# DEVELOPMENT OF DOMESTIC PUBLIC PROCUREMENT IN THE SHADOW OF CRISIS SITUATIONS OF PAST YEARS

Prof. Dr. Anita Boros1, Dr. László Kovács2

<sup>1</sup> Hungarian University of Agriculture and Life Sciences, Hungary <sup>2</sup> University of Public Service, The Doctoral School of Public Administration Sciences, Hungary

### **Keywords:**

COVID-19 public procurement construction investment energy crisis Russian-Ukrainian conflict

### Abstract

In the economic sense, the COVID-19 crisis has resulted in a fast-moving, rebounding crisis. In the course of our research, we looked for the answer to what results the pandemic crisis brought about from a public procurement point of view, and what peculiarities can be identified as a result of the current Russian-Ukrainian conflict and the energy crisis. Our basic hypothesis is that the pandemic crisis situation had a less negative impact on the Hungarian public procurement market, however, the Russian-Ukrainian conflict and the energy crisis result in a much more complex economic situation, so their impact is likely to be more prolonged.

### 1. Introduction

Public procurement is a very important area of national economies, which also affects market operations. The proportion of public purchases usually varies by continent, international organization[¹]and member state,[²] but the fact that the different crisis situations - especially the COVID-19 crisis, the Russian-Ukrainian conflict and the energy crisis –and their management - has significantly influenced and continues to influence the volume of public procurement and distribution. The epidemic situation required flexible regulations that were necessary to protect people's health, life, and the viability of economies. The barely restarted economies unfortunately found themselves faced with a crisis situation: the Russian-Ukrainian war and the energy crisis have significant negative effects on the global capital markets,[³] supply chains are becoming fragmented, [⁴]resulting in general shortages of certain raw materials and foodstuffs, intensifying volatility, regardless of the war conflict from the level of economic dependence on the states concerned.[⁵]

Our study looks for the answer to what kind of change the above mentioned crisis situations result in the development of public procurement procedures. It is worth emphasizing here that for the time being, we can only rely on the public procurement data of the first three quarters of 2022 regarding the effects of the Russian-Ukrainian conflict, and it is likely that the lingering effects of the crisis will also determine the public procurement characteristics of the following years.

# 2. Research Methodology

The nature of the design is exploratory, using secondary informed data to obtain relevant information. Articles, statistical data publications and other media made a sufficient contribution to

 $<sup>^{\</sup>mbox{\tiny 1}}$  Corresponding author. Phone number: +36 28/522000 - extension 1941 Email address: Boros. Anita@unimate.hu

the research within the substance of the study work. To assess Hungarian economic data, we used the electronic database of the Central Statistical Office. The public procurement data analyzes were performed on the basis of the "Daily Procurement" application of the Public Procurement Authority, as well as the databases and quarterly flash reports available on the Public Procurement Authority's website.

# 3. The Hungarian economy after the pandemic situation

Recent years have brought significant economic changes to the Hungarian economy. As in many countries around the world, [6] significant economic policy measures have been adopted in Hungary in order to mitigate the effects of the COVID-19 epidemic. Milojević's study also emphasizes that rapid and targeted state intervention played a major role during the epidemic. [7] These measures also had an impact on general factors that also affect economic mechanisms, such as working from home, transport, corporate communication, or even the rise of necessary health protective equipment on the market. [8] Csaba Lentner and his co-authors emphasize that this crisis situation was also suitable for the corporate sector to direct the attention of businesses to higher financial awareness and high-level risk management. [9]

According to the data of the Central Statistical Office (hereinafter: KSH), the volume of the gross domestic product in Hungary in 2020 II. quarter fell by 13.6% compared to the same period of the previous year. The extraordinary situation triggered by the epidemic as a result of the coronavirus had an adverse effect on the performance of most branches of the national economy. According to seasonally and calendar-adjusted and balanced data, the performance of the economy decreased by 13.5% compared to the same quarter of the previous year, and by 14.5% compared to the previous quarter.[10] On the production side, the gross added value of the industry fell by 20.6%, that of the construction industry by 17.5%, and that of services by 13.4%, while on the consumption side, among the components of final consumption, household consumption expenditure decreased by 11.8%, gross fixed asset accumulation decreased by 13.8%, as did exports and imports in foreign trade, exports decreased by 24.0% and imports by 16.9%.[11]

This unfavorable economic trend changed relatively quickly, and compared to the previous economic crisis of 2008, the pandemic situation could be evaluated as a crisis with a fast course. According to KSH data, the volume of the gross domestic product in 2021 IV. increased by 7.1% compared to the same period of the previous year. According to seasonally and calendar-adjusted and balanced data, the performance of the economy increased by 2.0% compared to the previous quarter, and by 7.0% compared to the same period of the previous year. Due to the rebound effect of the crisis, a similar increase can also be observed in the volume of GDP, which increased by 7.1% compared to the previous year and by 2.1% compared to 2019. On the production side, the added value of industry was 9.8%, that of construction was 15.8%, that of services was 6.2% higher, and that of agriculture was 2.2% lower. Services contributed 3.6 percentage points, industry 1.9, and construction 0.7 percentage points to GDP growth. Agriculture moderated GDP growth by 0.1 percentage point.[12]

