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CONTENTS

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Skopje, May, 2024

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THE ROLE OF MEDIA AND PROMOTION IN INCREASING CONSUMER AWARENESS TO REDUCE FOOD WASTE

Abstract

This paper investigates the role of media and promotional campaigns in driving household food waste reduction. Employing ordinal regression on 112 survey respondents, the research highlights the effectiveness of media headlines and motivational messaging in encouraging consumers to minimize food waste.

The research reveals that media and motivational headlines significantly impact consumer behavior. Strategically crafted messages can encourage individuals to consume all purchased food, minimizing waste. Social media and web portals become the primary sources of information on food waste, emphasizing the importance of utilizing these channels for awareness and action.

The findings emphasize the growing urgency of addressing food waste and the potential of media and promotion to drive meaningful change. By understanding the factors that motivate consumers and leveraging the power of digital platforms, impactful campaigns can be developed to encourage responsible food consumption and reduce waste across households.

Keywords: Food waste, Households, Consumer behavior, Media, Motivational campaigns

Jel classification: M30, M31, Q56

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Introduction

Reducing food waste has become one of the global sustainability challenges today fundamental to sustainable development (Sala and Castellani, 2019). Within the UN' Sustainable Development Goals (SDGs), SDG12 addresses food waste and losses, setting a target to "halve global food waste per capita at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses"(Flanagan et al., 2018). Previous studies underscore the need for more targeted research to elevate consumer awareness and understanding of the pertinent issues that would foster an environment conducive to long-term, sustainable behavioural changes (Wansink, 2018). Promoting pro-environmental behaviour amongst urban inhabitants needs to be a top priority, both for policy and for research (Clayton et al., 2016).

Consumer behaviour depends on external, but also on personal characteristics such as demographic factors (de Hooge et al., 2017). Consumers over 65 generally waste less food than the rest of the population and their perception is that food loss is wrong and synonymous with "waste" (Quested et al., 2013). Younger generations express an environmental concern while still wasting food.

Existing literature suggests that tackling food waste can benefit from integrated social marketing campaigns implemented by environmental experts (Pearson & Nefovski, 2019; Young, et al., 2017). Yamakawa, et al., (2017) define "campaign" as activities that aim to appeal to many people with various media, pointing that most important is to raise people's awareness, while a crucial goal of „face-to-face" approach is to promote behavioural changes.

A research gap exists in examining the relationship between social marketing communication strategies and their effectiveness in driving behavioural change regarding food waste.This paper examines the influence of media and promotional campaigns on consumer food waste attitudes.

1. Literature review

Clement et al. (2023) emphasizes that food waste among young consumers is a complex issue and implementing a combination of educational, technological, social and practical solutions can effectively promote sustainable food consumption habits. A separate study revealed that women between 20s - 30s exhibited a greater tendency to experience guilt over food waste and associate

it with social inequality compared to men. As they age, women increasingly associate food waste with financial irresponsibility (Cantaragiu, 2019).

A relevant effort to move to anti-waste behaviour is raising awareness of food waste issues (Stangherlin & de Barcellos, 2018). Linder et al. (2018) suggest that information-based campaigns are commonly used to promote behavioral change, to alter attitudes or enhance knowledge about environmental problems to improve behavior change. Using such information aims to increase knowledge about the consequences of unsustainable behaviour and how to change behaviour (Soma, Li & Maclaren, 2020).

In this perspective, it is possible to formulate the following hypothesis:

Hypothesis 1: Consumers' media consumption is associated with taking action to prevent household food waste.

In practice, these interventions employ various message slogans promoting food waste reduction, based on:

Guilt – Emotional appeals are an efficient approach in "green advertising" because they increase message attention in the complex media environment (Chang, 2012). Munsch (2021) suggests that emotive digital marketing and advertising communication can potentially capture the attention of Millennials and Generation Z.

While some research finds that food waste does not evoke high moral guilt feelings (Stancu, Haugaard, & Lähteenmäki, 2016), others suggest that guilt plays a crucial role in reducing food waste (Quested et al., 2013). This approach is manifested in campaigns "Love Food, Hate Waste", which gained international reach, adopted by hotel brands (ACCOR, 2019).

Saving hungry people – Wasting food means more people are hungry and is bad for the environment (Pearson & Perera, 2018). Limited research explores using campaigns and appeals directly connecting food waste reduction to saving hungry people. The UN SDGs extensively address this issue by promoting SDG 2 ('Zero Hunger') in campaigns. For example, Feeding America is promoted under "Hungry to help" (Feeding America, 2017). Macedonian non-governmental organizations are promoting a new food distribution system and encouraging household food donation through "All Fed Up" campaign.

Saving money – Emphasizing savings is highly effective to motivate people to reduce food waste (Neff et al., 2015; Pearson & Nefovski, 2019). Saving money may be stronger motivator of individuals' actions than environmental concerns (Bravi et al., 2019). People are motivated by self-interest in their food waste behaviour and that they see it less as pro-environmental behavior (Stancu et al., 2016).

Save the planet – Environmental concern is recognized as a significant motivator for individuals to engage in behaviors that minimize their environmental impact (Steg & Vlek, 2009). For example, "Love the Earth" campaign of Slow Food - a global grassroots organization, promotes sustainable agriculture to ensure access to good, clean, and fair food for all.

According to the above, the **Hypothesis 2** is**:** Motivational slogans are significantly related to taking action to consume the food in the household, thus reducing food waste.

Over the past decade, awareness campaigns have gained a significant presence in mainstream media, establishing themselves as leading instrument for food waste education (Soma, Li & Maclaren, 2020). "Green" advertising or marketing (Nwabueze, 2007), explores how advertising principles are applied by environmental organizations to ensure environmentally sustainable achievement of marketing objectives. Several studies investigate the relationship between media, food waste reduction and consumer segments, although research simultaneously focusing on all three factors is limited. Information is becoming more accessible including the environmental problems, thus becoming aware of how to help the planet, and in this particular case, how to reduce food waste (Giurea, 2015).

Based on key findings from existing literature, the **Hypothesis 3** is: Exposure to information regarding food waste in media significantly correlates with increased action to consume household food and reduce waste.

This research aims to identify consumer behaviour patterns related to media consumption and motivational slogan perception and their potential to encourage food waste reduction.

2. Methodology

To investigate the impact of media and promotion on reducing food waste, this research applied a methodology and a descriptive approach to analyze the primary data collected through a survey. To assess the individual influence of media and motivational messages on consumer behaviour regarding food waste reduction, an ordinal regression analysis was conducted. The analysis involves grouping variables related to the key thematic areas and examining their impact on consumers' willingness to take action against household food waste. The purpose of ordinal regression is to predict the probability that an individual will fall into a particular category of the dependent variable based on one or more independent variables (Havranek & Winter, 2011).

A survey was distributed through questionnaires, available online (via Google Forms) and in printed format to 141 respondents. A 112 respondents completed the survey (79.4% response rate). The questionnaire is divided into seven sections. Section one explores consumer attitudes, habits, and awareness regarding food waste; section two comprises a single question inquiring about respondents' estimated percentage of food waste from purchases; section three investigates respondents' general media consumption patterns; section four explores the potential of various media as a data source for understanding food waste issues; section five investigates the influence of motivational slogans; section six investigates consumer media consumption habits and explores how media use relates to personal behaviour and broader social issues; section seven collects the demographic data. This research builds upon several prior studies examining the effects of media, motivational messages and consumer awareness on food waste reduction (Neff, et al., 2015; Chinie et al., 2021).

The demographic data of respondents is shown in Table 1, reveals a predominance of female respondents (70%), which corresponds to other research in this field (Bilska et al., 2019; Karunasena et al., 2021).

Table 1: Demographic data

Demography	Frequency	%
Gender		
Male	35	31,3
Female	77	68,8
Age		

18-29	9	8,0
30-39	37	33,0
40-49	43	38,4
50-59	17	15,2
60-69	3	2,7
70+	3	2,7
Living situation		
Single	21	18,8
Married / informal marriage	85	75,9
Divorced / widowed	6	5,4
Education		
High school	16	14,3
Bachelor degree	66	58,9
Master or PhD	30	26,8
Monthly Income / in MKD		
1-18.000	1	0,9
18.001-36.000	28	25,0
36.001-54.000	34	30,4
54.001-72.000	16	14,3
72.001>	17	15,2
Don't know / Don't want to answer	16	14,3

Source: Authors' calculations

The age group 40-49 had the highest, while the 60+ the lowest response rate. The majority (75.9%) of respondents identified as married or in informal marriage and 58.9% having completed higher education.The highest number falls into category that reports a monthly net income 36,001 - 54,000 denars.

2.1. Descriptive analysis

A descriptive analysis identify general trends in consumer attitudes towards different types of statements presented in the paper (see Table 2).

Table 2: Level of agreement with statements by category

Personal attitudes towards food waste	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Mean Rank
I take action to be sure that the food in my household gets eaten and does not end up as waste.	9,8	0,9	7,1	32,1	**50,0**	4,12
I am interested in reading examples and recommendations for reducing food waste.	10,7	0,9	5,4	31,3	**51,8**	4,13
Likelihood of noticing food waste reduction information by medium	Not at all likely	Somewhat unlikely	Neutral	Somewhat likely	Very likely	Mean Rank
Television	15,2	8,9	27,7	**25,9**	22,3	3,31
Radio	17,0	17,0	21,4	**33,0**	11,6	3,05
Daily, weekly or monthly newspaper/ magazine	**29,5**	22,3	17,9	25,0	5,4	2,54
Web portal	4,5	5,4	17,0	**37,5**	35,7	3,95
Social network (Facebook, Instagram, TikTok, Twitter etc)	7,1	7,1	12,5	25,9	**47,3**	3,99
Motivational headlines	Not at all effective	Slightly effective	Neutral	Very effective	Extremely effective	Mean Rank
Save Money	4,5	5,4	19,6	33,0	**37,5**	3,94
Save the planet	2,7	3,6	15,2	**41,1**	37,5	4,07
Save Hungry People	2,7	2,7	5,4	30,4	**58,9**	4,4

| Save Guilt | 5,4 | 14,3 | **32,1** | 28,6 | 19,6 | 3,43 |

Respondents reported an average of approximately 14.19% of food purchased for home consumption over past three purchases ended as waste. Although the result is approximate, it presents a relatively precise calculation since none of the respondents chose "over 50%" option. This observed food waste (14.19%) is lower than what some previous studies have reported (Yu & Jaenicke, 2020; Sridhar et al., 2021).

The highest number agree that they take action so that food in households is eaten and does not end up as waste. They are interested in reading recommendations in the media to reduce food waste, more receptive to information on social networks/internet portals compared to printed media.

Analysis suggests that slogan "Take care of hungry people" resonates most strongly as potential motivator for reducing food waste. "Save guilt" emerged as a less influential factor, with average score (mean) of 3.43, indicating a neutral attitude. Such results generally differ from the existing research, where primary motive for reducing food waste is "saving money" (Matzembacher et al., 2020).

2.2. Regression analysis

For the analysis, grouped variables with arithmetic mean of three clusters of questions were created. One group contains answers related to the respondents' exposure to media influence. The individually reported agreement on how regularly a particular medium is used (conventional and new media). The second section analyzes data collected through questions exploring the influence of frequently used motivational messages (slogans) on consumer behaviour related to household food waste reduction. The final set of grouped variables focuses on respondents' exposure to media messages about social issues.

The proportional odds model is a multivariate extension of generalized linear models, which allows the modelling of the probabilities associated with each response category under the effects of exogenous variables (Lemos et al., 2015). This model is most commonly used for ordinal variables (Alaimo et al., 2020) and one of the main assumptions of the proportional odds model for ordinal logistic regression is that the effects of predictors on the odds of

transitioning to a higher (vs. lower) category of dependent variable are the same across categories. To determine whether our model meets the conditions for further application, we use the Test of Parallel lines, which indicates the existence of non-significance (p=1.0) in the differences. A non-significant test result suggests the assumption of proportional odds is met, meaning the effects of the independent variables on the cumulative probability of falling into a higher category does not vary across categories on the dependent variable.

Table 3: Test of Parallel lines

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Null Hypothesis	224,453			
General	224,296[b]	,157[c]	9	1,000

Source: Authors' calculations

From SPSS data, the model shows improvement and fits with the value data, containing the independent variables represents a solid improvement in fit over the null model, LR $\chi^2(6) = 31.257$, p<.050.

Table 4: Model Fitting

Model	-2 Log Likelihood[a]	Chi-Square	df	Sig.
Intercept Only	262,066			
Final	230,809	31,257	3	,000

Source: Authors' calculations

This section presents the findings from the ordinal regression analysis.

Table 5: Parameter estimates

Parameters	Estimate	SD	Wald		Hypothesis Test			Exp (B)	Result:
			Lower	Upper	Wald X2	df	Sig.		
Media	1,341	0,3175	0,719	1,964	17,849	1	**0,000**	3,824	Accepted

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Headlines	0,617	0,2933	0,042	1,192	4,421	1	**0,036**	1,853	Accepted
Engage (exposure)	-0,280	0,2983	-0,865	0,304	0,884	1	0,347	0,755	Rejected
(Scale)	1[a]								

Dependend Variable: I take action to be sure that the food in my household gets eaten and does not end up as waste.
Independend Variables: Media consumption, Motivational headlines, Engaging (exposure) with information about food waste

Analysis shows that two hypotheses are statistically significant and reveals a significant positive association between frequency of exposure to media and motivational slogans and the respondents' willingness to reduce food waste in households. Exposure to information about food waste does not directly translate into a significant change in individual behavior regarding household food waste reduction.

The regression analysis indicates that for each increase in the "highest degree" unit, the chances of a person with higher degree falling to a higher category of willingness to take household actions to reduce food waste changes by a factor of 3.824. Since this number is higher than one, the chances of greater involvement in such activities are greater among those who agree that use the media (generally) and less among who use it less often. This indicates that individuals who receive regular media exposure are more likely to express willingness to engage in activities to reducing household food waste. Our analysis confirms that Hypothesis 1 holds true, with statistically significant results (P=0,000), consistent with previous research focusing on impact of social media on changing consumer behaviour regarding food waste, which found a significant correlation (Young et al., 2017). In contrast, research by Elhoushy (2022) suggests that increased television viewing of cooking shows might contribute to food waste.

As the influence of individual motivational slogans increases, the probabilities change by a factor of 0.617, or basically, the odds increase. The dependent variable will belong to a higher category, or in context of our research, the reported willingness in activities that would affect eating all the food will increase, respectively the percentage of generated food waste in households will decrease. The results obtained about motivational headlines confirm

Hypothesis 2 of the research (P<0,050). The findings align with prior research, which suggests that heightened awareness of food waste issues leads to a stronger resolve (seriousness) and a greater belief in one's ability (self-efficacy) to reduce food waste (Jang & Lee, 2022). Examining the influence of motivational messages, Khalil et al. (2021) discovered that specific numerical messages significantly impacted consumers' willingness to reduce food waste. Our analysis did not find a statistically significant result between the third group of variables and the outcome. The findings suggest that exposure to media messages concerning social issues does not directly influence individual actions to reduce household food waste. Accordingly, Hypothesis 3 is rejected as statistically not significant (P=0.347).

Conclusion

This paper investigates the potential of media and promotional campaigns to trigger household-level action on food waste reduction based on insights gained from a survey of 112 participants. The findings point to growing urgency to address this global challenge, highlighting the potential of strategic communication efforts.

The key contribution lies in the empirical findings, demonstrating that exposure to media and use of motivational slogans can influence consumers' willingness to reduce food waste. It underscores the power of strategically designed media campaigns to nudge consumer behaviour towards reducing food waste.

The research establishes that promotional campaigns through media can effectively motivate individuals to take action against food waste. Future research should prioritize investigating the sustained efficacy of media strategies. By scaling up these approaches to a broader societal level, we can generate tangible contributions towards a more sustainable food system.

The limited sample size necessitates further research with larger sample and more balanced distribution of respondents across gender and age groups. The research is focused on self-reported intentions, so future research could benefit from incorporating objective measurement alongside actual food waste behaviour.

The findings still point towards significant potential of media and promotional efforts in tackling the food waste issue. Leveraging the power of strategic communication and engaging diverse populations can propel us towards a more sustainable future where food is valued and waste is significantly reduced.

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DEMOGRAPHIC CHANGES IN NORTH MACEDONIA – EFFECTS AND CONSEQUENCES ON ECONOMIC GROWTH

Abstract

This paper aims to analyze the demographic changes occurring in the Republic of North Macedonia and their impact on the economy, with a specific focus on labour market dynamics, aggregate demand and supply shifts, regional development disparities, and implications for economic growth. Through this analysis, the paper seeks to identify key challenges and propose strategic measures to address them. The research utilizes data from the 2021 census and other relevant sources to examine the demographic trends in the Republic of North Macedonia, including population decline, aging, and emigration patterns. By examining these interrelated factors, the paper aims to provide insights into the challenges faced by the Macedonian economy and propose policy recommendations to promote sustainable development and address demographic challenges effectively.

Key words: demographic changes, economic growth, labour market, productivity, North Macedonia

JEL classification: O11, J110, J24

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INTRODUCTION

The data from the census in 2021 shows that the Republic of North Macedonia has been experiencing significant population changes in recent years. The reduction of the natural population increase, expressed by the reduced birth rate, as well as the benefits of the increased life expectancy, the intensive emigration of the population from the country, especially the young and educated people, led to a gradual decrease in the number of the population. This has resulted in the population aging in the past few decades.

This situation imposes numerous challenges and produces problems that the state has to deal with. First of all, with the reduced population, the available workforce also decreases. In that context, the labour market's functioning is affected by the reduced available labour force, which directly impacts economic growth. The labour market is facing shortages of workers, primarily due to the emigration of young people. The labour supply is limited and there is a mismatch between supply and demand. The employment is characterized by greater participation of the adult population, which hardly accepts technologically innovative ways of working. Their motivation is low and they require more training and prequalification. Productivity in the economy in the past decades, measured as total factor productivity as well as employee productivity, has been low. The analysis of the industry in the economy shows that in the creation of the real GDP of North Macedonia, the participation of the labour-intensive industries is dominant. The heavy industry, the food industry, the textile industry, wholesale and retail trade, construction, and agriculture are the industries that employ the most people. These industries are labour-intensive, use low levels of technology, and do not generate significant added value in the economy.

Demographic changes lead to changes in the structure of aggregate demand, which directly impact the aggregate supply in the market for goods and services. At the same time, it has an effect on the real GDP. The needs of the aging population are changing, and there is an increased demand for certain categories of goods and services, while it decreases for others. The necessity for various food products, as well as services for providing food and care for the health of the population, visibly changes the structure of the aggregate offer in the economy. Hence, an increase in the industries that should provide the requested goods and services appears as a necessity.

Also, the current situation and demographic changes have significant implications for regional growth and development in the Republic of North

Macedonia. The disproportional development, at the regional level, which the economy has been facing since the beginning of independence of the state, has not decreased, but on the contrary, the inequality that is present between the regions has increased more and more. Demographic changes further emphasize that one central region (Skopje) which gravitates around the capital is growing and developing faster than other regions. Therefore, centralized functioning of the economy in the capital city of Skopje, as well as employment opportunities in the Skopje region, led to large migrations of young people from the interior of the country to the capital, as well as emigration abroad. The aging of the population will be particularly noticeable in all regions of Macedonia.

That is why the comprehensive approach in creating development strategies and taking measures to overcome the current problems caused by demographic changes, as well as an increased role of the state, efficient institutions, are ways that the Republic of North Macedonia should deal with current and future challenges and problems.

1. DEMOGRAPHIC CHANGES AND THEIR INFLUENCE ON ECONOMIC GROWTH

Changes in the quantity and quality of the factors of production that occur in any of the basic factors of production directly affect real GDP. Accordingly, the reduction of the labour factor limits the potential GDP[1] as well as the possibilities to produce a higher GDP.

All economies aim to achieve the functioning of the economy at the potential GDP level. But most of the time it is difficult to achieve. The larger gap that occurs as a difference between the achieved real and potential GDP in an economy is an indicator of underutilization of available resources. In terms with the restricted resources, especially human resources in North Macedonia, the challenge to achieve a higher GDP is even greater.

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1   Potential GDP is an indicator of the long-term tendency of the gross domestic product, i.e. it shows the real production possibilities in the country. When the economy is operating at the level of its potential GDP, it means that all available resources of the country are being used efficiently. Then, all factors of production are highly engaged and optimal total production is achieved. Therefore, potential GDP is often referred to as gross domestic product at the level of full employment. Potential GDP is not the maximum output, but it is reduced to the maximum sustainable output, the maximum volume of production that an economy can ensure without disrupting price stability, without causing inflation.

Figure 1 Real GDP and economic growth rate in North Macedonia, 2010-2022
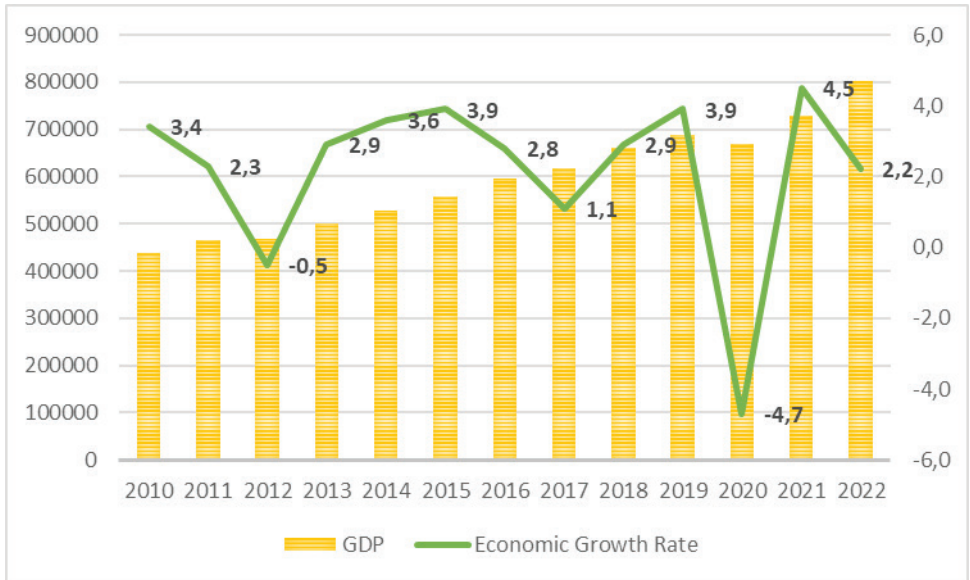
Source: State Statistics Office of the Republic of North Macedonia, (accessed on 20.1.2024)

Economic growth rate in the Republic of North Macedonia during the period 2010-2022 is mostly positive, and a constant increase in real GDP is noticeable. (Figure 1). However, the achieved real GDP and growth rate is insufficient to significantly reduce the gap that is present in development level and the standard of living in relation to highly developed economies, and especially in relation to of EU countries.

Macroeconomic stability expressed through price stability and exchange rate stability, was present in the Macedonian economy until 2021. Then the economy faced rising inflation rates as a consequence of the health and economic crisis from Covid-19 and the energy crisis caused by the war in Ukraine. Even so, the data confirm that macroeconomic stability, as a basic prerequisite, is not sufficient for the acceleration of economic growth. The achieved economic growth was significantly below the potential growth of the economy.

The data on the employment in the Republic of North Macedonia confirm that the utilization of the available labour force (age 15-64), as the most significant factor of economic growth, is still very low. (47,2 % employment

rate in 2021)[2] This indicates that a large part of the labour force is discouraged from looking for employment and is inactive, or temporary work abroad or is employed in the informal economy.

The low productivity in North Macedonia stands out as a particular problem, namely the total factor productivity and the productivity of the employees. Calculations made for the total factor productivity, using the Solow's growth model and Coob-Douglas production function the data from 2000 to 2020, evident that average growth rate of GDP is 4.97%, while the average growth rates of employment and physical capital are 1.86% and 6.17%, respectively. The contribution of employment (labour) to economic growth is 2.04%, physical capital (intensity of capital use) is 1.25%, and the residual representing the contribution of productivity to economic growth is 1.69%[3]. Low productivity is the result of many different factors, such as demographic trends that have a negative impact on productivity, traditional industries that are mostly labour-intensive, and quality of employment.

The unsustainable growth in North Macedonia can be linked to low productivity. Economic growth rates are achieved primarily due to the intensive use of labour and capital. In addition, the growth of real GDP is financed by the rising public debt in the past decade. Investing in education, research, and development is reduced and insufficient when productivity is low, which directly impacts the quality of human capital.

2   Ministry of finance, Macroeconomic indicators (December 2023), https://finance.gov.mk/indicators-and-projections/?lang=en
3   Djambaska E., Lozanoska A., Economic development and the labour market in the Republic of North Macedonia in the conditions of the Covid-19 pandemic, Economic Institute - Skopje, University "St. Cyril and Methodius" in Skopje, p. 59, 2023

Figure 2 Labour productivity in North Macedonia, 2012-2022
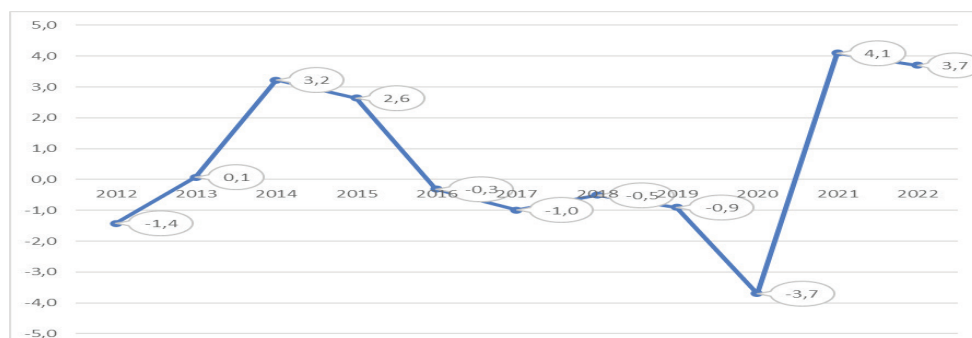
Figure 2 shows the labour productivity indicator in North Macedonia
for the period 2012-2022. Labour productivity in the analyzed years has the
highest level in 2021 and is 4.1, and in 2022 it is 3.7. The lowest value was
recorded in 2020, when the pandemic began. But if we exclude 2020, 2021 and
even 2022 as pandemic years, the conclusion is that still the value of labour
productivity in all analyzed years is low.

Historically, various factors have influenced and increased labour
productivity. Increases in labour productivity are driven by innovation, better
education and investment in physical capital. Innovation and investment in
the private industry require an appropriate macro-environment that encourages
growth in the economy, developed and efficient institutions, and the application
of supportive policies, including policies that promote macroeconomic
stability and the rule of law. Of course, productivity growth is encouraged
by the production of sophisticated and complex products and services with
higher added value that are intended for export, thus enabling international
technological diffusion. This complements the research and supports the
argument that indeed "what an economy exports are important"[4].

