

# Report

of the accelerated sector inquiry into the Hungarian market for preserved  
foods

Budapest, 2023.



## Contents

Executive Summary .....	4
The objective of the accelerated sector inquiry conducted by the Hungarian Competition Authority .....	4
The procedure.....	5
Key results of the sectoral inquiry.....	5
1. Growing imports, decreasing domestic production, high risks borne by producers .....	6
2. Use of renewable energy, efficiency improvement, trainings.....	8
3. Further promotion of the cooperation of producers .....	8
4. Different profitability of various examined products, significant margins in some cases..	9
5. Promotion of sustainable packaging .....	9
6. Continuous actions by the Competition Authority.....	10
Glossary.....	11
I. Conditions calling for the initiation of sector inquiry, objective of the inquiry .....	12
II. The accelerated sector inquiry as a legal instrument; methodology of the inquiry, summary of the individual steps of the inquiry .....	13
Objective and general rules of sector inquiries .....	13
Special rules of the accelerated sector inquiry .....	14
Methodology of the inquiry, summary of the individual steps of the inquiry.....	14
III. Products examined by the accelerated sectoral inquiry .....	16
Categorisation of canned and frozen vegetable and fruit products .....	16
Categorisation applied by processors and retailers .....	16
Categorisation used by producers .....	16
Substitutes of canned and frozen vegetable and fruit products .....	17
IV. The value chain .....	18
V. Growing of vegetables and fruits: producers, cooperatives and integrators .....	19
Brief description of domestic vegetable and fruit producers .....	19
Cooperatives, producer groups.....	20
Integrators.....	21
Costs and the development of the prices of some vegetables and fruits .....	21
VI. Production of consumer goods: canning factories and frozen food manufacturers.....	28
Key market players and their categorisation .....	28
Raw materials used by processors.....	29
Branded and private label products .....	30
Ratio of products exported by processors .....	31
Development of the purchase and sales prices of processors.....	31
Development of production costs.....	36

VII. Retailers .....	40
Key market players and their categorisation .....	40
Ratio of branded and private label products.....	40
Expenses of retailers, factors considered when setting consumer prices .....	41
Analysis of retail prices and margins .....	42
Unseasoned canned vegetables .....	43
Seasoned canned vegetables.....	48
Unseasoned canned fruits.....	50
Unseasoned frozen vegetables .....	52
Seasoned frozen vegetables.....	57
Unseasoned frozen fruits.....	59
Frozen potato products .....	61
Other products .....	63
VIII. International outlook .....	66
Changes in consumer price index, development of vegetable and fruit prices and their foreign trade .....	66
Actions and other measures of competition authorities in the EU in relation to rising food prices .....	72
Government measures .....	75

## Executive Summary

### The objective of the accelerated sector inquiry conducted by the Hungarian Competition Authority

In 2022, food inflation reached extremely high rates in Hungary, just like all around Europe. This significant price increase may have been due to several factors, including restrictions on competition or competition law issues – although their probability is limited, considering the problem of the very rapidly growing inflation that affects a number of sectors and countries. The Hungarian Competition Authority (GVH), however, with the instruments available to it, has done its best to analyse the reasons for increasing food prices and to identify the potential competition law reasons behind the surge in inflation.

The GVH launched its first accelerated sector inquiry into the market of milk and dairy products on 20 January 2023, the draft report summarising the results of this procedure has been completed, and the public consultation of the analysis and the relevant recommendations of the Competition Authority are in progress at the moment.

In parallel with that, the GVH found it necessary to examine other food markets too, therefore, on 8 February 2023, another accelerated sector inquiry was launched into the domestic market of non-perishable foods, as the possibility of distortions in competition emerged in this sector, too. This draft report summarises the results of that inquiry.

The GVH found the inquiry necessary because on the basis of the information available to it, in the case of a number of non-perishable products (e.g., various canned and frozen foods), consumer prices have recently increased significantly, and there were temporary shortages in the case of several non-perishable foods over the past year. These food products can be stored for a long time before being eaten, most of them keep their quality for long periods without cooling or special storage. Owing to their latter features, consumers can easily stockpile them and create food reserves from these types of foods at home, while, from the aspect of merchants, different pricing and business policy considerations are attached to them than to perishable and fresh goods. The group of non-perishable foods is fairly heterogeneous, and due to their diversity, these foods are present in the consumer baskets of several social classes in Hungary. In general, it is fair to say that Hungarian consumers purchase significant quantities of various non-perishable foods, so high price rises may affect domestic consumers adversely.

