducing inequalities has been well established in the literature also (Jaumotte and O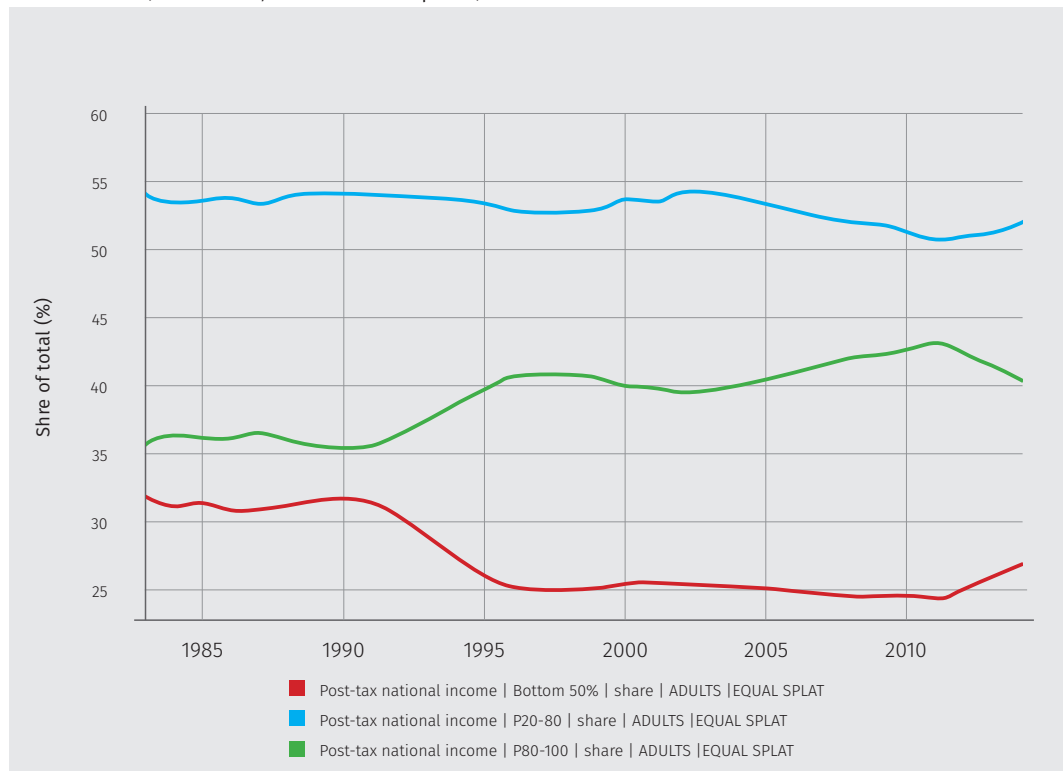sorio-Buitron, 2015). In general, the period beyond 2010 exhibited a more flexible labour market, though implications with inequality may be ambiguous. Other policies have also been introduced which, albeit with various objectives, have included substantive social components, above all the policy of agricultural subsidies. However, such measures should not necessarily be considered more effective in combatting income inequality, especially without considering their effects on public finances. The 2010s also saw an intensification of unemployment reduction and wage increases in the country, which are likely the key reasons for improvement among the middle class.

Which factors have worked against the achievement of even better outcomes for the poor and the middle class over the last decade? In the lower segments, improvements are considerably constrained by the existence of the informal sector, estimated to be between 25% and 40% the size of the formal economy. According to the latest estimates from the Labour Force Survey (LFS), 18.1% of all employed persons have been informally employed.

Certain policy deficiencies, such as the insufficiently well targeted social assistance system involving non-means-tested policies (including the third child policy: see Finance Think, 2016), reduced income gains for the poorer segments.

For the segments between the poorest and the middle class, as well the middle class itself, the concentration of workers in low-paid sectors remains a hurdle for achieving higher income gains (World Bank, 2018). Specifically, a large proportion of the workforce remains trapped in low-productivity sectors like agriculture and textiles. Another reason may be sought in the low unionization rates of workers. Based on the latest ILO estimates, the union membership density rate of 28% in North Macedonia reflects the low negotiation power of workers, which potentially exacerbates wage inequality (see, e.g., Frederiksen and Poulsen 2010; Jaumotte and Osorio-Buitron, 2015). Nevertheless, Petreski et al. (2019, forthcoming) provide evidence countering the existence of large wage inequalities in the country.

Over the entire period since independence, North Macedonia has been running different types of income tax systems, of which progressive measures (in place until 2007) were present with different intensities. However, the above trends do not provide grounds for stating a clear association between income inequality and the income tax system.

North Macedonia's top 1% of earners

Despite favourable developments in income distribution and apparent gains for the poor and middle segments of the population, it may yet be contested that 31.9% of Gini relaxes potential policy response geared towards richer segments. What happens at the very top of the income distribution is therefore especially relevant. In the absence of information from the national statistics about the top 1% of earners, we rely on alternative sources, i.e. the World Inequality Database and fiscal data. **Figure 6** presents the shares of the top 1% on the European continent and documents low to moderate top income concentration in North Macedonia, showing only 5.3% is earned by the top 1%. By this measure, North Macedonia thus actually ranks very favourably among all European countries, even lower than Scandinavian countries.

The picture differs, however, if fiscal income is considered. Fiscal income is different than national income in that it considers all income items reported on income tax returns before any deduction, but does not consider social transfers (which are anyway not relevant for top earners). On the other hand, national income considers the entire disposable income plus social spending. A second line of consideration is the apparently weaker quality of the data for capturing the national income of the top 1% in the developing part of Europe, e.g. the World Inequality Database does not contain the top 1% fiscal income share for North Macedonia (**Figure 7**).

The fiscal data recently published by the Ministry of Finance (MoF, 2017) provide some room for comparisons.[3] Such comparison should proceed with considerable caution, however, since even the World Inequality Database suggests that: "The concept of fiscal income varies with national tax legislations, so in order to make international comparisons it is preferable to use the concept of national income." Based on the MoF data, 14% of

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3   See: https://finance.gov.mk/mk/neednakvost