The demographic structure of the population is one of the most
significant factors affecting productivity. Changes in the age structure of the
population directly affect labour productivity. The development of technique
and technology, as well as their increasing application in work processes, is a
prerequisite for increasing productivity. That is why changes in the age structure

4   Hausmann Ricardo, Hwang Jason, Rodric Dani, "What you export matters", CID Working
Papers Series 2005, Harvard University, Cambridge, MA, 2005

of employees, that is, the greater participation of older workers in the total number of employees, is a serious challenge in increasing productivity. Thus, the oldest employees often have difficulties with the use of new technologies, as well as the digitization of work processes.

The pandemic has also imposed many other numerous challenges for labour productivity. Reduced investment and limited trade, disrupted supply chains, public and private debt burdens, erosion of human capital are problems that have affected productivity. On the other hand, the pandemic forced awareness and the search for new solutions for functioning, which caused permanent organizational and technological changes for business and education, the diversification of global value chains and changing social norms. Such changes are also reflected in the data on labour productivity in the Republic of North Macedonia. (Figure 2)

2. IMPACT OF THE DEMOGRAPHIC CHANGES OVER THE LABOUR MARKET FLUCTUATIONS

Demographic changes, including changes in population size, age distribution and workforce composition, have direct implications for businesses, policy makers and society as a whole. Understanding these trends is essential to effectively address challenges and capitalize on opportunities in the labour market and industry.

One of the most significant demographic trends affecting the labour market is the aging of the population. In many developed countries, including the Republic of North Macedonia, the birth rate has decreased, while life expectancy has increased. As a result, the percentage of elderly people in the population has increased, leading to a reduction in the labour force and a growing elderly dependency ratio. (Figure 3) The aging of the population presents a challenge for the labour market and the industry. First, there is a greater demand for health care services, long-term care facilities and retirement communities to support the aging population. This creates opportunities for growth in healthcare-related industries, but also strains public resources and social protection systems.

Second, an aging workforce affects labour supply and productivity. Older workers may face age-related health problems, skills obsolescence and retirement decisions, leading to labour shortages in certain industries and loss of experience and knowledge in others. Employers must adapt by implementing age-friendly policies, offering retraining programs and promoting intergenerational collaboration to increase productivity and retain talent.

Figure 3 Employment rate of the population by age and gender, 2000-2017
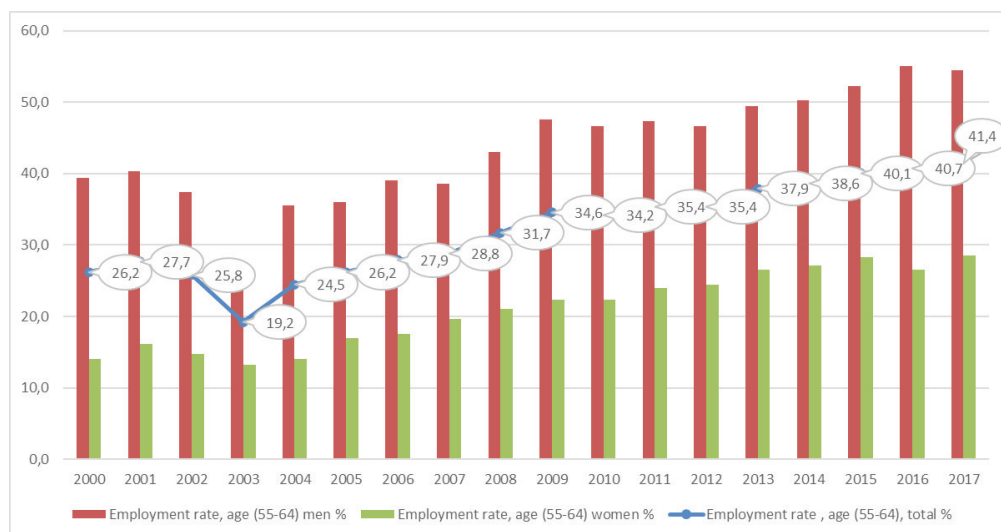
Source: State Statistics Office of the Republic of North Macedonia, https://makstat.stat.gov.mk/ PXWeb/pxweb/mk/MakStat/MakStat__OdrzlivRazvoj__IndikatoriZaOdrzlivRazvoj/275_ OdrzRaz_Mk_04Demog_mk.px/?rxid=46ee0f64-2992-4b45-a2d9-cb4e5f7ec5ef   (accessed on 20.1.2024)

Figure 4 presents the number of employees by industry in the Republic of North Macedonia for the period from 2011-2022. It can be seen, that the largest number of working population is concentrated in two industries, the manufacturing industry and the wholesale and retail trade industry. The third industrial branch that includes the largest part of the working population is agriculture. However, it should be taken into account that despite the fact that it counts a large part of the labour force, the once main industry of the country counts fewer employees from year to year with the lowest number reached exactly in 2022. On the other hand, the number of employees in industries such as construction and education are growing. Additional reduction and outflow of the working population can seriously affect the industrial development, especially in the labour-intensive industries of the country, such as manufacturing.

Figure 4 Number of employees by industries in North Macedonia, 2011-2022

Another demographic trend that affects the labour market is the decrease in the birth rate. Fertility rates have fallen below replacement levels, resulting in population stagnation or decline. This demographic phenomenon has implications for labour force growth, consumer demand and economic development. With fewer young people entering the workforce, businesses may struggle to find skilled workers to fill vacancies and drive innovation. Employers may need to invest more in training and development programs to nurture talent internally or attract workers from other regions or countries through immigration policies. Moreover, the decline in the birth rate affects consumer markets and industrial demand. With fewer families and children, there may be reduced demand for products and services aimed at raising children, such as childcare, education and toys. Instead, industries that cater to older demographics, such as healthcare, leisure and retirement planning, may experience growth opportunities.

Migration patterns also affect the labour market and industry dynamics. Immigration can alleviate labour shortages, fill skills gaps, and spur economic growth by expanding the workforce and enhancing diversity. Many industries, including agriculture, hospitality, construction and healthcare, rely on migrant

workers to meet demand and sustain operations. However, immigration policies, cultural attitudes and social integration efforts affect the extent to which migrants contribute to the labour market and society. On the other hand, emigration can deplete talent pools, hinder economic development and exacerbate demographic challenges in countries. Brain drain, or the outflow of skilled professionals, particularly in STEM and health care fields, can hinder innovation and capacity building efforts in developing regions. Governments can implement incentives, retention strategies and repatriation programs to mitigate the negative effects of emigration and promote sustainable development.

Demographic trends also shape workforce diversity, including factors such as gender, ethnicity, age and socioeconomic background. A diverse workforce benefits businesses by fostering creativity, improving decision-making and enhancing customer relationships. However, disparities in representation, pay equity, and advancement opportunities persist across demographic groups. Promoting diversity and inclusion in the labour market and industry requires proactive measures, including fair employment practices, inclusive workplace policies, and cultural sensitivity training.

Technological advances are further intersecting with demographic trends to reshape the labour market and industry landscape. Automation, artificial intelligence and digitization are affecting job roles, skill requirements and labour market dynamics. While these innovations offer opportunities for increased efficiency and new business models, they also present challenges related to job displacement, skills mismatches and socioeconomic inequalities. As certain tasks become automated, workers may need to acquire new skills or transition to occupations that require human creativity, emotional intelligence, and problem-solving abilities. Lifelong learning initiatives, reskilling programs and collaboration between industry, academia and government are essential to facilitate smooth transitions and ensure inclusive growth.

Addressing the implications of demographic trends on the labour market and industry requires a multi-pronged approach involving policy makers, employers, educators and civil society. Governments can implement policies to support workforce development, promote labour market flexibility and address socio-economic disparities. This can include investing in education and training, strengthening social safety nets and encouraging innovation and entrepreneurship.

CONCLUSION

Challenges and opportunities arising from these demographic changes requires proactive measures, joint efforts and adaptive policies to ensure inclusive and sustainable growth in the local economy. The economy will be confronted with the issue of a significant loss, primarily due to a lower potential GDP. There are multiple approaches and possibilities to overcome this situation and the consequences from the demographic changes in the economy.

- Strategic approach is necessary to achieve *higher economic growth* by applying endogenous growth models. The theory of development recognizes many models that should be utilized when building the national strategy for economic growth and development.[5] Economic growth should be based on increased value of human capital, high level of application of technology, know-how and artificial intelligence, as well as increased productivity. Economies can achieve high rates of economic growth, although they have low rates of population growth and limited available basic resources, they can ensure growth with high rates of investment in physical capital and spend a greater part of time and resources for human capital accumulation.

- Measures for *improving productivity* - Total productivity in North Macedonia indicates the fact that there is a potential with which, through taking measures and activities, productivity can be increased. Investments in human capital by individuals, enterprises and the state, encouraging research and development of new technologies, as well as digitization of work processes and the use of artificial intelligence, will enable an increase in productivity. At the same time, it is necessary to increase the capacities and capabilities of enterprises for the application of new technologies and encourage innovative activities, private investments in human capital, active involvement of management, as well as conducting technical training. The role of the state as an active participant in these processes is essential. Above all, increasing investments by the state in education, through training and education of the teaching staff, enabling adaptation of curricula in all levels of education, greater investments in research and science, help and support of the private industry and creation of programs and activities with which the private and academic sector will be more connected are the ways in which the state should actively support the economy.

- *Improving the quality of education* should enable the acquisition not only

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5 The Mankiw-Romer and Weil model is an extended Solow model that includes human capital $Y = K^{\alpha} (AH)^{1-\alpha}$. Then the AK model, the Ramsey model, the Uzawa-Lucas model, see the book Economy of Development, Dimitar Eftomoski, 2009

of new skills and knowledge, but also enable people to think critically and develop abilities for easier adoption and application of new technologies.

- Taking measures to ***reduce emigration abroad***, especially among the young population, through systematic solutions that will create conditions for them to stay in the country.

- ***Structural changes*** in the economy (development of industry that create higher added value and increase their participation in GDP). Raising the level of potential GDP will largely depend on well-designed and implemented structural reforms in the medium term. Only in such conditions can the potential GDP be raised to the level of 4.3 to 5% in the period from 2020-2035 (without it, it will would move around 3.5% and the convergence would continue slowly).

Economic development in North Macedonia depends on the capacity of the institutions, and not only on the availability of resources. ***Strengthening institutional capacities*** is a basic prerequisite for the implementation of any measures and activities that would encourage economic growth and development.

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EXPORTS AND MNE LINKAGE IN SMEs INTERNATIONALIZATION IN WESTERN BALKAN

Abstract

This article examines the internationalization of small and medium-sized enterprises (SMEs) from the Western Balkans region (WB), observed through the lens of their exports and integration into Global Value Chains (GVCs) by building a solid nexus with Multinational Enterprises (MNEs). The study using both a quantitative and qualitative approach reveals that SMEs, despite their importance in domestic economies, are generally underrepresented in international markets. Such a conclusion can be illustrated by their minor contribution to total exports and their insignificant share of sales to foreign MNEs with headquarters in their country. The results indicate that the SMEs face many obstacles in their attempts to export and integrate into GVCs by building relationships with SMEs-MNEs. Additionally, the findings demonstrate that all economies in their strategic documents have included broad support for increasing export volumes, improving complexity and sophistication, creating higher value-added, enhancing SME-MNE links, improving the quality of the domestic supplier base, strengthening competitiveness and improving productivity while intensifying the internationalization process of small and medium-sized businesses.

Key words: Internationalization, SMEs, Exports, GVCs, MNEs
JEL Classification: F1, F21, F23

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Introduction

Over the past few decades, internationalization and the organization of international production, trade, and investments within the framework of GVCs have been dominant characteristics of the global economy. Various phases of the production process for different goods are in different countries. Internationalization and participation in GVCs offer new opportunities for firms to integrate into the global economy, allowing them to join global production networks instead of building their own from scratch and utilizing international, rather than national knowledge, resources, and inputs in their production. The intensified process of internationalization and expansion of GVCs is driven by various factors, including reducing barriers to trade and investment, efforts by countries and industries to specialize in activities where they have or can develop a comparative advantage, and increased sophistication of MNE business strategies. The degree of internationalization and a country's participation in GVCs depend on the level of economic development, geographical location, policy stability, and environment, as well as sectoral specialization.

For small and open economies, such as the majority of the economies in the Western Balkans, internationalization, export-led development, and participation in GVCs are key factors for achieving inclusive growth. Considering SMEs' economic and social significance and contribution to production and employment in the region's countries, their importance cannot be overlooked when discussing internationalization. Expanding into foreign markets and the internationalization of SMEs are crucial for increasing the productivity and competitiveness of SMEs on a global scale. Encouraging and facilitating SME participation in international markets is an important means of acquiring international knowledge and technology, promoting innovation, expanding business, fostering economic growth, and so on.

Internationalization and the participation of SMEs in international markets can take several forms that are not mutually exclusive. Most commonly, this involves direct export to foreign countries and indirect export through sales to other exporting firms, as well as imports. Although less common in practice, SMEs can also engage in joint ventures with foreign firms in their domestic or foreign markets. They can also participate in GVCs by focusing on specific segments of production of a set of goods and services, for example, by supplying a foreign firm or MNE in the host market with domestic inputs (goods or services). Conversely, supply agreements occur when SMEs purchase goods or inputs from foreign MNEs headquartered in their home country. Another way to establish such links with MNEs is through licensing agreements,

whereby SMEs or a group of SMEs obtain a license from an MNE to produce and sell goods under a brand or trademark or use patented technology. Yet another way to establish SME-MNE relationship links is through research and development agreements, where MNEs and SMEs undertake joint research and development of a product, service, or production method.

The integration of SMEs into GVCs represents one of the key drivers of growth in small, open economies. Hence, countries aiming to increase productivity, acquire knowledge and technology, and create quality jobs, enabling involvement in higher value-added activities, focus primarily on policies based on leveraging GVCs. Thus, countries in the Western Balkans have long sought to achieve higher export-led growth and increase the value-added of regional production. Therefore, further integration of SMEs into GVCs should be a primary focus in these countries to enhance export complexity and generate greater value-added in each economy.

Given the above, there is a need in this study to examine the participation of SMEs from the Western Balkans region in the process of economies' internationalization, with a particular focus on exports and integration into GVCs through building solid relationships between SMEs and MNEs. The goal is to observe the actual level of SME internationalization, the reasons for the current state, the challenges SMEs face for greater integration into international flows, and the needed policies for their enhanced internationalization. The countries of the Western Balkans under consideration are Kosovo, Albania, North Macedonia, Serbia, Bosnia and Herzegovina, and Montenegro.

The methods used in the study are with the nature of the research question, namely: the method of analysis and synthesis, comparative method, historical method, and inductive-deductive method, while also utilizing basic statistical tools for data analysis primarily obtained from secondary sources.

1. INTERNATIONALIZATION OF SMES IN THE WESTERN BALKAN COUNTRIES ACHIEVED THROUGH EXPORTS

SMEs and entrepreneurs, including those in the Western Balkans, are key economic actors in all countries, which have a significant share in employment and production and play a significant role in innovation and value creation. In 2020, SMEs in Western Balkan region made up 99.7% of all enterprises, with microenterprises accounting for the vast majority (90.1%). They accounted for an average of 71.9% of business employment, and 65% of the business sector's value added in 2020.[1] However, when evaluating

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1 OECD, SME POLICY INDEX: WESTERN BALKANS AND TURKEY, 2022, p. 33-35

the degree of internationalization from the aspect of exports, it can be noted that despite their significance in domestic economies, SMEs are generally inadequately represented in international markets. For example, in the countries of the Western Balkans, the contribution of SMEs to total exports mainly ranges between 20-60% (Graph 1).

Graph 1. SMEs' share in exports in WB economies (2017-21)
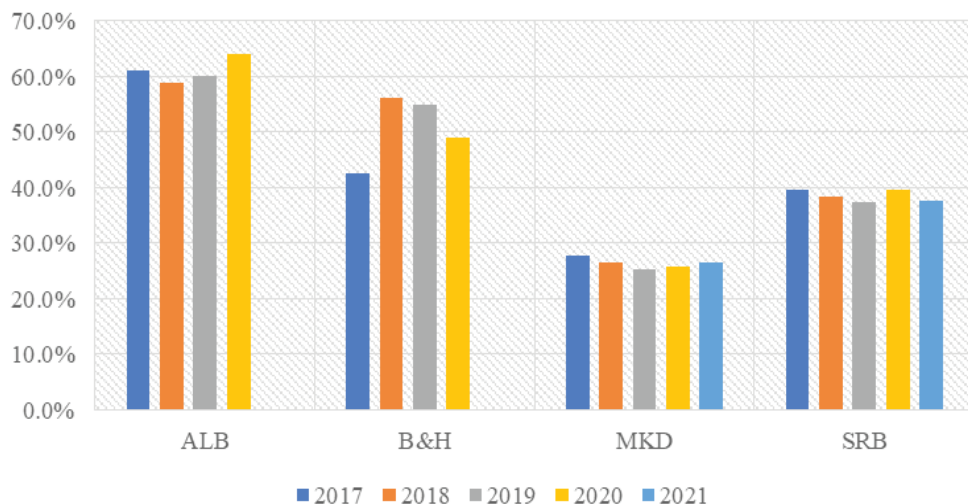
Source: Statistical offices, ministries and SME agencies of the six Western Balkan economies
* Data for Kosovo and Montenegro are not available.

These figures are higher only in two countries in the region, Albania and Bosnia and Herzegovina, with average around 61% and 51%, respectively, while the other countries are far below these averages, especially SMEs in the Republic of North Macedonia (around 26%).

The insufficiently high levels of participation of SMEs in international markets, in terms of exports, are mainly explained by the inherent characteristics of small businesses. For example, SMEs are concentrated in sectors that cannot be traded globally, such as retail, construction, and services. SMEs are also largely absent in internationally oriented sectors where volume is important and where large investments in physical assets are the norm (e.g. commodities, heavy industry, large-scale manufacturing, etc.). This can best be seen in Table 1, which shows the nature of the sectors of operation of SMEs in each of the analyzed economies.

Despite the importance of SMEs in the region and their contribution to production and employment in the region, they still face numerous obstacles in

their efforts to export and integrate into GVCs. Among the most significant are: lack of export capacity, poor quality and narrow export base, administrative barriers, and restricted access to finance. Other barriers to the SMEs internationalization, in terms of exports, include so-called "internal" barriers such as: low capacity to access information (e.g., in foreign markets) and a lack of managerial and technical knowledge and skills (e.g., languages, finance, cultural norms, etc.). These also include "external" barriers encompassing: burdensome regulatory procedures (in domestic and foreign markets), poor infrastructure, and challenging business environments (such as corruption, weak property rights, etc.).

Table 1. Distribution of SMEs by sector across the Western Balkans (2020 or latest available year)

	ALB[1]	BIH[1]	KOS	MKD[1]	MNE	SRB[1]	WB average
Agriculture, forestry and fishing	..	1.20%	1.82%	3.83%	1.86%	3.83%	2.51%
Mining and quarrying	0.66%	0.26%	0.32%	0.51%	0.36%	0.35%	0.49%
Manufacturing	7.96%	4.46%	12.46%	24.69%	11.48%	16.56%	15.52%
Utilities	0.60%	0.73%	0.58%	2.32%	1.01%	1.68%	1.38%
Construction	3.76%	1.91%	7.37%	9.18%	18.67%	8.83%	9.94%
Distributive trade	40.01%	6.98%	38.68%	29.64%	48.32%	31.86%	39.10%
Transportation and storage	4.98%	1.68%	3.59%	8.71%	7.42%	6.58%	6.59%
Information and communication	2.59%	0.96%	2.58%	4.63%	6.06%	6.24%	4.61%
Other services	39.27%	6.22%	32.59%	20.34%	4.82%	24.07%	25.46%

Source: OECD, SME POLICY INDEX: WESTERN BALKANS AND TURKEY, 2022, p. 36
[1] 2019 data due to unavailability of 2020 data. For Bosnia and Herzegovina, data do not include unincorporated enterprises. Due to the unavailability of state-level data, data for Bosnia and Herzegovina have been calculated by aggregating the data of the Federation of Bosnia and Herzegovina and Republika Srpska.

In order for SMEs not to encounter additional barriers hindering their internationalization, governments need to ensure appropriate export-oriented policies and facilitate access to foreign markets for SMEs. Together with their respective export promotion agencies, they should provide support that recognizes the needs, capabilities, and limitations of SMEs.

Regarding the internationalization of SMEs in the Western Balkans, the OECD conducts analyses on several sub-dimensions, one of which is the dimension related to the promotion of SME exports. This dimension examines export promotion programs for SMEs with potential for internationalization. It evaluates the design of schemes for financial and non-financial support and their alignment with domestic strategies, while also assessing their implementation and effectiveness. This section also examines existing monitoring and evaluation systems to analyze the extent to which export promotion strategies and support schemes are being followed.

According to the latest analyses and assessments by the OECD, all economies in the region, except Kosovo, have improved their performance compared to the previous assessment cycle regarding this dimension. Despite the COVID-19 pandemic, which significantly impacted the operations of SMEs and export promotion activities throughout the region, overall implementation has been improved. Monitoring and evaluation have also been enhanced, but they remain weak for export promotion, lacking independent reviews and measurable objectives in key strategic documents.[2]

The assessments indicate that all strategic documents specific to SMEs in the Western Balkans region emphasize export promotion. All economies have included broad support to increase export volume, as well as to improve its complexity, sophistication, and creation of higher value added. As part of various programs, all WB economies provide SMEs with financial and non-financial support for their internationalization efforts. Financial support entails trade financing, export credits, and grants, subsidies for participation in fairs, and business-to-business (B2B) linkages. Non-financial support for SMEs includes capacity-building activities, training, and technical assistance. The effectiveness of this support varies throughout the region. However, in many economies of the WB, fragmentation of information sources on available export support for SMEs occurs, as governments inform SMEs through government portals or various project websites. Additionally, all WB economies, except Montenegro, have export promotion agencies, but with different mandates. For example, KIESA in Kosovo has extensive mandates to manage broad support for SMEs, not only in the area of export promotion.

Such assessments promise potential for improvement in terms of increasing exports, and thus in the level of internationalization of SMEs in the countries of the region.

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2   OECD, Internationalisation of SMEs (Dimension 10) in the Western Balkans and Turkey, https://www.oecd-ilibrary.org/sites/bdb2a544-en/index.html?itemId=/content/component/bdb2a544-en#chapter-d1e44238

2. INTERNATIONALIZATION AND INTEGRATING SMES INTO GVCS: LINKS WITH MNES IN THE CASE OF WESTERN BALKAN COUNTRIES

Given that in the WB region, SMEs often struggle to access GVCs through direct export due to restricted market access or limited export capacity, it is assumed that by leveraging MNEs that already have established operations in the region and by facilitating the investment framework to attract new enterprises into the economies, their internationalization and integration into GVCs could be facilitated. MNEs can achieve this through FDI, which, among other things, serves to connect and organize production across countries. Specifically, by fostering links between SMEs and foreign companies, SMEs can become involved in GVCs by providing inputs and services to MNEs based in their countries. The involvement of SMEs in the supply chain largely depends on the volume and intensity of the links, the absorption capacity of SMEs, and the sector of activity.

This approach to linking is beneficial for both sides of the relationship: SMEs benefit from the transfer of knowledge and technology, thereby enhancing their performance and productivity. On the other hand, MNCs reduce their operational and transaction costs by sourcing directly from the local market.

Table 2. Percentage of the domestic companies' sales made to multinationals located in seller's economy (% of total sales in each country)

	Albania	Bosnia and Herzegovina	Kosovo	Montenegro	North Macedonia	Serbia	Western Balkans
2017	2.0	4.0	4.0	3.0	2.0	5.0	3.3
2018	4.0	7.0	9.0	3.0	4.0	9.0	6.0
2019	1.0	6.0	3.0	6.0	6.0	7.0	4.8
2020	1.0	3.0	1.0	4.0	2.0	1.0	2.0
2021	1.0	6.0	14.0	1.0	4.0	6.0	5.3
Average for all years	1.8	5.2	6.2	3.4	3.6	5.6	4.3

Source: Regional Cooperation Council, BALKAN BAROMETER - Business Opinion, Analytical report, 2022, 2021, 2020, 2019, 2018

However, data from Western Balkan countries on sales by domestic firms to MNEs indicate that only a small portion of sales by domestic companies are made to foreign MNEs with headquarters in their country. Over the past five years of research conducted by the Balkan Business Barometer, carried out by the Regional Cooperation Council, the majority of sales made by domestic firms to foreign MNEs were in Bosnia and Herzegovina, Kosovo, and Serbia, while the average for all economies over the entire five years was only 4.3% of sales (Table 2). This suggests that investments by multinational companies in the Western Balkans region have provided few links to the local economy and have done little to develop intra-regional trade. Hence, the effects of the participation of foreign firms (MNEs) in industries supplied by domestic firms are extremely limited.

MNEs are interested in finding suppliers from the Western Balkans region, but face numerous obstacles, including the small size of local companies, the relative lack of capacity and technical quality of local suppliers, as well as the lack of clusters and networking among companies on a local or regional basis. As a result, most MNEs look beyond the Western Balkans region to meet their supply needs.

Furthermore, in establishing relationships with MNEs, SMEs in the WB region face additional obstacles even after establishing a connection with MNEs. In this case, the main obstacles are considered to be weak competitiveness due to insufficient quality of products and services from domestic suppliers, as well as low productivity expressed through their inadequate production capacities and internal processes. Besides these, other obstacles are identified: skills shortages, institutional changes, frequent regulatory modifications, customs delays, unfair competition, and a lack of transparency in regulations. [3]

Such a situation imposes the need for a more active role of central and local authorities in building the capacity for supplying local SMEs to engage in relationships with the supply chain with MNE producers, both within and outside the enterprises.

The latest analyses conducted by the OECD on the internationalization of SMEs from the WB indicate that governments aim to increase the participation of SMEs in GVCs. The integration of SMEs into GVCs is included in all national strategies regulating the internationalization of SMEs across the region, with approaches ranging from promoting links between SMEs

3   Ilahi, N. et al., "Lifting growth in the Western Balkans: The role of global value chains and services exports", *Departmental Papers Series*, No. 19/13, International Monetary Fund, Washington, DC, 2019 https://doi.org/10.5089/9781498314916.087.

and MNEs and developing the domestic supplier base to forming clusters and attracting FDI. The most common approach outlined in strategic documents is to focus on enhancing the competitiveness and increasing the productivity of SMEs.

In order to become suppliers to MNEs, SMEs must adhere to the quality requirements and international standards of larger enterprises, which often pose a challenge, especially for SMEs with limited economies of scale. In this regard, almost all economies have introduced supplier development programs aimed at improving the quality of suppliers in the economy or tools for better connecting domestic SMEs with potential investors and MNEs. For example, Serbia has implemented a Supplier Development Program administered by the Development Agency aimed at improving the quality of the supplier base and supporting SMEs in adhering to international standards by assisting them with equipment procurement and capacity-building to upgrade their operations. On the other hand, Albania, North Macedonia, and the Republic of Srpska have intensified their efforts to increase connections between domestic SMEs by introducing business-to-business linking platforms or supplier directories.