Global and European trends in agricultural economics experienced over the past year and triggered by the coronavirus pandemic and the Russia-Ukraine war, the increased input costs, and the changes in legal regulations directly affecting prices on the domestic food market are all factors that had direct and visible impacts on all the players of the non-perishable food sector and the consumers, too. These factors may have had different impacts at the various levels of the value chain. In addition to all that, the GVH finds it important to examine how much the behaviours and the conditions hindering free market competition contributed to the above-described processes in the sector (high price rises, temporary shortages). Therefore, in order to explore and assess market processes, the GVH initiated an accelerated sector inquiry.

## The procedure

Concurrently with the initiation of the accelerated sector inquiry, the staff of the GVH conducted a number of dawn raids, in the course of which they carried out procedural steps at several operators, including companies producing canned and frozen vegetable products and food retail chains. In parallel with that, the GVH performed wide-ranging data collection at all levels of the value chain of domestic canned and frozen vegetable and fruit products: the authority collected data from vegetable and fruit growers and their organisations, processors, retailers, the Association of Hungarian Deepfreezing and Canning Industry, the FruitVeB Hungarian Interprofessional Organisation for Fruit and Vegetable, the Association of Hungarian Vegetable and Fruit Growers and from the Institute of Agricultural Economics Nonprofit Kft. (AKI).

The GVH wishes to thank all the contacted businesses for their cooperation, as they helped the clarification of facts with detailed answers in a short time, adjusted to the schedule of the accelerated sector inquiry. With their cooperation, they assisted the GVH in the successful exploration and evaluation of the competitive conditions in the domestic market of non-perishable foods, more specifically canned and frozen vegetable and fruit products.

As indicated above, the inquiry focused on canned and frozen vegetable and fruit products within the category of non-perishable foods. The group of non-perishable food products is fairly heterogeneous, and the value chains of products belonging to this group are also different. It is easy to see that canned corn, dried pasta or UHT cooking cream in an average consumer basket require different supply chains – an examination covering all non-perishable foods would have made the procedure of the Competition Authority endless. Considering the fact, that the GVH conducts data collection and analysis covering a whole sector in its accelerated inquiries, it was necessary to narrow down the subject of the inquiry to a clearly identified product group that is significant in itself and affects a wide range of consumers.

## Key results of the sectoral inquiry

The accelerated sector inquiry into the domestic market of non-perishable foods is the second accelerated procedure conducted by the GVH in 2023 in food markets in Hungary. Prior to this inquiry, the national competition authority initiated an accelerated procedure examining the domestic market of milk and dairy products, and the report summarising the results was published on 20 April 2023. The public consultation about that report is still in progress.

Considering the fact that the subjects of both accelerated sector inquiries related to the food industry, some of the findings and recommendations of the GVH are inevitably identical in the two draft reports – however, the GVH made sector-specific proposals, too, as a result of both procedures.

The GVH finds it important to emphasize the fact that data aggregations and presentations in the report are based on information collected during dawn raids, on more than 120 written answers received from market players and on the evaluation of contracts and other documents regarding business relations and commercial practices in the sector. Consequently, the findings and proposals identified as a result of the accelerated sector inquiry are not based on individual opinions, the indicators of randomly selected market players or scattered information – the relevant legal

regulations provide the GVH with a wide range of fact-finding tools, so that the Authority could rely on comprehensive actual data in the formulation of the results of the accelerated sector inquiries.

The task of the national competition authority in sector inquiries (too) is to explore the structure of the competition in a given sector and the competitive conditions prevailing there, and if the Authority detects any distortion, it should report that and use all the assets available to it to protect competition. The primary objective of the GVH is to protect domestic consumers, that is why it considers it very important to contribute to the curbing of food inflation with all the assets available to it, as much as possible. At the same time, it is not only consumers who benefit from free market competition, as it can guarantee the international competitiveness of domestic industries in the long term, the proper and efficient distribution of resources and through that economic growth, too, so its benefit for the whole society cannot be disputed.

Considering the above conditions and considerations, and based on the results of the accelerated sector inquiry into the market of non-perishable foods, as presented in this report, the GVH makes the following statements and proposals:

### *1. Growing imports, decreasing domestic production, high risks borne by producers*

**The most important raw materials for the canned and frozen food products in the focus of the GVH inquiry are various vegetables and fruits. For most of these produces, Hungary is able to provide ideal conditions of cultivation, but based on the data gathered, on average 10-15% - even 30% in the case of some undertakings - of the raw materials purchased by the processing plants come from imports. One of the reasons for that may be the fact that these produces are especially exposed to damages caused by extreme weather conditions, and their cultivation is more expensive, riskier and more cumbersome than that of grain or plants of industrial use, so they are less attractive to farmers. In order to make sure that the domestic processing industry is able to rely more on vegetable and fruit raw materials grown within the country, the GVH finds it important to maintain and improve domestic vegetable and fruit producing players' will to produce, and to increase yield stability. The provision of predictable income conditions plays an important role in that.**

Based on the information collected during the accelerated sector inquiry, Hungary is particularly strong in the export of processed vegetable- and fruit-based non-perishable foods, as a lot of domestic producers sell significant amounts of canned corn or peas, for example, abroad, thus contributing to the improvement of the foreign trade balance of the national economy. This domestic industry is definitely competitive at European level, too, as a significant portion (sometimes 90%) of the revenues of processing companies come from exports, which is favourable for the foreign trade balance of the country, and there is a safe supply of these products on the domestic market, too.

