Assessment of the current energy and price crisis impact on the Macedonian business sector

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In the past few years the world economy has faced with several serious economic crises, which have overlapped with each other. Firstly, the crisis determined by the Covid-19 pandemic, that has begun in 2020 as a health crisis in a short time has been recognized as a biggest economic shock of the 21st century on a global scale. Secondly, the period of economic recovery that took place in 2021, in the same time with the economic growth brought an increase in energy prices, especially oil and natural gas prices, as well as in food prices. Such tendencies have significantly intensified with the beginning of the war in Ukraine in February 2022, and plunged the world economy into a new energy and price crisis. All these subsequent crises dealt a heavy blow to the world population from an economic and social aspect and made it difficult for companies to operate normally on global scale. All these circumstances from the world economic scene have been quickly spilled over into the Macedonian economy, plunging the country into several overlapping crises. The aim of the paper is to provide more in-depth inside into the impact of the energy and price crisis on the performance of the Macedonian business sector. To fulfil this goal, we conduct a survey for the business sector. The paper is organized as follow. At the beginning of the paper an overview of the economic impact of Covid-19 crisis and energy and price crisis on the global scale is given. Further in the paper the economic implication of the pandemic and the current energy and price crisis in North Macedonia are elaborated. Analyzes of the economic impacts of the crises is based on the movement of the key macroeconomic indicators as: GDP growth rates, inflation, industrial production, gross debt, etc. Within the paper is also analyzed the impact of the current energy and price crisis on the Macedonian business sector based on the results of our own survey, conducted by the Center for Strategic Research “Ksente Bogoev” of MANU. The questionnaires used as an instrument for data collection were distributed electronically to the respondents (enterprises). The data collection period was one week (from 1 to 7 March, 2023). The survey was responded by 38 enterprises. The survey results give us a more comprehensive picture about the situation in the country, referring to the economic implications of the energy and price crisis on the business sector and satisfaction of the business sector with the implemented government measures.

Keywords: Business sector, Covid-19 crisis, economic implications, energy and price crisis, North Macedonia.
1. Introduction

Short-term fluctuations in the economic activity, so-called business cycles, are among the most complex and the most challenging questions in the macroeconomic science. Economists define business cycles as fluctuations in the aggregate economic activity. Within these fluctuations, many economic variables (real gross domestic product, industrial production, investment, real income, employment, etc.) are rising or falling together and such tendency is constantly repeated but at irregular and unpredictable time intervals. The term economic crises refer to the downward phase of business cycles, so-called recession.

During 2019, the macroeconomists have debated about the potential possibilities of an emergence of new global crisis [1] through stressing several important factors: the slow recovery of the economies after the Great Recession of 2007-2009, the USA – China trade war and the formation of "hot spots" in financial bubbles [2]. At the end of 2019, over 10 years after the Great Recession 2007-2009, a new global recession did occur, but as a result of the outbreak of the Covid-19 pandemic, not as a result of above mentioned factors. The economic crisis caused by the Covid-19 pandemic, which have started as a health crisis, belongs among the severe economic crises. The crisis has led to the strongest short-term decline in the global economic activity in the past 150 years. The crisis caused a strong shock on the aggregate supply side that was transmitted simultaneously to the aggregate demand side. This pushed the world economy into a severe recession. This recession caused an extraordinarily strong short-term decline in the global economic activity, much stronger than the short-term decline caused by the Great Recession 2007-2009. The world economy in the crisis year - 2020, has ended with a growth rate of -4.1% [3].

The implementation of expansionary fiscal and monetary policies to deal with the severe impact of the Covid-19 crisis, in a short time led to a rise in budget deficits and accumulation of public debt in almost all world economies. Revised estimates of the IMF, from January 2021, related to the world general government fiscal balance were -11.8% of GDP in 2020 and -8.5% of GDP in 2021 and for the world gross debt 97.6% of GDP and 99.5% of GDP, for 2020 and 2021, respectively [4].