Furthermore, four of the evaluated economies significantly progressed in the area of cluster formation and development. Thus, the governments of Albania, Bosnia and Herzegovina, Kosovo, and Montenegro have implemented cluster development programs and intensified their institutional support for industrial groupings by strengthening financial and non-financial incentives for SMEs with cluster potential. At the regional level, in six of the Western Balkans, an inter-agency initiative was established - the Regional Supplier Development Program - which assists SMEs in building their capabilities and readiness for export for better integration into GVCs.

Most of the GVC links formed in the Western Balkans region originate from low-value-added production and services.[4] This indicates the need to transition to higher-value activities, increase the regional output's value-added, and attract high-quality profiles for FDI. Recognizing this need, the role of investment promotion agencies becomes increasingly important in attracting investors, creating jobs, and overall productivity growth.[5] All economies in the region have dedicated investment promotion agencies that vary in terms

4   OECD, Unleashing the Transformation Potential for Growth in the Western Balkans, 2019, OECD, Paris, https://www.oecd.org/south-east-europe/programme/Unleashing_the_Transformation_potential_for_Growth_in_WB.pdf.
5   OECD, Mapping of Investment Promotion Agencies in OECD Countries, 2018, OECD, Paris, https://www.oecd.org/investment/Mapping-of-Investment-Promotion-Agencies-in-OECD-Countries.pdf.

of their mandates and effectiveness. For example, in Bosnia and Herzegovina, Montenegro, and North Macedonia, investment promotion agencies do not provide financial support to SMEs and primarily serve informational purposes. On the other hand, KIESA in Kosovo, AIDA in Albania, and the Development Agency of Serbia have broad mandates that go beyond exports and investment promotion, including extensive support for SMEs.

3. **RECOMMENDATIONS FOR IMPROVING THE SMEs INTERNATIONALIZATION IN THE WESTERN BALKANS REGION**

Despite the importance and contribution to production and employment of the SMEs in the region, they still face numerous obstacles in their efforts to internationalize and integrate into GVCs, both in terms of exports and in building relationships with MNEs. Considering that inadequate export readiness, low quality of supplier base, and suboptimal absorption capacities are the main obstacles to internationalization in the WB region, the government of each WB country can play an important role in facilitating the integration of SMEs into global markets through a well-targeted, comprehensive policy mix of financial and non-financial support.

Some important guidelines for future actions include:

• Removing administrative barriers to exports and investments in economies, as well as building export capacity and a quality expanded export base, and overall improving the business environment by preventing corruption and improving the legal system.

• Establishing dedicated centralized portals for export promotion, which will be regularly updated and where data on all available export promotion support and current policies can be found.

• To continue strengthening monitoring and evaluation of export promotion programs and to enhance data collection mechanisms. In addition to tracking the satisfaction of SMEs using government support schemes, quantitative targets should be defined and monitored, and performance-based monitoring and evaluation should be introduced. The same should be done for policies promoting the integration of SMEs into GVCs through the establishment of SME-MNE relationship links.

Governments and investment promotion agencies should monitor the work of support scheme users and accordingly collect data on potential SME-MNE links.

Measuring the performance of SMEs after undertaking these initiatives can provide significant insight into both the positive and negative effects of selected policies, which will later demonstrate their sustainability for both users and the efficient distribution of resources.

- Creating comprehensive policies to enhance SME productivity, as well as improving and expanding the supplier base in the economy to attract FDI. To achieve this, it is necessary to focus on capacity building in areas such as management, innovation, and upgrading production capacities, as well as achieving alignment with international standards.

- Strengthening the capacities of investment promotion agencies to fulfill their mandates. This could be achieved by ensuring stronger coordination among investment promotion agencies and government bodies responsible for SME policies, especially among agencies with broader mandates that involve extensive support for SMEs, as well as ensuring that budgets and personnel are appropriate for their goals and roles entrusted to them.

Such measures to facilitate export promotion and establish sustainable integration of SMEs into GVCs through building strong SME-MNE relationships can expand SME achievements, improve their productivity levels, and generate greater added value, consequently leading to increased economic growth in the countries.

Conclusion

Encouraging and facilitating the internationalization and participation of SMEs in international markets is an important means of promoting economic growth, innovation, and increased productivity. Moreover, through internationalization, SMEs have the opportunity to expand their businesses and gain international knowledge and technology. In pursuit of these benefits, SMEs in the economies of the WB region are striving to increase their level of internationalization both in terms of exports and in building stronger relationships with MNEs. However, analyses of these efforts indicate that they are not sufficient. At the time of conducting the analyses, SMEs were

characterized by low participation in total exports in each economy and weak links with MNEs headquartered in their country. Specifically, the contribution of SMEs in the Western Balkan countries to total exports mainly ranges between 20-60%, with the highest percentage in Albania and Montenegro (around 61% and 51% on average, respectively), and the lowest participation in North Macedonia (around 26%). Regarding the links with MNEs, it is shown that the average sales made by domestic firms to foreign MNEs for all economies over all five/seven years is only 4.8% of total sales, which is indeed a low percentage.

The above indicates that SMEs still face numerous obstacles in their efforts to export and integrate into GVCs, building SME-MNE relationships. The main obstacles include a lack of export capacity, a narrow export base with low-quality products, restricted access to finance, concentration in sectors that are not tradable, the small size of local companies, capacity and technical quality deficiencies among local suppliers, a lack of clusters and networking among local or regional companies, weak competitiveness, and low productivity. Additionally, other obstacles are identified, such as low capacity to access information, a shortage of managerial and technical knowledge and skills, institutional changes, poor infrastructure, challenging business environments, frequent regulatory modifications, a lack of transparency in regulations, burdensome regulatory procedures, customs delays, unfair competition, etc.

To ensure that economies provide SMEs with no additional barriers hindering their internationalization, they have included extensive support to increase export volume, as well as to improve its complexity, sophistication, and creation of higher added value. Additionally, in all strategic documents specific to SMEs in the Western Balkans region, export promotion is emphasized. Furthermore, all national strategies regulating the internationalization of SMEs include integrating SMEs into GVCs by promoting links between SMEs and MNEs and developing the domestic supplier base, forming clusters, and attracting FDI. The key approach outlined in the strategic documents is to focus on strengthening the competitiveness and increasing the productivity of SMEs. The relevant export promotion and investment agencies should continue to provide support, which recognizes the needs, capabilities, and limitations of SMEs.

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8. Statistical offices, ministries and SME agencies of the six Western Balkan economies

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GOVERNMENT POLICIES FOR GREEN ECONOMY DEVELOPMENT IN SME's

Abstract

The concept of green economy is new approach, dedicated to the principles of environmental sustainability, especially minimizing the negative impact on the environment. This approach stimulates the functioning of SMEs and economic growth and development, ensuring nature to continue providing resources and services in the environment on which the well-being of national economies depends.

The areas of operation of the green economy are economics and ecology, and the three pillars of sustainability are economy, ecology and society, therefore the general agreement is that the concept of green economy is closely related to sustainable development. Given that in the Republic of North Macedonia, the green economy is a relatively new concept and there is no single document - strategy or program for development of the green economy, the purpose of the paper is by analyzing all documents and programs relating to sustainable development, specifically, the policies that indirectly encourage and/or stimulate the development of the concept of green economy in the operation and functioning of SMEs, to see the institutional support for promotion and development of the concept of green economy in the Republic of North Macedonia.

JEL classification: Q50, Q58

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Introduction

SMEs play a significant role in the national economy in the Republic of North Macedonia, and they should use the opportunities offered by the concept of green economy in order to improve the environmental activity and energy efficiency of the company, reduce costs, new approach to operation and access to market. The Republic of North Macedonia has ratified international conventions in the field of environmental protection and climate change in order to harmonize policies and strategies aimed, inter alia, towards sustainable development. In recent decades, special attention has been paid to policies that promote sustainable development and support the concept of a green economy. Some of the set goals are to increase the percentage of renewable energy in the final energy consumption by 20% and to increase the energy efficiency by 20%.

The purpose of the paper is by analyzing all documents and programs relating to sustainable development, specifically, the policies that indirectly encourage and / or stimulate the development of the concept of green economy in the operation and functioning of SMEs to see the institutional support for the promotion and development of the concept of green economy in the Republic of North Macedonia.

In the country there is no single document - a strategy or program development for green economy. Given that there is general agreement that the concept green economy is closely linked to sustainable development, the analysis uses documents and programs related to sustainable development policies. So, it comes to analyzing the Strategy for Sustainable Development, Strategy for Energy Development, Medium-term Strategy for Social Responsibility, National Strategy for SMEs, Industrial strategy, Strategy for use of renewable energy sources, Strategy for Agriculture and Rural Development, National Plan for Organic Production and Environmental Law which covers common issues regulated by sectorial laws such as the Law on Waters, Law on Waste Management, Law on nature protection and Law on Ambient Air Quality.

1. SMEs in the national economy in Republic of North Macedonia

SMEs development in Republic of North Macedonia is one of the key factors for achieving accelerated economic growth, increasing employment and growth in production. They represent 99% of the total number of active companies, which is an important indicator for participation in the national economy. (State Statistical Office, 2020)

According to the latest data from the State Statistical Office, SMEs have a dominant place in the economy of the Republic of North Macedonia (Chart 1). The structure of enterprises is dominated by micro enterprises (82%), while 2% to 5% of Macedonian enterprises are in the other category of SMEs. The high participation rate of micro-companies is a potential limitation to growth, as these companies are unlikely to grow into small or medium-sized enterprises and create a significant number of jobs. Hence, it is very important to create favorable conditions for these companies to grow and create formal jobs.

Graph 1 Percentage share of enterprises in the Republic of North Macedonia by size, 2020
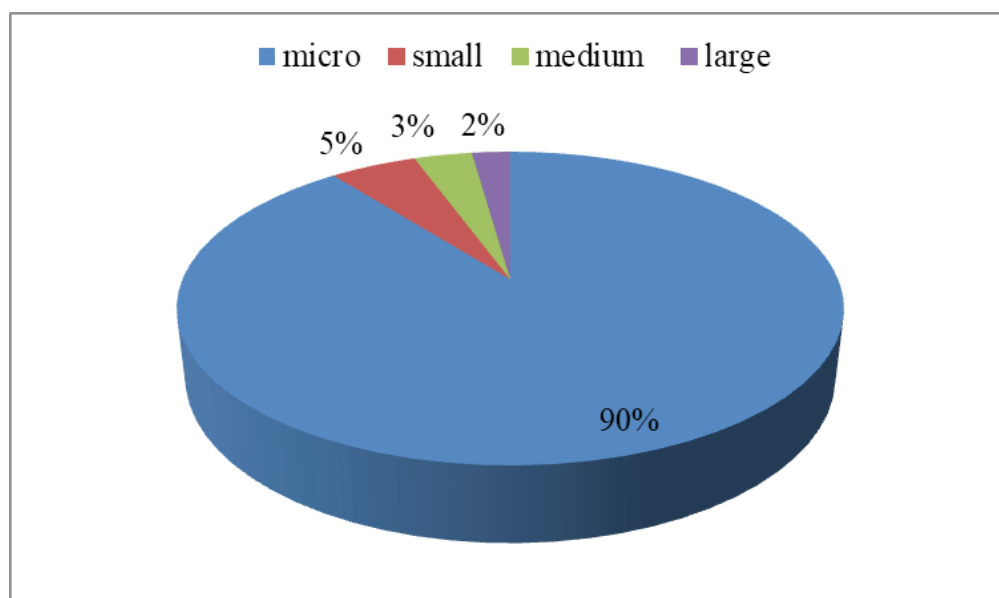
Source: State Statistical Office, Active Enterprises, https://www.stat.gov.mk/pdf/2023/6.1.23.15_mk.pdf, (Access: February 2024)

In the last decade it was implemented a number of reforms aimed at creating a more favorable business environment, which indirectly would have influenced the creation of new, quality jobs in the formal economy. The basic principles of the implemented economic reforms are: relaxing the conditions for doing business in the country, establishing a high degree of economic freedom and equal working conditions for economic entities, supporting entrepreneurship and increasing the competitiveness and innovation of the Macedonian economy.

2. Analysis of Government policies that indirectly stimulate green economy development in SMEs

With the accession, Republic of North Macedonia is committed to harmonize national legislation with that of the EU - to ensure the integration of environmental protection, rational use of resources and energy efficiency in all sectors of the national economy and life. The country has no specific policy document for green economy, but there are strategic documents that state the goals of sustainable development that ensure the transition to a green economy. In order to perceive the institutional support for the promotion and development of the concept of green economy in the country, the following documents are analyzed:

The Strategy for Sustainable Development clearly indicates that in order to achieve sustainable development in the Republic of North Macedonia, it's necessary to integrate tourism, forestry, agriculture and industrial sector with the support of the energy sector, infrastructure and transport sector under the "umbrella" of the environment sector. Based on this, seven (7) strategic commitments are proposed for achieving sustainable development in the country, as follows (National Strategy for Sustainable Development, p.25):

1) Ensuring EU membership and compliance with the EU Sustainable Development Strategy;
2) Increasing awareness and commitment to sustainable development, covering all spheres of life in the country;
3) Introduction of E-governance as a strong tool for support and implementation of sustainable development;
4) Directing the public sector through organizational development and institutional strengthening, based on the concepts and principles of sustainable development, as well as cross-sectorial and integrated strategic and participatory work;
5) Directing the banking and financial sector to provide funds for financing projects and activities for sustainable development;
6) Streamlining the private sector to development that is based on the principles of sustainable development;
7) Realization of demonstration and pilot projects in the early phase of implementation of the Strategy (NSSD).

The Strategy for Sustainable Development states that the basic precondition for changes in a country and society towards sustainable development is the understanding and acceptance of the concept and principles of sustainable development.

The Energy Development Strategy in Republic of North Macedonia integrates the climatic and environmental aspects of the energy sector, at the same time proposing available, safe and sustainable energy for the future. In line with the five-dimensional framework of the EU Energy Union, the Strategy defines six strategic goals for Macedonia, mapped into five (5) energy pillars (Energy Development Strategy, p. 5):

1) Energy efficiency - a pillar for which the Strategy recommends maximizing policies and measures for energy efficiency in the sectors, reducing coal consumption and improving electricity in energy production which would contribute most primary energy savings in the scenario of a moderate transition and green scenario; continuous reduction of losses in the distribution network and improvement of the efficiency of the central heating systems as well as monitoring of the planned electricity measures and greater stimulation of those that have the greatest impact on energy consumption.

2) Integration and security of energy markets - a pillar that recommends a policy of continuous investment in the transmission and distribution network for greater integration of sustainable energy sources (RES) for electricity production, especially from wind and solar and enabling the producer-consumer mechanism ("prosumer"), greater penetration of electric vehicles, meeting the increased demand for electricity in the region and to participate in the initiatives for the establishment of a regional market.

3) Decarbonization - a pillar that envisages policies related to promoting the use of RES in a way that ensures sustainable development, a share of 35-45% in the total final energy consumption in 2040.

4) Research, innovation and competitiveness - these policies recommend the inclusion of energy transition technologies in the national priorities for research and development and stimulate the cooperation of research centers (institutes, universities, development departments, etc.) with policy makers, industry, utilities, municipalities and associations. It is also recommended to stimulate new services and jobs, especially for small and medium enterprises (SMEs) in the field of RES and EE.

5) Legal and regulatory aspects - it is recommended: Adoption of the Energy Efficiency Act and all laws derived from it, Implementing Regulation monitoring mechanism, incorporating commitments related to climate change in relevant sectors, integrated national energy and climate plans, and setting targets for 2030 and Implementation of the Energy Community Environmental acquis.

The Medium Term Strategy for Social Responsibility follows and affirms the recommendations of the European Commission from the renewed

strategy for social responsibility of 2011-2014, as well as the complementary activities for promotion of sustainable development and integration of social responsibility in the process of achieving Sustainable Development Goals, adopted by by the United Nations. In the chapter, policy framework of corporate social responsibility, special attention is paid to the environment and climate change or the role of businesses in this area. (Medium-term Strategy for Social Responsibility p. 53) It is concluded that it is necessary to involve the business community in achieving the Sustainable Development Goals. In that regard, the coordination of the initiatives for sustainable development and social responsibility should be by the Economic and Social Council and the National Council for Sustainable Development.

The SME National Strategy in Republic of Macedonia recommends SME policies to become more productive and competitive participants in European and other international markets, to introduce development services and development practices through mentoring, training, financial, expert and technical support, and to improve access to financial services, especially development within the green economy. (National Strategy for SMEs, p.25). This includes national policy reforms, such as designing support instruments and services to provide incentives and support to "green SMEs" within markets related to the environment, as well as to support the adoption of environmentally friendly business practices. This is in line with national industrial policy, where one of the key objectives is to support environmentally friendly products and services. This also builds on a joint program of the government and the World Bank for competitive industry and innovation.

Industrial Strategy of Republic of North Macedonia aims to promote the industralizaion by stimulating the growth and development of the processing industry in order to increase productivity, creating good jobs, increasing incomes and strengthening human capital, while addressing the challenges of circular economy. This strategy focuses specifically on SMEs in the processing industry in eight (8) main ways in which the processing industry will be catalyzed to support green industry, namely (Industrial Strategy, p.52):

- Introduction and implementation of Green regulatory reform, by initiating policy debates to raise awareness among business associations and businesses regarding the various policy options for the manufacturing industry, such as Polluter pays principle, extended producer responsibility and application of EU directives (e.g. energy efficiency).
- Introduction of green public procurement as an important tool that can play a key role in the transition to a circular economy, because it can increase the demand for resource / energy-efficient, durable, recyclable, correctable products and to promote new business models based on

offering functionalities and services instead of selling products.

- Helping businesses incorporate sustainability into their business plans, by integrating environmental and social aspects (for example, corporate social responsibility) into their business models or activities, which will lead to better business results to drive innovation and improve economic performance.
- Support of green initiatives in the processing industry led by the industry, i.e. greening of value chains through certification. This measure will support processors, especially SMEs that want to export, through co-financed consulting services, certification costs, grants, know-how and the like., directly by the Ministry of Economy, the Ministry of Environment and Physical Planning, the Energy Agency and other institutions to promote efficiency and environmental improvements.
- Industrial Green Zone Development (IPZ) with a focus on the processing industry. In cooperation with USAID consultants, the Ministry of Economy visited 21 municipalities in 8 planning regions to assess the scope for establishing IPH and almost all local government spatial planning plans include the possibility of creating green zones. Several municipalities have managed to meet environmental protection requirements to create Green Zones. No green zone has been established and this measure is envisaged to try to reform and direct the Law on Industrial Green Zones and to work on the feasibility of green zones, which would lead to the creation of at least one Green Zone as a pilot project.
- Stimulating resource and energy efficiency and low carbon efficiency in the processing industry and improved resource use, pollution reduction, waste minimization and zero waste strategies; closed-loop systems and industrial symbiosis. This includes developing a methodology for Energy Efficiency Plans and capacity building through training of the processing industry to prepare Energy Efficiency Plans.
- Support to SMEs in re-production, i.e. assistance in the process of bringing used products and individual production components into functional "as new" condition, by returning a significant part of the resources embedded in the used product in its original produced condition with low additional costs, thus the price of the newly obtained product is reduced. This measure will study the TIDZs and their potential to support reprocessing activities (the main obstacle is that strategies for extending the usability of manufactured products depend on cooperation with original equipment manufacturers, but there are incentives for them to incorporate obsolescence and replacement in their business model) leading to policy recommendations to be implemented in the

future, such as support for start-ups and co-financing of equipment.

- Support to SMEs in additive production or 3D printing. This is part of the "digitalization of production" and is a relatively new production process that has the potential to significantly affect traditional production models by reducing or eliminating production lines and supply chains, as "final" products are produced in a single process. While this could potentially lead to job losses in manufacturing, digitalisation of manufacturing is expected to increase the demand for professional services from designers, engineers, technicians, developers and other professions. This diversion of the manufacturing industry to "professional services" has the potential to diverse certain manufacturing processes back to transition economies, requiring countries to partially refocus their manufacturing industries on service delivery and improve the education of skilled workers. This measure will support SMEs in 3D printing / production, especially start-ups, through grants and co-financing.

Strategy for utilization of renewable energy sources recommends paying special attention to the rational utilization of the existing and planned potential of hydropower and biomass. Hence, promotional activities should include incentives for both consumers and producers. It is recommended to introduce a mechanism for regular subsidies (fund for support of solar heating systems) and appropriate tax incentives to make more mass purchases and installations of these systems. (Strategy for Utilization of Renewable Energy Sources, p. 13)

The National Strategy for Agriculture and Rural Development emphasizes the model of sustainable agriculture that takes into account the protection of the environment and biodiversity. Special attention is paid to organic agriculture which is promoted as the best way that leads to sustainable development, directly contributes to the stabilization of ecosystems, conservation of natural resources and development of rural areas. In order to meet the goal, the Action Plan for Organic Agriculture proposes the following measures (National Plan of Organic Production, p.39):

- Identification and support of significant organic products;
- Improving the availability of raw materials allowed in organic agriculture;
- Diversification of the sectors of the processing industry involved in the processing of organic products;
- Market research on the demand for organic products as well as the dissemination of information among stakeholders and consumers of organic products;
- Support in organizing green markets in major consumer centers;

- Continuous updating and harmonization of the legal regulations in the field of organic production with the EU;
- Strengthening the capacities of state administration and improved advisory services;
- Development of models for appropriate distribution of state financial support in organic production and
- Increasing investment projects in organic production for sustainable development in rural areas.

The Law of Environment is based on meeting the requirements contained in the Directives of the EU and maintaining traditional values in environmental protection and ensuring sustainable development. The Law is based on the principles "the user pays" and "the polluter pays", which integrally regulates the financial instruments for environmental protection. (Environmental Law, Official Gazette no. 53 of 5.07.2005). These principles are introduced fees to be used as sources of funds for undertaking measures and activities directly aimed at protecting and improving the environment and nature. Additional funds are obtained from the issuance of environmentally integrated permits based on the concept of BAT (Best Available Technics) which sets out the rules and deadlines for achieving the conditions as required by Directive 96/61 and according to experience of the member states of the European Union. For the green economy, especially important principles contained in the Law are: The principle of sustainable development which obliges to take care of the rational and sustainable use of natural resources, meeting the social and economic needs of current and future generations; The principle of prevention that undertakes measures and actions to be taken before the occurrence of adverse effects and The principle of cleaner production that aims to reduce the risks to life and health of people and the environment, as well as to increase economic and environmental efficiency by supporting the implementation of a comprehensive strategy for the protection of the environment in terms of raw materials, production processes, products and services.

SMEs are critical to the success of the green transition in the EU, since SMEs are currently responsible for around 60 % of all greenhouse gas emissions by enterprises. (Annual Report on European SMEs, p.11) EU policy-based solutions have mainly targeted large businesses over the last few decades, while SMEs have received less attention, especially when it comes to reducing emissions. In recent years, more EU policies have been focused on helping SMEs transition to sustainability, but there's still a big gap in the number of policies targeting SMEs and in how they can be further optimized. For example, a review of 113 energy efficiency schemes in eight EU Member States found that only two were focused on SME. In general, there is a need for policies which specifically focus on SMEs. (Annual Report on European SMEs, p.91) SME doesn't have the capacity to monitor policymaking as well as implement

regulations that impose extra requirements. Therefore, SMEs have to be kept well informed of potential new legislation and the complexity of such new legislation has to remain within manageable levels.

The Annual Report on European SMEs recommends that some policies supporting SMEs in the sustainability transition may create win-win scenarios. Namely, by support for energy efficiency measures, green certifications and prizes, and technical assistance SMEs not only accelerate the sustainability transition but also provide benefits in the form of business cost reductions, reputation improvements and capacity building. Also, self-assessment and diagnostic tools help SMEs to understand their environmental footprint and the means available to reduce it. At the same time, these tools establish a much broader database that can serve as a basis for future policy decisions.

3.   Recommendations and conclusion remarks

Despite the Government's commitment to promote the concept of green economy in Republic of North Macedonia through the multidimensionality of sustainable development, it can be concluded that the concept of green economy involving SMEs is insufficiently defined and the offered activities and measures are not sufficiently coordinated between the institutions and the business community. Significant attention to promote the concept of green economy in SMEs is dedicated to industrial strategy where particular strategic qualifications is dedicated, and the remaining four strategic objectives are focused on developing the green economy in Republic of North Macedonia. Accordingly, the National SME Development Strategy outlines national policy reforms, as well as designing support instruments and services to provide incentives and support to "green SMEs" within related environmental markets, as well as to support the adoption of environmentally friendly business practices. In the Medium-Term Strategy for Corporate Social Responsibility, special attention is paid to the impact of enterprises on the environment, with a recommendation that they be included in the process of protection and renewal of the environment in a way that will manage the natural cycle of resources with efficient use of natural resources, eco-innovations, raw materials, their use in production, resource consumption and quality waste management.

In this regard, the Strategy for Development of Renewable Energy Sources and the Strategy for Energy Development are a platform for the overall modernization and transformation of the energy sector in line with EU energy trends, contributing to increased access, integration and availability of energy services, reducing local and global pollution, and increased participation of the private sector, taking into account the development potential of the Republic of North Macedonia and domestic specifics. Also, the National Strategy for Agricultural Development, especially the plan for organic production,

emphasizes the model of sustainable agriculture that takes into account the protection of the environment and biodiversity and recommends that farmers should implement the concept of "green" agriculture as a logical and natural way to carry out their agricultural activities. Thus, in the acceptance and implementation of the agro-ecological approach in the agricultural activity of the holdings, they will be supported by the state agricultural policies through the measures of the agricultural policies.

The concept of green economy is present in all mentioned documents, but a special document is needed that will clearly determine the policies for development of these concepts and will concisely harmonize them with the growth and development of SMEs in Republic of North Macedonia, i.e. SME activities to be incorporated in the policies for development of the concept of green economy. Basically, adopting the concept of green economy enterprises are open to the achievement of business goals while protecting the environment, enhancing natural capital and energy resource efficiency. In that context, the green economy and green businesses should be a specific part of the long-term sustainability strategy in the Republic of North Macedonia.

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DEMOGRAPHIC CHANGES AND ECONOMIC ACTIVITY IN THE VARDAR REGION

Abstract

The results of the 2021 Census of Population, Households and dwellings showed that in the first decades of the 21st century in the Republic of North Macedonia, there was a decline in the total resident population and hinted at unfavorable demographic changes. These changes will undoubtedly have implications for the future development of the population, socio-economic and regional development.

In this paper[1], through available data from secondary sources, the Vardar region is analyzed as one of the eight non-administrative units-statistical regions in the Republic of North Macedonia. The available human resources and their economic characteristics (working age population and labor force) are perceived from the data of the two consecutive censuses 2002 and 2021. Also, some indicators of the economic activity of the Vardar region are analyzed (GDP per capita, GDP index, Gross value added by sectors of activity, Gross fixed capital formation by sector of activity and number of active enterprises) for the period 2010-2021. The identified changes of the basic demographic and socio-economic characteristics of the population and economic activity in the Vardar region can serve in the creation of appropriate policies, measures and activities for its development.