FIGURE 6

Top 1% post-tax national income share in Europe, latest available data
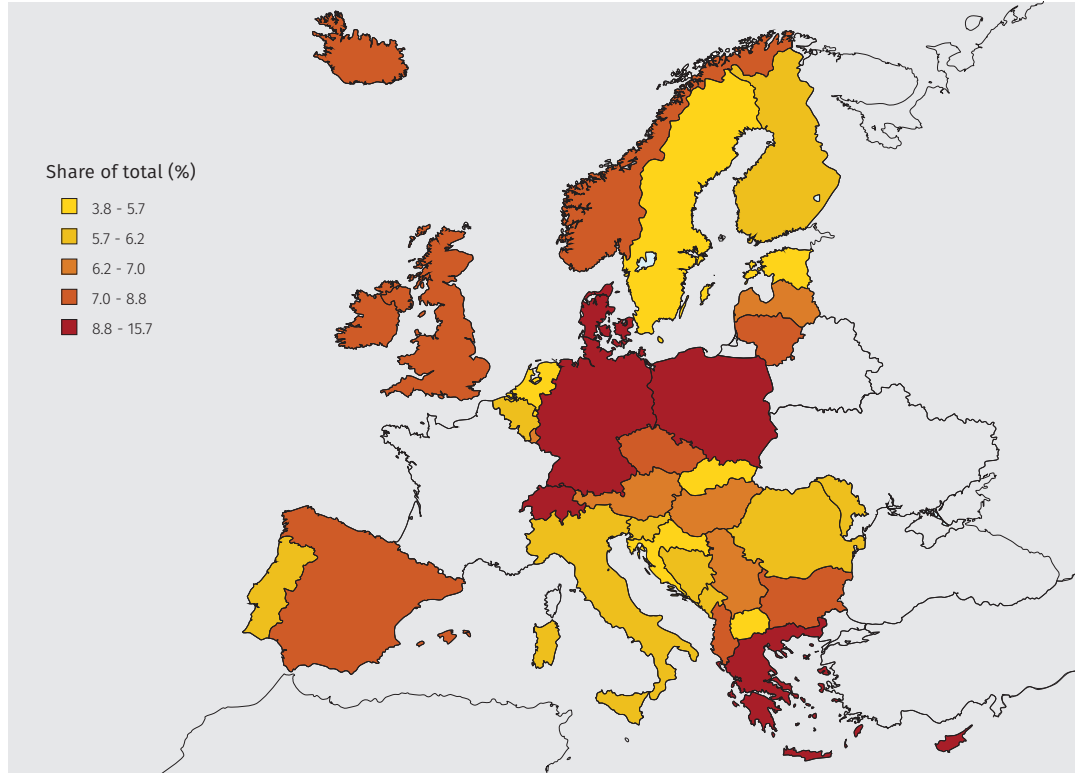
Source: World Inequality Database.

FIGURE 7

Top 1% fiscal income share in Europe, latest available data

Source: World Inequality Database.

FIGURE 8
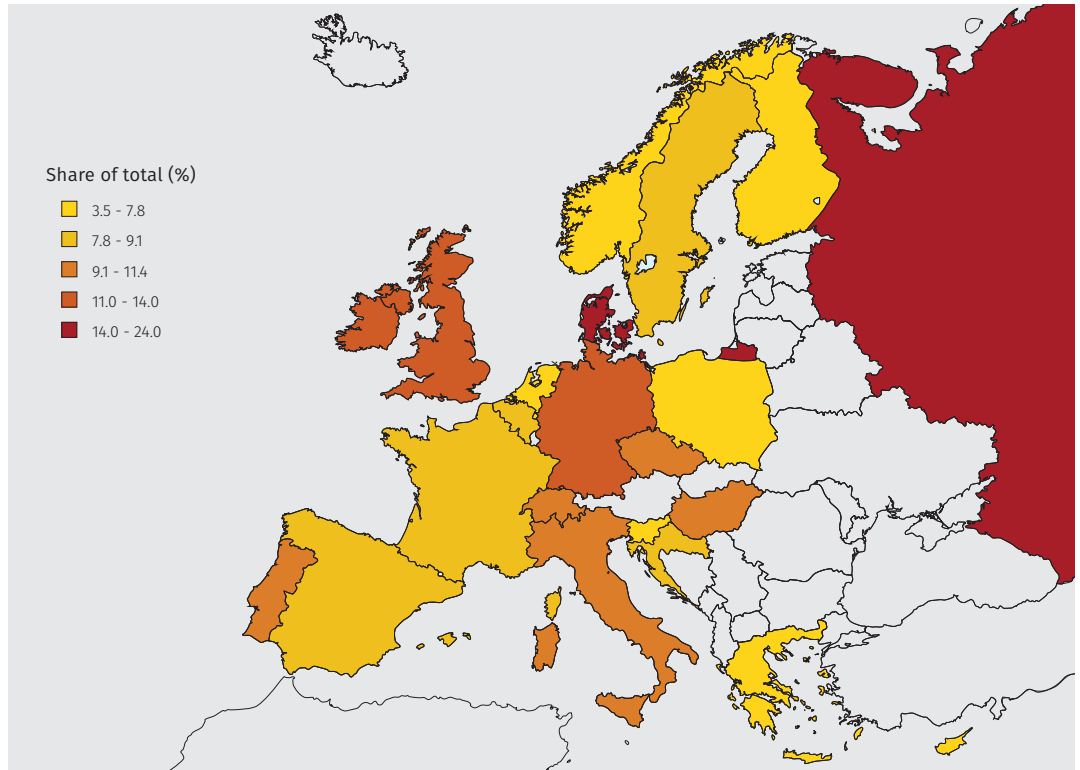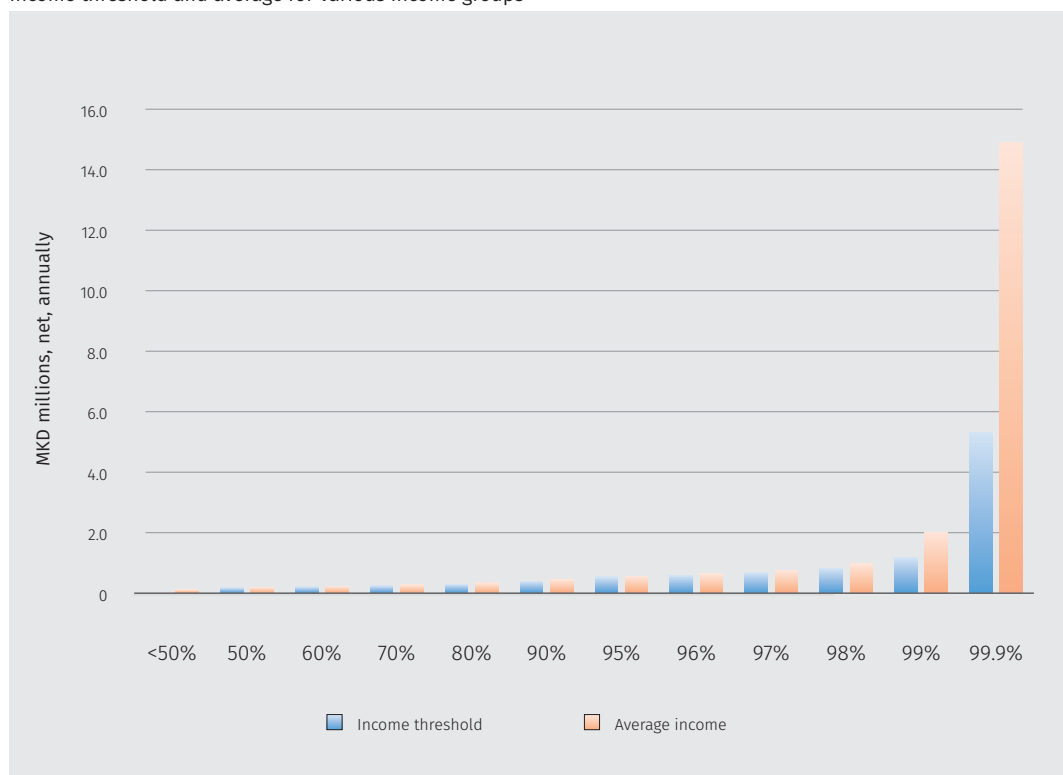
Income threshold and average for various income groups

Source: Ministry of Finance data.

fiscal net income in 2016 was earned by the top 1%, which if compared to **Figure 7**, positions North Macedonia at the high end of European countries, comparable to the United Kingdom and Russia. The income share of the top 1% grew slightly from 13.7% in 2014. Some estimates suggest that this share increased from levels that were as low as 6% in the mid-2000s.[4]

Only 9.1% of the wage mass belongs to the top 1%, suggesting that income inequality in the country is not significantly driven by wages. This finding is corroborated by Petreski et al. (2019, forthcoming) based on LFS data. On the other hand, 40.5%, 89.6% and 94.2% of rents, dividends and interest, respectively, go to the top 1%. The dichotomy between labour and

capital in the earnings of the top 1% is a clear sign of the source of income inequality in North Macedonia.