The Russian-Ukrainian conflict and the energy crisis have so far produced less perceptible results at the macroeconomic level: the volume of the gross domestic product in Hungary 2022 II. increased by 6.5% compared to the same period of the previous year, and the performance of the economy exceeded the same period of the previous year by 7.3%. In 2022 II. compared to the previous quarter, on the basis of seasonally and calendar-adjusted and balanced data, the added value of services on the production side increased by 2.4%, that of industry by 1.0%, that of agriculture by 33.6%, and that of the construction industry by 2.8%. On the consumption side, among the components of final consumption, the volume of consumption expenditure of households increased by 1.8%, and that of community consumption by 0.3%. Gross fixed asset accumulation increased by 0.2%. In foreign trade, the volume of exports increased by 1.5% and that of imports by 0.5%.[13]

# 3.1. The evolution of public procurement during crisis situations

In 2019, as in previous years, the public procurement market performed at a high level; With a total value of HUF 3,430 billion and 9,837 successfully conducted public procurement procedures, it was only 5.5% less than the record amount in 2017 and 5% less than the large number of procedures in 2018. In 2019, the participation of the SME sector in public procurement procedures broke all previous records; small and medium-sized enterprises won 87% of the procedures, and 59 out of every HUF 100 spent was awarded to SMEs.[14] In absolute terms, the value of the procedures won by SMEs was the highest in 2019, exceeding HUF 2,000 billion, while since 2016 the number of procedures awarded to SMEs has also shown a continuously increasing trend.[15]

Figure 1 shows the annual evolution of the value of public procurement as a percentage of GDP:

The value of public procurement in % of GDP, Between 2008 and

# 2019 10% 9,5% 9% 8,2% 8% 7,8% 6,9% 7% 6.7% 6% 5,5% 5.2% 5,7% 5,7% 5,4% 5% 4,7% 4% 2008 2013 2014 2015 2016 2017

Fig. 1: The value of public procurements in the percentage of the GDP between 2008 and 2019 Source: Annual Report of the Public Procurement Authority of Hungary, 2019, [16]

In Hungary, public works have been a major part of public procurement for years. Based on the 2019 annual report of the Public Procurement Authority, [17] in 2019 public works accounted for 48.7% of all procedures and 56.7% of the value of public procurement procedures. Public works accounted for 31.3% of procedures and 27.2% by value, while the rest of procedures were services.

In terms of the number of procedures, the construction of buildings (using the previous terminology, high-rise buildings) accounted for 59%, the construction of other structures (according to its previous name: civil engineering, 39%, while specialized construction activities accounted for 2%). Upon examining the value of public procurement in 2019, the largest proportion was the construction of other structures (53%).[18]

In terms of the number of successful public procurements (Figure 2), the largest share was represented by the renovation of both residential buildings and non-residential buildings. Most of the procedures were related to the field of education, 79% of which were renovation work. This was followed by cultural buildings, followed by almost the same number of health and public buildings.<sup>[19]</sup> The funds used for the construction of non-residential buildings were spent on the construction of sports facilities, social facilities (especially the construction of daycare centers) and,

in the case of public procurement for commercial purposes, the development of local farmers' markets. In the field of civil engineering, the proportion of road construction was the largest in 2019 (60%). This is followed by public utility construction with 25%, landscaping with 7.5%, and water construction with 4.5%, which partly covers the maintenance of river and standing water basins, and the construction of dams and harbors.

Public procurement tenders with the highest value were awarded for road construction (48.5%). In second place was public works construction (24.9%), and in third place was railway construction (13%).  $\lceil^{20}\rceil$ 

In terms of the number of procedures for public supply, the most public procurement procedures in 2019 were conducted for the performance of public duties (62%), followed by procedures conducted for enterprises operating in the productive sectors. In 2019, the highest value was represented by the procedure conducted in the field of transport within the procurement of goods, followed by the public procurement procedures for culture, leisure and sports. [21]

In terms of tenderers, in 2019 regional/local level tenderers conducted the most public procurements.[22]

The very dynamic public procurement market operation in 2019 was significantly affected by the COVID-19 epidemic situation that developed in the first half of 2020. According to the data of the Public Procurement Authority, in the first half of 2020, contracting authorities conducted a total of 3,746 successful public procurement procedures worth HUF 1,346.4 billion. Compared to the data for the first half of 2019, this also meant a significant decrease in public procurement procedures: the number of procedures decreased by 23.1%, and their value by 19.4%. At the same time, the initial effects of the epidemic situation were not yet felt in terms of the value of public procurement procedures as a percentage of GDP. This value decreased by only 1.4 percentage points. [23] The ratio of the value and number of procedures using European Union funding also decreased compared to 2019: compared to all successful procedures, the number of public procurements using EU financing was 8.8 percentage points less, and the value ratio decreased by 6.6 percentage points compared to 2019. In 2020, construction investments accounted for 37.8% of all procedures and 51.6% of the value of public procurement procedures. 35.8% of the procedures and 20.5% by value were public supply, while another 26.4% and 27.9% by value of the procedures were public services. Despite the fact that the subject of most public procurement procedures is still public works, compared to the previous year's data, there was a significant increase mainly in the proportion of public services: the latter accounted for 20% of the procedures in 2019, and more than a quarter in 2020., while in terms of value, compared to 16.1% in 2019, their proportion almost doubled by 2020.