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Introduction

In the RN Macedonia, a period of 20 years passed between the two last censuses of 2002 and 2021. That in itself is an incentive to analyze the demographic changes that occurred during this time period. In this paper, Vardar region as one of the eight statistical regions in the RN Macedonia is analyzed.

The analyzes begins with comparison of the demographic changes that occurred in this region between two censuses of 2002 and 2021. The changes in the total population and the population density, then the number and percentage share of the population by age groups and educational attainment, rates of activity, as well as the employment and unemployment rates are observed. The analysis was done on three levels (at national level, at Vardar region level and by municipalities in the region), which allows a multi-purpose comparison of the data. This enables evaluation of the situation in the region in relation to the country, and state of the municipalities in relation to the region and between themselves.

In the second part, the region's economic activity is analyzed in comparison to the national level activity. Several indicators are used such as GDP per capita, GDP index, Gross value added by sectors of activity, Gross fixed capital formation by sectors of activity and the number of active enterprises.

The purpose of this analysis is to determine the interaction between demographic changes and economic activity in the Vardar region. The research relies solely on secondary data and hence some limitations arise. Some refer to demographic data and result from methodological changes from one census to another, which make it impossible to make a direct comparison of certain data from the Population Censuses for 2002 and 2021. Another limitation refers to the fact that the indicators for economic activity are taken from the annual regional publications that have been issued since 2009, in which aggregated data for the regions are published, but not for the constituting municipalities.

1. DEMOGRAPHIC CHANGES BETWEEN TWO CENSUSES IN THE VARDAR REGION

According to the latest statistical data, the Vardar region has the smallest number of inhabitants, i.e. 7.5% of the total population in the country (estimated population on June 30, 2022). Spatially, the region covers an area of 4,042 km² or 16.2% of the Macedonian territory and is also the least populated region with only 38.07 inhabitants per km² in 2002, compared to 34.1 inhabitants per km² in 2021.[2] The region consists of 9 municipalities: Veles, Gradsko, Demir Kapija, Kavadartsi, Lozovo, Negotino, Rosoman, Sveti Nikole and Chaska, in which 215 settlements are located. Table 1 presents a comparative overview of the situation between two censuses (2002-2021), regarding the changes in the total population in the Vardar region and its municipalities.

Table 1. Changes in the total resident population in the Republic of North Macedonia, in the Vardar region (NUTS level 3) and by municipalities (NUTS level 4), 2002 and 2021						
	Total population		Change (natural increase) in population		Percentage	
	2002	2021	2002-2021		2002	2021
			Total	%		
RN Macedonia	**2022547**	**1836713**	**-185834**	**-9.2**	**100**	**100**
Vardar Region	**154535**	**138722**	**-15813**	**-10.2**	**7.64**	**7.55**
Veles	55108	48463	-6645	-12.1	35.66	34.94
Gradsko	3760	3233	-527	-14.0	2.43	2.33
Demir Kapija	4545	3777	-768	-16.9	2.94	2.72
Kavadartsi	38741	35733	-3008	-7.8	25.07	25.76
Lozovo	2858	2264	-594	-20.8	1.85	1.63
Negotino	19212	18194	-1018	-5.3	12.43	13.12
Rosoman	4141	3796	-345	-8.3	2.68	2.74
Sveti Nikole	18497	15320	-3177	-17.2	11.97	11.04
Chaska	7673	7942	269	3.5	4.97	5.73

Source: Census of the population, households and dwellings in the Republic of Macedonia, 2002 (Book XIII), https://www.stat.gov.mk/Publikacii/knigaXIII.pdf; (accessed: 15.02.2023); Census of the population, households and dwellings in the Republic of Macedonia, 20021, https://www.stat.gov.mk/publikacii/2022/POPIS_DZS_web_MK.pdf (accessed: 15.02.2023)

The data shows that the total population in the region decreased by 10.2% (or by 15813 inhabitants), which is more than the national average (-9.2%). The largest municipality by population in the region in both censuses is Veles, which accounted for 35.7% of the population in 2002, and 35% in 2021. The second largest is the Kavadartsi municipality, in which 25% of the total region's population lived in 2002, while in 2021 the share is 25.1%. The smallest municipality by population is Chaska, which is the only one where the total population between two censuses increased, from 5% in 2002, to 5.7% in 2021. The total population in Vardar region municipalities corresponds to the size of

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2   Census of the population, households and apartments in the RN Macedonia, 2002 (Book XIII), https://www.stat.gov.mk/Publikacii/knigaXIII.pdf; (accessed on February 15, 2023).

their territory and the population density. In all municipalities, the reduction of the total population is also reflected in the reduction of the population density. Only in Chaska municipality there is a positive change in population density, i.e. grew from 9.4 to 9.7 inhabitants per km[2].[3]

When analyzing the situation of the population according to five-year age groups, it should be pointed out that in the Census 2002 there was also a group of "unknown age", which has a small absolute value and does not affect the percentage share distribution.

Tabela 3. Population according to five-year age groups, median age and population aging rank in the Republic of North Macedonia, in the Vardar region (NUTS level 3) and by municipalities (NUTS level 4), 2002 and 2021

2002

	Total	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+	Unknown age	Median age	Rank
RN Macedonia	2022547	122757	143184	160339	165422	161945	153461	148281	149837	146902	142688	127760	95234	89822	84443	61969	40384	18975	7941	1203	35.0	5
Vardar Region	154535	8244	9460	11206	12383	12107	11009	10885	11539	12020	11825	10624	7762	7759	7253	5144	3187	1520	573	35	36.3	5
Veles	55108	2824	3230	4030	4426	4409	3903	3770	4136	4359	4314	3814	2877	2792	2646	1849	1077	463	183	6		5
Gradsko	3760	197	241	288	308	286	261	295	280	271	270	227	207	194	178	130	80	36	11	0		5
Demir Kapija	4545	223	269	298	347	318	351	331	339	369	312	338	217	229	226	173	129	49	17	10		5
Kavadartsi	38741	2064	2344	2648	3147	3019	2758	2827	2946	3055	3112	2819	1913	1971	1736	1172	755	354	98	3		5
Lozovo	2858	132	168	193	249	203	210	186	246	210	195	166	140	184	170	113	51	26	15	1		5
Negotino	19212	1051	1255	1461	1548	1521	1416	1440	1440	1501	1464	1357	972	867	774	544	351	170	78	2		5
Rosoman	4141	236	240	285	269	332	289	283	294	319	310	257	212	236	234	188	93	42	20	2		5
Sveti Nikole	18497	912	1055	1331	1495	1392	1272	1252	1402	1517	1454	1272	933	904	865	664	417	259	91	10		5
Chaska	7673	605	658	672	594	627	549	501	456	419	394	374	291	382	424	311	234	121	60	1		5

2021

	Total	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+	Median age	Rank
RN Macedonia	1836713	96521	109318	105508	104035	116145	123101	127381	128186	126444	125643	127752	124795	114187	89804	55256	35083	21001		40.8	6
Vardar Region	138722	6620	7625	7390	7256	7454	8205	9037	9488	9713	9404	9935	10367	10612	9445	7412	4410	2847	1502	42.2	6
Veles	48463	2213	2620	2577	2437	2535	2815	3178	3366	3460	3241	3371	3720	3751	3415	2586	1576	1047	555		7
Gradsko	3233	155	193	202	155	171	180	195	205	216	212	276	238	253	212	166	119	58	27		6
Demir Kapija	3777	151	208	182	181	193	234	238	214	266	289	285	279	305	267	233	119	81	52		6
Kavadartsi	35733	1687	1889	1797	1873	1941	2145	2323	2531	2541	2473	2643	2690	2738	2440	1938	1038	699	347		6
Lozovo	2264	115	136	110	99	101	136	150	160	135	155	169	225	168	140	113	66	60	26		7
Negotino	18194	859	955	925	1000	1019	1101	1217	1290	1328	1273	1357	1334	1334	1198	942	578	332	168		6
Rosoman	3796	162	186	220	233	219	218	218	265	286	276	254	281	313	260	186	108	65	46		6
Sveti Nikole	15320	637	685	724	737	773	865	988	973	1007	1035	1153	1225	1344	1135	888	570	368	213		7
Chaska	7942	641	753	653	541	502	511	530	484	474	450	427	391	406	378	360	236	137	68		5

Source: Census of the population, households and dwellings in the Republic of Macedonia, 2002 (Book XIII), https://www.stat.gov.mk/Publikacii/knigaXIII.pdf; (accessed: 15.02.2023); Census of the population, households and dwellings in the Republic of Macedonia, 20021, https://www.stat.gov.mk/publikacii/2022/POPIS_DZS_web_MK.pdf (accessed: 15.02.2023)

Graph 1. Percentage share according to five-year age groups in the Republic of North Macedonia, in the Vardar region (NUTS level 3) and by municipalities (NUTS level 4), 2002 and 2021

Source: Census of the population, households and dwellings in the Republic of Macedonia, 2002 (Book XIII), https://www.stat.gov.mk/Publikacii/knigaXIII.pdf; (accessed: 15.02.2023); Census of the population, households and dwellings in the Republic of Macedonia, 20021, https://www.stat.gov.mk/publikacii/2022/POPIS_DZS_web_MK.pdf (accessed: 15.02.2023

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3   Ibid
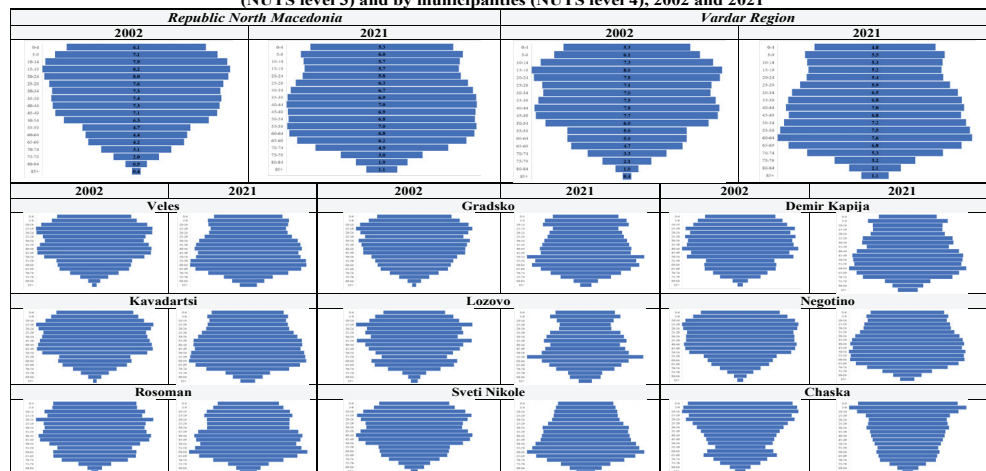
Presented numerical situation and percentage share of the population by age groups (Table 3) indicates that at national level, the median age increases from 35 to 40.8 years. Median age (together with share of the total population under 20, under 40 and over 60, as well as the aging index), causes a change in the population aging rank from 5 (demographic age) to 6 (deep demographic age). The Vardar region follows this trend, i.e. the median age of 36.3 years has grown to 42.2 years and the population aging rank moved from 5 to 6. At municipal level, Veles, Demir Kapija, Lozovo and Sveti Nikole moved to rank 7 (deepest demographic age), and only Chaska municipality has rank 5.

Although the absolute numbers show a stable, slight downward trend, when inter-census changes analyzed and compared in percentage share (structural change) at the municipal level (Graph 1), it is clear that in some of them the situation regarding population growth is more serious. Namely, in the municipalities of Veles, Demir Kapija, Kavadartsi and Lozovo there is a more serious structural decrease in the age groups 10-14, 15-19 and 20-24 years. In the same time, there is a significant increase in the age groups 55-59, 60-64 years in the municipalities of Demir Kapija, Kavadartsi, Lozovo, Negotino, Rosoman and Sveti Nikole, and significant increase in the age groups 65-69 and 70-74 years in the municipalities of Veles and Negotino. Hence, the aging of the population is more pronounced in the Vardar region than at the national level. The situation becomes even more serious if we add that in the inter-census period there is also a downward trend in the functional age-gender contingents.[4] The decline of the share of women in the reproductive period, that is, the age groups of the female fertile population (15-49 years) and women in the optimal reproductive age (20-34 years), is of particular concern here. At the national level, in the period 2002-2021, the participation of female fertile population decreased from 25.5% to 22.4%, and at region's level from 25.3% to 21.0%. In the same time, both at national and at region's level, the drop in the contingent of women in optimal reproductive age is 11.2% to 9.2%, and 10.5% to 8.5%, respectively. The only exception is Chaska municipality, with slight increase in the female fertile population (15-49 years), 20.8% to 21.2%.[5] Thus, the unfavorable age structure of the population not only worsens

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4 Women in the reproductive period (15-49 years) influence the values of the total fertility rate (TFR) which is considered as hypothetical or possible fertility and represents the number of live births that a woman is expected to have during her reproductive period.

5 Census of the population, households and apartments in the Republic of Macedonia 2002 (Book XIII), https://www.stat.gov.mk/Publikacii/knigaXIII.pdf; (accessed on February 15, 2023); Census of the population, households and apartments in the Republic of North Macedonia 2021 https://www.stat.gov.mk/publikacii/2022/POPIS_DZS_web_MK.pdf (accessed on 15.02.2023)

the problem of population growth, but also worsens the reproduction of the population, that it reduces the reproductive base.

According to the educational attainment, the Vardar region follows national trends. In the inter-census period, the share of the population with uncompleted primary and lower secondary education decreases, while a positive trend is observed in other types of educational attainment. Considering that this analysis refers to the socio-economic situation and follows the changes of the population in terms of available human resources (working age population and labor force), in the following text only the demographic changes in the population with educational attainment from upper secondary education[6] or higher, that can engage in economic activity will be commented. In addition, it should also be said that in the country the high education segment has undergone reforms, so according to Article 184 of the Law on Higher Education from 2000[7], the high schools in the RN Macedonia went through a process of transformation and continued their activity as higher education schools.

According to both censuses, population with upper secondary education from Vardar region participate about 9% in the national structure (Table 4). However, at the region's level, a slight increase in the population with upper secondary education is observed from 42.2% in 2002 to 50.8% in 2021. In both censuses, the majority of this population are in the municipalities of Veles (38.7% and 36.3%, respectively), Kavadartsi (28.5% and 27.9%, respectively) and Negotino (12.4% and 13.3%, respectively), while Lozovo municipality has the least (1.2% and 1.4%, respectively). In both censuses is noticed a seemingly large increase in the share of the population with higher education school, faculty and academia, both in national and region's level (from 6.5% to 17% and 5.2% to 15%, respectively), which is actually due to the transformation of high schools into higher education school and compulsory upper secondary education. Largest percentage of population with higher education school, faculty and academia in both censuses have the municipalities of Veles (42.7% and 37.9%), Kavadartsi (30.8% and 31.8%) and Negotino (12% and 13.3%), respectively. Regarding this group of population, there have been changes in relation to the municipalities with the lowest share, that is, in 2002, the municipalities of Chaska and Rosoman had the smallest participation with 0.4% each, and in 2001, it was the Lozovo municipality with 0.8%.

6 According to Article 3 of the Law on Secondary Education, published in Gazette of the Republic of Macedonia no. 49/2007, starting from the academic year 2008-2009, upper secondary education in the Republic of Macedonia is mandatory.

7 Gazette of the Republic of Macedonia: Law on Higher Education, no. 64/2000, https://www.slvesnik.com.mk/Issues/766C5EB039794C2186FCDC03417A69D1.pdf (accessed on 24.1.2024)

Table 4. Total population at 15 years of age and over according to the educational attainment in the Republic of North Macedonia, in the Vardar region (NUTS level 3) and by municipalities (NUTS level 4), 2002 and 2021

	Total		Without education				Uncompleted primary and lower secondary education				Primary and lower secondary education				Upper secondary education				High school		Higher Education School, Faculty, Academia				Masters of science				Holders of doctorate				In process of primary and lower secondary education/unknown			
	2002	2021	2002		2021		2002		2021		2002		2021		2002		2021		2002		2002		2021		2002		2021		2002		2021		2002		2021	
			Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%
RN Macedonia	1596267	1525366	67358	4.2	23192	1.5	219507	13.8	62129	4.1	559082	35.0	423456	27.8	588554	36.9	672375	44.1	50302	3.2	104081	6.5	263349	17.3	2783	0.2	29654	1.9	2069	0.1	6037	0.4	2531	0.2	45174	3.0
Vardar Region	125625	117087	5393	4.3	1638	1.4	21204	16.9	6891	5.9	35077	27.9	27000	23.1	52975	42.2	59534	50.8	4254	3.4	6493	5.2	17339	14.8	88	0.1	1194	1.0	15	0.0	84	0.1	126	0.1	3407	2.9
Veles	45024	41053	1461	3.2	366	0.9	6243	13.9	1607	3.9	12401	27.5	8700	21.2	20491	38.7	21606	36.3	1553	1.2	2770	42.7	6567	37.9	40	0.1	494	1.2	7	0.0	39	0.1	58	0.1	1674	4.1
Gradsko	3034	2683	234	7.7	56	2.1	738	24.3	352	13.1	1104	36.4	886	33.0	845	1.6	1152	1.9	59	0.0	46	0.7	174	1.0	-	-	10	0.4	-	-	1	0.0	8	0.3	52	1.9
Demir Kapija	3755	3236	496	13.2	251	7.8	788	21.0	239	7.4	1025	27.3	857	26.5	1282	2.4	1562	2.6	88	0.1	73	1.1	265	1.5	1	0.0	19	0.6	-	-	-	-	2	0.1	43	1.3
Kavadartsi	31685	30360	847	2.7	326	1.1	4394	13.9	1022	3.4	8046	25.4	5761	19.0	15076	28.5	16617	27.9	1277	1.0	1998	30.8	5511	31.8	21	0.1	330	1.1	5	0.0	18	0.1	21	0.1	775	2.6
Lozovo	2365	1903	239	10.1	57	3.0	520	22.0	178	9.4	855	36.2	689	36.2	657	1.2	810	1.4	46	0.0	42	0.6	132	0.8	1	0.0	6	0.3	-	-	-	-	5	0.2	31	1.6
Negotino	15445	15455	557	3.6	217	1.4	2536	16.4	942	6.1	4323	28.0	3543	22.9	6593	12.4	7924	13.3	635	0.5	779	12.0	2312	13.3	14	0.1	167	1.1	1	0.0	12	0.1	7	0.0	338	2.2
Rosoman	3380	3228	223	6.6	46	1.4	835	24.7	300	9.3	1123	33.2	967	30.0	1099	2.1	1630	2.7	71	0.1	27	0.4	228	1.3	-	-	12	0.4	2	0.1	-	-	2	0.1	43	1.3
Sveti Nikole	15199	13274	825	5.4	124	0.9	2567	16.9	748	5.6	4470	29.4	3340	25.2	6097	11.5	6648	11.2	480	0.4	734	11.3	1949	11.2	11	0.1	143	1.1	2	0.0	12	0.1	13	0.1	310	2.3
Chaska	5738	5895	511	8.9	195	3.3	2583	45.0	1503	25.5	1730	30.1	2257	38.3	835	1.6	1585	2.7	45	0.0	24	0.4	201	1.2	-	-	13	0.2	-	-	-	-	10	0.2	141	2.4

Source: Census of the population, households and dwellings in the Republic of Macedonia, 2002 (Book XIII), https://www.stat.mk/Publikacii/knigaXIII.pdf; (accessed: 15.02.2023); Census of the population, households and dwellings in the Republic of Macedonia, 20021, https://www.stat.gov.mk/publikacii/2022/POPIS_DZS_web_MK.pdf (accessed: 15.02.2023

				2021												
	Total		Working age population (persons)		Active population		Inactive population		Unknown-2021		General activity rate (active in total)		General activity rate of the working age contingent (active in working age)		Rate of economic underutilization of the working age contingent	
	2002	2021	2002	2021	2002	2021	2002	2021	Total	% in working	2002	2021	2002	2021	2002	2021
RN Macedonia	2022547	1836713	1577001	1210035	743676	712328	833325	462182	35525	2,9	36,8	38,8	47,2	58,9	52,8	38,2
Vardar Region	154535	138722	125067	91471	65250	58410	59817	30483	2578	2,8	42,2	42,1	52,2	63,9	47,8	33,3
Veles	55108	48463	44820	31874	24248	20131	20572	10346	1397	4,4	44,0	41,5	54,1	63,2	45,9	32,5
Gradsko	3760	3233	3024	2101	1418	1353	1606	713	35	1,7	37,7	41,8	46,9	64,4	53,1	33,9
Demir Kapija	4545	3777	3754	2484	1849	1585	1905	874	25	1,0	40,7	42,0	49,3	63,8	50,7	35,2
Kavadartsi	38741	35733	31624	23898	16710	16596	14914	6758	544	2,3	43,1	46,4	52,8	69,4	47,2	28,3
Lozovo	2858	2264	2363	1498	942	842	1421	637	19	1,3	33,0	37,2	39,9	56,2	60,1	42,5
Negotino	19212	18194	15430	12237	8746	8473	6684	3534	230	1,9	45,5	46,6	56,7	69,2	43,3	28,9
Rosoman	4141	3796	3378	2563	1612	1527	1766	1011	25	1,0	38,9	40,2	47,7	59,6	52,3	39,4
Sveti Nikole	18497	15320	15121	10100	7868	6336	7253	3545	219	2,2	42,5	41,4	52,0	62,7	48,0	35,1
Chaska	7673	7942	5553	4716	1857	1567	3696	3065	84	1,8	24,2	19,7	33,4	33,2	66,6	65,0

Source: Census of the population, households and dwellings in the Republic of Macedonia, 2002 (Book XIII), https://www.stat.gov.mk/Publikacii/knigaXIII.pdf; (accessed: 15.02.2023); Census of the population, households and dwellings in the Republic of Macedonia, 20021, https://www.stat.gov.mk/publikacii/2022/POPIS_DZS_web_MK.pdf (accessed: 15.02.2023)

Before going into the population's economic characteristics, it is important to note that the data from the 2002 and 2021 censuses cannot be directly compared. Namely, in the 2002 census, data on the economic characteristics of the population were based on the Labour Force Survey, whereas in 2021, they were acquired from administrative data sources (registers) in the country. It indicates a methodological mismatch in these data, making direct comparison impossible. Furthermore, according to Eurostat's recommendations and the existing Macedonian legal framework, which provides retirement at the age of 64 (with the exception of certain categories of employees), it is more relevant in the analysis to use the working-age population aged 15 to 64 years. However, only data on the working-age population aged 15 and up were published in the State Statistics Office's database for the Census 2002 year.

Working age population (active and inactive), the situation is best understood through the activity rates (general activity rate, general activity rate of the working age contingent and rate of economic underutilization of the working age contingent) which at the national level have a favorable trend. Generally, the Vardar region follows the national trend, with a more favorable structure. Having in mind methodological discrepancies, in Table 5 are given data regarding all activity rates in the two consequent Censuses. By municipalities, the general activity rates gravitate around the value at the region's level in both censuses, with a larger deviation in Chaska municipality (24.2% and 19.7%, respectively), while in the municipality of Lozovo there is a deviation only in the census of 2002 (33%). As expected, the values other two rates correspond with the values of the general activity rates.

Regarding the employment and unemployment rates, the trends are favorable both at national and at region's level, that is, the employment rate is increasing, and the unemployment rate is decreasing (Graph 2). More specifically, the employment rate in 2002 at the region's level was the same as the national rate (29.2% and 29.5%), but in 2021, its increase is higher (29.5% to 55.8%, respectively), in relation to the increase of the national rate (29.2% to 49.9%, respectively). At region's level in 2002, the unemployment rate (43.5%) was significantly higher than the national rate (38.1%), but in 2021 it drastically decreased and amounted to 12.6%, that in the same time is less than the national rate of 15, 3%.

Graph 2. Employment and unemployment rates in in the Republic of North Macedonia, in the Vardar region (NUTS level 3) and by municipalities (NUTS level 4), 2002 and 2021

	RN Macedonia	Vardar Region	Veles	Gradsko	Demir Kapija	Kavadartsi	Lozovo	Negotino	Rosoman
■ 2002 Employment rate	29.2	29.5	32.8	24.1	27.4	26.7	21.5	31.5	24.3
■ 2021 Employment rater	49.9	55.8	54.4	47.4	53.8	63.1	49.1	61.1	53.3
■ 2021 Unemployment rate	38.1	43.5	39.4	48.7	44.3	49.4	46.2	44.4	49.1
■ 2021 Unmployment rate	15.3	12.6	13.9	26.5	15.7	9.1	12.6	11.8	10.6
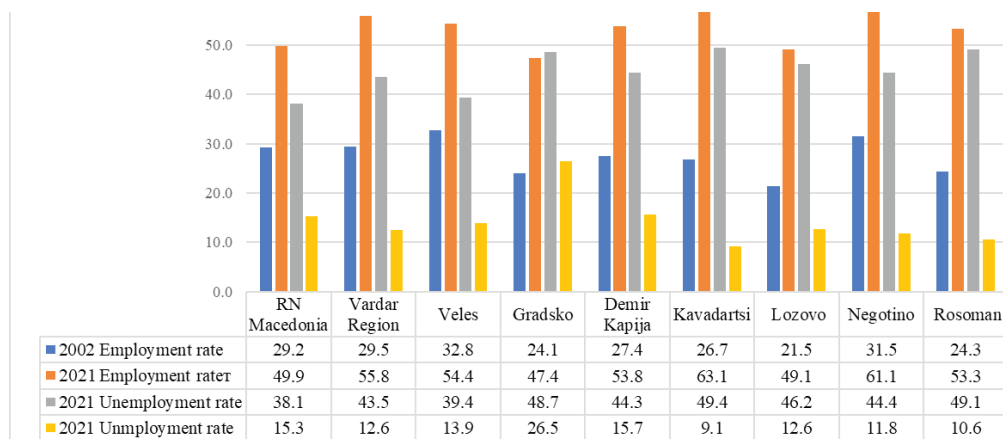
On municipal level, in 2002 the employment rate was the highest in Veles (32.8%) and Sveti Nikole (30.9%), being also higher than both the national and region's rates. Chaska municipality has the lowest employment rate (19.4% and 24.9%, respectively). Regarding the unemployment rate, it decreased in all municipalities in 2021, especially in Kavadartsi, Rosoman and Lozovo. In 2021, Kavardaci municipality has the lowest unemployment rate of 9.1%, while Gradsko has the highest, 26.5%.

2. ECONOMIC ACTIVITY OF THE VARDAR REGION

The economic activity of the Vardar region will be analyzed for the period 2010-2021 through several indicators: Gross domestic product per capita, GDP index, Gross value added by activity sectors, Gross fixed capital formation by activity sectors and number of active enterprises. Starting from 2009, these data are regularly published in the "Regions in the Republic of North Macedonia". They show the eight non-administrative regions in the country, divided according to the NUTS Nomenclature, harmonized with the European regulation.