At the same time, based on the statements and data analysed during the inquiry, it is also obvious that the domestic production of a number of vegetable and fruit types has declined (e.g., gherkins, beetroot, paprika, raspberry, blackberry), domestic processors are not able to buy these in proper quantities from domestic resources, and the farmlands of vegetables grown in a relatively larger scope, like peas and sweet corn, also decrease every year. Based on the assessments, the primary

reason for that might be the fact that producers decide the crop structure on the basis of the comparison of the profitability of plants. If yields, and thus incomes are significantly lower than expected in a given year, farmers change for another plant in the following year, and the basic trend seems to be that more and more domestic producers prefer growing plants that promise safer and more predictable income, and require less expenses. The unpredictable nature of the weather makes the growing of vegetables and fruits very risky, so this area may be less attractive to farmers in general.

Most of these external conditions cannot be changed, but the inquiry identified a few intervention points, with the help of which the growing of vegetables and fruits could be made somewhat more attractive to domestic producers, and the implementation of measures and investments to reduce the risks could be made easier.

In Hungary, one of the highest risks for producers is drought. Market players who were able to establish and operate proper irrigation systems were able to mitigate crop damages caused by extreme drought. The installation and the maintenance of facilities ensuring proper water supply for plants requires lots of investments and is subject to authorisation processes with various licences – as the GVH found out. Consequently, irrigation systems have been installed only on insignificant parts of the farmlands in Hungary. **On the one hand, the GVH proposes more intensive incentives and support for the installation of modern and sustainable irrigation systems, the extension of the existing support programmes and making them more accessible; on the other hand, the official procedures, the licensing and reporting processes related to the installation of such systems should be simplified and accelerated. One of the progressive support programmes seems to be the irrigation development programme supported by the CAP Strategic Plan and advertised by the Rural Development Programme of the Ministry of Agriculture, which may provide funding for the cooperation of irrigation communities and the preparations for new irrigation investments, thus helping the achievement of steadier yields. In addition, it may be worth promoting the development of this sector with other tools, too, to make the growing of such plants attractive.**

In the course of the inquiry, the GVH examined the contracts of a number of market players, including the contracts between processors and producers, too. One of the general elements of these contracts is the regulation of who bears the damages from low yields or loss of yields, if the producer is not able to supply the volumes of produces specified in the contract, and for this reason the processor is not able to meet its obligations to its customers. The conditions of such situations are always regulated by the individual agreements between the affected parties, and there are a lot of sectoral rules for the sale and the purchase of agricultural products - their assessment does not belong to the competence of the GVH. Nevertheless, in the light of the data collected by it and the contracts, the national competition authority is of the opinion that as the growing of vegetables and fruits is an activity greatly exposed to the weather, there may be a number of situations in practice which will cause the producer level to bear much or all of the related risks. So this feature of the sector may definitely encourage farmers to avoid this sector. All in all, this may also result in the fact that the raw material basis of domestic vegetables and fruits will be reduced.



## *2. Use of renewable energy, efficiency improvement, trainings*

Based on the statements of market players, we can clearly see that the increase in energy prices played an important role in the increased prices of finished goods. Therefore, **any attempt that supports the energy efficiency improving investments of market players, their access to related tenders and the simplification of administration will support the competitiveness of the sector in the long term. One of these efforts is the CAP Strategic Plan of Hungary for 2023-2027, which covers strategic areas worth supporting, such as increasing the use of renewable energy, improving the efficiency of energy use at operating and technological level, or the mitigation of energy dependency.**

The shortage of labour presents two types of problems to market players interviewed by the GVH, and this affects both the producer and the processor levels of the sector. On the one hand, with the development of agricultural digitalisation, modern production and processing activities would require well-trained professionals in large numbers, with up-to-date knowledge, so catching up with the development trends plays an important role in domestic vocational training. A good example for that is the recent establishment of the Department of Business and Agricultural Digitalisation at the Hungarian University of Agriculture and Life Sciences. There seems to be a market demand for updated syllabuses for the trainings presently available in these fields, for increasing the number of students, and institutions offering such trainings should respond to these demands.

On the other hand, however, workforce with lower qualifications is not available in enough numbers, either, and the growing of vegetables and fruits includes lots of processes that require manual work and cannot really be automated.