Although the world economy ended 2021 with a growth rate of 5.4%, the problems and uncertainties that the economy on global scale faced did not stop in 2021. On the contrary, towards the end of 2021, parallel to the process of economic recovery, prices of oil, gas and electricity, and later food prices, began to rise rapidly and culminated in the last quarter of 2021, causing a serious world energy and price crisis. Price of natural gas experienced a huge jump in the second half of 2021, continuing its surge in 2022. In the United States, the price of natural gas in October 2021 was three times higher than its price in October 2020, and the world price of coal has increased by about five times. Russian aggression in Ukraine has further increased energy and food prices. Between February and August 2021, the price of oil reached $120 per barrel [3]. The rebound of global growth, rising of oil prices, supply shocks and increase of non-oil commodities have all contributed to increase of the inflation rate on global scale. According to the IMF data the global inflation is estimated at level of 8.8% in 2022 [5]. The global fight against inflation, Russia’s war in Ukraine, and a resurgence of Covid-19 in China weighed on global economic activity in 2022, and the first two factors will continue to do so in 2023.

According to some researchers the recent inflationary tendencies could mark a permanent ratcheting up of price pressures after decades of low and stable inflation [6] [7]. While the global inflation has risen sharply since the mid of 2020, the global growth is moving in opposite direction, it has decline sharply since the beginning of 2022 and is expected to remain below the average of the 2010s. This is raising the concern among the experts about stagflation risks – a combination of high inflation and sluggish growth [8] [9].

The recent economic developments resulted in estimated global growth of 3.4% in 2022. Despite these headwinds, real GDP was surprisingly strong in the third quarter of 2022 in numerous economies, including the United States, the euro area, and major emerging markets and developing economies. The sources of these surprises were in many cases domestic:
stronger-than-expected private consumption and investment amid tight labor markets and greater-than-anticipated fiscal support [5]. According to the IMF [5] projections the global growth is going to fall from an estimated 3.4% in 2022 to 2.9% in 2023, then to rise up to 3.1% in 2024. Global inflation is expected to fall from 8.8% in 2022 to 6.6% in 2023 and 4.3% in 2024, still above pre-pandemic (2017–19) levels of about 3.5%.

All these circumstances from the world economic scene have been quickly spilled over into the Macedonian economy, plunging the country into several overlapping crises. Strong decline in economic activity in 2020 (-4.7%), growth in budget deficits and public debt, which reached 61% relative to GDP in 2020, some stabilization of economic activity in 2021 – with an estimated growth of 3.9% and a rapid increase in inflation that reached in average 13.5% in 2022, are only part of the upheavals in the Macedonian economy that will be elaborated in more detail in the following part of the paper.

2. Overview of the recent economic developments in North Macedonia

The implications for the Macedonian economy determined by the Covid-19 crisis, the energy crisis and the price crisis are briefly explained, through a review of the movement of the several key macroeconomic indicators: GDP growth rates, industrial production, inflation and public debt.

2.1 GDP

North Macedonia in 2020 has faced with the deepest recession since 2001. The GDP growth in 2020 was down by 4.7%, presenting higher decline than the expected. The decrease in economic activity in 2020 is mainly result of the high decrease in the second quarter, when the real GDP decreased by 15.4%, due to the restrictive measures put in place to prevent the spread of the coronavirus and unfavorable international environment. After the negative growth in 2020, the Macedonian economy has started the recovery in 2021. The growth rate reached 3.9% in 2021, fell to 2.1% in 2022 and it is projected only marginally to increase in 2023 to 2.9% (Figure 1).

![Figure 1: Annual and quarterly real GDP growth rates, in percentage](source: NBRSM and MF 2023)

2.2 Inflation

In the period before the Covid-19 crisis, the inflation rate in the country was relatively stable and at low level. In 2019 consumer price inflation averaged 0.8% and in 2020 averaged 1.2% (Figure 2). The inflation has accelerated in the second half of 2021, reaching a level of 3.2% on average and it was primary driven by increase of electricity, fuel and food (mainly edible oil) prices, reflecting global prices hikes. The global supply shortages and uncertainty on

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18 Estimated rate for 2022 and projected rate for 2023.
energy and food market increased the inflation pressure, putting the inflation rate on a very high level during 2022. The current inflation in North Macedonia, as well as on global level is predominantly driven by the supply side factors, namely driven by the strong increase of energy and food prices caused by the war in Ukraine and established economic sanctions against and from Russia. The inflation pressures further straighten with the government decision for double-digit minimum wage increase in March 2022. All of this has contributed to 13.5% average inflation in 2022 [10]. According to Ministry of Finance projections the average inflation rate will rich 7.1% in 2023 and 2.5% in 2024 (Figure 2).

![Figure 2](image-url) Annual inflation rates, in percentage
Source: MF 2023.