In the creation of the gross domestic product at the national level, the Vardar region has a relatively low and fluctuating participation, but with a slight upward trend. When GDP is correlated with total population, keeping in mind that it is slightly and continuously growing at the national level for the majority of the analysed period, while it is slightly and continuously decreasing in the

Vardar region, it is determined that GDP per capita is more favourable in the region. In the same period, GDP per capita in the Vardar region increases slightly and since 2011 it exceeds the value of GDP per capita at the national level (Graph 3).

Graph 3. GDP per capita in the Republic of North Macedonia and in the Vardar Region, for the period 2010-2021
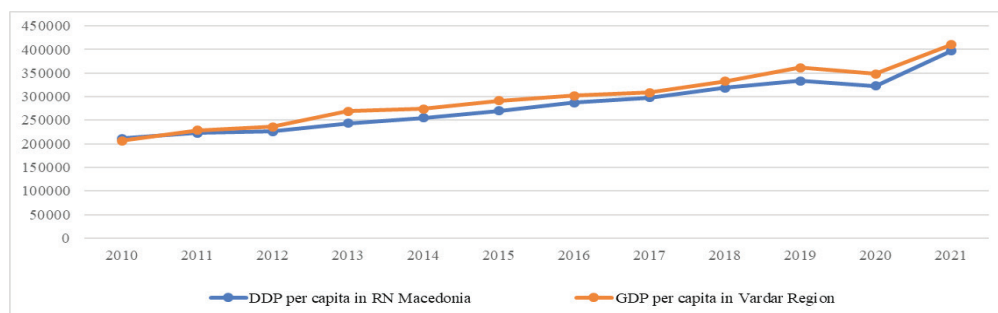
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
DDP per capita in RN Macedonia	211246	223357	226440	243161	255206	269996	286995	297954	318309	333551	322929	397147
GDP per capita in Vardar Region	206667	228324	236025	268819	274404	291516	302286	308493	332992	361636	348241	410511
GDP index par capita in Vardar region	97.8	102.2	104.2	110.6	107.5	108.0	105.3	103.5	104.6	108.4	107.8	103.4

Source: State Statistical Office, "Regions of the Republic of North Macedonia" 2009-2023, https://www.stat.gov.mk/PublikaciiPoOblast.aspx?id=32&rbrObl=37 (accessed: 20.02.2024))

GDP index is also more favorable in the region. It exceeds the value of the national index, especially in 2019 when it is 108.4.

Regarding contribution to the gross added value at the national level, the Vardar region is in 5th or 6th place. In term of gross value added by sectors of activity, the region records a fluctuating participation on national level, and it had the largest share of 8.2% in 2013 for the period 2010-2021. (Table 8)
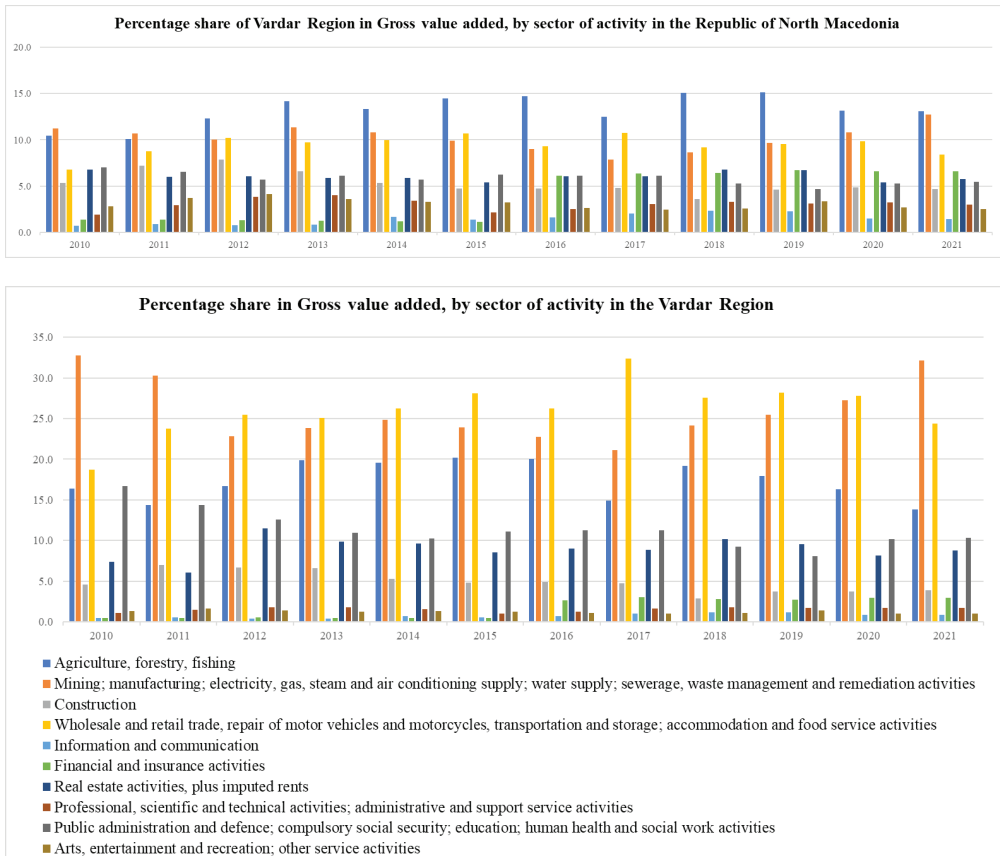
Table 8. Percentage share of Vardar Region in Gross value added, by sector of activity in the Republic of North Macedonia, for the period 2010-2021												
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Gross value added	7.3	7.6	7.8	8.2	8.0	8.0	7.8	7.6	7.7	7.9	7.9	7.8
Agriculture, forestry, fishing	10.5	10.1	12.3	14.2	13.3	14.5	14.7	12.5	15.1	15.2	13.1	13.1
Mining; manufacturing; electricity, gas, steam and air conditioning supply; water supply; sewerage, waste management and remediation activities	11.2	10.7	10.0	11.3	10.8	9.9	9.0	7.8	8.6	9.7	10.8	12.7
Construction	5.4	7.2	7.9	6.6	5.3	4.7	4.7	4.8	3.6	4.6	4.8	4.7
Wholesale and retail trade, repair of motor vehicles and motorcycles, transportation and storage; accommodation and food service activities	6.8	8.8	10.2	9.8	10.0	10.7	9.3	10.7	9.2	9.6	9.8	8.4
Information and communication	0.7	0.9	0.8	0.8	1.7	1.4	1.6	2.0	2.4	2.3	1.5	1.4
Financial and insurance activities	1.4	1.4	1.3	1.2	1.2	1.1	6.1	6.4	6.4	6.7	6.6	6.6
Real estate activities, plus imputed rents	6.8	6.0	6.0	5.9	5.9	5.4	6.1	6.1	6.7	6.7	5.4	5.8
Professional, scientific and technical activities; administrative and support service activities	1.9	3.0	3.8	4.0	3.4	2.2	2.5	3.1	3.3	3.1	3.2	3.0
Public administration and defence; compulsory social security; education; human health and social work activities	7.0	6.5	5.7	6.1	5.7	6.3	6.1	6.1	5.3	4.7	5.3	5.4
Arts, entertainment and recreation; other service activities	2.8	3.7	4.1	3.6	3.3	3.2	2.6	2.5	2.6	3.3	2.7	2.5

Source: State Statistical Office, "Regions of the Republic of North Macedonia" 2009-2023,
https://www.stat.gov.mk/PublikaciiPoOblast.aspx?id=32&rbrObl=37 (accessed: 20.02.2024)

In terms of this indicator, from the region's leading sectors are: agriculture, forestry, fishing; mining, manufacturing, electricity, gas, steam and air conditioning supply, water supply, sewerage, waste management and remediation activities and wholesale and retail trade, repair of motor vehicles and motorcycles, transportation and storage, accommodation and food service activities. With the exception of 2010 and 2011, the sectors of agriculture, forestry and fishing have the highest participation in the national gross value added (lowest in 2012, 2.3% and highest in 2019, 15.2%.). Other two sectors alternately appear in second and third place, with a fluctuating degree of participation in the national gross added value. The sectors of mining, manufacturing, electricity, gas, steam and air conditioning supply, water supply, sewerage, waste management and remediation activities have the largest share of 21.7% in 2021 (second), and the lowest of 8.7% in 2017 (third). The sectors of wholesale and retail trade, repair of motor vehicles and motorcycles, transportation and storage, accommodation and food service activities have the largest share of 10.7% in 2017 (second), and the smallest at 6.8% in 2010 (third). Additionally, the sectors of financial and insurance activities, have modest share until 2015 (1.2%), but since 2016 have significant and stable increase (highest share of 6.7% in 2019).

Graph 4. Percentage share in Gross value added, by sector of activity in the Republic of North Macedonia and in the Vardar Region, for the period 2010-2021
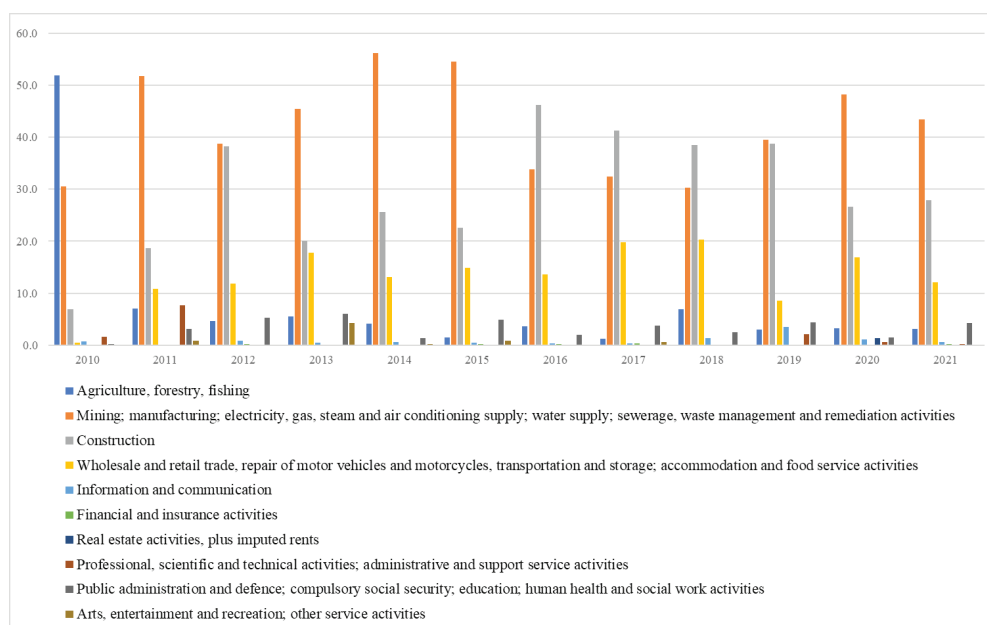

Percentage share of Vardar Region in Gross value added, by sector of activity in the Republic of North Macedonia

Percentage share in Gross value added, by sector of activity in the Vardar Region

- ■ Agriculture, forestry, fishing
- ■ Mining; manufacturing; electricity, gas, steam and air conditioning supply; water supply; sewerage, waste management and remediation activities
- ■ Construction
- ■ Wholesale and retail trade, repair of motor vehicles and motorcycles, transportation and storage; accommodation and food service activities
- ■ Information and communication
- ■ Financial and insurance activities
- ■ Real estate activities, plus imputed rents
- ■ Professional, scientific and technical activities; administrative and support service activities
- ■ Public administration and defence; compulsory social security; education; human health and social work activities
- ■ Arts, entertainment and recreation; other service activities

Source: State Statistical Office, "Regions of the Republic of North Macedonia" 2009-2023, https://www.stat.gov.mk/PublikaciiPoOblast.aspx?id=32&rbrObl=37 (accessed: 20.02.2024)

When observing the participation in the gross added value according to the sectors of activity within the region itself, the situation is different (Graph 4). Only in 2010, 2011 and 2021, the sectors of mining, manufacturing, electricity, gas, steam and air conditioning supply, water supply, sewerage, waste management and remediation activities were leading. In all other years, the sectors of wholesale and retail trade, repair of motor vehicles and motorcycles, transportation and storage, accommodation and food service activities have the largest share. For the entire period, the sectors of agriculture, forestry and fishing are third.

In terms gross fixed capital formation by sectors of activity at the national level in the period 2010-2021, the participation of the Vardar region is modest and fluctuating. It had its minimum in 2012 (4.6%), and its maximum in 2016 (7.3%).[8] Within the region, the sectors of mining, manufacturing, electricity, gas, steam and air conditioning supply, water supply, sewerage, waste management and remediation activities and agriculture, forestry and fishing have a leading and stable participation.

Graph 5. Percentage share in Gross fixed capital formation, by sector of activity in the Vardar region, for the period 2010-2021


■ Agriculture, forestry, fishing
■ Mining; manufacturing; electricity, gas, steam and air conditioning supply; water supply; sewerage, waste management and remediation activities
■ Construction
■ Wholesale and retail trade, repair of motor vehicles and motorcycles, transportation and storage; accommodation and food service activities
■ Information and communication
■ Financial and insurance activities
■ Real estate activities, plus imputed rents
■ Professional, scientific and technical activities; administrative and support service activities
■ Public administration and defence; compulsory social security; education; human health and social work activities
■ Arts, entertainment and recreation; other service activities

Source: State Statistical Office, "Regions of the Republic of North Macedonia" 2009-2023, https://www.stat.gov.mk/PublikaciiPoOblast.aspx?id=32&rbrObl=37 (accessed: 20.02.2024)

The share of gross fixed capital formation by sectors of activity at the region's level for the period 2010-2021 is different (Graph 5). Three leading sectors are: mining, manufacturing, electricity, gas, steam and air conditioning supply, water supply, sewerage, waste management and remediation activities; construction and wholesale and retail trade, repair of motor vehicles and motorcycles, transportation and storage, accommodation and food service activities. Gross fixed capital formation in the sectors of agriculture, forestry and fishing are insignificant, with the exception of 2010.

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8 State Statistics Office, Regions in the Republic of North Macedonia, publications 2009-2021, https://www.stat.gov.mk/PublikaciiPoOblast.aspx?id=32&rbrObl=37 (accessed on: 20.02.2024)

Graph 6. Total number of active enterprises in the Republic of North Macedonia and in the Vardar Region, for the period 2010-2021
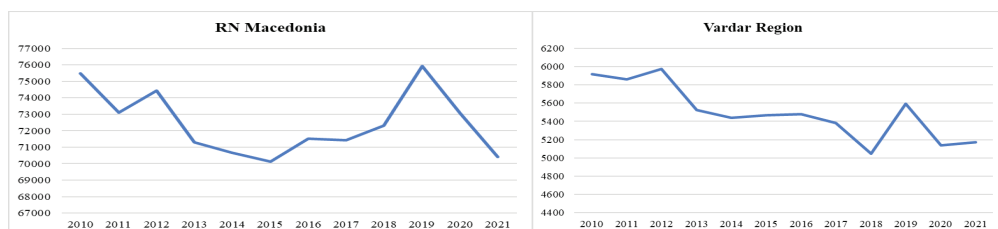
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
RN Macedonia	75497	73118	74424	71290	70659	70139	71519	71419	72315	75914	73061	70424
Vardar Region	5915	5858	5975	5526	5440	5470	5481	5383	5049	5595	5138	5170

Source: State Statistical Office, "Regions of the Republic of North Macedonia" 2009-2023, https://www.stat.gov.mk/PublikaciiPoOblast.aspx?id=32&rbrObl=37 (accessed: 20.02.2024

Total number of active enterprises for the period 2010-2021 records a negative trend both at national and region's level (smaller fluctuations). There was an insignificant increase in the number of active enterprises in 2012, while in 2019 that increase is more pronounced, both at the national and region's level (Graph 6). The lowest number of active enterprises in RN Macedonia was in 2015, while in the Vardar region in 2018.

3. CONCLUSIONS AND RECOMMENDATIONS

The numerical state of the resident population and its structure are one of the most important aspects of the population that affect its development, but also the possibilities for the overall socio-economic development.

The analysis of inter-census demographic changes showed that they are less favorable in the Vardar region, compared to the general situation at the national level.

The unfavorable demographic situation in the Vardar region leads to the reduction of the total population and increased participation of the aging contingent. This also leads to a decrease in the labor force, that has better activity and educational attainment in the region than the one at the state level. The accelerated aging of the population and the reduction of the contingent of the reproductive female population reduce the reproductive base of the region, which means that in the medium term the region will face an even more pronounced labor shortage.

Data on the rate of active population, employment and unemployment in the Vardar region are more favorable than the national level, but the region fails to achieve significant economic development and follow the trends in more developed regions. This is primarily due to the fact that newly added value and gross fixed capital formation are created and placed in labor-intensive sectors. In addition, the continuous decrease in the number of active enterprises in the region has an unfavorable effect on economic development.

At the same time, the analysis of educational attainment showed that the level of education of the workforce in the Vardar region is growing, which points to the conclusion that the region should expect an increased lack of workforce with low and medium qualifications, necessary to maintain labor-intensive activities. In order to alleviate the shortage of labor force caused by the unfavorable demographic trends in the Vardar region, there is a need to properly redefine the priorities and the relevant policies of action.

In the short term, the shortage of available labor could be alleviated through labor imports. Although there is a legal framework for this, initial experiences show that it needs simplification of the administrative procedures and the issuing of permits.

In the medium term, it is necessary to increase and improve the structure of gross fixed capital formation both in the leading and in the other sectors of activities in the region. Namely, part of the labor shortage in the leading labor-intensive sectors could be mitigated by investments in mechanization, automation and digitization of production processes. However, in order to engage and retain the young highly qualified workforce in the region, it will be necessary to intensify investments and encourage the development of other sectors of activities that could offer suitable jobs for them.

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SILVANA MOJSOVSKA[*]

TRENDS AND PROSPECTS OF THE MACEDONIAN MANUFACTURING INDUSTRY IN THE LIGHT OF THE FDI INFLOWS

Abstract

This paper provides an outlook of the economic profiles of the manufacturing sectors in North Macedonia on NACE Rev.2 level, according to their contribution to the GDP, output and net value added, number of employees, share in the Macedonian export and trends of sectors' development. The manufacturing industry experienced significant structural changes in the past decade, largely attributable to the entrance of the FDI in North Macedonia. The FDI driven industries, in particular the automotive one, have created statistical disruption with regard to the traditional Macedonian industries, taking the lead in the total manufacturing output and export. In this perspective, the traditional Macedonian industries tend to look less important, which has also been reinforced with the lack of the active industrial policy and specific instruments for the domestic industries. Based on the available statistical data, this paper identifies the major Macedonian manufacturing sectors, such as metal, textile and food processing industry, as well as prospective industries - production of rubber, plastic and non-metallic mineral products, along with recommendations for tailored policy support of these sectors.

Key words: Manufacturing industry; FDIs; Industrial policy

JEL Classification: L6; L60

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Introduction

Over the last decade, the manufacturing industry in North Macedonia experienced transformation by FDI inflows in the country. This paper aims to provide detailed outlook of the economic profiles of the manufacturing sectors in North Macedonia and FDIs in specific industries, in purpose of identifying the causal link among them. The manufacturing sectors are analysed according to their contribution to the GDP, output and net value added, number of employees, share in the Macedonian export and trends of sectors' development over the period 2010-2021. The preparatory work for the paper indicated that analysis of such scope has not been previously undertaken. During the research, data from the State Statistical Office (SSO) and other relevant sources were used, as well as relevant documents. The methodological approach has been mainly based on classical methods of analysis and synthesis. The restraining element was limited availability of the data, as well inconsistencies among databases that needed sound cross-cutting of the data. The paper aims to contribute to better understanding of the impact of the FDIs on the manufacturing industry in North Macedonia and serve to tailored policy approach for effective support of the traditional Macedonian industries.

1. **Economic profiles of the manufacturing sectors in North Macedonia**

The State Statistical Office (SSO) of North Macedonia applies NACE Rev.2[1] classification of the economic activities, which incorporates 98 sectors as components of the GDP.[2] The latest available data of GDP components disaggregated per sectors on NACE Rev.2 refer to 2021. The Table 1 shows data of the manufacturing industry, which encompasses 24 sectors. The manufacturing industry has been the second contributing economic activity to the GDP with 13.5%, while wholesale and retail trade comprised 14.9% of the GDP in 2021.[3] The manufacturing industry has been selected to be analyzed due to its relevance for the competitiveness of the national economy, and implicitly, GDP growth. In addition, the manufacturing industry has experienced the most notable changes in the last decade.

Share in GDP. As presented on the Table 1, the share of the total manufacturing industry was 13.5% of GDP in 2021, compared to 9.9% in 2010. The major changes occurred in two sectors – "Manufacture of motor vehicles, trailers and semi trailers", surging from almost non-existing industry in 2010

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1 https://ec.europa.eu/eurostat/web/products-manuals-and-guidelines/-/ks-ra-07-015

2 https://makstat.stat.gov.mk/PXWeb/pxweb/mk/MakStat/MakStat__BDP__BDPInvesGodisni__BDPsporedESS2010/375_NacSmA_Mk_09p2a_01ml.px/

3 https://www.stat.gov.mk/PrikaziSoopstenie.aspx?id=32&rbr=14121

up to share of 1.7% of GDP in 2021 (with peak of 1.9% in 2019), followed by "Manufacture of machinery and equipment, n.e.c." that increased its share in GDP from 0.3% in 2010 to 1.3% in 2015 and down to 0.9% in 2021. This sector consists of machinery and equipment "not elsewhere classified – n.e.c", which is rather volatile by its description, i.e. depends on classification of other sectors's output. Apart of these two sectors that have been recently added to the manufacturing scenery in North Macedonia, there are few traditional Macedonian industries that form the core of the value added in manufacturing. These include textile (fabrics and wear apparel), metal industry (basic and fabricated products), food processing and beverages, pharmaceuticals and non-metallic mineral production.

Textile and wear apparel had combined share of 2% of the GDP in 2021, a decrease compared to 2.5% in 2018. Basic metals' share of GDP stood at its highest in 2021, registering 1.4%. All other sectors had lower share of 0.5% in the GDP. Among them, a rising trend has been noted in the "Manufacture of computer, electronic and optical products" and "Manufacture of rubber and plastic products". The analysis below shall focus on these 12 mentioned sectors, highlighted in the Table 1.

Table 1. Share in GDP of the manufacturing sectors in North Macedonia (in %)

	Sectors	2010	2015	2018	2019	2020	2021
	Manufacturing (total)	9.87	11.76	13.35	13.39	13.30	13.48
1	Manufacture of food products	1.45	1.64	1.71	1.74	1.72	1.66
2	Manufacture of beverages	0.87	0.64	0.76	0.68	0.68	0.67
3	Manufacture of tobacco products	0.53	0.38	0.46	0.52	0.40	0.35
4	Manufacture of textiles	0.11	0.37	0.76	0.73	0.78	0.79
5	Manufacture of wearing apparel	1.61	1.63	1.72	1.61	1.47	1.19
6	Manufacture of leather and related products	0.18	0.22	0.20	0.16	0.12	0.12
7	Manufacture of wood and of products of wood and cork, except furniture....	0.10	0.13	0.15	0.17	0.13	0.17
8	Manufacture of paper and paper products	0.16	0.14	0.13	0.14	0.17	0.15
9	Printing and reproduction of recorded media	0.22	0.34	0.39	0.40	0.30	0.24
10	Manufacture of coke and refined petroleum products	0.11	0.00	0.00	0.00	0.00	0.00
11	Manufacture of chemicals and chemical products	0.14	0.13	0.13	0.14	0.20	0.19
12	Manufacture of basic pharmaceutical products and pharmaceutical preparations	0.57	0.68	0.66	0.70	0.78	0.83
13	Manufacture of rubber and plastic products	0.32	0.35	0.46	0.42	0.44	0.44
14	Manufacture of other non metallic mineral products	0.90	0.76	0.63	0.68	0.80	0.71
15	Manufacture of basic metals	0.97	0.83	0.51	0.63	0.80	1.41
16	Manufacture of fabricated metal products, except machinery and equipment	0.47	0.48	0.59	0.66	0.70	0.75
17	Manufacture of computer, electronic and optical products	0.08	0.11	0.25	0.26	0.29	0.32
18	Manufacture of electrical	0.23	0.33	0.26	0.26	0.31	0.36
19	Manufacture of machinery and equipment n.e.c.	0.23	1.29	1.21	1.00	1.02	0.89
20	Manufacture of motor vehicles, trailers and semi trailers	0.02	0.76	1.81	1.89	1.55	1.73
21	Manufacture of other transport equipment	0.03	0.07	0.07	0.07	0.05	0.01
22	Manufacture of furniture	0.26	0.28	0.27	0.27	0.28	0.29
23	Other manufacturing	0.14	0.08	0.11	0.14	0.16	0.09
24	Repair and installation of machinery	0.15	0.11	0.10	0.12	0.12	0.11

Calculations by author based on MAKSTAT Database, GDP Components per sectors by NACE Rev.2

Output and value added. As indicated on the Table 2,[4] all sectors, apart of the manufacture of wear apparel, have registered an increase of their output over the period 2010-2021. On the other hand, serious increase has been noted in the production of textile fabrics, indicating shift within the textile industry, as the combined output in both textile branches has not significantly decreased. According to the size of the analyzed manufacturing sectors, highest output in 2021 has been registered in machinery and equipment sector, n.e.c. This sector had share of over 30% of the total manufacturing output in 2021 (Graph

4   The data in Table 1 were originally provided in Denars by SSO. The calculation was done by the author, using average conversion rate MKD/EUR over the period 2018-2021.

1). The traditional Macedonian industries - food products, basic metals and textile had combined share in the total manufacturing output of 28.4% in 2021, compared to 47.5% in 2010 (Graph 1). In addition, the manufacture of motor vehicles, trailers and semitrailers had share of 9.8% in the total manufacturing output in 2021. It has been the leading one with regards to the share in GDP (Table 1), due to its high value added rate (Graph 2).