In terms of public services, most procedures in number and value were devoted to repair and maintenance. This was followed by public procurements conducted in the field of IT and telecommunications, as well as public procurements aimed at carrying out engineering tasks.<sup>[24]</sup>

On April 1, 2020, the European Commission published a guideline (hereinafter: guideline) which presents the possibilities provided by the EU public procurement rules for the implementation of procurements necessary in connection with the COVID-19 epidemic.[25] In an emergency situation, the options available within the framework of the directives for the rapid implementation of procurements, highlighting in particular the flexible procedural options that can be used in such cases and certain methods that help urgent procurements (e.g. the application of accelerated restricted and open procedure, failing which, negotiated procedure without prior publication), as well as the search for alternative, innovative solutions to meet procurement needs, cooperation with the market).

On April 29, 2020, the minister of the Prime Minister's Office responsible for domestic public procurement sector regulation published a statement in which, in connection with the emergency situation caused by the coronavirus (COVID-19) epidemic, aiming to provide assistance for practitioners in certain interpretation issues related to the relevant provisions of Act CXLIII of 2015 on Public Procurement (hereinafter: Act).[26] As a result of the pandemic situation, the question of the impossibility of contract performance has arisen in many cases. The statement covers the release of the party who cannot perform in compliance with the contract from liability for breach of contract.[27]

By 2021, the public procurement market in Hungary has already been largely consolidated. In the first three quarters of 2021, i.e. in the period from January to September, contracting authorities conducted a total of 5,625 successful public procurement procedures worth HUF 2,447.8 billion. This represents an increase compared to the same period of the previous year, and approximately 200 more procedures took place in 2021. I.-III. quarter than in the same period in 2020. This was also significant because the total value of public procurements increased by a fifth (20.1%) and thus almost reached the value of the year before the coronavirus epidemic, the first three quarters of 2019.

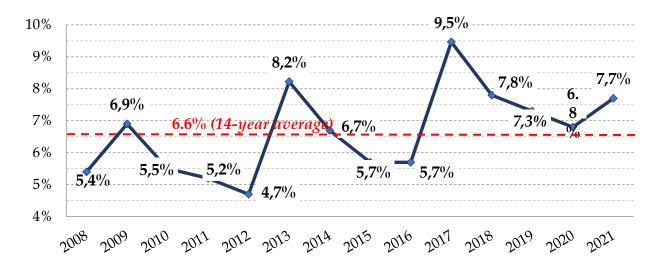


Fig. 2: The value of public procurements in the percentage of the GDP between 2008 and 2021 Source : Annual Report of the Public Procurement Authority of Hungary, 2021.[28]

By the end of 2021, tenderers had completed a total of 7,676 successful public procurement procedures, the total value of which exceeded the data of the year before the coronavirus epidemic, i.e. 2019, by 23%.

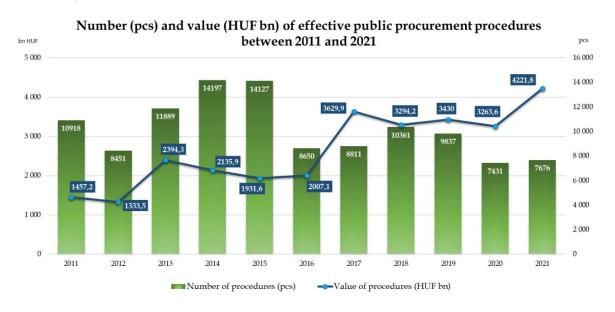


Fig. 3. Development of the number (units) and value (billion HUF) of successful public procurement procedures between 2011-2021

Source: Annual Report of the Public Procurement Authority of Hungary, 2021.[29]

The development of the number of procedures from January to September 2020 showed a fluctuating picture and moved roughly together with the monthly data of 2021.