Assuming that the income share of the top 1% is rising, we have grounds to delve deeper into the issue. **Figure 8** sheds light on what potentially happens within the top 1%. Specifically, the top 1% is disaggregated on the top 0.1% and the remaining 0.9% of that centile. When the latter are compared to the rest of the income groups, then no special difference emerges. However, differentiating the top 0.1% - containing about 900 individuals – reveals a striking picture: their income threshold is five times that of their immediate neighbour and 14 times that of the 90th centile. The discrepancies in averages are even more striking: the average income in the top 0.1% is seven times that of the remaining 0.9% of the top 1% and an astonishing 34 times that of the 90th centile.

Figure 9 visualizes such discrepancies in a more compelling way. The average

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4 Such estimates are based on another inequality database: the Standardized World Income Inequality Database developed by Frederick Solt, version 4. (See more at: https://fsolt.org/swiid/.) However, the top 1% shares for North Macedonia are not available in the latest version (8) of the database, which may point to low quality data, hence we refrain from any strong inference based on these data.

FIGURE 9

Average income for the top 0.1% and the rest
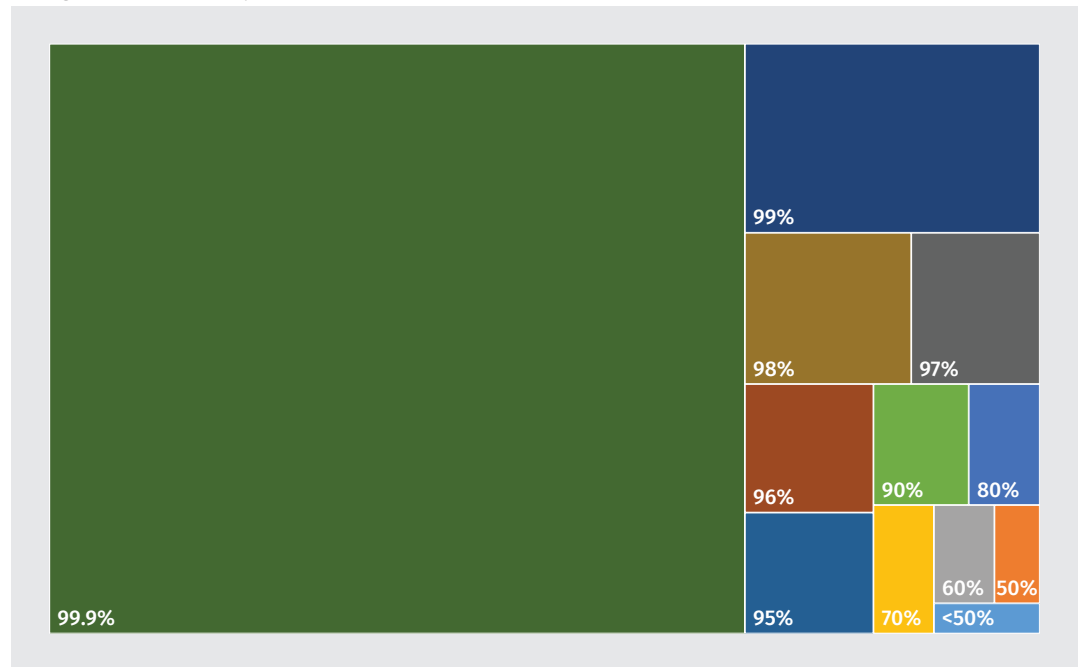
Source: Ministry of Finance data.

income of the top 0.1% captures nearly two thirds of the plot, while the income of the remaining 0.9% of the top 1% is not extraordinarily different than that of its three immediate neighbours. Therefore, if the top 0.1% are excluded, the rest of the picture reveals that the population is altogether relatively poor rather than too unequal in North Macedonia.

It remains relevant to seek reasons for the concentration of income among the top 0.1%. Assuming that the income share of the top 0.1% is rising, particularly since 2006, one potential reason may be the apparent regressivity in social contributions. Namely, a cap on the payment of social contributions of four average wages was introduced in 2007, which was subsequently increased to six (2012), 12 (2015) and 16 (2017) average wages. Based on the notion that solidarity has its own limits, this provided impetus for rising inequalities at the very top of the income distribution.[5] The period of rising

income shares for the top 0.1% overlaps with the expansion of foreign factories in the country, in which top positions are well known to be very highly paid.

Finally, the role of influence and lobbying should not be neglected. Indeed, North Macedonia went through a severe political crisis in the period 2015–2017, which included the revelation of wide-scale misuse of power for attaining economic gains, particularly prevalent in the handling of public procurement. The latest Human Development Report (2019) notes in this respect that "Those privileged can capture the system, molding it to fit their preferences, potentially leading to even more inequalities. Power asymmetries can even lead to breakdowns in institutional functions, weakening the effectiveness of policies" (HDR, 2019, p.11). The relationship between inequality and political power is well documented in the literature and is particularly associated with top earners. (For more on this, see: Gilens, 2012 and Kelly, 2009.

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5   There is even anecdotal evidence – a 'public secret' – that this legal provision was misused to extract cash from companies, which were only subject to a low rate of income tax, rather than paying it out as earned profit and hence paying profit tax plus personal income tax.

Are inequalities of opportunity more concerning?

Inequalities of opportunities arise from differences in circumstances beyond any individual's control, such as family background, location of birth, ethnicity, race and gender. Such inequalities, together with individual effort and talent, typically determine – or at least correlate with –inequalities in outcomes (income and wealth). Dabla-Norris et al. (2015) argue that it is not easy to separate effort and talent from opportunity, especially in an intergenerational context. For example, parental income, determined by their own effort, in turn determines their children's opportunity to obtain decent quality education. It is therefore difficult to argue that inequalities of opportunities are more important than inequalities of outcomes, though the former being a determinant of the latter may suggest that early interventions would certainly result in more equal outcomes. Rawls' (1971) argument that the distribution of opportunities and of outcomes are equally important and informative for understanding the nature and extent of inequality around the world thus remains highly valid.

In this section we analyse five key domains of unequal opportunities: education, healthcare, the labour market, discrimination, and justice. (It must be noted that we do not claim that this analysis is exhaustive.)