Table 2. Selected manufacturing sectors – output and value added (in MKD millions)

(Sub)sectors	2010		2015		2018		2019		2020		2021	
	Output	Value added	Output	Value added	Output	Value added	Output	Value added	Output	Value added	Output	Value added
Manufacturing industry (total)	222755	43142	274217	65735	387468	88210	401490	92779	362432	88996	428315	98353
1 Food products	30858	6323	37792	9158	41758	11286	45626	12068	43248	11543	47246	12115
2 Beverages	10842	3820	12114	3590	15745	4997	15136	4733	13215	4542	14544	4869
3 Textile	3170	470	5643	2045	12546	5047	12288	5083	12578	5198	15145	5798
4 Wear apparel	33483	7019	17082	9124	19462	11357	19029	11157	16355	9854	15339	8696
5 Basic pharmaceutical products and preparations	5398	2482	6907	3795	8399	4385	9668	4881	10243	5253	11255	6031
6 Rubber and plastic products	5062	1394	7981	1962	9365	3036	9408	2901	9334	2974	11611	3186
7 Other non-metallic mineral products	10081	3951	11049	4264	12117	4156	12868	4728	13142	5341	15570	5216
8 Basic metals	39083	4239	31261	4648	43425	3354	33550	4393	27415	5373	44380	10301
9 Fabricated metal products, except machinery and equipment	7367	2060	9468	2683	13327	3877	14013	4557	13221	4672	17369	5465
10 Computer, electronic and optical products	979	349	2814	626	6056	1635	6794	1775	7145	1972	9291	2305
11 Machinery and equipment n.e.c.	9611	1012	76140	7233	108138	7999	119713	6928	107904	6856	129830	6517
12 Motor vehicles, trailers and semi trailers	8399	4385	14839	4245	45330	11968	48365	13101	38246	10354	41902	12592

Source: MAKSTAT Database, GDP Components per sectors and subsectors by NACE Rev.2

As noted on Graph 1, the share of the sectors in the total manufacturing output has been changing over the period 2010-2021, influenced by the growth of two sectors – manufacture of machinery and equipment, n.e.c. and manufacture of motor vehicles, trailers and semi-trailers. These two sectors rose by 1350% and 500% over the period, respectively. The total manufacturing industry grew by 192% over the period 2010-2021, mainly owing to these two sectors, although, there has been an upward trend in all manufacturing sectors. Despite decrease of the relative share of the traditional Macedonian industries in the total manufacturing output over 2010-2021, it could be argued that the food processing, metal and textile industry managed to keep their position in the national economy. On the other hand, the rapid increase of the two abovementioned sectors, indicates that shift of the industrial outlook of the country is possible within short period of time. The change, particularly in the sector of motor vehicles has been induced as a result of the FDIs inflows, as discussed below.

Graph 1. Share of sectors in the total manufacturing output (in %)

Graph 2. Share of value added in sector's output (in %)
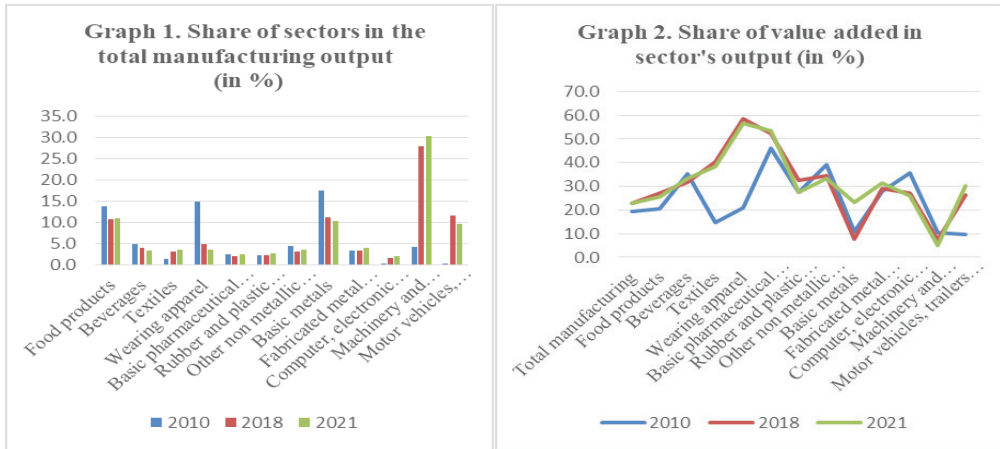
Source:MAKSTAT Database, GDP per components

Another relevant indicator for the sectors' importance is the value added in sector's output (Graph 2). In most of the sectors, the value added rate in 2018 has increased compared to 2010, while 2021 shows lower value added rates in most of the industries, due to the increased costs of the inputs, particularly energy and labour. Also, Graph 2 indicates which industries have higher volatility triggered by the changes on the global markets, such as basic metal industry. Textile sector stands on top with regards to the share of its value added in the sector's output in 2021. The food processing industry has least favorable ratio of costs and output in 2021, implying lower value added rate. However, this sector shows less volatility compared to the basic metals and textile. The high value added in the textile sector, particularly wear apparel (56.7% in 2021) has been largely attributable to the low wages. The average gross salary in the manufacture of the wear apparel corresponded to 62.5% of the average gross salary on the national level in 2021.[5] The corresponding indicator with regards to the average gross salary on the level of manufacturing industry was 58% in 2021.[6] Both indicators referring to the manufacture of food products were 78.5% and 72.8%, respectively. The trend of increase of the minimum wage in North Macedonia over 2021-2024 are likely to negatively affect the value added rate of labour intense industries.

The two rapidly growing sectors in North Macedonia have very diverse value added rates of 30% (motor vehicles) and 5% (machinery and equipment, n.e.c). That explains the difference in their share in the GDP (Table 1), but, also

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5   https://www.stat.gov.mk/pdf/2022/4.1.22.17_mk.pdf

6   Ibidem

indicates that even sectors with higher input costs could be interesting for the investors (domestic or foreign). Furthermore, matching the data presented on Table 1 and Graph 2 shows that the fabricated metal products and other non-metallic mineral products have favorable share in the manufacturing industry, while each sector had value added rate of over 30% in 2021. On the other hand, the basic metals sector has significant share in the GDP, while the value added rate is subject of market volatility.

Employees by sectors. The analyzed sectors vary a lot with regards to the number of employees (Table 3). The large sectors are textile with combined share of both subsectors of 4.9% in the total national employment; manufacture of food products with share of 3.5% and manufacture of motor vehicles, trailers and semitrailers with share of 3.1%. In terms of the share in the total number of employees in the manufacturing industry, these three sectors absorbed 56.5% of the workers in 2021. In addition, metal industry – basic metals and fabricated metal products absorbed additional 8% and 6.1% of the employees in the manufacturing industry, respectively. These indicates that other manufacturing sectors are rather small in terms of engaged labour. It must be pointed out that certain inconsistency was noted with regards to statistical data of the employees in the manufacture of machinery and equipment, n.e.c. This sector has very small number of registered workers, which hardly corresponds to its largest output (Table 1) among the manufacturing sectors. This would have been realistic for technologically outstanding industries that minimally relay on labour input, which is unlikely the case. It could be argued that imprecise classification of the products from other sectors reflects in such data inconsistency, as they are statistically allocated as n.e.c.

. Number of employees by manufacturing sectors over period 2016-				
tors	2016	2018	2019	2020
al employees (country)	731107	771 806	807 362	789 552
nufacturing industry	137351	147240	155160	161007
nufacture of food products	22008	27 077	27 474	23 936
erages	4650	2 720	3 437	1 897
nufacture of textile	5252	6 708	5 600	7 391
nufacture of wear apparel	34543	35 672	34 457	36 543
ic pharmaceutical products pharmaceutical preparations	/	/	1891	2252
nufacture of rubber and tic products	4768	6 575	3 746	3 855
nufacture of other non- allic mineral products	4805	3 819	2 191	3 527
ic metals	7933	6770	8844	8577
nufacture of fabricated metal ducts, except machinery and ipment	7019	9 751	10 374	10 324
nputer, electronic and optical ducts	/	1864	2987	3232
chinery and equipment n.e.c.	1836	/	/	2318
tor vehicles, trailers and i trailers	7373	23904	30677	27964

MAKSTAT Database/Labour market

Labour dynamics shows that the motor vehicles' production registered significant growth over the period 2016-2021, along with fabricated metal products and textile (fabrics). The sector of wear apparel shrank in terms of number of employees, as the fabrics' production took the lead. Employees in food processing industry have been rather stable over the analyzed period, with certain downsizing in 2020 due to COVID-19, reflected also in decline of the output (Table 1). Both, the output and number of employees were revived in 2021.

Export by manufacturing sectors. The Table 4 provides data on the export of the analysed manufacturing sectors over the period 2015-2021. The data source is the MAKSTAT database,[7] which served as a basis for necessary calculations. The presented figures refer to the export of specific Macedonian manufacturing sectors, while the total export of the products that are classified in specific activity could be much higher, as such products could be produced and exported by other sectors, too. For instance, the Macedonian sector "Manufacture of furniture" (not presented in the Table 4) is rather small, with share of 0.5% in the total export in 2021, while the export of furniture from the Republic of North Macedonia is much higher (3.3% in total export in 2021), as the automotive seats produced by the sector "Manufacture of motor vehicles, trailers and semitrailers" are classified as furniture at their export.

7 External Trade by economic activity (NACE REV 2), and products by activity, CPA
https://makstat.stat.gov.mk/PXWeb/pxweb/mk/MakStat/MakStat__NadvoresnaTrgovija__StokovnaRazmenaBizPretprijatija/325_NTrg_Tab6_ml.px/TS.aspx?nvpm=1%7c807%7c%7c%7c%7cTOTAL%7c%7c%7c2%7c1%7c1%7c2%7c2%7c1%7c1%7c1%7c1%7c1

Table 4. Exports by manufacturing sectors (in '000 EUR) and share in total export in 2021 (in %)

	Sectors	2010	2015	2018	2019	2020	2021	Share in total export in 2021 (in %)
1	Manufacture of food products	106970	153044	170456	200992	255520	213212	3.0
2	Beverages	47141	42442	53537	62461	56165	54548	0.8
3	Manufacture of textile	34238	53932	100639	100042	128921	143395	2.1
4	Manufacture of wear apparel	299658	336424	306628	289094	239485	237442	3.4
5	Basic pharmaceutical products and pharmaceutical preparations	57982	63956	88617	94000	109171	110545	1.6
6	Manufacture of rubber and plastic products	20591	42335	46228	52192	57062	77606	1.1
7	Manufacture of other non-metallic mineral products	39003	30495	56044	61345	68761	64976	0.9
8	Basic metals	539177	537793	396947	540806	522196	757667	10.9
9	Manufacture of fabricated metal products, except machinery and equipment	33166	45843	63897	59370	59209	68129	1.0
10	Computer, electronic and optical products	9948	29824	38562	51211	52432	54149	0.8
11	Machinery and equipment n.e.c.	/	/	672525	795762	748564	857928	12.3
12	Motor vehicles, trailers and semi trailers	19786	305764	741071	803475	658124	592791	8.5

Source: MAKSTAT Database/Exports by NACE Rev 2, by economic actvity and products

The export data are used to provide more comprehensive outlook of the sectors. Given the small size of the Macedonian market, the growth of the economy largely depends on the export orientation of the sectors. The combined share in the total Macedonian export of all analysed sectors on Table 4 has been 44.8% in 2021. Almost half (20.8%) has been done by the two sectors– manufacture of machinery and equipment, n.e.c and manufacture of motor vehicles, trailers and semitrailers. The latter one had registered an export increase by 3000% over the period 2010-2021, while there are no available data for 2010 and 2015 to calculate the export surge of the first one. The sector of motor vehicles, trailers and semitrailers has experienced downward trend in 2021 and 2022, due to the turmoil in the global automotive industry. On the other hand, the sector with highest export – machinery and equipment, n.e.c. has been continuously rising since 2018. Implicitly to the trends, its export is part of the automotive industry. Among the traditional Macedonian industries, basic metals keep the primate over the period. Despite high volatility to the global market movements, the sector remains the core of the Macedonian economy. The food processing industry output has doubled over 2010-2021, while the relative share in the total export remained around 3%.

The Macedonian export has been significantly alternated with the entrance of FDIs, particularly in the automotive industry. In 2021, the share of the most exported product from this industry (Reaction initiators, reaction accelerators and catalytic preparations, n.e.c) accounted for 23% of the total export; electrical machinery and equipment and parts thereof participated with 14.8%, while iron and steel had share of 9.1%.[8] These three products have solely accounted for 47% of the total Macedonian export in 2021. Implicitly, all manufacturing sectors presented on Graph 3 should be considered as relevant among the exporting industries.

8 https://www.trademap.org/Product_SelCountry_

Table 5. Sectors' output and export in 2021 (in '000 EUR)

	Sectors	Output	Export	Export/ Output (in %)
1	Food products	768230	213212	27.8
2	Beverages	236487	54548	23.1
3	Textile	246259	143395	58.2
4	Wear apparel	249419	237442	95.2
5	Basic pharmaceuticals products and pharmaceutical preparations	183001	110545	60.4
6	Rubber and plastic products	188797	77506	41.1
7	Other non-metallic mineral products	253167	64976	25.7
8	Basic metals	721628	757667	105.0
9	Fabricated metal products, except machinery and equipment	282427	68129	24.1
10	Computer, electronic and optical products	151081	54149	35.8
11	Manufacture of machinery and equipment n.e.c.	2111058	857928	40.6
12	Manufacture of motor vehicles, trailers and semi trailers	681341	592792	87.0

Source: MAKSTAT Database, GDP per components and exports on NACE Rev.2

Output and export. Another indicator worth to be explored is the ratio between sectors' exports and sectors' output (Table 5). This ratio has been ranging from 23.1% (beverages) to 95.2% (wear apparel) in 2021. The ratio of basic metals sector is over 100%, which could be explained with export of stock from previous year(s) in 2021 or discrepancies between output costs and export prices due to global market changes. The Table 5 offers valuable findings that all manufacturing sectors apply export orientation, despite of their size. Metals, textile, basic pharmaceuticals, rubber and plastic products lead in terms of their share of the exported output, while food products and beverages place majority of their production on the domestic market. This is rather expected, as the domestic demand for these products prevails compared to the absorption capacity of the domestic market for other (sub)sectors. The sectors of non-metallic mineral products and fabricated metal products also place ¾ of their production on the domestic market, which is largely attributable to their role as suppliers to the construction sector in North Macedonia. The data show that sector of machinery and equipment, n.e.c, which is leading in terms of absolute export value, exports only 40% of the production (output), which could imply to its role as a supplier to the other Macedonian industries or FDIs, or, its export could be done via some of the other related sectors. Regrettably, the available statistical data does not enable further analysis in this field.

2. FDI inflows and prospects of manufacturing sectors in North Macedonia

FDI inflows. The FDI policy in North Macedonia has been pursued since 1990s and primarily, it was related to the privatization of the state owned companies. Over the period 1994-2006, the highest FDI of over EUR 400 mil. was recorded in 2001, following the sale of 51% of the Macedonian telecommunication company. More articulated efforts to attract FDIs in the manufacturing sector were noted after 2006. The intense FDI campaign over the period 2008-2012 included specified instruments, such as road-shows, economic promotion programmes, etc., as well subsidies to the foreign investors, particularly in the automotive industry. The state aid included covering of substantial amount of the employment costs of the FDI, tax alleviations and other privileges, putting the domestic investors into unfavorable position.

Graph 3. FDI inflows per sectors 2007-2023 (in EUR mil) and sector's share in total FDIs in manufacturing
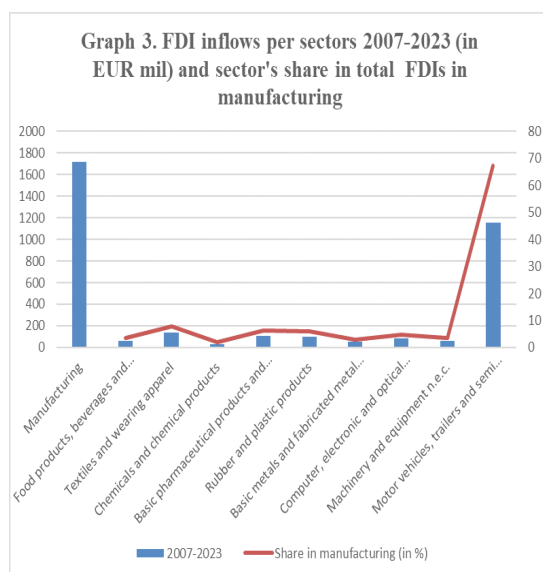
The manufacturing ector absorbed 29% in the total FDIs over the period 2007-2023.[9] Out of them, over 67% have been allocated in the manufacture of motor vehicles, trailers and semitrailers (Graph 3). Other industries received limited amount of investment - around 8% went to the textile industry and 17% (combined) in basic pharmaceuticals; rubber and plastic products and computer, electronic and optical products. More detailed overview of the FDIs is provided on Table 6.

Source: NBRM, https:/nbstat.nbrm.mk

The data shows that only the manufacture of motor vehicles, trailers and semitrailers had continuous FDIs flows over the period 2007-2023, with only exception of 2008 and 2021, attributable to the return of investment due to financial and Covid crisis, respectively. Apart of this sector, notable FDI dynamics was registered in the metal and textile industry, as well as food processing industry, beverages and tobacco products (no separate data on the subsectors were available). Implicitly, it could be concluded that all industries

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9 National Bank statistics on foreign investments flows (https://nbstat.nbrm.mk)

discussed above have been subject of certain interest of the foreign investors. At start, their interest has been in the traditional Macedonian industries, and later switched to the greenfield FDIs in automotive industry. This change was induced with country's promotion as a promising hub of this industry, based on substantial subsidies.

Table 6. FDI flows in manufacturing industry in North Macedonia 2007-2023 (in EUR millions)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
TOTAL FDI flows	506	400	145	160	344	111	252	205	217	338	182	614	399	201	471	745	617
Manufacturing	22	0	48	85	209	49	85	58	59	197	65	342	125	4	53	232	83
Food products, beverages and tobacco products	7	0	34	14	49	-17	-6	-2	23	3	-19	-11	18	-23	-8	7	-9
Textiles and wearing apparel	9	0	5	6	26	24	17	8	-14	45	12	-35	4	7	4	17	1
Chemicals and chemical products	27	0	2	1	4	-1	-2	0	-1	1	-3	0	0	4	0	0	0
Basic pharmaceutical products and pharmaceutical preparations	87	0	5	-4	-2	0	-1	-1	0	0	0	-2	12	5	3	0	3
Rubber and plastic products	1	0	1	1	1	-1	1	4	2	4	3	4	11	7	12	20	29
Basic metals and fabricated metal products	2	0	-49	-12	35	-3	-43	-13	-36	36	-19	41	37	4	30	18	21
Computer, electronic and optical products	0	0	0	0	4	15	-1	0	5	6	5	9	1	2	12	20	3
Machinery and equipment n.e.c.	0	0	2	0	1	0	0	0	3	8	-1	15	12	0	7	16	-1
Motor vehicles, trailers and semitrailers	127	-15	53	66	87	23	97	88	76	86	88	316	2	15	-44	60	31

Source: NBRM, https://nbstat.nbrm.mk

Cross-cutting of the economic profiles of the manufacturing sectors and FDI inflows show that articulated FDI in a specific sector could rapidly transform the outlook of the manufacturing industry. In one decade, the manufacturing of motor vehicles, trailers and semitrailers overtook the lead from the traditional Macedonian industries. This transformation increased the volatility of the manufacturing industry in general, as increase of the output, value added and export per sectors have started to depend on the FDI's operations and their decision to remain in the country. Paradoxically, the manufacture of machinery and equipment, n.e.c, statistically has not been among the outstanding recipients of the FDIs. This imply that it could be primarily a domestic sector, or related to FDIs as a supplier, although none of the assumptions could be supported by evidence/data. High output of this sector, low value added rate, small number of employees and high share in total export (according to the data provided by SSO) provoke scepticism how reliable are SSO data, if the largest manufacturing sector has not been properly presented. Such shortcomings largely affect the industrial policy-making. On the other hand, the policy-makers have responsibility to note statistical discrepancies and to ensure their overcoming.

Prospects of the manufacturing industry. The major policy document related to the manufacturing sector is the Industrial Strategy of North Macedonia 2018-2027, accompanied with an Action plan.[10] The Strategy took into consideration the EU Industrial Policy Framework 2017, which outlines several dimensions: Innovation; Investment; Circular and low carbon economy; Digitalization, as well as International dimension (supply chains) and Resilience of the single market.[11] Nevertheless, the Macedonian industrial strategy is rather horizontal, without tailored measures related to the specific sectors. There is lack of in-depth sectoral approach in identification of the issues, which results into horizontal policy measures and non-specified sector outcomes.

The analysis above clearly indicates that the national manufacturing sectors in North Macedonia (textile, metals and food processing) managed to rise over the analyzed period 2010-2021, although their growth could be hardly compared to the FDIs supported sectors. As noted on the Table 6, traditional industries were also recipients of the FDIs, which, at certain degree, contributed to their stability and growth. However, the sector of motor vehicles, trailers and semitrailers experienced immense boost with FDIs entrance, showing that targeted financial support by the state could completely transform the manufacturing industry. Unfortunately, such support was not available for the domestic companies, leaving them alone to cope with the challenges on the national and global markets. As of 2018, the Plan for the enhanced economic growth,[12] has also enabled domestic companies to apply for the state support available to FDIs. However, the cross-cutting of both documents – the Plan and the Industrial Strategy, shows that state measures are likely to be ad-hoc and content driven by the companies, instead of setting coherent and comprehensive measures oriented towards sound performances.

The analysis above indicates rising trends in GDP share, output and export of the sectors "Manufacture of computer, electronic and optical products" and "Manufacture of rubber and plastic products", while, at the same time, these sectors appear to be FDI recipients. This leads to the conclusion that any positive development in the manufacturing industry over the last decade has been somewhat related to FDIs flows in the country. Being a small country, it is common for the Republic of North Macedonia to turn towards foreign

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10 Industrial Strategy of North Macedonia 2018-2027, Ministry of Economy, 2018, https://www.economy.gov.mk/mk-MK/news/strategii-2581.nspx

11 https://eur-lex.europa.eu/resource.html?uri=cellar:c8b9aac5-9861-11e7-b92d-01aa75ed71a1.0001.02/DOC_1&format=PDF

12 https://vlada.mk/PlanEkonomskiRast

capital and to look for support of its growth. However, the policy makers must not neglect the domestic companies and domestic potential for investment. Regrettably, the latter happened, as shown in the evidence.

Further development of the sectors should be in line with the latest trends in the global economy. Environmental concerns are growing with regard to all industries, and, they should be tackled promptly, if the Macedonian manufacturing sectors would aim to ensure place in the global supply chains.[13] Also, digitalization and green technological development are already ongoing processes on the global level, that will likely speed-up, provided the overall labour shortages. These general, and some industry specific trends,[14] need to be taken into account in formulating the policy-measures for both – domestic and foreign investments, in purpose of the effectively use of the state funds for industrial support. In addition, the FDI policy has not provided any significant outcomes related to inclusion of the domestic companies in FDIs supply chains, which should be another aspect to look upon in the Macedonian policy efforts to ensure preconditions for further growth of the manufacturing industry.

Conclusion

In the last decade, the FDI inflows have caused transformation of the manufacturing industry in North Macedonia, with automotive related sectors taking the lead in the total manufacturing output, share in GDP and export. The traditional Macedonian industries (metals, textile, food-processing) also managed to grow over the period, although quite modestly compared to the FDIs supported sectors, mostly owing to the lack of the sector specific instruments of industrial policy. Prospects of the Macedonian manufacturing industry are closely related to the tailored support to the traditional and rising industrial sectors, that could have spill-over effects to the whole economy. To reinforce the effects, the modernization of the private sector should follow the new trends towards sustainable development.

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13 WTO Report 2023: Re-globalisation for a secure, inclusive and sustainable future
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ENTREPRENEURIAL CHALLENGES FOR WOMEN IN THE EUROPEAN UNION COUNTRIES

Abstract

In recent decades, countries have increasingly recognized the benefits of female entrepreneurship and therefore strengthening women's entrepreneurship becomes part of their long-term strategies. However, despite all efforts, the gap between male and female entrepreneurship still exists. This paper delves into an investigation of the barriers encountered by women entrepreneurs in the European Union (EU) countries. Through a thorough examination of existing literature and empirical analysis, the paper aims to provide an understanding of the obstacles that women entrepreneurs face within the EU context and the policies that have been adopted in response to those barriers. In the empirical analysis this paper investigates the relationship between gender equality and female entrepreneurship. Examining data from 2019 to 2022, we use the Gender Equality Index as a measure for gender equality and the percentage of self-employed women aged 15-64 as an indicator for female entrepreneurship. Contrary to expectations, our empirical analysis reveals not very strong but negative correlation between the Gender Equality Index and female entrepreneurs in EU countries.

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Introduction

In the dynamic landscape of modern business, the role of women in entrepreneurship is attracting increasing attention and recognition. As societies evolve and embrace diversity, it becomes imperative to examine the challenges facing women entrepreneurs. This paper focuses on a critical aspect of this discussion in the context of the European Union - the pervasive 'glass ceiling' effect that women encounter as they navigate the entrepreneurial terrain.

The "glass ceiling," a metaphorical barrier hindering career advancement and mobility for certain groups, has long been the subject of scientific research. Although traditionally associated with corporate environments, its influence extends to entrepreneurship, impacting the trajectories of businesses led by women across various sectors. While the European Union strives for gender equality and inclusive economic growth, understanding the nuanced interaction between the glass ceiling and female entrepreneurship becomes crucial.

In this context, the study aims first to identify and then explore the multi-faceted dimensions of the impact of the glass ceiling on female entrepreneurs. Consequently, the subject of the research is on the barriers faced by women entrepreneurs in the EU countries. The main working hypothesis of this paper is that better performances according to the gender equality, or it would mean that female face fewer barriers, leads to a higher number of women who initiate entrepreneurial activities.

1. FEMALE ENTREPRENEURSHIP IN THE COUNTRIES OF THE EUROPEAN UNION

Traditionally, the male population has dominated the business world, but in recent decades, as indicated by numerous studies, this picture is changing. The role of women in society has evolved, as evidenced by their increased participation in the labor market, not only as employees but also as self-employed individuals and even employers. Hence, in a large part of the undertakings made by women in the business sector, with the intention of becoming self-employed, we are talking about female entrepreneurship.

Female entrepreneurs are generally defined as women who have initiated a business, actively involved in its management, own at least 50 percent of the company, and the business has been operational for one year or longer (Buttner and Moore, 1997). Female entrepreneurs play a crucial role in stimulating economic growth and advancing the social development of their countries (GEM, 2022/23). Like other entrepreneurs, they adapt to market changes, bring new perspectives, have creative ideas, and create innovative solutions, thereby contributing to the creation of new jobs, promoting competitiveness, and ultimately contributing to economic growth. Therefore, promoting female entrepreneurship is of paramount importance for achieving gender equality and fostering economic development.

In 2022, global female startup activity accounted for 10.1%, while male startup activity was at 12.7%. However, these are early-stage entrepreneurial activity data. The goal of every entrepreneur is to establish a stable and successful business that will thrive in the market for a longer duration. Following the methodology of the Global Entrepreneurship Monitor (GEM), established businesses are those that have been operating for more than 3.5 years. According to their report, the rate for women in this category was 5.5% in 2022, while for men, it was 8.1%. From these data, it can be concluded that the gender gap is even greater when it comes to established businesses compared to early-stage entrepreneurial activity (Monitor, 2022).

This is also indicated by the data from the countries that are simultaneously members of the OECD and the EU. The following graphs show the participation of self-employed men and women in total employment.