2.3 Industrial production

In Figure 3 are presented the annual industrial production indexes for the last four years. The industrial production index in North Macedonia in 2019 was 103.7, indicating an increase of 3.7% compared with the previous year. In 2020 the industrial production was strongly hit by the Covid-19 pandemic. Based on the official calculations, the industrial production index in 2020 was 90.4, which refers to a decrease of industrial production of 9.6%. In 2021, as year of recovery, a certain recovery and an increase in industrial production of 1.4% is recorded. In 2022, the industrial production index is 99.8, which again points to a decline in the national industrial production.

![Figure 3](image-url) Annual industrial production indexes

According to the State Statistical Office data, the industrial production volume index in January 2023, in comparison with January 2022, was 97.7 [11]. The industrial production in the section Mining and quarrying in January 2023, in comparison with January 2022, increased by 2.4%, in the section Manufacturing it decreased by 5.0%, while in the section Electricity, gas, steam and air conditioning supply it increased by 23.0%. The decrease in the section Manufacturing is mostly due to decreased production in the divisions Manufacture of food products, Manufacture of beverages, Manufacture of chemicals and chemical products, Manufacture of rubber and plastic products, Manufacture of basic metals, Manufacture of fabricated metal products, except machinery and equipment and Manufacture of motor vehicles, trailers and semi-trailers. The industrial production by Main Industrial Groupings in January 2023, in comparison with January 2022, was higher in Energy by 15.1%, Durable
consumer goods by 9.0% and Non-durable consumer goods by 6.2%, but lower in Intermediate goods, except energy by 15.1% and Capital goods by 2.6% [12].

2.4 Fiscal stimulus and accumulation of public debt

During the Covid-19 crisis, the economic slow down was stimulated by encouraging both public and private consumption. Activities were undertaken, in coordination with the monetary policy, aimed at increasing the liquidity in the economy. The Government has supported the vulnerable categories, the companies affected by the crisis and the job retention through six sets of anti-crisis measures worth EUR 1.2 billion. The government packages of measures established as a response of the Covid-19 crisis that in 2020 amounted to 2.5% of the GDP resulted in increase of public debt of 61% relative to GDP. This marks the growth of public debt for more than 11 p.p. compared with the pre-pandemic year 2019 (49.2%). In 2021 public debt stabilized and stayed almost unchanged, reaching 60.8% of GDP, but still remain highly above the pre-crisis period (Figure 4).

![Figure 4 Public debt, as a % of GDP](Source: MF 2023.)

The emergence of the energy and price crisis set a new equation for the policies that the Government should apply in the conditions of such a specific crisis. Similar to the IMF recommendations that targeted measures should be put in place to protect the most vulnerable categories, also the EU Council recommends that the fiscal policy should respond to both the energy crisis and the price pressures, by supporting the vulnerable categories of citizens and businesses. The government packages of measures established as a response of the energy crisis and the price pressures account for around 5% of GDP. It is a matter of a support in a form of subsidies, social protection, tax exemptions and support extended to domestic energy companies

3. Impact of the current energy and economy crisis on the Macedonian business sector

Current energy and price crisis, which followed the Covid-19 crisis, strongly affected the standard of living in North Macedonia and made it difficult for the normal operation of the companies. In addition to the still existing bottlenecks in procurement and the strongly increased prices of products and raw materials, it seems that the biggest blow for companies comes from the increased costs for energy, especially electricity costs. According to the survey of the Chamber of Commerce of North Macedonia, in 2022 compared to 2021 in some sectors the price of electricity has increased up to 470%20.

In order to provide more in-depth inside into the situation in the Macedonian business sector and the problems that the companies have faced during the energy and price crisis, by the

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Center for Strategic Research of MANU a survey was conducted. The results of the survey are analyzed below.

3.1 Structure and results of the survey

The survey consists of 15 questions, divided into three sections. First section contains enterprise basic information, related to the size, regional location, sectorial distribution and market orientation of the enterprises. In the second section, are highlighted questions related to the economic implications and challenges of the energy and price crisis that enterprises are facing. This section also includes issues related to the measures and activities that enterprises take to deal with the crisis. The third section of the survey contains aspects related to the government support to the businesses to deal with the challenges of the current energy and price crisis. The questionnaire consists of nominal, ordinal and interval (Likert scale) questions. The questionnaire was delivered to the reporting units (enterprises) through Google forms questionnaire.

3.1.1 Enterprise basic information

From the total of 38 analyzed enterprises, according to the number of employees, 13.2% are micro, 42.1% are small, 23.7% are medium and 21.1% are large enterprises (Figure 5).