Unequal opportunities begin in early childhood. **Figure 10** presents the enrolment into a kindergarten of children aged 3-5 and finds a large difference in the percentage between the poorer and the richest quintiles. Kindergarten enrolment in North Macedonia may be driven primarily by factors unrelated to income, including access and cultural preferences. However, the financial affordability even of state kindergartens – where parents pay for participation – may present a hurdle for the poorest segments. On the

FIGURE 10

Percentage of children (3-5) who attended kindergarten, by quintile
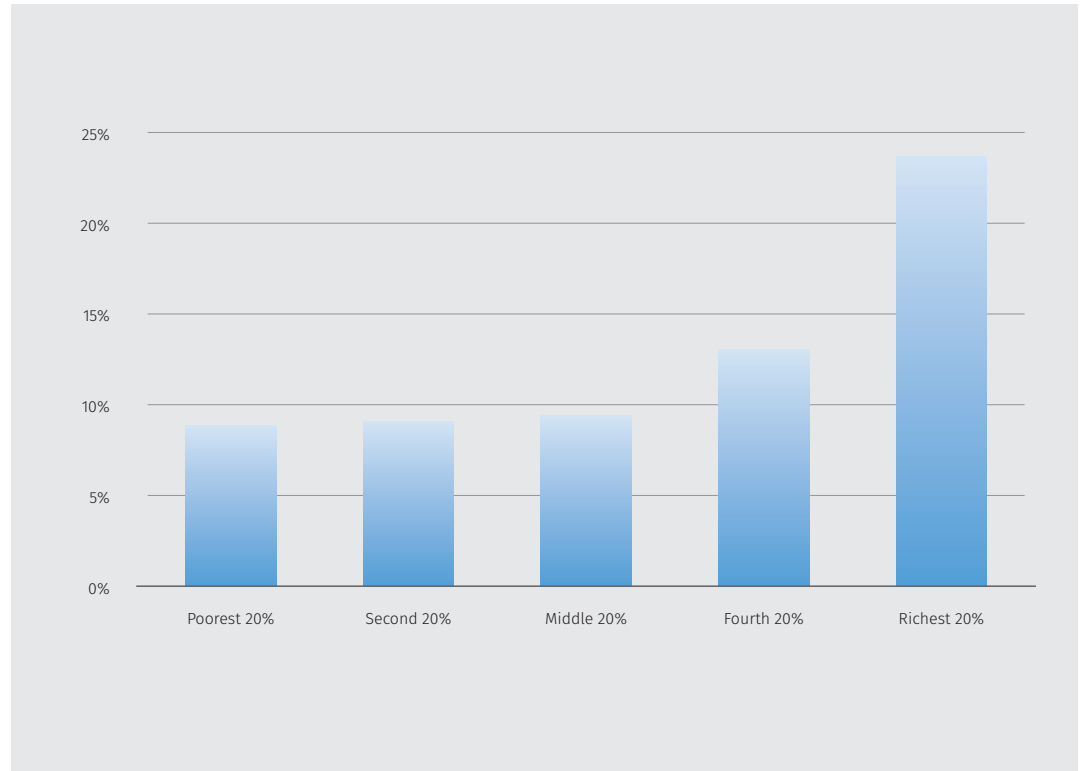
Source: SSO-SILC.

other hand, kindergartens in the larger cities and the capital are oversubscribed, which may correlate with income if richer parents utilize their societal power in the enrolment process.

Unequal opportunities deepen or repeat as children progress in primary and secondary schooling. **Table 1** presents the disparity in the PISA results of financially disadvantaged and well-off households in North Macedonia, identifying a 5% to 10% penalty for pupils from poorer households.

TABLE 1

PISA scores

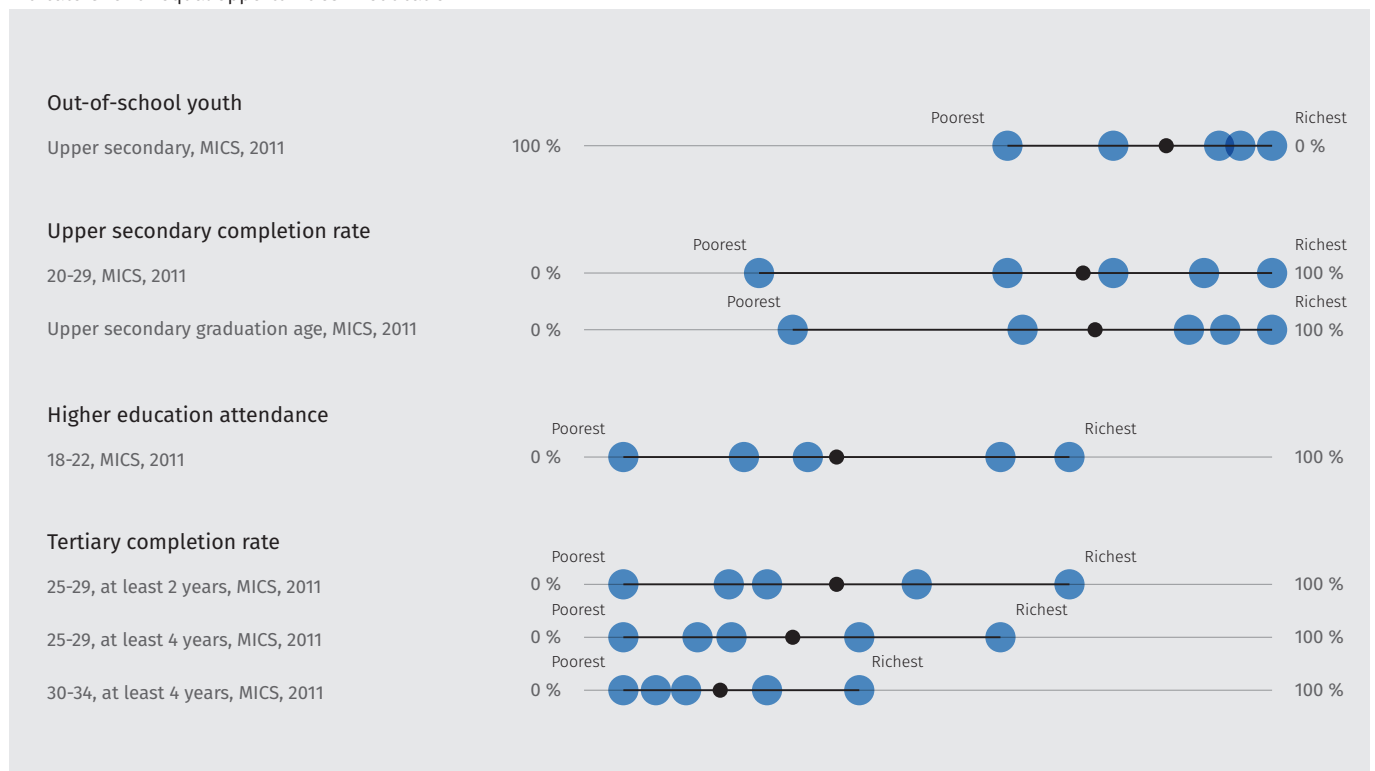|	**Financially disadvantaged households**	**Well-off households**
Reading	353	386
Mathematics	365	395
Science	381	408

Source: PISA 2018.
Note: The household situation is estimated according to the number of rooms with bathrooms in the home.

Other education-related indicators also document significant discrepancies between pupils residing in poor and well-off households. For example, 37% of youth living in the poorest households have been out of school, compared to a negligible 1% of the richest households (**Figure 11**). Similarly, despite being compulsory, the rates for completion of upper secondary education are devastatingly low among the poorest segments. The poorest segments also feature worse in terms of their attendance of universities, with rates for completion of higher education limited to 0%, as compared to rates of 40% to 70% for the richest segments. To a large extent, such inequalities of opportunities relate more to parental endowments and to the perpetuation of early inequalities than they relate to income, especially in view of the fact that primary and secondary education, and to a large extent public tertiary education, are free of charge.

Regarding inequalities in access to healthcare and use is existent in North Macedonia, **Figure 12** shows that the unsatisfied need for a doctor is highest for the poorest decile and then declines in a non-monotonic path. In general, however, the existence of universal healthcare prevents such discrepancies from being overly large. Nonetheless, given that visits to a doctor trigger costs for transportation and some financial participation, as well as large and documented out-of-pocket health expenditures of 36.7% (Parnardzieva-Zmejkova and Dimkovski, 2018), this burden has been pervasive among the poorest quintile (**Figure 13**). Other indicators disaggregated by income groups, primarily rates of vaccination, infant mortality, and attendance of births by skilled personnel, are largely missing for North Macedonia.