Graph 1: Self-employed men/women without employees in total employment in OECD and EU countries, 2019 (%)
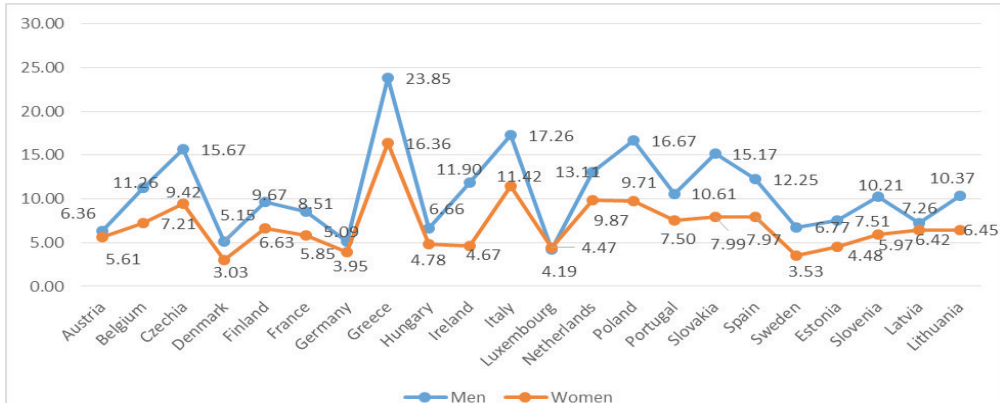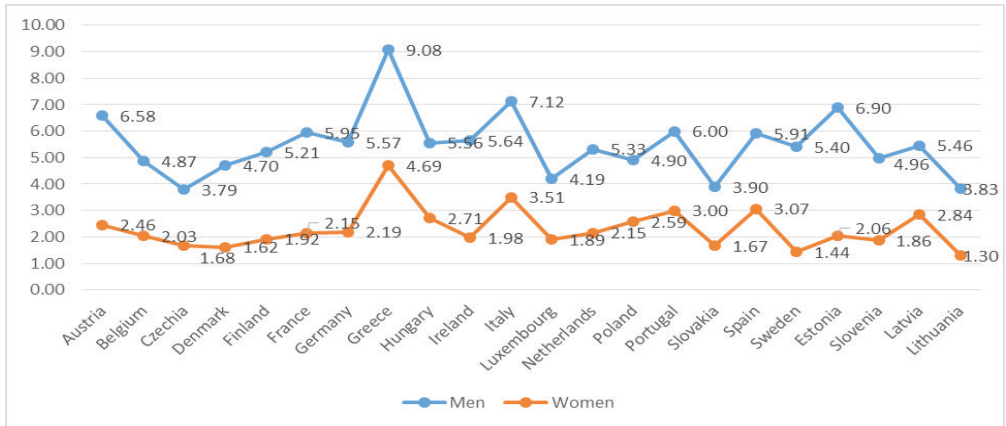

Source: OECD (2024), Self-employed without employees (indicator). doi: 10.1787/5d5d0d63-en (Accessed on 29 January 2024)

Graph 2: Self-employed men/women without employees in total employment in OECD and EU countries, 2020 (%)
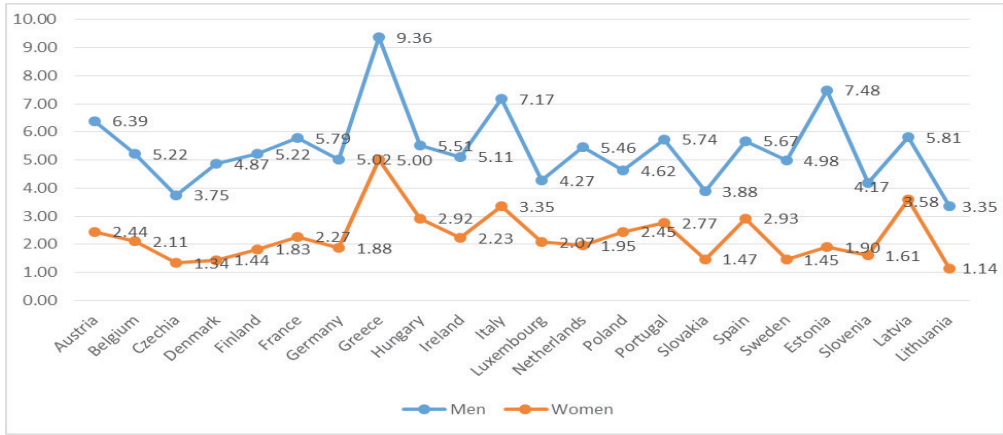
Graph 3: Self-employed men/women with employees in total employment in OECD and EU countries, 2019 (%)

Graph 4: Self-employed men/women with employees in total employment in OECD and EU countries, 2020 (%)

The first two graphs depict the percentage share of self-employed men and women, without having their own employees, as a percentage of total employment in countries that are simultaneously part of the OECD and the EU for the years 2019 and 2020. Definitively, in both analyzed years, the male population predominates among the self-employed. However, in certain countries, their participation is very close to the participation of self-employed women, as seen in Austria, Germany, Luxembourg, Latvia, and even in Luxembourg, in 2019, women self-employed slightly exceed men self-employed as a percentage of total employment (Graphs 1 and 2).

Furthermore, Graphs 3 and 4 illustrate self-employed men and women who also have their own employees as a percentage of total employment for the same countries included in the first two graphs. It is noticeable that when considering self-employed individuals with their own employees, the gender gap becomes even more significant. This suggests the likelihood that in later stages, when developing and financing a business to expand it, women encounter certain barriers preventing them from doing so.

2. THE GLASS CEILING PHENOMENON AND WOMEN ENTREPRENEURS

The phenomenon of the glass ceiling refers to certain groups in society, most often women or other discriminated minority groups, who, due to certain social barriers, cannot advance. This metaphorical barrier is rooted in systemic and structural barriers that limit the progress of certain groups, preventing them from reaching top leadership positions or achieving their full potential. There are several authors who have researched this topic, and each of them defines the criteria indicating the existence of this phenomenon in different ways. Most commonly, this concept explains the failure of many women to progress beyond a certain point in their careers, regardless of their qualifications and achievements (Lorber, 1994). Elacqua, Beehr, Hansen, and Webster (2009) investigate this phenomenon, defining it as the inability of women in a particular organization to be placed in top management positions. On the other hand, Li and Wang Leung (2001) define the phenomenon as a set of discriminatory barriers that prevent women from advancing to managerial and executive positions simply because they are women.

The above definitions of the glass ceiling concept predominantly highlight barriers related to the vertical classification of job positions within organizations. Thus, the glass ceiling phenomenon often indicates obstacles in the advancement of talented women professionals into high executive roles in large corporations, widely recognized in society, studied in management literature, explored in business schools, and experienced daily by many female directors. One recognized reason for women becoming self-employed is the glass ceiling phenomenon. In many cases, women start their own businesses after encountering institutional barriers and gender discrimination in their previous positions (Bosse and Taylor III, 2012; Hisrich and Brush, 1983). However, despite many women preferring to leave the corporate world to avoid gender bias, this strategy does not always work successfully (Patterson and Mavin, 2009).

According to certain researchers, there is a second glass ceiling outside the corporate environment that pertains to female entrepreneurs and women owners of small businesses (Bosse and Taylor, 2012). Women who have taken the initiative to start their own businesses also face gender bias and inequality, hindering their performance and growth (Carter, Shaw, Lam, and Wilson, 2007). Hence, the influence of the second glass ceiling on women entrepreneurs may manifest in various ways.

According to Skonieczna and Castellano (2020) there are several reasons for the existence of this gap in Europe.

- **Women are less likely to become successful entrepreneurs.** Employed men in the EU are more likely to be self-employed compared to women: 16.1% of employed men were self-employed compared to 9.4% of women (Eurostat, 2022). Differences in entrepreneurship between men and women are often attributed to various factors, such as different levels of human capital, where women may perceive themselves as having less experience in entrepreneurship compared to men. Additionally, differences in social capital, characterized by smaller and less diverse networks with limited strength in connections, also play a role. Sometimes, female entrepreneurs may find it challenging to break into certain industries dominated by men, or they may not be socially integrated enough for various reasons. For example, they might lack sufficient time for a social life due to responsibilities at home and in the family. Networking is considered a crucial element in entrepreneurial social processes (Slotte–Kock and Coviello, 2010). Furthermore, women often show lower aspirations for growth and face challenges in securing financial support. Negative societal perceptions, along with policies that may discourage female entrepreneurship, including tax systems and family policies that do not support a dual-income model, further contribute to this gender gap in entrepreneurial efforts (European Commission, 2017).

- **Women do not start businesses that resemble typical targets for capital investment.** Female-led startup companies tend to be smaller, operate in different sectors, and often are less capital-intensive and less growth-oriented (predominantly present in areas such as health, social work, and services). They are more risk-averse and locally based. In contrast, men are often driven by the prospects of earning more money when founding a business, while women are more motivated by a desire to engage in personal interests or hobbies (European Commission, 2017).

- **Women do not ask.** Women demonstrate less inclination than men to seek external financing, and there is a greater likelihood that they will be categorized as "discouraged borrowers." This term refers to creditworthy individuals who refrain from applying for financing due to fear of potential rejection (Leitch, Welter, and Henry, 2018). In a recent

study, it was found that globally, 16% of women-owned small and medium enterprises (SMEs) rely on bank loans for capital, as opposed to 22% of those owned by men. Additionally, the study highlighted that only 2% of surveyed SMEs led by women opt for venture capital (VC) as a source of funding, while 5% of businesses led by men follow this financing approach. This pattern is consistent and can be observed in the European Union as well (Facebook, OECD, and World Bank, 2018).

- **Women entrepreneurs are stifled by gender bias and stereotypes in the investment process.** They are evaluated against different standards and are perceived to carry a greater risk. Investors pose different questions to female and male founders, assess them based on different criteria, and generally prefer pitches presented by male entrepreneurs, even when the content is entirely the same (Brooks, Huang, Kearney, and Murray, 2014).

2.1. POLICIES ADDRESSING BARRIERS FOR WOMEN ENTREPRENEURS

Recognizing the importance of women's participation in entrepreneurship, the European Union has implemented various policies and initiatives aimed at promoting gender equality and supporting women entrepreneurs. Initiatives such as the European Structural and Investment Funds (ESIF) and the Horizon 2020 program have sought to create a favorable environment for women to start and grow businesses. Additionally, the European Commission supports several tools, networks, and initiatives that provide opportunities specifically tailored to women entrepreneurs, such as:

- WEgate – an online platform connecting women entrepreneurs, providing support in the initial phases of starting businesses, financing, and networking.

- EEN (Enterprise Europe Network) – a support network for women's entrepreneurship by connecting female entrepreneurs and providing services such as business partnerships, access to foreign markets, collaboration with local networks, and access to EU funding.

- Gender-smart finance initiative – an initiative under the InvestEU program that provides an opportunity to adopt an integrated approach to stimulate gender-equal financing.

These are just a few of the initiatives undertaken in EU countries aimed at promoting women's entrepreneurship. Additionally, the European Institute for Gender Equality (EIGE) monitors and assesses progress towards gender equality goals, achieving this through the Gender Equality Index.

The index, created by the European Institute for Gender Equality, serves as a measure for assessing and monitoring progress in gender equality across EU countries. The assessment is based on 31 indicators distributed across six core domains: work, finances, education, time, power, and health. Each of these domains is measured on a scale from 0 to 100, where 100 represents the maximum a country can achieve and indicates the best prospects based on that domain.

Based on the latest published results in 2023, Sweden achieved the highest performance with a score of 82.2, while Romania had the lowest performance with a score of 56.1.[1]

3. EMPIRICAL ANALYSIS

Based on the reviewed literature in this study, EU countries are aware of the existence of the glass ceiling, which poses a barrier to progress for the female population in their countries. As a result, they implement policies aimed at overcoming these challenges and achieving greater gender equality. Policies and various initiatives related to female entrepreneurs have been particularly intensified in the last decade. The implementation of these measures is expected to lead to greater gender equality with equal opportunities for both men and women, ultimately fostering and promoting female entrepreneurship. Hence, the hypothesis to be examined in this paper is as follows.

Hypothesis: The gender equality index and female entrepreneurs are positively correlated in European Union countries.

3.1. DATA AND METHODOLOGY

To measure gender equality in the empirical part, the Gender Equality Index published by the European Institute for Gender Equality is employed for each EU country individually.[2] Meanwhile, for female entrepreneurs, the variable

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1 https://eige.europa.eu/gender-equality-index/2023/compare-countries, accessed on 28.02.2024

2 https://eige.europa.eu/gender-equality-index/2023/SE, accessed on 13.01.2024

self-employed women aged 15-64 as a percentage of the total population of the respective country is utilized. Data on self-employed women are retrieved from the European Commission's database[3] and data for the country's population is obtained from World Economic Outlook (WEO).[4] The analysis encompasses all European Union countries (EU27) for a four-year period from 2019 to 2022. The data are on an annual basis. The results are obtained through correlation analysis using the statistical software E-views for data processing.

3.2. Results

Below are the results of the correlation analysis of the variables.

Table 1: Correlation matrix

Covariance Analysis: Ordinary
Date: 01/30/24   Time: 10:35
Sample: 2019 2022
Included observations: 107
Balanced sample (listwise missing value deletion)

Correlation Probability	GENDER ...	WOMEN ...
GENDER_EQUAL...	1.000000	

WOMEN_POPU...	-0.339354	1.000000
	0.0003	-----

Source: Own calculations

The results indicate the existence of a correlation between the two analyzed variables. However, the findings are contrary to expectations; namely, the Gender Equality Index and female entrepreneurs are negatively correlated. Although the negative relationship is not very strong, the sign is negative, and the p-value is significant at all three levels of statistical significance. In other words, as the Gender Equality Index increases, meaning countries achieve improvement, female entrepreneurship decreases, and vice versa. This rejects the tested hypothesis.

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3   https://ec.europa.eu/eurostat/databrowser/view/lfsq_esgais/default/table?lang=en, accessed on 13.01.2024
4   https://www.imf.org/en/Publications/WEO/weo-database/2023/October/select-country-group, accessed on 21.01.2024

In economic terms, interpreting this result implies that if EU countries aim to promote female entrepreneurship, which has been proven to lead to economic growth, they should not pay too much attention to gender equality. Increasing gender equality may not achieve the desired effect. The Gender Equality Index in its sub-domains includes multiple indicators such as, how much time women have for themselves, the time spent on domestic responsibilities, whether employers allow leave related to childcare, whether the average monthly earnings are similar between men and women, and so on. Higher index values in countries indicate that they have achieved more equal conditions for men and women. But, it is likely that this equality discourages women from engaging in certain entrepreneurial ventures that typically involve greater responsibility and commitment, especially when the existing job conditions are favorable and have good work conditions as employed persons.

Conclusion

The increased interest from policymakers and researchers in the role of female entrepreneurs is due to the positive effects generated by the rise in the rate of female entrepreneurs on the economic conditions and social well-being of a country. This holds true for both developed and developing countries.

The countries of the European Union have identified barriers that exist generally for women and specifically for female entrepreneurs. They are making efforts through numerous policies and initiatives to overcome these barriers. Despite the European Union launching various initiatives that address critical points of female entrepreneurship, such as encouraging business startup, financing, and networking, the percentage of female entrepreneurs lags behind that of male entrepreneurs. The gender gap in self-employment still exists and is even more pronounced when considering those self-employed individuals who also have employees. One way to monitor countries in terms of progress in gender equality is through the Gender Equality Index measured by the European Institute for Gender Equality.

Furthermore, in the empirical research section, the correlation between gender equality and female entrepreneurs was examined. However, the result is contrary to expectations, more specifically, the Gender Equality Index and female entrepreneurship are negatively correlated. Hence, the tested hypothesis is rejected.

Nevertheless, the empirical part of the study has certain limitations that could be overcome with the expansion of the research question in the future. First, the indicator used for female entrepreneurs is the self-employed

women indicator, which does not capture the complete picture of female entrepreneurship. Therefore, it is necessary to explore the correlation between the Gender Equality Index and another variable that serves as an indicator of the representation of female entrepreneurs in these countries. Additionally, EU member states differ in terms of development, with some being developed countries and others developing. This variation in development levels might lead to different results and conclusions, even when using the same variables. It could be beneficial to analyze countries based on their development status (developed vs. developing) or to conduct separate analyses for individual countries to obtain a more nuanced understanding of the relationship.

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MAIN HR CHALLENGES FOR SMALL BUSINESSES IN REPUBLIC OF NORTH MACEDONIA: A QUALITATIVE RESEARCH

Abstract

This paper analyses the specifics of human resource management in small businesses in North Macedonia and identifies the main challenges faced by small business regarding people management aspects. A qualitative research using semi-structured interviews with business owners and managers of selected small businesses in the Republic of North Macedonia provided an in-depth understanding of major issues in human resource management. Research findings[1] reveal that vaguely defined structures and job descriptions pose significant challenge to management, particularly in growing small businesses, due to overlapping of job tasks and reluctance of managers to delegate bigger responsibility to employees. The recruitment process represents an increasing challenge for small businesses, regardless of the recruitment method used, as the number and profile of applicants often do not meet the goals or expectations of the firms. Employee training has also been identified as one of the challenges that small businesses face. Small business owners see a direct benefit from training only when it comes to upgrading job-specific skills of employees and are not familiar with the necessary steps of the training needs analysis.

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Employee performance is the main determinant of compensation level in small businesses however, the only criteria considered are sales targets and generated profit. Most of the managers consider that it is extremely important to be competitive in terms of the pay and rewards level, as a way to motivate and retain employees.

Introduction

Human resource management in small business has received a growing attention in last years, yet research in this area is still insufficient to advance the understanding of HRM aspects in small business context. Recent attempts to examine academic papers on HRM in small business reveal that the "literature base remains fragmented and variable, comprising a plurality of definitions, explanations, and methods".[2] Many scholars argue that the universalistic perspective of HRM is not appropriate in small business and HR models developed in the context of large organizations cannot be merely replicated in small firms. Previous research on HRM in small business have shown that small firm characteristics along with contextual conditions and the specific conditions of each organization create different HRM approaches in small businesses as compared to large ones.[3] Based on these variables, HRM systems can take different forms in small business, making the investigation quite a challenge.

Due to limited resources and lack of HR expertise, with all HR issues undertaken and implemented by business owners, informal approaches become viable solution for managing human resources in small businesses. On the other hand, small business sustainability and development is heavily reliant on its human capital and employee performance[4] thereby giving the management of human resources critical importance. Resource constraints and lack of HR expertise often dictate HR approach and create additional challenges for small

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2 Harney, B. & Alkhalaf, H., "A quarter-century review of HRM in small and medium-sized enterprises: Capturing what we know, exploring where we need to go", *Human Resource Management*, Vol. 60, 2021, pp. 5–29

3 Kroon, B. & Paauwe, J., "HRM in 21st century small organizations: a midrange typology to describe, contrast and contextualize the phenomenon", *The International Journal of Human Resource Management*, Vol. 33 No.16, 2022, pp. 3224-3251

4 Patel, P. C. & Cardon, M. S., "Adopting HRM practices and their effectiveness in small firms facing product-market competition", *Human Resource Management*, Vo. 49 No. 2, 2010, pp. 265–290

business owners in managing their human resources. Therefore, it is essential to identify the key HR prospects and challenges for small businesses in Republic of North Macedonia. The main objective of this paper is to examine the specifics of human resource management in small businesses and to identify the main challenges faced by small business regarding people management aspects. The qualitative research provides an in-depth understanding of major HRM issues in small businesses in North Macedonia. Most of the general conclusions drawn from the interviews on the specifics of human resource management practices in small businesses have also been confirmed with the quantitative research of the project[5], but have provided additional extensive knowledge on the main challenges that small business owners face in managing their human resources.

1. HRM CHALLENGES FOR SMALL BUSINESSES

Informal relationships and less sophisticated practices are main characteristic of the HR approach in small business.[6] The HR approach is in fact dominantly reliant on small business owner/manager, due to resource constraints and lack of HR expertise, thereby producing varying management styles and different levels of sophistication of HR practices. These variations are mainly a result of business owners' recognition of HRM significance for business success and their knowledge of people management issues. As Dundon and Wilkinson argue the 'informal routinisation' plays a large part in the day-to-day running of the firm and it is present both in an autocratic as much as in a harmonious firm.[7] Lack of formalized HRM practices however becomes a challenge for growing firms, with the increase of the number of employees.

The informality of HR approach is generally translated in all HR practices in small firms. The recruitment patterns are very similar in most small businesses. Small businesses use informal methods including word-of-mouth recruitment referrals[8,9] as more cost effective in the short term and

5 See Piperkova, I., Djambaska, E. & Lozanoska, A., "Human resource practices in small businesses in Republic of North Macedonia, *Economic Development*, No.1-2/2023, 2023, pp.20-36

6 Kotey, B. & Slade, P., "Formal human resource management practices in small growing firms", *Journal of Small Business Management*, Vol.43 No.1, 2005, pp.16-40

7 Dundon, T. & Wilkinson, A., "HRM in small and medium sized enterprises (SMEs)" in Collings, D.G. & Wood, G.T. (Eds), "*Human resource management: A critical approach*", Routledge, London, 2009

8 Carroll, M., Marchington, M., Earnshaw, J. & Taylor, S., "Recruitment in small firms: Processes, methods and problems", *Employee Relations*, Vol. 21 No. 3, 1999, pp. 236-250

9 Mani, V., "The effectiveness of employee referral as a recruitment source", *International*

unstructured interviews as predominant selection tool[10]. In addition, small businesses do not conduct training as much as their larger counterparts. Previous research has outlined various factors that explain the reluctance to employee training. Indeed, small business owners are interested in employee training, only if acquired skills are directly applicable to the current situation in their business, and if the training process is carefully structured in terms of location and length of session.[11] Pay schemes that entail multiple performance benchmarks against which employee performance is measured are generally regarded as too complex, while informal approaches prevail. Pay and rewards practices lack transparency[12] and are mainly determined by business owners, ad hoc and on individual level. This is especially present in micro firms, with less than 10 employees.[13] The informality of HR approach and the reliance of firm's people management issues on business owner's views create different HR practices in small businesses. Therefore, the investigation of HR issues in small business remains undersearched area of study.

2. RESEARCH FINDINGS: QUALITATIVE INSIGHTS INTO HRM IN SMALL BUSINESS

2.1. Research Methodology

Qualitative research of human resource management practices provides a more detailed insight into the state of HRM practices in small businesses, the manner and type of implementation, as well as the main challenges faced by businesses in regard to human resource management aspects. The research was conducted through semi-structured in-depth interviews with managers/owners of 8 selected small businesses from different sectors, in particular, services (3 firms), trade (4 firms) and manufacturing (1 firm). Regarding the number of employees, three firms were micro, with less than 9 employees, while five firms employed between 9 and 50 employees. The interview questions were

Journal of Management Sciences and Business Research, Vol.1, Iss.11, 2012, pp.12-25

10 Bartram, D., Lindley, P.A., Marshall L. & Foster, J., "The recruitment and selection of young people by small businesses", *Journal of Occupational and Organisational Psychology* Vol. 68, 1995, pp. 339–358

11 Walker, E., Redmond, J., Webster, B. & Le Clus, M., "Small business owners: too busy to train?", *Journal of Small Business and Enterprise Development*, Vol. 14 No. 2, 2007, pp. 294-306

12 Gilman, M., Raby, S. & Pyman, A., "The contours of employee voice in SMEs: the importance of context", *Human Resource Management Journal*, Vol. 25 No.4, 2015, pp. 563–579

13 Carrasco-Hernandez, A. & Sanchez-Marin, G., "The determinants of employee compensation in family firms: empirical evidence", *Family Business Review*, 20(3), 2007, pp. 215-228

concentrated around four major HR practices pertaining to attracting and retaining employees and employee performance management, specifically recruitment and selection, employee training, employee participation and compensation systems. It is also important to note that in all businesses included in the research, business owners held the position of general manager.

2.2. General aspects of HR

Regarding the general aspects of human resources management in small businesses, the research revealed that none of the surveyed businesses has an employee responsible for HRM practices. In fact, all human resource management issues are handled solely by the general manager and/or business owner. Also, in line with previous research, it was found that small businesses do not have formalized HRM practices[14]. The interviewed small business managers confirmed that there are no formal HRM practices in their companies, that is, they do not have established written system of practices that is applied consistently and transparently in the company. All decisions relating to various human resource aspects are made by the general manager. This is especially pronounced in micro businesses that employ less than 10 employees. In addition, in small firms, very often there are vaguely defined job descriptions, and thus lack of predefined job tasks and goals. This in turn directly affects other HRM practices in terms of lack of solid base for establishing proper policy and standards for different HR practices such as, for example, the recruitment process, employee performance evaluation, pay and rewards system, and alike. Therefore, in growing firms, that is, firms that have registered an increase in the number of employees in recent years, loosely defined structures become significant challenge to management. Indeed, most of the interviewed managers, especially managers of growing firms confirmed the need to define and formalize certain practices of HRM especially in terms of organizational structure and design, job description, employee performance evaluation system and compensation and reward system. In these firms, the managers pointed out that the main challenges in human resource management were experienced following the increase of the number of employees, leading to problems in delegation of tasks, overlapping duties and responsibilities, challenges in conducting daily operational activities and subsequently in the communication between management and employees and among employees in the firm. Interestingly, despite facing difficulties in managing and controlling day-to-day operations, most small business owners revealed reluctance to

14 Although there is no commonly accepted definition of formal practices, most scholars agree that practices can be regarded as formal when they are in written form and are implemented on a regular basis. See for example, Barrett, R. & Mayson, S.E., "Human resource management in growing small firms", *Journal of Small Business and Enterprise Development*", Vol.14 No. 2, 2007, pp.307-320

delegate bigger responsibility to employees, even in growing firms. Small business owners have overseen each and every aspect of the business operations over the years. Even with the increase of the daily activities they prefer to continue to do so as a result either of fear of losing control, lack of trust in employees or fear of failure.

2.3. Recruitment and selection process

Regarding the recruitment and selection process, the qualitative research confirmed that in most cases, small business owners/managers prefer to hire through referrals by employees, partners or friends. According to small business owners, such recruitment method allows greater certainty in choosing a candidate. In addition, the process is less complex and intensive, so it does not require great commitment or too much time on the part of the management. Despite the managers' awareness that this method actually initially narrows the candidate pool and thus limits the selection, there is still a belief among business managers that the advantages of this recruitment method outweigh the disadvantages. Another common recruitment method used by small business owners is job postings mainly on online employment portals. Universities and career centers have never been considered a potential source of applicants by small business owners. Even more, most of the interviewed managers confirm that they have never considered student's internship as an option for attracting potential candidates for their future needs. For small businesses, the recruitment process represents an increasing challenge, regardless of the recruitment method they implement. Business owners assert that in most cases, the number and profile of candidates do not meet firm's goals and expectations, so the effort, time and costs of implementing this process are often not justified. It is for this reason that managers still prefer recruitment based on referrals, especially for jobs that do not require specific skills or qualifications. Also, job-specific skills and previous work experience in the same or similar position and/or industry remain among the priorities as compared to other employment criteria. Indeed, although soft and digital skills are increasingly recognized by managers, job-specific skills remain to be crucial in the selection process.