The largest part or 39.5% of the surveyed enterprises are from the Skopje Region, followed by the Pelagonia Region (21.1%) and the East Region (13.2%). The other enterprises are from the Southwest Region (7.9%), the Vardar Region (7.9%), the Polog Region (5.3%) and the Northeast Region (5.3%). In the survey, no response was received from any enterprise from the Southeast Region.

According to the sector of activity (NKD rev. 2) the largest part or 36.8% of the enterprises are from the Manufacturing, followed by the enterprises from the Information and communication and Wholesale and retail trade; repair of motor vehicles and motorcycles, with a share of 15.8%, respectively. The remaining surveyed enterprises are from the selected targeted sectors\(^2\) in the analysis.

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\(^2\) Agriculture, forestry and fishing; Mining and quarrying; Electricity, gas, steam and air conditioning supply; Water supply, sewerage, waste management and remediation activities; Construction; Transportation and storage; Accommodation and food service activities; Financial and insurance activities; Real estate activities and Professional, scientific and technical activities.
The largest number (39.5%) of the enterprises are not part of the international market and 31.6% of enterprises sell/buy on the national/domestic market, and at the same time sale/buy on international market. The remaining 28.6% of enterprises are involved in the international trade through import and/or export activities (Figure 7).

3.1.2 The economic implications and challenges of the energy and price crisis

In more than half (55.3%) of the enterprises, the current energy and price crisis had a significant impact on their current activities, in 31.6% of the enterprises it had a partial impact and in 7.9% it had an insignificant impact. Only 5.3% of enterprises reported that the current crisis had no impact on their current activities (Figure 8).

Analyzed in terms of the size of the enterprises, the crisis had the strongest impact on the current activities of small and medium-sized enterprises, and the weakest impact on large business entities (Figure 9).
Figure 9 Impact of the energy and price crisis on the current activities of the enterprises, according to their size
Source: Authors' own research
From the aspect of sectoral distribution, the crisis dealt the hardest blow to the enterprises from the Manufacturing sector, while the weakest impact on the current activities was recorded among the enterprises from the Information and Communication sector (Figure 10).

Figure 10 Impact of the energy and price crisis on the current activities of the enterprises, according to the sector of activity
Source: Authors' own research
In 28.9% of enterprises, the share of energy costs in average production costs ranges from 11% to 20%, in 10.5% of enterprises this share is more than 50%, and in 13.2% the energy costs participate with less than 1% in the average production costs (Figure 11).

Figure 11 Share of energy costs in average production costs
Source: Authors' own research
Most of the enterprises (36.8%) in 2023 expect an increase in energy costs between 11% and 30%. About one third (28.9%) of the enterprises expect an increase between 31% and 50%, and 15.8% of the enterprises expect an increase in energy costs of less than 10% (Figure 12).
For 36.8% of the enterprises, the increase in the minimum wage significantly contributed to an increase of the production costs and a further increase in the prices of their products/services, while for 18.4% of the enterprises, the increase in the minimum wage did not contribute at all to a further increase in the prices of their products/services (Figure 13).

The increase in the minimum wage contributed to a further increase in the prices of products/services for the enterprises from the Manufacturing sector, while this influence is least evident between the enterprises from the Information and Communication sector (Figure 14).

The impact of the increase in the minimum wage on the increase in the prices of its products/services is the least pronounced among enterprises from the Skopje Region, while among enterprises from all other regions in the country it is significantly higher. This situation is understandable, especially if it is taken into account the level of development of the Skopje Region as well as the level of salaries in this Region (Figure 15).
According to the analyzed data from the survey, the most common challenges that enterprises expect to face in the current period are: labor shortage (57.9%), reduced sales margins (55.3%) and uncertain economic environment (50%). Enterprises fear less about challenges related to: production difficulties (23.7%), difficult supply of raw materials (23.7%) and difficult export activities (5.3%). Also, the three activities that will be a priority for the majority of enterprises in the current year are: creating a new price strategy (63.2%), improving liquidity (42.1%) and increasing energy efficiency (39.5%).

3.1.3 Government support to the business sector

Almost half of the enterprises (47.4%) have the opinion that the state measures put in place to mitigate the impact of the energy and price crisis on the business sector are not properly targeted and will not produce significant effects, 34.2% believe that the measures will produce partial effects, 5.3% believe that the measures will give significant effects, while 13.2% do not have any specific opinion. Analyzed data shows that most of the surveyed enterprises (71.1%) have not used any of the existing state measures intended to support the private sector. The most frequently used measures by the surveyed enterprises refer to: subsidizing the price of electricity and heating energy (13.2%) and loans through the Development Bank and commercial banks (10.5%).