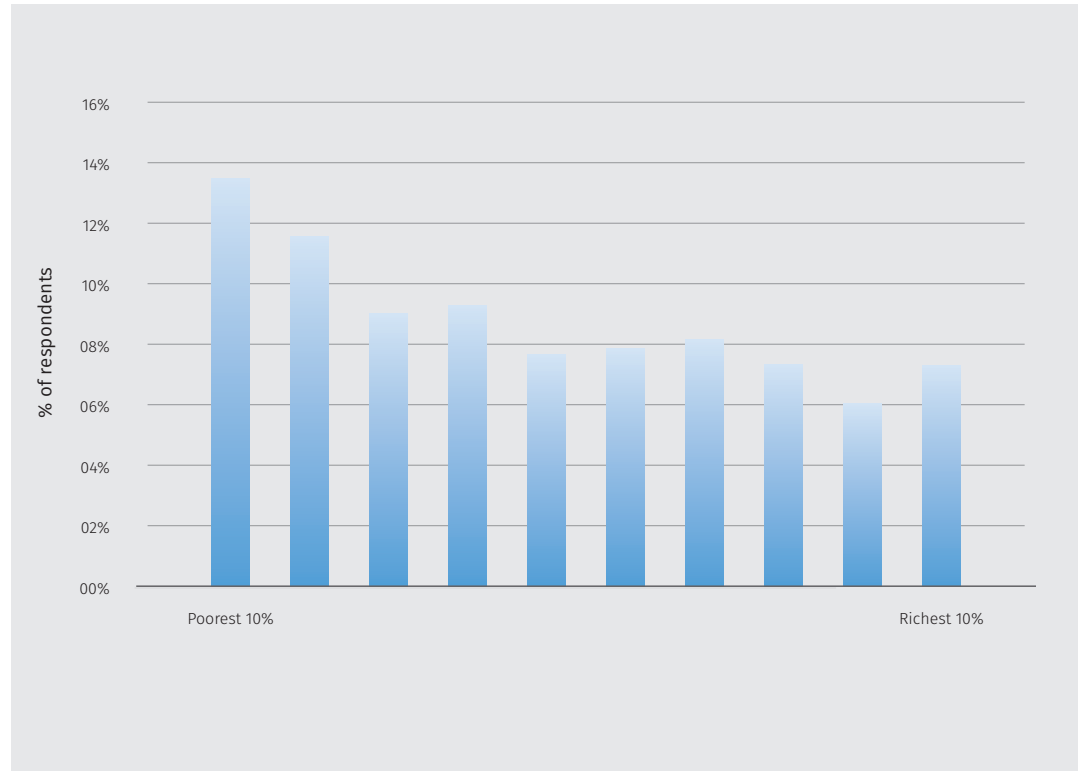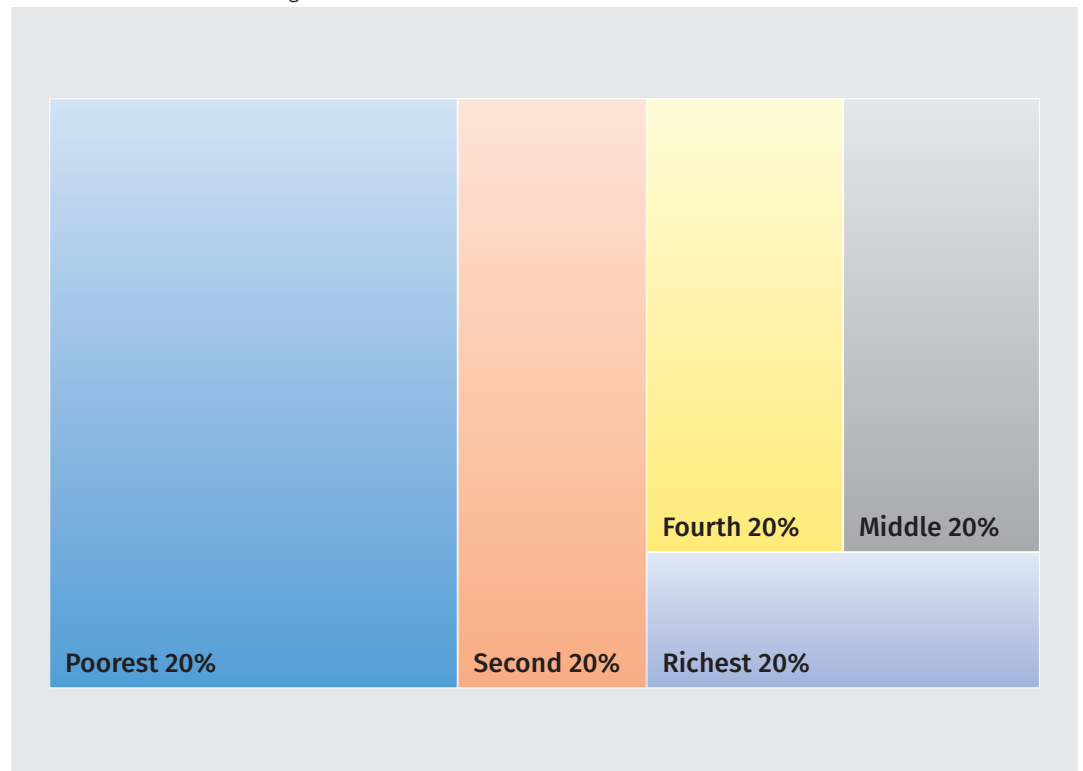Indicators for unequal opportunities in education

FIGURE 12

Unsatisfied need for a doctor, by decile

Source: Quality of Life Survey 2017.

FIGURE 13

Financial constraints for visiting a doctor

Source: Quality of Life Survey 2017.

Inequalities in opportunities extend beyond education and health to the labour market. **Figure 14** shows the labour-market status of the population by income groups. As is to be expected (since employment generates income), employment rises and unemployment declines with income. However, the data may also point to the reduced accessibility of jobs for poorer segments of the population, although this may also reflect a combination of personal tenets, geographic location and power.

Even when the labour market is accessible, good-quality jobs may not be equally accessible. In particular, youth are most exposed to labour-market challenges in North Macedonia (see, e.g., Petreski, 2018), specifically to the problem of underemployment (Petreski et al. 2019). **Table 2** presents four facets of underemployment among youth (15-29), differentiated based on the financial condition of their household. While underemployment is widely present in North Macedonia, all indicators show that youth from well-off households fare considerably better, including five times better on the prime underemployment indicator , i.e. 'works less than 35 hours, but wants to work more'. Again, such inequalities may well be related to the personal endowments of parents, potentially exposing their children to educational inequalities that in turn have determined inequalities in the labour market.