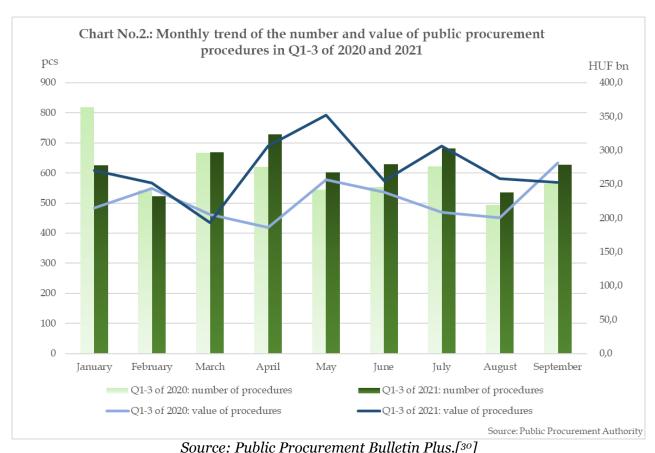


Fig. 4. Monthly trends in the number and value of public procurement procedures in the first three quarters of 2020 and 2021

Regarding the subject of public procurement, public works continue to represent the largest share of domestic public procurement. In terms of numerical ratio, the role of domestically financed public procurements increased by 6 percentage points in 2021 (from 50% to 56%), while the ratio did not change in terms of value ratio. 60 percent of the procedures were financed from domestic sources.[31]

In the first half of this year contracting authorities conducted in total 3918 effective public procurement procedures amounting to HUF 2,824.0 billion, which is an increase from the point of view of both data compared to the values of the corresponding period of 2020 and 2021. Looking at the data of the total value of public procurements for the first half of the year, the data for the first half of 2022 greatly exceeded the data for the first half of 2021 (1,630 billion HUF) by more than HUF 1,000 billion.[32] For the first three quarters of 2022, this value shows an even more favorable picture. The contracting authorities conducted 5,896 successful public procurement procedures, which according to the Flash Report of the Public Procurement Authority exceeded the results measured in the same period last year by 5%. The final total value of these procedures amounted to HUF 3,628.5 billion, which is approx. one and a half times more than the value of the same period in 2021.[33]

As previously mentioned, the negative effects of the energy crisis and the Russian-Ukrainian conflict are not yet felt in public procurement procedures, even though Hungary's import exposure

is quite high. According to some authors, the war will increase global inflation by about 2% in 2022 and 1% in 2023 compared to NIESR's early 2022 inflation forecast.[34]

Only a small part of the export performance of the Hungarian economy is directed to the markets of the Russian-Ukrainian conflict, so in this area, a decline with less impact on the entire economy can be expected. In 2021, 40% of Ukraine's exports to Hungary were based on electric vehicles; mineral fuels; oil and distillation products 34%, wood and wood products 5%, ores and slag 5%, while food industry products 2.1%, ferrous metals accounted for 2% .[35] In Russia's exports to Hungary, the commodity group of energy carriers continues to represent an outstanding share, including fossil energy carriers. In addition to raw materials, machinery and transport equipment, our country mainly imports processed products from Russia in the form of chemical goods.[36] However, by the third quarter of 2022, there was a significant shortage of goods and price increases in the market of many building materials and food in Hungary.

According to KSH data, in September 2022, industrial producer prices rose by an average of 42.7% compared to a year earlier. The prices of domestic sales were 66.2% higher and those of export sales 30.7% higher. In September 2022, compared to September 2021, prices in the manufacturing industry rose by 39.5%, in the energy industry (electricity, gas, steam supply, air conditioning) by 137%, while those in capital goods manufacturers rose by 18.5%, in consumer goods manufacturers by 35%, prices increased by 9%.[37]

In the first three quarters of 2022, public works continued to be the most significant category in terms of the subject of procurement, as it accounted for 38.7% of public procurement procedures and 62% of its value. Public supply accounted for 31.7% of procedures and 16.6% by value, while public services accounted for another 29.6% of the procedures and 21.4% by value. In the first three quarters of 2022, the number and value of public procurements of public works exceeded the figure for the same period last year, but at the same time, looking at the third quarter of 2022, a downward trend was already observed in the value of public works.[38]

According to KSH data, production in the construction industry fell by 4.9% in the construction of buildings and by 13.0% in the construction of other structures. There is also a decrease in the volume of new contracts concluded compared to the August 2021 base, by 50.4%. The number of contracts for the construction of buildings was 18.3%, and the number of contracts for the construction of other structures was 68.9% less than a year earlier.[39]

The National Federation of Hungarian Building Contractors (hereinafter: ÉVOSZ) and the Public Procurement Authority published a Recommendation in the spring of 2022 regarding the public procurement legal solutions applicable to the force majeure situation arising in connection with the Russian-Ukrainian war, which can be used by tenderers and contracting authorities, so that previously concluded contracts can be fulfilled, or new public procurement procedures can be launched, by adapting to the changed situation.[40]