Regarding the selection process, small business owners consider assessment of candidates' CVs and interviews to be sufficient tools for determining the desired candidate. All interviewed managers confirm that they would continue to use the same selection method in future as well. It is interesting to note that managers prefer that candidates provide references from previous employers, but many of them admit that they have never done reference checks so far. Small business owners believe that the employee's trial period allows them greater insight into candidate's skills and abilities, as

opposed to any other selection method. Therefore, they almost always practice the trial period as part of the employment process. Recruitment tests are not practiced in the selection process since their use requires expertise that small businesses do not possess. Managers state that they would consider using external testing centers, only in case of recruiting candidates for jobs that require specific skills and for managerial positions.

2.4. Employee training

Training and employee upskilling is also an important HR practice for small businesses. There is a general consensus among scholars that small businesses invest much less in employee training compared to large firms.[15] Job-specific upskilling at the workplace is the most common form of training conducted by small businesses. Small business managers report that they can see a direct benefit from training only when it comes to upgrading job-related skills. However, when asked about the potential benefits of training for upgrading soft and digital skills of employees, managers could not clearly define multiple benefits for the firm. Also, most of the small business owners are not familiar with the necessary steps to define the training needs of the employees. The prevailing method for training needs assessment is the observation method, carried out by the managers themselves. Namely, managers state that they determine the need for employee training based on the observed employee performance, including employee underperformance and detected challenges in executing daily operations. In addition, ad hoc employee training is conducted based on current needs, usually as a result of introduction of new products/services that require upgrading employee knowledge on the specifics of the product/service or introduction of new software for business operations.

There are several reasons for significantly less investments in employee training by small businesses among which, previous research most frequently underlines high training costs per employee and lack of time due to workloads[16], lack of training budget and recognition of the importance and need for training by management[17], lack of training designed so as to match the needs of the

15 Storey, D., "Exploring the link among small firms, between training and firm performance: A comparison between UK and other OECD countries", *International Journal of Human Resource Management*, Vol. 15 No. 1, 2004, pp. 112-30

16 Kitching, J. & Blackburn, R., "*The nature of training and motivation to train in small firms*", Research Report RR330, Small Business Research Centre, Kingston University [https://core.ac.uk/download/pdf/4154524.pdf]

17 Stone, I., "*Upgrading workforce skills in small businesses: Reviewing international policy and experience*", Report for Workshop on Skill Development for SMEs and Entrepreneurship, OECD/LEED, 2012 [https://www.oecd.org/cfe/leed/Skills%20Workshop%20Background%20report_Stone.pdf]

businesses, and alike. In this regard, business managers also point to the same challenges commonly faced by small businesses. They report that the high training costs per employee and lack of time are the biggest barriers to training. Indeed, in small businesses, the employee's absence from work directly affects the company's daily operations due to the small number of employees. Lack of customized training in the market is also detected as a problem by businesses. Some of the managers emphasize that as a result of constant changes in the business environment, acute financial challenges as well as ever-increasing pressure from competition in recent years, upgrading employee skills remains at the bottom of their priority list.

2.5. Employee participation

The possibility for encouraging employee participation in work processes, which is by far greater for small businesses - considering their flatter organizational structure, is not fully explored by small firms. This is primarily due to the centralized decision making, an important characteristic of small businesses. Small business owners assert that all relevant decisions related not only to the company's strategic directions but also to business operations are made solely by themselves. Thus, small businesses fail to fully use employees' skills to their benefit, through bigger responsibilities of employees and their active involvement in the decision-making process related to business operations. Surprisingly, many small business managers regard employee participation as employee willingness to go an extra mile and take initiative on new tasks. On the other hand, those that fully comprehend the concept of employee participation also reported that they would be very cautious to delegate bigger responsibilities to employees if such necessity arises. These findings clearly indicate that small business managers are either not fully aware of the concept and the potential benefits of encouraging higher employee participation or they view it as a risk of being unable to oversee all the aspects of the operations. In fact, loosely defined job descriptions provide more opportunities for job enrichment and enlargement through a greater variety of tasks and greater independence in performing them, which directly contributes to bigger employee involvement in firm's business operations, and hence greater utilization of firm's human capital.

2.6. Pay and rewards system

Small businesses usually do not have formal pay and rewards system[18] and introducing such a system presents a significant challenge to them, mainly as a result of lack of expertise in this area. Setting an appropriate pay and rewards system entails clearly defined job descriptions and job evaluation, transparent rules as well as objective and measurable criteria for employee performance evaluation. Our research showed that small business owners are the ones who define employee pay and rewards levels, usually on an individual basis. In most cases, business managers seek to set pay and rewards range relative to those of the direct competition. Most of the business owners believe that it is extremely important to provide competitive pay and bonuses, as a way to motivate and retain employees. Also, in all small businesses included in the research, the compensation system consisted of base salary and performance-based bonuses, with sales targets or generated profit as main criteria for employee performance. The research also revealed that small business owners point to employee performance as the main criterion in determining pay and rewards levels. However, none of the interviewed managers consider introducing a system that will include more parameters, both in terms of employee performance criteria and reward methods. Small businesses often lack clearly defined goals and criteria for employee performance evaluation, based on which employee compensation would be determined. In fact, performance appraisal in small firms is generally informal.[19] In addition, mere reliance on sales targets and generated profit for employee performance evaluation could prove to be insufficient, especially for growing firms. Without a well-defined system of criteria for employee performance, small firms may be faced with employee dissatisfaction, lower productivity or higher employee turnover.

Conclusion

The informality of HR approach and the reliance of people management issues solely on business owner's views create different HR practices in small businesses. The overall findings reveal that the informality of HRM practices poses a challenge mainly for growing small businesses. Namely, in micro firms, most of the HRM aspects, in terms of defining job activities and responsibilities,

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18 See for example Hornsby, J. & Kuratko, D.F., "Human resource management in U.S. small businesses: A replication and extension", *Journal of Developmental Entrepreneurship* Vol.8 No.1, 2003, pp.73-92

19 Cassell, C., Nadin, S., Gray, M. & Clegg, C., "Exploring human resource management practices in small and medium sized enterprises", *Personnel Review*, Vol. 31 No. 6, 2002, pp. 671-92

reward methods, communication techniques and job delegation are usually informal and managed ad hoc, considering the small number of employees. However, for small businesses that employ more than 10 employees, the challenges arising from lack of formal practices, that is, practices that would be clearly defined, transparent and consistently applied, have already been noted by the management since they affect the daily business operations. Aside from the informal character of HRM, as small business sustainability is reliant on human capital and employee performance, business owners should seek to explore more sophisticated HR systems.

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ANGELCO ANDONOVSKI*

VALUE MARKETING AND CONSUMER ENGAGEMENT IN HEALTHCARE

Abstract:

The deregulation of the healthcare industry has led to the establishment of many for-profit healthcare organizations that offer medical solutions to patients. Companies must be fully engaged at the same time to provide a satisfactory return on invested funds to shareholders, by ensuring sustainable business development. Every company in the healthcare business is responsible to shareholders to ensure a competitive rate of return on the investment made, by ensuring profit in any segment and maximizing the wealth of the true owners. In healthcare, delivered value creates and integrates the healthcare system into a system based on quality, safety, patient centricity and cost management. These elements bring together the interests of patients, payers, providers, and suppliers.
Patient satisfaction must be the main goal of any healthcare organization and this requires a thorough knowledge of their needs and expectations. Providing a high-quality health service is based on meeting certain requirements for the service to reach the patient's desired level. To gain the trust of healthcare consumers, specialized staff must be more receptive to patients' wishes, suggestions, complaints, and at the same time, become more sensitive to their concerns. The effectiveness of this approach depends on how effective the communication of the medical organization with the patients is and it presents a correct picture of the health service and correctly delivers the promised service, and is a constant concern for continuous improvement of the service to exceed the expectations of patients. Since the behavior of consumers of health services is difficult to predict, the presence of the patient in the delivery process can be a source of great uncertainty.

Keywords: health, doctors, medical care, safety, marketing value

JEL classification: I1, M31, M39

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INTRODUCTION

Creating value in healthcare organizations is the task of managers. Value in healthcare and measured improvement in patient health outcomes is measured based on the costs incurred to achieve that improvement. The transformation of care in health care is based on values that should enable the health system to create more value for patients.

Value is created when a person's health outcomes are improved, providing value-based health care and reducing costs.

Value-based healthcare is often confused with quality, a concept that implies a myriad of virtues.

Value in healthcare often focuses on inputs and compliance with processes. Quality improvement efforts may not improve patient health outcomes.

Certainly clinicians should practice with the consistency demanded by scientific methods and follow evidence-based care guidelines. But results matter. The goal of value-based health care is better health outcomes.

Value and patient satisfaction are also commonly confused. While the patient satisfaction movement has brought a much-needed emphasis on treating people with dignity and respect, the essential purpose of health care is improving health. Value is about helping patients. Satisfaction surveys ask patients, "How were we?" Value-based care providers ask, "How are you?"

Healthcare marketing

Healthcare marketing is a strategic communications process designed to attract healthcare consumers, guide them through their healthcare journey and keep them engaged in the healthcare system (https://www.mercuryhealthcare.com, 2022).

Healthcare marketing refers to the process by which healthcare professionals use strategic communication to satisfy their customers – patients by guiding them into recovery and maintaining close contact with them. Health marketing aims to promote health by sharing relevant information and informing the public about beneficial healthcare interventions(https://study.com › lesson, 2022).

Marketing in healthcare is the process of creating, communicating and offering information about healthcare. Health marketing is a multidisciplinary practice that uses traditional marketing principles and science-based health prevention and promotion. Marketing is an indispensable part of modern healthcare. Healthcare marketing involves educating, informing and motivating people with health messages; demonstration of linkage between healthcare and people's needs; and harnessing the potential of technology to offer seamless healthcare. (https://dhge.org › blog › wha., 2020).

Working in healthcare is more than just a job. It is a call to help people lead to a better life. Healthcare professionals care for the patient, dedicating their professional career to helping others. With proper marketing, doctors can get patients and attention for their practice. Healthcare marketing differs from business marketing in that it is about meeting specific marketing needs.

Healthcare marketing encompasses marketing strategies designed for the healthcare sector. Healthcare marketing strategies are used by healthcare professionals, service providers, insurance funds and companies and suppliers. Healthcare marketing is completely targeted and segmented and uses different channels for promotion, patient engagement and communication. The goals of healthcare marketing are the same as for all marketing - to attract and retain customers, drive growth and revenue, improve reputation, and foster trust and loyalty. (https://peertopeermarketing.co, 2022)

Healthcare marketing involves meeting the implicit challenges of credibility, accessibility, and confidentiality, but also strict explicit regulations designed to protect consumer privacy and security. Healthcare marketing activities inspire consumer confidence, convey highly technical information in a way that consumers understand and can find in a way that gives the message emotional resonance for the target audience. Within healthcare marketing, there are many different areas where activities should be concentrated. Each marketing requires different emphasis, different content and different strategy to meet the needs of consumers. The main characteristics of marketing in the individual activities in healthcare would be(https://wearecsg.com › what-i., 2022):

> ➢ For healthcare providers – good and targeted marketing provides a complete picture of the achievements and differences of professionals, for patient reviews that significantly influence care decisions.
> ➢ For health systems – public health often depends on the preparation of the health message and the creation of materials to support it. Brand consistency, visibility and acceptance are important in healthcare. Whether promoting the excellence of their staff or communicating with the public, health systems use marketing and public relations every day to maintain their focus on accessible and reliable communication with health care organizations and institutions and the public.
> ➢ For medical device companies – To sell medical devices, healthcare companies must communicate their own company identity and values, develop messaging, anticipate objections, differentiate themselves from competitors, devise coherent

content strategies that include many sides of content and multiple levels of activity.

➤ For health insurance – marketing is needed to differentiate from competitors, drive site traffic, generate leads, convey the value of many more products, clear, concise educational messages and marketing content, position themselves as trusted advisors to people across demographic segments and find the right product to promote with the right audience.

➤ For Senior Healthcare Providers – Marketing for these institutions has the essential role of aligning customer emotions with the embodied values and services offered. Thoughtfully cultivated brand awareness and strategic communication allow these institutions to proactively mitigate concerns, showcase strengths and resident testimonials, create compelling content with emotional weight behind it, direct that content where it needs to go and finally that they inspire the elderly and their families to trust the institution.

➤ About Nonprofits, Associations, and Foundations - Health nonprofits often play a vital role in connecting people with health resources and support. These organizations rely on marketing principles for purposes ranging from strategy development, content exploitation, PR communications and sophisticated analytics to achieve public visibility and engagement.

MARKETING PROCESS IN HEALTHCARE

The health care marketing process aims to attract consumers to health care, guide them through their use of health care, and keep them engaged in the health care system. The procedures of the marketing process in healthcare include (George Washington University, 2021):

➤ Identifying potential patients to whom they should provide value by meeting their health needs;

➤ Increasing the strategic advantage and attracting patients in competitive implementation conditions;

➤ Keeping patients engaged with relevant, personalized and timely referrals to their health care;

➤ Long-term patient retention and improved loyalty in the healthcare community;

➤ Connecting with patients through multiple channels;

➤ Productivity assessment and strategy realignment with comprehensive health data analytics.

Effective marketing puts the right product in the right place, at the right price, and at the right time. In healthcare, that can mean putting the right services in place for patients, at a reasonable price to attract business - and in the right frame of mind. Effective healthcare marketing means applying a marketing mix, which is a set of controllable variables that a healthcare organization involved in marketing uses to influence a target market (Binji, 2020):

➢ The four "P's" in healthcare are product (or service), placement, price and promotion:
  ✓ Products are services that include healthcare products and services. These products or services are sold to consumers.
  ✓ Price is an important element for health care providers, sponsors and consumers. High co-payments are not as attractive to patients, which may drive them away from one facility to another. Health care consumers can choose providers with lower co-pays;
  ✓ Health care providers provide health chains that can create communications and help new members better appreciate health care coverage.
  ✓ Medical institutions are usually associated with the place, that is, with the setting of providing health services.
➢ Healthcare providers are responsible for ensuring the effective and efficient delivery of healthcare services.
  ✓ The delivery of health services depends on a growing group of professionals working together as diverse interdisciplinary teams. At the same time there are many forces shaping the delivery of health care.
  ✓ Changes in health care are driven by markets; changes in concepts of health and leadership and well-being; technology and research and discovery. Through dynamic leadership, the professionals themselves will be in a position to make the transformations.
  ✓ New technologies, drugs, and strategies have improved morbidity and mortality for many conditions while reducing dependence on acute care settings.
  ✓ Prepaid models of health care delivery have pitted physician against physician and physician against hospital. Many integrated networks have collapsed, leaving doctors unpaid and sometimes unemployed. Administrative and regulatory burdens are increasingly heavy. And prepaid health care creates a wall between doctors and patients.

✓ Capitalized payment systems offer minimal rewards for individualized, compassionate patient care. For many doctors, medical practice has lost much of its meaning.

Patients now more than ever want to be in charge of their own health and to educate themselves about what they are doing and how they should be doing it. Healthcare marketing is a task that requires constant adaptation to laws and trends. A person's health and a healthcare organization's ability to care is at stake, requiring a different approach to customer interaction than other marketing (Tutorialspoint, 2023):

➢ Creating good marketing communication tools is the first step in creating health marketing campaigns. Marketing tools help healthcare organizations connect with new patients and improve patient care by creating an open line of communication with their patients. Healthcare marketing aims to provide patients with useful information and resources throughout the continuum of care using websites, media channels, sponsored content, SEO, online marketing, multimedia and many other methods.

➢ For healthcare, it is essential to design and implement marketing strategies that engage and educate consumers throughout their medical journeys using SEO, internet marketing, websites, content creation and other methods. Patient-centered healthcare marketing, or marketing that is focused on the patient and what is important to them in terms of knowledge, likeability and trust, has proven to be the most effective. As the healthcare industry is constantly changing, patient education and information is quickly taking a central role.

➢ A greater challenge for healthcare is to offer medical services in the highly competitive healthcare market as local competition grows and major hospital systems enter the scene. A healthcare organization can set itself apart from the competition on local social media and search and networking websites by using healthcare marketing. The ability of healthcare organizations to connect with potential customers and establish themselves as an authority in their industry by portraying themselves as a leader.

VALUES AND CONSUMER SATISFACTION IN HEALTHCARE

Customer questions are important to healthcare providers. Customer behavior toward healthcare providers and their services significantly affects the professional future of healthcare organizations. In healthcare organizations, all eyes are focused on the interests, behavior and sensitivities of the customers.

Based on the service on which the providers set their orientations and offer services, value is created for patients and they are provided with an adequate understanding of the quality of the service (Rahmani, 2017):

➢ Patients, as consumers, increasingly determine the quality of service. Using the concept of value in the healthcare sector is a relevant approach to drive patient satisfaction.

➢ Successful companies are those that create better value and satisfaction for their consumers, i.e. customers.

➢ Health and medical hospital and other organization should concentrate on quality as a strategic scale and tool to promote patient satisfaction. Creating value for customers is a major factor in the business success of healthcare organizations.

➢ Health and medical organizations are successful when they create value for their stakeholders in the health care process, such as patients and physicians. The value provided by health care is defined as the result of customer satisfaction with costs and services. For all healthcare and medical organizations, the primary goal must be to promote the creation of customer value.

➢ By strengthening the relationship between patients and health and non-health organizations and institutions, customer satisfaction naturally grows and the value of the relationship between both parties improves, as well as trust and loyalty.

➢ The health system ensures and promotes the health and well-being of people and societies, and their criterion for success is meeting the needs and demands of those in the field of health.

➢ In order to retain customers, healthcare service providers, ie healthcare organizations, need to create value for their customers. Healthcare providers should strive to create and maintain patient loyalty to increase their market share and promote health in society.

Value in healthcare is created by delivering high quality healthcare services. The ability to create value in healthcare from a provider perspective is facilitated through the development and implementation of customer-focused core competencies. These core competencies include(Beveridge, 2022):

✓ Customer relationship management;
✓ Payer/provider relationship management;
✓ Disease management;
✓ Results management;
✓ Financial/cost management; and
✓ Information management.

Customer relationship management is the basis on which all basic

knowledge and skills must be built in healthcare organizations, i.e. competencies. These competencies must focus on customer needs, both internal and external. Structuring all processes involved in core competencies from the customer's perspective ensures that value is created throughout the system.

Managing the relationship between health care payer institutions or individuals and service providers is a key pillar for health care providers.

As more vertical integration occurs among providers, managing the relationship between providers and payers becomes more important. Integration strategies include the integration of hospitals, physicians, and payers to form accountable health plans. Relationships must be organized to form win/win situations, where all parties are focused on a shared vision of value creation and neither party benefits at the expense of the others.

Disease management requires starting with an examination of the disease process. Not only must providers be able to provide high-quality acute and chronic care, but they must also begin to focus more strongly on prevention programs. Value is created throughout the system by reducing the prevalence and incidence of disease. Only by managing the full continuum of health will value be created across the entire health care delivery system.

Results Based Relationship Management (RBM) ensures that the results are of the highest quality at an affordable price. Results should not only be compared to best practices, but also to what is possible. Providers must constantly strive to improve the quality of services.

Financial/Cost Management ensures that care is cost effective and that a profit margin is maintained to enable continued investment in new technology and continuing medical education to improve quality of care and lifestyle for all stakeholders.

Information management is the binding element or key in providing value-centered care. By collecting, storing, transmitting, manipulating, sorting and reporting data, more effective decision-making can occur. An integrated information system enables the generation of information on the cost-effectiveness of treatment regimens, employee productivity, physician cost-effectiveness, supply utilization and clinical outcomes, as well as patient information that will be readily available throughout the health care system.

Customers are looking for value. Value is created by meeting the needs and demands of customers through the delivery of cost-effective, high-quality healthcare services that are easily accessible and create high patient satisfaction. Healthcare providers, i.e. healthcare organizations that can demonstrate their ability to provide services in this way create a competitive advantage in the market and are perceived as a value provider of choice by loyal customers..

Patient satisfaction is used as an important indicator for measuring quality in health care. Patient satisfaction with health care affects clinical

outcomes, patient retention. Patient satisfaction affects the timely, efficient and patient-centered delivery of quality health care. Patient satisfaction is an effective indicator for measuring the success of doctors and healthcare organizations and hospitals (Prakash, 2023):

- ➢ The word "consumer" is derived from the Latin word "consumere" which literally means one who acquires goods or services. Similarly, the word customer is also defined as "a person who purchases goods or services". Today, the patient sees himself as a buyer, that is, a consumer of health services.
- ➢ Every hospital today has started hiring HR and management professionals. Institutions that pay for healthcare services have recognized that patient satisfaction is an important tool for the success of their organization and regularly monitor the level of patient satisfaction of their clients. Physician bonuses are tied to a patient's assessment of their physician's personal interaction with them. Greater patient satisfaction leads to benefits for the healthcare industry in a number of ways. Patient satisfaction leads to building customer (patient) loyalty. Increased staff morale with reduced staff turnover also leads to increased productivity.

RELATIONS IN HEALTHCARE

Doctors often think that the doctor-patient relationship is the key to effective health care. Although the doctor-patient relationship is very important, it is not the only relationship. There are numerous "touch points" in the healthcare system. They occur whenever someone interacts with a patient or acts on behalf of a patient. Good communication reduces patient anxiety, improves patient well-being, and reduces frustration and confusion (Selinger, 2013):

Doctor-Patient Communication - When patients get sick, doctors need to listen to them, educate them and treat their illness. Education and dialogue can reduce stress and promote healing.

Office Staff-Patient Communication - Patients have a responsibility to be open and honest about the reason for their visit, their history, lifestyle habits, and any concerns and questions they may have. In turn, it is the staff's responsibility to communicate with empathy and confidentiality while gathering this vital information.

Doctor-Caregivers/Family Communication Many patients, it is critical to involve non-medical caregivers and family - Elderly patients with visual or hearing challenges need help managing their health care needs. Involving, educating, and responding to the needs of caregivers and family

can go a long way toward promoting health and well-being and avoiding or delaying hospital admissions, readmissions, and nursing home placements.

Doctor-to-Doctor Communication - When primary care physicians and other specialists share information with one another, they ultimately help the patient avoid duplicate medications and tests, drug interactions, and a whole host of other problems. Ideally, all patient information should be transmitted to the primary care physician and then made available in this "hub" to other specialists.

Physician-Allied Health Professional Communication - Nurses, therapists, counselors, pharmacists, medical assistants, and other allied health professionals are often the eyes and ears of physicians in the field. Successful patient care requires a team, and allied health professionals are an important part of that team.

Doctor-Hospital-Patient Communication - Effective transitions in care complete the cycle from health to illness and back to health again. When handled poorly, they can cause suffering, relapse and readmission, unnecessarily costing the system a lot of money annually.

Physicians and health care providers throughout the health care process understand the impact of a good relationship with patients on their ability to provide superior medical care. A good patient-healthcare provider relationship facilitates collaboration and provides greater opportunities to learn about the patient's unique health care needs. Collaboration enables healthcare providers to better connect patients with treatments and resources to improve overall health: (Johnson, (2021),

The doctor–patient relationship is the foundation of clinical care. Doctor–patient relationships can have profound positive and negative implications for the clinical care. The main goal of the doctor–patient relationship is to improve the patients' health outcomes and their medical care. Stronger doctor–patient relationships correlate with improved patient outcomes.

Effective doctor–patient communication is an integral part of clinical practice and serves as the basis of doctor–patient relationships. The approach physicians take to communicating information is just as important as the actual information communicated. This type of communication includes both verbal and non-verbal interactions between doctors and patients. Effective communication affects a wide range of outcomes, including:
- ✓ Emotional health;
- ✓ Resolving symptoms;
- ✓ Function;
- ✓ Pain control; and
- ✓ Physiological measures, such as blood pressure levels.

When miscommunication occurs, it can have serious negative

implications in clinical care, such as hindering patient understanding, treatment expectations, treatment planning, decreasing patient satisfaction with medical care, and decreasing patient confidence levels.

Trust is the fundamental characteristic of the doctor–patient relationship. Patients must trust that their doctors work in their best interest to achieve optimal health outcomes. Patients' trust in their doctors appears to be more important than satisfaction with treatment in predicting patients' adherence to recommendations and their overall satisfaction with care.

The term health care provider includes primary care physicians, medical specialists, nurses, physician assistants, and others who act to diagnose and treat diseases and disorders of patients in health care facilities. In the course of healthcare communication, patients may interact with many other practitioners, such as nurses and technicians, but it is the healthcare provider who most determines the course of the therapeutic relationship (Center for Health Ethics, 2023):

> ➢ Provider-patient relationships are largely considered "doctor-patient relationships" with multiple people acting as providers, including other roles such as nurses and physician assistants, although people in such roles typically work under the supervision or doctor's guidance.
> ➢ Certain aspects of the relationship between providers and patients are generally accepted and relatively uncontroversial. The relationship between is considered fiduciary, meaning it is based on trust. The patient trusts the health care provider and the provider is expected to fulfill certain duties to the patient. Obligations to patients include:
>   ✓ Technical competence in the provider's area of expertise,
>   ✓ Acting so as avoid harming the patient (non-maleficence),
>   ✓ Acting for the patient's benefit (beneficence),
>   ✓ Keeping patient information confidential (under normal circumstances).
> ➢ A health care provider is considered a professional. The health care provider profession has standards and expectations that are established by methods of specialized training, possession of appropriate certification, mastery of necessary skills, possession of authoritative knowledge, expectations of appropriate behavior and judgment, high quality of performance, dedication to field or area of expertise and codes of ethical conduct.

CONCLUSION

To provide effective and efficient health care, health care needs to be organized around patient segments with a common set of health needs. Organizing patients' health care in this way allows clinical teams to anticipate consistent patient needs and efficiently provide frequently needed services, doing common things well. Efficiencies in patient care are made possible by structuring care around specific patient segments that frees physicians from trying to coordinate services that are needed routinely. Personalized services for individual patients is a key issue in providing health care to patients who have different needs.

Identifying the needs of a patient segment allows teams to design and deliver care that provides a comprehensive solution for patients or families. When the goal of health care shifts from treating to addressing patient needs, care teams can both meet patients' clinical needs and begin to address the nonclinical needs that, when unmet, undermine patients' health. . For example, a clinic for patients with migraine headaches may provide not only drug therapy, but also psychological counseling, physical therapy, and relaxation training. Similarly, a cancer clinic can include transportation assistance as a service for those who have difficulty getting to their regular chemotherapy appointments. Expanding and integrating services delivered to patients achieves better outcomes by identifying and addressing gaps or barriers that undermine patient health outcomes.

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