Inequalities are reinforced by discriminatory practices. We present some indicators for gender- and ethnicity-based differences which may be a result of discrimination. For example, Petreski et al. (2014) found that the adjusted and selectivity-corrected gender pay gap in North Macedonia amounts to 7.5%, which they ascribe purely to labour-market discrimination against women. Indeed, women face multiple disadvantages (**Figure 15**): they are twice more inactive

Inequalities in the labor market: access to jobs, 15+, 2015
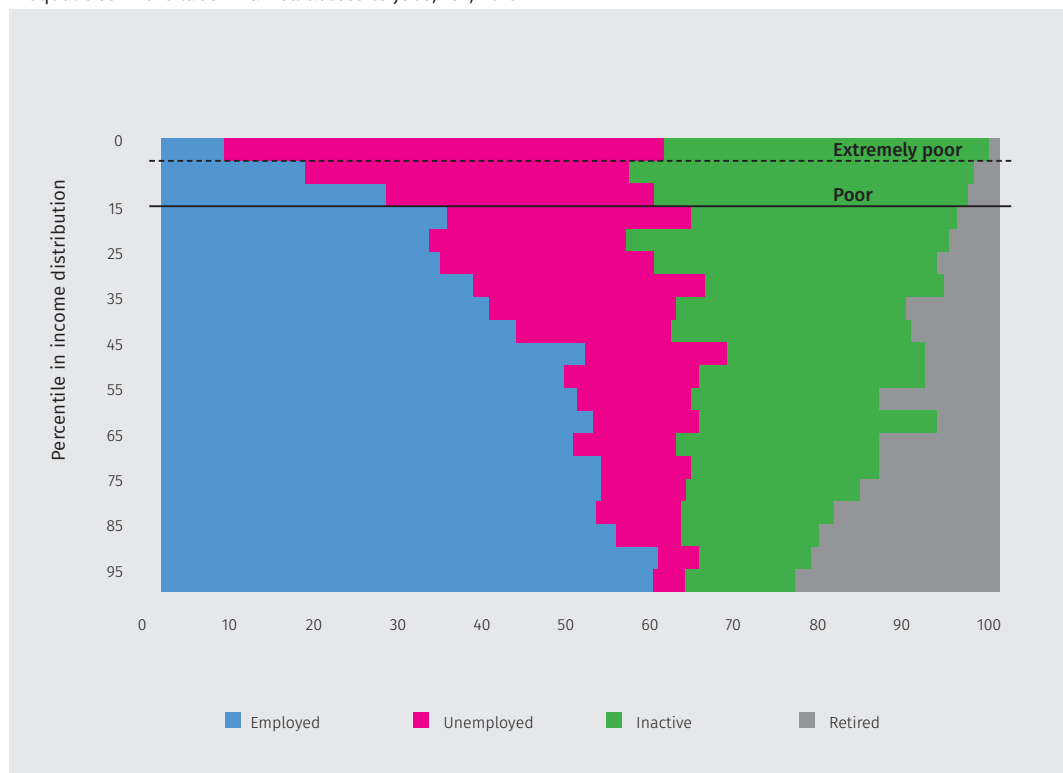
Source: World Bank (2018).

TABLE 2

Youth underemployment

YOUNG (15-29)	Financial situation in households	
	Very bad	**Very good**
Work less than 35 hours, but want to work more	15.9%	3.5%
Over- or under-qualified	32.9%	23.3%
Feel their jobs are not secure	18.4%	7.3%
Work for lower than subsistence wages	15.2%	10.4%

Source: School to work transition (SWT) surveys.

FIGURE 15

Some indicators of gender inequalities

Labor market inactivity · High managerial positions · Over 40,000 MKD monthly net wage · STEM graduates · Self-employed

Men   Women
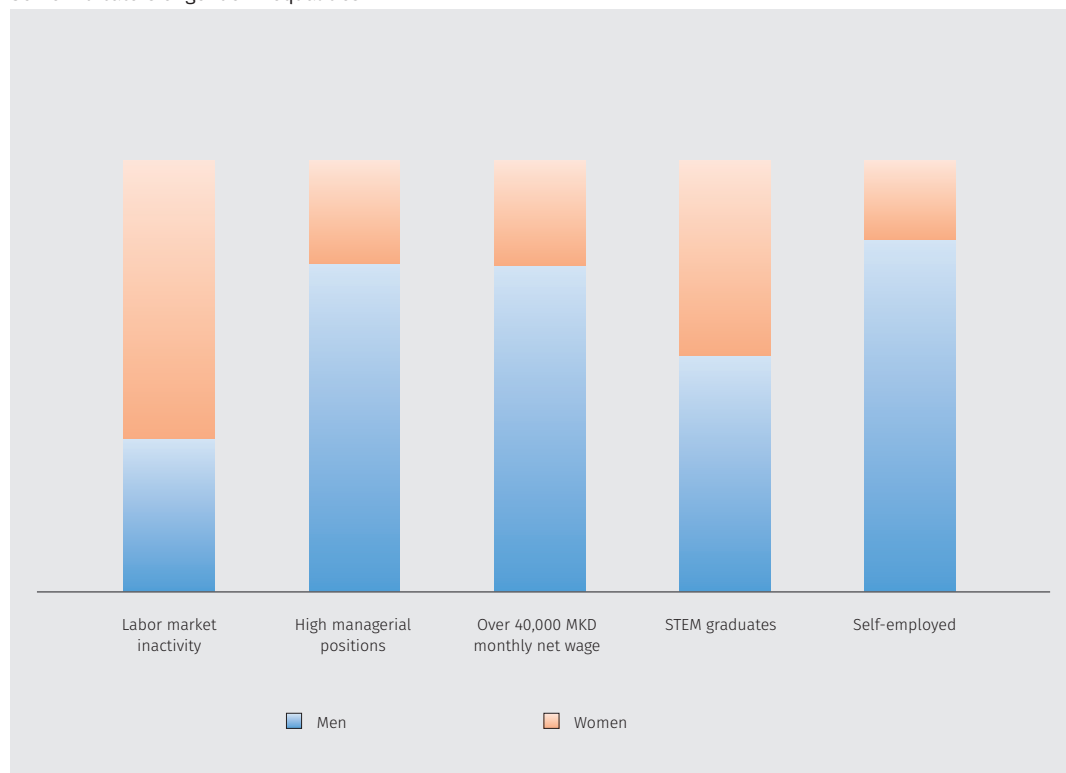
Source: SSO-LFS.

FIGURE 16

Income by ethnicity, 2017

Source: *Quality of Life Survey 2017.*

on the labour market, occupy considerably fewer managerial positions and positions paying over 40,000 MKD, and are certainly less frequently own-account workers than men. In general, gender economic inequalities lead to 16% loss of GDP annually (World Bank, 2018).