The National Federation of Hungarian Building Contractors (ÉVOSZ) contacted the member organizations and other major players in the construction industry, 400 companies, and assessed what changes the market conditions brought in 2022, and what expectations the companies have for the year 2023. According to the survey [41]0, in 2022, about 57% of the orders of the companies that declared will come from domestic private orders, 37.5% from public procurement and 5% from export orders. For 2023, they expect an increase in the proportion of domestic private orders and a decrease in public procurement due to the postponement of state and local government public works. Similarly to the surveys of the previous few years, the enterprises blamed the lack of professionals as the factor most hindering their activities (64%). More than half of the respondents indicated the lack of orders, and half indicated the weakening of the forint as an obstacle. 45% of the respondents indicated energy price changes as the fourth most common obstacle to business activity. The unpredictability of economic regulation, high tax and social security burdens, shortage of building materials, and procurement difficulties were identified as additional complicating factors. The reduction in foreign guest labor capacity due to the epidemic situation and the subsequent international conflict situation, the shortage of individual raw materials, semi-finished and finished products, the forced reorganization of their procurement sources, the resulting increase in the price of construction materials and the explosion in energy prices affect all players in the construction industry, greatly complicate the operation of companies and have a huge price-inflating effect. These negative effects made it necessary to rethink the financing of central government projects.

According to the expectations of the companies participating in the survey, compared to the first half of the year, the price of construction materials, freight costs (20%), changes in the price of removal and disposal of construction debris (19%), and changes in subcontractor rates (13%) will be the largest by the end of the year. The respondents expect a price increase of 20% for thermal insulation materials and wood materials, and 18% for bricks, but for all construction materials, they expect a price increase exceeding inflation.

# 4. Conclusion and Recommendation

In the economic sense, the COVID-19 crisis has resulted in a fast-moving, rebounding crisis. The effects of this crisis appeared relatively quickly in the public procurement market as well, however, the negative public procurement economic effects moderated relatively quickly and the Hungarian public procurement market was consolidated by the beginning of 2022. However, this regenerative economic process was hindered by the Russian-Ukrainian conflict and the energy crisis. The latter circumstances result in a much more complex economic situation, so their impact is likely to be more prolonged. Unfortunately, the negative economic consequences can already be felt in the domestic market, so among other things, they have resulted in material price increases, halting raw material procurement, production slowdowns, transportation difficulties, fuel price increases, and in some cases raw material shortages. Unforeseen effects also have an influence on public procurement procedures and the performance of contracts concluded as a result. Signs of this can already be seen in the September public procurement statistics. Our study analyzes these trends and examines the evolution of domestic public procurement. Our research allows us to conclude that the effective government measures to manage the pandemic crisis did not result in a serious decline in the public procurement market. At the same time, the economic spillover effect of the current Russian-Ukrainian conflict and the energy crisis may produce long-lasting negative results, especially in the sectors relevant to public procurement.