<table>
<thead>
<tr>
<th>Proposed measures to mitigate the implications of the current energy and price crisis from the private sector:</th>
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<tbody>
<tr>
<td>- Tax exemptions</td>
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<tr>
<td>- Regulation of electricity on a regulated market</td>
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<tr>
<td>- Limiting the selling price of electricity</td>
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<tr>
<td>- Subsidies for investments in machinery and inventory, to improve and increase sales margins. Subsidies of wages and contributions.</td>
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<tr>
<td>- Subsidies for salary increase, stabilization of electricity prices</td>
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<tr>
<td>- Financial support</td>
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<tr>
<td>- Non-refundable loans</td>
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<tr>
<td>- Subsidized electricity and loss coverage</td>
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<tr>
<td>- Ensuring an optimal level of energy prices</td>
</tr>
</tbody>
</table>

22 Credit-guarantee scheme from the Guarantee Fund of the Development Bank; Direct credit line to support the liquidity of micro, small and medium-sized enterprises; Consulting support for the development of projects for investments in energy efficiency and renewable energy sources; Loans through the Development Bank and commercial banks for investments in energy efficiency and renewable energy projects and Measures to subsidize the price of electricity and heating energy for small consumers.
- Suppression of unfair competition and creation of equal market conditions for all enterprises
- Creation of functional institutions with professional staff, Adoption of a quality Law on financial discipline, changes in the Law on public procurement in relation to the capital of a company and the possibility of participating in a tenders appropriate to the capital of the company, improvement of the road infrastructure network
- Reducing (not subsidizing) the price of electricity, stimulating young people with some long-term solutions to find employment and stay in the country.

Conclusion

The several crises that have occurred in the past few years, starting from the Covid-19 crisis to the current energy and price crisis, have a dramatic global impact both from an economic and social aspect. As a small open economy, the crises have quickly spilled over into North Macedonia through different transmission channels. These crises had serious negative implications on the economic activity in the country, the standard of living of the population and have created uncertain business environment.

The impact of the current energy and price crisis on the Macedonian business sector has been analyzed in more detail through the survey conducted by the Center for Strategic Research “Ksente Bogoev” at MANU.

The summary results of the survey indicate the following findings and conclusions:

- The survey was answered by total of 38 responders (enterprise representatives) of which 13.2% (N=5) are micro, 42.1 (N=16) are small, 23.7% (N=9) are medium-sized and 21.1% (N=8) are large enterprises. In terms of regional distribution most of the surveyed enterprises (39.5%) are from the Skopje Region, according to the sector of activity the largest part or of the enterprises (36.8%) are from the Manufacturing sector, and from the aspect of market orientation the largest part of enterprises (39.5%) are not part of the international trade.

- The survey data indicates that the current energy and price crisis had a significant impact on their current activities in more than half of the enterprises (55.3%). The crisis had the strongest impact on the current activities of small and medium-sized enterprises and has dealt the hardest blow to the enterprises from the Manufacturing sector.

- In the largest part of the enterprises (28.9%) the share of energy costs in average production costs ranges from 11% to 20% and most of the enterprises (36.8%) in 2023 expect an increase in energy costs between 11% and 30%.

- Furthermore, analyzed data shows that in the case of 36.8% of the enterprises, the increase in the minimum wage significantly contributed to an increase of the production costs and a further increase in the prices of their products / services. The increase in the minimum wage contributed to a further increase in the prices of their products / services mainly in the enterprises from the Manufacturing sector and this impact according to the regional distribution is the least pronounced among enterprises from the Skopje Region, while among the enterprises from all other regions in the country is significantly higher.

- The most common challenges that enterprises expect to face in the current period are: labor shortage (57.9%), reduced sales margins (55.3%) and uncertain economic environment (50%), while three activities that will be a priority for the majority of enterprises in the current year are: creating a new price strategy (63.2%), improving liquidity (42.1%) and increasing energy efficiency (39.5%).

- Almost half of the enterprises (47.4%) have the opinion that the state measures put in place to mitigate the impact of the energy and price crisis on the business sector are not properly targeted and will not produce significant effects and more than two thirds of the surveyed enterprises (71.1%) have not used any of the existing state measures intended to support the private sector.

- Most of the measures to mitigate the implication of the current energy and price crisis proposed by the private sector are related to insuring an optimal level of energy prices.
References