Similar disadvantages emerge when ethnic disparities are analyzed. To maintain the narrative of this study, we present only one indicator: earnings by ethnicity (**Figure 16**). It is apparent that inequalities and discrimination reinforce each other in some ethnic groups more than in others. In this regard, Roma are the most vulnerable and susceptible to discrimination. Their disposable income is less than half that of Macedonians, and significantly lower than that of ethnic Albanians and Turks. Market income – which excludes social transfers – further depresses this ethnic group. (More information on Roma disadvantages can be found in AECOM, 2019.)
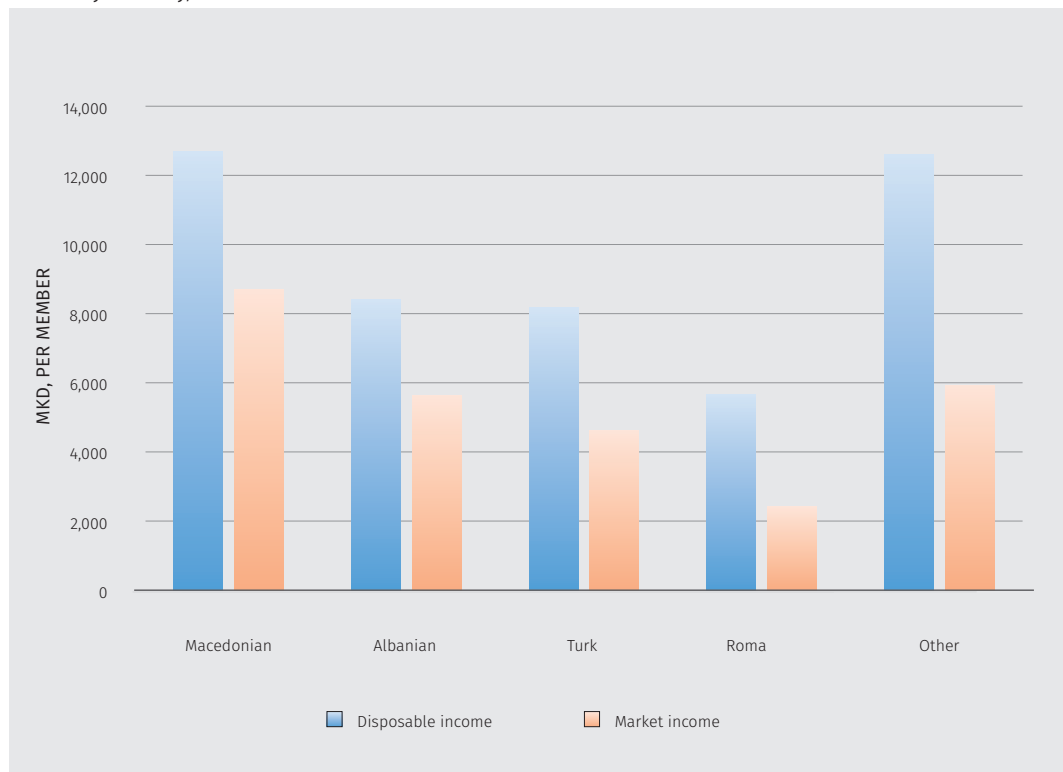
Finally, power, access to justice and institutional quality could significantly influence inequality (see section 3). In the absence of more precise granulation of levels of access to justice by different income groups, we rely on available proxy indicators. For example, the Varieties of Democracy database scores responses on a scale from 0 to 1 (highest equality) to the following question: "To what degree are laws transparent and strictly implemented and the public administration unbiased, and to what degree do citizens have access to justice, the right to ownership, unforced labour, freedom of movement, the right to physical integrity and religious freedom?" The results for North Macedonia suggest that equality before the law has deteriorated in the last decade to 0.7, i.e. the same level as in 1990, before independence (**Figure 17**). For comparison, the index for Germany has remained

FIGURE 17

Equality before the law
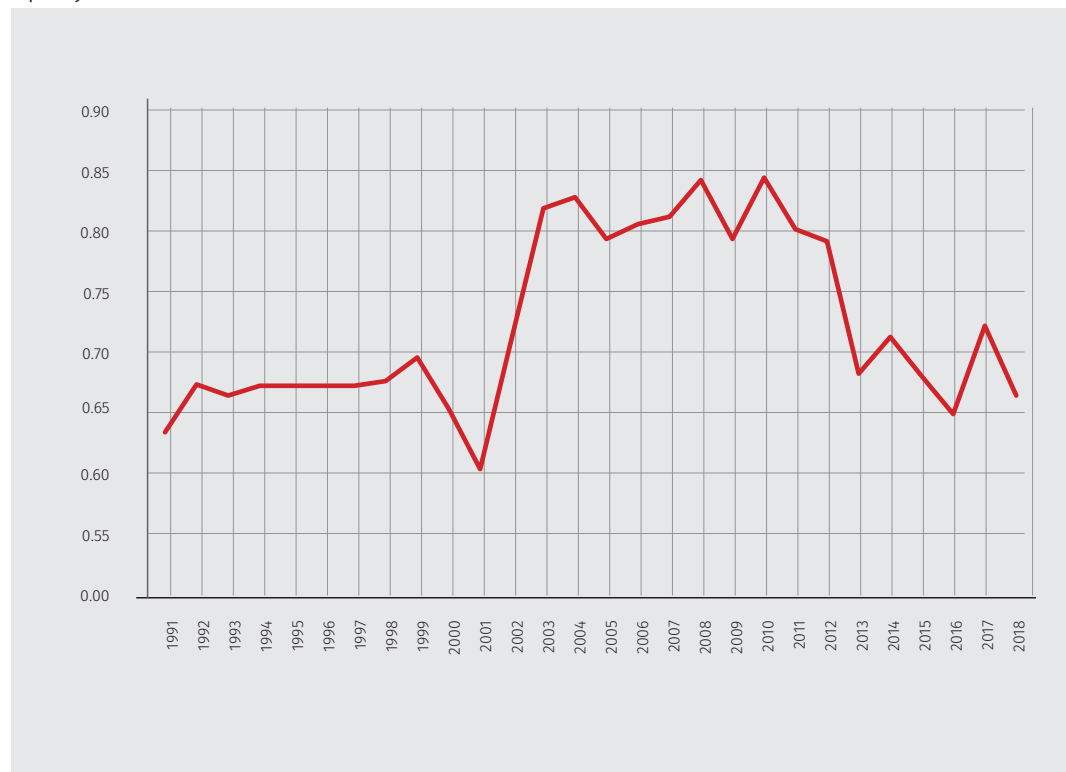
Source: *Varieties of Democracy database,* **https://www.v-dem.net/en/**.

consistently at 0.99. Existing narratives[6] suggest that poor and marginalized groups of citizens have higher unmet needs for legal assistance and rarely attempt to solve their legal issues, particularly those resulting from poverty and marginalization, thus reflecting a vicious circle between poverty and access to justice.

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6 ESE Report on the Global Objective 16.3, https://www.esem.org.mk/en/pdf/Publikacii/2019/Key%20findings%2016.3.pdf

Empirical analysis

This section empirically analyses relationships between inequalities of opportunities and inequalities of outcomes. The above discussion suggests that a variety of interrelated factors could determine income inequality, though here we do not refer to factors such as tax or social policy that affect income distribution by directly affecting income. In part, this limitation is driven by the lack of data for the time span we use. We use annual data for the period 1995-2017, although some observations are missing for certain variables.

We use five indicators to measure income inequality. These are the Gini coefficient, the middle 60%, s80/s20 ratio, as well as two variants of the top 1% earners' share: one from the World Inequality Database and the other from the Standardized World Income Inequality Database. We again caution that both sources have their own drawbacks, particularly the latter (see footnote 3).