# References

- [1] Arrowsmith , S., Butler, LR, La Chimia , A., Yukins , C. (Eds.). (2021). Public Procurement Regulation in (a) Crisis?: Global Lessons from the COVID-19 Pandemic . Bloomsbury Publishing; Pircher , B. (2022). EU Public Procurement Policy During Covid-19: A Turning Point for Legitimate EU Governance? Politics and Governance, 10(3), 131-142.;
- [2]It's cute Bermudez, JM, Arias Ships, IF and Burban Terran, C. M. (2021). Analysis of public procurement in extraordinary situations. Impact of COVID-1 Contemporary Dilemmas: Education, Politics and Values, 8 (spe3).; Nugraheni, N., Arifanda, HP, Astaftiyan, A. (2020). Public Procurement Contract for Goods and Services Following the Presidential Decree Number 12 of 2020 on the Stipulation of the Coronavirus Disease (Covid-19) Pandemic as a National Disaster. PADJADJARAN JOURNAL ILMU HUKUM (JOURNAL OF LAW), 7(2), 229-249.; Turudić, M. (2020). Public procurement and natural disasters. European Procurement & Public Private Partnership Law Review, 15(2), 163-169; Rawal, V., Kumar, M., Verma, A., & Pais, J. (2020). COVID-19 Lockdown. Social Scientist, 48(3/6 (562-565), 67-82.; Ceocea, C., Ceocea, RA, Vatamaniuc, A., & Mihălas, V. (2020). Organization of the Public Procurement Process at the Level of the Contracting Authorities in Romania. Particularities and Solutions for the management of Public Procurement Procedures organized in the Context of Emergency of COVID-19 Crisis Studies and Scientific Researches. Economics Edition, (31).; MacCue, CP, Boykin, E., & Prier, E. (2021). Competitive public procurement during COVID-19: the unique political and political experience of the United States. European journal of public procurement markets, 3, 81-97.; Caldeira, M. (2021). Public procurement and Covid-19 in Portugal: the particular case of the acquisition of institutional publicity related lake the pandemic disease. www. eupublicmarkets. com, 59.; Goval, Y. (2022). Public procurement during the pandemic: experience of India and China. Journal of Public Procurement, ( ahead -of-print).
- [3] Boubaker, S., Goodell, JW, Pandey, DK, Kumari, V. (2022). Heterogeneous impacts of wars you global equity markets: Evidence from the invasion of Ukraine. Finance Research Letters, 48, 102934.; Gu, X., Zhang, W., Cheng, S. (2021). How do investors in Chinese stock market react lake external uncertainty? An event study lake the Sino-US disputes. Pacific Basin Finance Journal, 68, 101614.
- [4] Колисниченко , H. M. (2022). The global food crisis fueled by the war in Ukraine: governmental challenges . Economy and organization management, 8-14.
- [5] Lo, GD, Marcelin, I., Bassène, T., Sène, B. (2022). The Russo-Ukrainian war and finance markets: The role of dependence you Russian commodities. Finance Research Letters, 50, 103194.
- [6] Deb, P., Furceri, D., Ostry, JD, & Tawk, N. (2022). Economic effects of the measures to control against COVID-19. Open Economies Review, 33 (1), 1-32.
- [7] Milojević, I. (2021). COVID-19 and pandemic preparedness: Foresight narratives and public sector responses. Journal of Futures Studies, 26(1), 1-18.
- [8] Péter, K. (2021): The impact of the coronavirus on the operation of small and medium-sized enterprises. Studio Mundi Economica Vol. 8. No. 4.
- [9] Toth, R., Kasa, R., Lentner, C. (2022). The Impact of Financial Culture you the Operation of Hungarian SMEs before and during COVID-19. Risks, 10(7), 135.
- [10] <a href="https://www.ksh.hu/docs/hun/xftp/gyor/gdp/gdp2006.html">https://www.ksh.hu/docs/hun/xftp/gyor/gdp/gdp2006.html</a> (Date of download: 30.10.2022).
- [11] <a href="https://www.ksh.hu/docs/hun/xftp/gyor/gdp/gdp2006.html">https://www.ksh.hu/docs/hun/xftp/gyor/gdp/gdp2006.html</a> (Date of download: 30.10.2022).
- [12] https://www.ksh.hu/docs/hun/xftp/gyor/gdp/gdp2112.html (Download date: 30.10.2022).
- [13] <a href="https://www.ksh.hu/docs/hun/xftp/gyor/gdp/gdp2206.html">https://www.ksh.hu/docs/hun/xftp/gyor/gdp/gdp2206.html</a> (Download date: 30.10.2022).
- [14] Annual Report of the Public Procurement Authority of Hungary 2019. <a href="https://www.kozbeszerzes.hu/hatosag/kozbeszerzesi-hatosag/eves-beszamolok/">https://www.kozbeszerzes.hu/hatosag/kozbeszerzesi-hatosag/eves-beszamolok/</a> (Date of download: 30.10.2022).
- Orsolya Rezső (2020): Statistical analysis of the participation of the SME sector in public procurement for the year 2019. II. volume 4. page 59-64