Our independent variables include five main factors capturing inequalities of opportunities: education, healthcare, labour market, discrimination, and governance, as well as a sixth determinant, global factors, here captured by trade and FDIs as % of GDP. Education is captured through UNDP's education index and the number of years spent in schooling (15+), taken from the World Development Indicators (WDI), which are proxies for the skill premium (hence also relating to the labour market). Healthcare is captured through life expectancy, also taken from WDI. The labour market is captured by the World Economic Forum's measure of the extent to which regulations govern firing and hiring, collective bargaining, and minimum wages. Discrimination is captured by the gender participation gap (WDI), which also reflects facets of the labour market. Governance is captured by the level of equality before the law, taken from the Varieties of Democracy

TABLE 3

Empirical results

	Dependent variable: Income inequality				
VARIABLES	**Gini**	**Middle class**	**s80/s20**	**Top 1% WID**	**Top 1% SWIID**
Educational index	0.795	-0.569	66.19	-1.234**	-1.797**
	(0.429)	(0.341)	(27.400)	(0.173)	(0.516)
Average number of years in education	-0.0131	0.0156	-0.674	-0.0340**	-0.0611***
	(0.015)	(0.013)	(0.583)	(0.008)	(0.013)
Life expectancy (years)	-0.00759	0.112*	-9.317*	-0.0955	0.0735
	(0.061)	(0.053)	(4.503)	(0.071)	(0.107)
Labor market efficiency	0.0363*	-0.0595***	3.316**	0.0222	0.0369
	(0.015)	(0.014)	(1.171)	(0.009)	(0.019)
Labor force participation gap between men and women	0.00365	0.00376	-0.122	-0.00151	-0.00025
	(0.003)	(0.002)	(0.174)	(0.002)	(0.004)
Equality before law	0.0203	0.128**	1.389	-0.194***	0.121
	(0.062)	(0.039)	(3.142)	(0.017)	(0.069)
Rule of law	-0.0639	0.0107	-0.365	0.000478	-0.032
	(0.032)	(0.041)	(2.158)	(0.016)	(0.052)
Voice and accountability	0.042	-0.0706	0.967	0.0164	0.0329
	(0.054)	(0.043)	(2.502)	(0.065)	(0.040)
Control of corruption	0.0324	-0.0939	-4.252	0.00982	0.147
	(0.057)	(0.038)	(2.993)	(0.044)	(0.073)
Trade (% of GDP)	0.00373	0.033	-2.383*	-0.0247	-0.0135
	(0.031)	(0.020)	(1.131)	(0.024)	(0.041)
FDI (% of GDP)	0.0851	0.013	0.484	-0.00872	0.118
	(0.100)	(0.061)	(4.095)	(0.025)	(0.077)
Trend	-0.00713	-0.0101	0.715	0.00421	0.00409
	(0.009)	(0.008)	(0.506)	(0.011)	(0.013)
Constant	14.65	12.75	-776.3	-1.523	-13.52
	(14.030)	(11.390)	(700.600)	(15.850)	(18.470)
Observations	18	18	18	15	18
R-squared	0.978	0.981	0.982	0.976	0.994

*Source: Author's calculations. *, ** and *** denote statistical significance at the 10, 5 and 1% level, respectively. Standard errors provided in parentheses. Standard errors are robust to arbitrary heteroskedastcitiy.*

database, and three indicators of the rule of law, voice and accountability and the control of corruption, taken from the World Governance Indicators. Time trend is included, which in a standard growth framework is usually used to capture technological developments.

We use a standard OLS method to estimate the regression, hence we do not move beyond discovering correlations and therefore inferences should refer only to relationships and not to causality (being an objective beyond the scope of this present study).

The results are compelling. Higher skill premium reduces the share at the top of the income distribution. Therefore, education gains likely accrue at other positions of the income distribution, contributing to reducing the income shares of the top 1 percent. The statistically insignificant effect of the skill premium in driving income inequality measured by the Gini, however, could reflect the fact that this measure underestimates increases in inequality at the top of the distribution (Kakwani 1980). Higher life expectancy increases the middle class share reduces the S80/S20 ratio. These findings suggest that addressing inequalities in access to and quality of education and healthcare may well contribute to reducing income inequalities.

Easing labour-market regulations exacerbates inequality, as it is positively related with Gini and S80/S20 and negatively related to the middle class. While this variable may not fully reflect access to the labour market and certainly not the quality of jobs, it nevertheless suggests that relaxing hiring and firing procedures, weak collective bargaining and the absence of or a low minimum wage benefits the segments to the right of income distribution. Addressing disadvantages in the labour market, accompanied by support for quality and well-paid jobs, may contribute to reducing income inequalities.

Finally, equality in access to justice and public services may improve income inequality. Only one of the four indices is significant, though this robustly suggests that higher equality before the law helps in building the middle class and reducing the concentration of income at the top of the distribution. The latter may be understood in the broader light of the political influence that elites may have on society, resulting in resource misallocations that benefit richer segments at the expense of the poorer population. Therefore, reducing such influence by improving equality before the law and increasing access to public services is potentially beneficial for income equality.

Conclusions and policy recommendations

The objective of this policy study has been to develop and present an overview of inequalities in North Macedonia and hence to provide a foundation for further analyses of the topic. The study also aims to divert the prevalent and potentially exclusive attention on income inequality towards the broader – and more important – picture of inequalities of opportunities. Such an objective fits well with the recent reinvigoration of the debate about inequalities in human development generated by the Human Development Report (2019). Our analysis suggests that Macedonian society is poor in financial terms, i.e. no significant problems in income inequality exist except at the very top of the income distribution. Namely, the average income of the top 0.1% is seven times that of the remaining 0.9% of the top 1%, and an astonishing 34 times that of the 90th centile.

This analysis of inequalities of opportunities has revealed a more concerning picture, however. Citizens of North Macedonia who are among the poorer segments consistently face disadvantages in access to and quality of education, healthcare services, jobs and justice. This provides greater room for policy interventions. This has been corroborated by empirical analysis, which shows that income inequality is correlated with inequalities in education, health, and access to the labour market and to the law, i.e. when the latter increase, income inequality also increases.

Hence we conclude that what is primarily needed are interventions to reduce inequalities of opportunities. These may encompass a wide range of policy designs, including but not limited to the following:

a. Investment in human capital – 'skills rather than diplomas', throughout life, with an early start:

- Improving access to and enrolment in pre-school education, particularly in rural areas

- Focusing on outcomes in primary education

- Teaching skills, particularly for critical thinking, in primary and secondary education

- Teaching skills that meet market demand, in secondary and higher education

- Supporting talents

- Creating an environment for research and development

- Lifelong learning

b. Investment in human capital – health outcomes:

- Improving access to and quality of healthcare services

- Retention of human capital in healthcare

- Improving access to social services, according to social risks

c. Creating an environment for growth of the private sector that pays high(er) wages:

- Supporting industries that create higher added value

- Supporting export-oriented industries

- Fostering innovation and entrepreneurship (start-ups and spin-offs)

- Investment in the digital economy

- Improving the productivity of public administration

d. Creating a favourable environment for vulnerable groups:

- Greater access to care for children and elderly (so that women have more time to be engaged in the labour market)

- Raising awareness of women's

productive potential

- Raising awareness to reduce ethnicity-based (e.g. Roma) and disability-based stigmatization

- Raising awareness and opportunities for using (free) legal aid

e. Carefully designed policies to help vulnerable groups, without discouraging them to look for and accept work

- Optimal mix of tax and social policies (mainly, progressive income taxes, property taxes, minimum wages, social security)

- Introducing and supporting flexible work arrangements

Interventions that directly address income inequality, particularly at the very top of the income distribution, will also improve social cohesion. This includes, primarily, the removal of all regressive measures in the tax and social benefit systems, including the cap on social contributions of 16 average wages, as well the floor of paying social contributions on half the average wage no matter the level of the actual wage (although this provision lost importance with the minimum wage increases). Improving the coverage of social assistance will improve outcomes among the poorest segments. Policymakers should also re-examine any social policy deficiencies (like the recently-corrected deficiency in the third child policy). Furthermore, authorities should refrain from designing policies that proportionally benefit all income groups, such as VAT returns as a percentage of consumption (irrespective of imposing any caps), and wage subsidies across the wage spectrum. Finally, once these measures have been implemented, carefully-designed progressive measures on income and wealth – prevalently in the form of taxes on income, property and luxury taxes – should be introduced, with a very cautious scheme of thresholds, marginal rates and capital-labour separation.

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