- https://ertesitoplusz.kozbeszerzes.hu/szam/20200415/a-kkv-szektor-kozbeszerzesi-szereplesenek-statisztikai-elemzese-a-2019-evre-vonantkozoan/ (Download date: 10.10.2022).
- [16] Remark: The GDP of each year is calculated with based you current prices. The source of the GDP data for the period of 2008-2019: Hungarian Central Statistical Office.
- [17] Remark: The GDP of each year is calculated with based you current prices. The source of the GDP data for the period of 2008-2019: Hungarian Central Statistical Office.
- [18] Gabriella Mária Káli (2020): The subject of public procurement related to construction investments in 2019. Public Procurement Bulletin Plus. II. Volume 7, No. 54-58. page <a href="https://ertesitoplusz.kozbeszerzes.hu/szam/20200715/az-epitesi-beruhazashoz-kzupulodo-kozbeszerzesek-targya-2019-ben/">https://ertesitoplusz.kozbeszerzes.hu/szam/20200715/az-epitesi-beruhazashoz-kzupulodo-kozbeszerzesek-targya-2019-ben/</a> (Date of download: 2022.10.23.).
- [19] Gabriella Mária Káli (2020): The subject of public procurement related to construction investments in 2019. Public Procurement Bulletin Plus. II. Volume 7, No. 54-58. page <a href="https://ertesitoplusz.kozbeszerzes.hu/szam/20200715/az-epitesi-beruhazashoz-kzupulodo-kozbeszerzesek-targya-2019-ben/">https://ertesitoplusz.kozbeszerzes.hu/szam/20200715/az-epitesi-beruhazashoz-kzupulodo-kozbeszerzesek-targya-2019-ben/</a> (Date of download: 2022.10.23.).
- [20] Gabriella Mária Káli (2020): The subject of public procurement related to construction investments in 2019. Public Procurement Bulletin Plus. II. Volume 7, No. 54-58. page <a href="https://ertesitoplusz.kozbeszerzes.hu/szam/20200715/az-epitesi-beruhazashoz-kzupulodo-kozbeszerzesek-targya-2019-ben/">https://ertesitoplusz.kozbeszerzesek-targya-2019-ben/</a> (Date of download: 2022.10.23.).
- [21] Mária Gabriella Káli (2020): The main statistical data of goods procurement in 2019. Public Procurement Bulletin Plus. II. Volume 9, No. 61-64. side. <a href="https://ertesitoplusz.kozbeszerzes.hu/szam/20200916/az-arubeszerzesek-fobb-statisztiskai-adatai-2019-ben/">https://ertesitoplusz.kozbeszerzes.hu/szam/20200916/az-arubeszerzesek-fobb-statisztiskai-adatai-2019-ben/</a> (Date of download: 23.10.2022).
- [22] Orsolya Rezső (2020): Analysis of public procurement procedures in 2019 according to the type of tenderers. Public Procurement Bulletin Plus. II. Volume 10, No. 54-60. side. <a href="https://ertesitoplusz.kozbeszerzes.hu/szam/20201016/2019-evi-kozbeszerzesi-eljarasok-elemzese-az-ajanlatkerok-tipusa-szerint/">https://ertesitoplusz.kozbeszerzes.hu/szam/20201016/2019-evi-kozbeszerzesi-eljarasok-elemzese-az-ajanlatkerok-tipusa-szerint/</a> (Date of download: 2022.10.23.).
- [23] Orsolya Rezső (2020): Analysis of the main data of public procurement procedures for the first half of 2020. Public Procurement Bulletin Plus. II. Year 12, No. 72-77. page <a href="https://ertesitoplusz.kozbeszerzes.hu/szam/20201216/a-kozbeszerzesi-eljarasok-2020-i-feleves-fobb-adatainak-elemzese/">https://ertesitoplusz.kozbeszerzes.hu/szam/20201216/a-kozbeszerzesi-eljarasok-2020-i-feleves-fobb-adatainak-elemzese/</a> (Date of download: 2022.10.24.).
- [24] Gabriella Mária Káli (2021): Public procurement in the scope of services in 2020. Public Procurement Notice Plus. III. volume 11, page 48-58. <a href="https://ertesitoplusz.kozbeszerzes.hu/szam/xi/a-szolgaltatasok-korebe-tartozo-kozbeszerzesek-2020/">https://ertesitoplusz.kozbeszerzes.hu/szam/xi/a-szolgaltatasok-korebe-tartozo-kozbeszerzesek-2020/</a> (Date of download: 27.10.2022).
- [25] Commission Notice. Guidelines of the European Commission on the application of the public procurement framework in emergency situations caused by the COVID-19 crisis (2020/C 108 I/01). available: https://eur-lex.europa.eu/legal-content/HU/TXT/?qid=1586873293649&uri=CELEX:52020XC0401(05) (Date of download: 22.10.2022).
- [26] Announcement on the application of the legal provisions on the amendment of public procurement contracts in connection with the emergency caused by the coronavirus. The announcement is available on the website of the Public Procurement Authority at the following location: <a href="https://kozbeszerzes.hu/data/filer\_public/f5/66/f5662f33-d790-496a-9707-c6137e487b3c/kozlemeny\_szerzmod\_covid\_20200429.pdf">https://kozbeszerzes.hu/data/filer\_public/f5/66/f5662f33-d790-496a-9707-c6137e487b3c/kozlemeny\_szerzmod\_covid\_20200429.pdf</a>. (Date of download: 23.10.2022).
- [27] Márta Várhomoki-Molnár (2020): Notice on the public procurement law assessment of contract amendments related to the situation caused by the coronavirus epidemic. Public Procurement Bulletin Plus. Year II, number 6, 30-32. side. <a href="https://ertesitoplusz.kozbeszerzes.hu/szam/20200615/a-koronavirus-jarvany-okozta-szysztel-osszefuggo-szerzodesmodositasok-kozbeszerzesi-jogi-megiteleserol-szolo-kozlemeny/">https://ertesitoplusz.kozbeszerzes.hu/szam/20200615/a-koronavirus-jarvany-okozta-szysztel-osszefuggo-szerzodesmodositasok-kozbeszerzesi-jogi-megiteleserol-szolo-kozlemeny/</a> (Date of download: 2022.10.23.).
- [28] Annual Report of the Public Procurement Authority of Hungary 2021. <a href="https://www.kozbeszerzes.hu/hatosag/kozbeszerzesi-hatosag/eves-beszamolok/">https://www.kozbeszerzes.hu/hatosag/kozbeszerzesi-hatosag/eves-beszamolok/</a> (Date of download: 30.10.2022).

- [29] Annual Report of the Public Procurement Authority of Hungary 2021. <a href="https://www.kozbeszerzes.hu/hatosag/kozbeszerzesi-hatosag/eves-beszamolok/">https://www.kozbeszerzes.hu/hatosag/kozbeszerzesi-hatosag/eves-beszamolok/</a> (Date of download: 30.10.2022).
- [30] Orsolya Rezső (2022): Public procurement procedures 2021. I.-III. statistical analysis of its quarterly data according to main criteria. ARC. Volume 2, No. 48-57. side. <a href="https://ertesitoplusz.kozbeszerzes.hu/szam/ii/a-kozbeszerzesi-eljarasok-2021-i-iii-negvedeves-adatainak-statisztikai-elemzese-fobb-ismervek-szerint/">https://ertesitoplusz.kozbeszerzes.hu/szam/ii/a-kozbeszerzesi-eljarasok-2021-i-iii-negvedeves-adatainak-statisztikai-elemzese-fobb-ismervek-szerint/</a> (Date of download: 31.10.2022).
- [31] Gabriella Mária Káli (2022): Statistical analysis of public procurement related to construction investments in 2021. Public Procurement Bulletin Plus. ARC. volume 6. page 47-57 <a href="https://ertesitoplusz.kozbeszerzes.hu/szam/vi/az-epitesi-beruhazozokhoz-kapluodo-kozbeszerzesek-statisztiskai-elemzese-ben-2021/">https://ertesitoplusz.kozbeszerzes.hu/szam/vi/az-epitesi-beruhazozokhoz-kapluodo-kozbeszerzesek-statisztiskai-elemzese-ben-2021/</a> (Date of download: 31.10.2022).
- [32] Milk clock Judith (2022): Statistical analysis of public procurement of the SME sector in the first half of 2022 according to main indicators. Public Procurement Bulletin Plus. ARC. Volume 10, page 42-54 <a href="https://ertesitoplusz.kozbeszerzes.hu/szam/iv-x/a-kkv-szektor-2022-evi-elso-feleves-kozbeszerzeseinek-statisztikai-elemzese-fobb-mutatok-szerint/">https://ertesitoplusz.kozbeszerzes.hu/szam/iv-x/a-kkv-szektor-2022-evi-elso-feleves-kozbeszerzeseinek-statisztikai-elemzese-fobb-mutatok-szerint/</a> (Date of download: 10.29, 2022).
- [33] Quick report. Hungarian public procurement in numbers. 2022. III. quarter. Public Procurement

  Authority.

  <a href="https://kozbeszerzes.hu/media/documents/Gyorsjelentes">https://kozbeszerzes.hu/media/documents/Gyorsjelentes</a> 2022 III.negyed%C3%A9v.pdf
  (Date of download: 10.30. 2022).
- [34] Liadze , I., Macchiarelli , C., Mortimer Lee, P. , Sanchez Juanino , P. The Economic Costs of the Russia Ukraine War . The World Economy.
- [35] <a href="https://hungary.mfa.gov.ua/hu/partnership/egyuttmukodes">https://hungary.mfa.gov.ua/hu/partnership/egyuttmukodes</a> (Download date: 10/30/2022).
- [36] <u>https://moszkva.mfa.gov.hu/hun/page/a-magyarorosz-gazdasagi-egyuettmukoedesrol</u> (Download date: 10.30, 2022).
- [37] Quick information, KSH: Industrial producer prices. September 2022 <a href="https://www.ksh.hu/docs/hun/xftp/gyor/tar/tar2209.html?utm\_source=kshhu&utm\_me\_dium=banner&utm\_campaign=theme-arak">https://www.ksh.hu/docs/hun/xftp/gyor/tar/tar2209.html?utm\_source=kshhu&utm\_me\_dium=banner&utm\_campaign=theme-arak</a> (Download date: 10/30/2022).
- [38] Quick report. Hungarian public procurement in numbers. 2022. III. quarter. Public Procurement

  Authority. <a href="https://kozbeszerzes.hu/media/documents/Gyorsjelentes">https://kozbeszerzes.hu/media/documents/Gyorsjelentes</a> 2022 III.negyed%C3%A9v.pdf (Date of download: 10.30, 2022).
- [39] Quick information, Construction industry, August 2022, <a href="https://www.ksh.hu/docs/hun/xftp/gyor/epi/epi2208.html">https://www.ksh.hu/docs/hun/xftp/gyor/epi/epi2208.html</a> (October 30, 2022).
- [40] <a href="https://evosz.hu/hirek/700-aj%C3%A1nl%C3%A1s-az-orosz-ukr%C3%A1n-h%C3%A1bor%C3%BA-%C3%A1ltal-kiv%C3">https://evosz.hu/hirek/700-aj%C3%A1nl%C3%A1s-az-orosz-ukr%C3%A1n-h%C3%A1bor%C3%BA-%C3%A1ltal-kiv%C3</a>
  <a href="https://evosz.hu/hirek/700-aj%C3%A1s-az-orosz-ukr%C3%A1n-h%C3%A1bor%C3%BCleti-ko23%BCleti-
- [41] National Association of Construction Companies. https://evosz.hu/sajto/sajtokozlemenyek/792-sajt%C3%B3k%C3%B6zlem%C3%A9ny-%C3%A9p%C3%ADt%C5%91ipari-piaci-situt%C3%A9rt%C3 %A9kel%C3%A9s-%C3%A9s-a-2023-%C3%A9vi-v%C3%A1koz%C3%A1sok-conjunct%C3%BAra-felm%C3%A9r%C3%A9s-%C3% Summary (Date of download: 10.27, 2022).