In relation to the above points, the GVH proposes two things. On the one hand, **by channelling in the demands of market players, through related consultations, the domestic agricultural education could be more customised, and then it would be able to guarantee the availability of expertise.** On the other hand, as the lack of manual labour representing lower added value seems to be a long-standing problem in the sector, **it would be advantageous to further encourage, to a higher extent, any development that serves automation, so that live labour could be replaced by increased productivity.**

**Regarding the above two statements and proposals, the GVH initiates a professional consultation with the Ministry of Agriculture, so that it could present the information and the data collected in the accelerated sectoral inquiry in more details.**

## *3. Further promotion of the cooperation of producers*

**Based on the data processed in the course of the inquiry, the GVH has the impression that the operation of domestic organisations controlling and coordinating the members' production and sales activities is actually quite successful in general. The utilisation of such cooperation in the widest possible scope would be advantageous for domestic producers.**

Based on the above points, the domestic vegetable and fruit raw material base is shrinking in the case of multiple produces, purchasing companies are competing for the raw materials, and producer and sales organisations play important roles in this process. These organisations are able



to successfully represent the interests of their members of various profiles and sizes and to exploit the advantages of the wider and more diverse choice offered together. By combining the members' activities, they can act as reliable partners in negotiations with the players of the processing level.

Several organisations of this kind have started joint logistic and other infrastructural developments over the past years, and that is advantageous for all members. Based on the available information, using the data supplied by the members, these organisations are able to precisely plan the quantities in individual produce categories, and they can adjust the joint investment demands and the contents of agreements with partners to those quantities. At the same time, the GVH points it out that in their operation, the producers' cooperatives should observe the relevant competition rules, the flow of data and information collected should not exceed the necessary level, the efficiency benefits of the cooperation should exceed the possible disadvantages generated by the less intensive competition, and finally, consumers should also enjoy the benefits of the cooperation. As to the establishment of the specific framework of the operation, the contents of the horizontal guidelines of the European Commission are of special importance.<sup>1</sup>

#### *4. Different profitability of various examined products, significant margins in some cases*

**In the course of the accelerated sector inquiry, the GVH reviewed the value chain of canned and frozen vegetables and fruits, primarily focusing on 12 specific products (gherkins, crumbled sweet corn, chickpeas, chili beans and sour cherry compote in cans/jars; quick-frozen green peas, crumbled sweet corn, Mexican vegetable mix, French fries and fruit mix; and tomato paste). It was obvious that the pricing of individual products followed different trends. At each level of the supply chain (producers, processors, retailers), there are examples for products with increased margins and profit contents, and for products where these figures dropped in 2022. However, there are differences among market players, and processors and retailers deal with much more articles than listed above, so based on these points, it is all in all not possible to draw any conclusions about the income positions of market players and the changes in these positions.**

What we can see at retail level is that in the case of the examined non-perishable goods, the gross margin of undertakings made up a bigger portion of the consumer price than the GVH experienced in the case of dairy products, so retail traders are usually able to realise higher profits on these products, although this is partly due to the different turnover rate of goods and the longer storage time and 'best before' date. Within the examined range of products, the gross margin of retailers is 25-35% in 2022, which can be considered significant. The significant price rises of the examined products may have contributed to the significant decrease in volumes in retail turnover.

#### *5. Promotion of sustainable packaging*

**To market players operating at the processor level of the domestic value chain, the GVH proposes the recollection and the recycling of packaging in the highest possible ratios. Bottles, jars and metal cans can also be reused or recycled, and if that is exploited, the dependence of canned food factories on packing materials can be reduced, and it is easier to manage the significant price rises of packing materials. These solutions often require**

---

<sup>1</sup> Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements (2011/C 11/09)

**cooperation with the manufacturers of packing materials and the retailers, but this cooperation can be encouraged with significant and extended producer responsibility fees, too.**

Based on the cost analyses conducted during the accelerated sector inquiry and the statements of a lot of market players (processors), it can be established that packing materials make up a significant portion of the expenses of canned food factories, and their prices have significantly increased recently. Considering this, as well as the aspects of sustainability, it would be advantageous if the packaging of canned food was recollected in a higher ratio than presently. This initiative could also reduce the quantity of glass and metal waste in waste deposits. The collection of glass waste from households in the selective collection system is not available in all settlements in Hungary (not in Budapest, either).

#### *6. Continuous actions by the Competition Authority*

**In order to fuel a more intensive competition and to achieve lower prices, the national competition authority will continue to pay special attention to the retail trade sector and the whole food sector.**

It can be seen in the case of multiple products that retail gross margin increased in 2022 in both percentage and forints, and this growth in many cases exceeded the increase in retail trade costs, so the average profit realised by retailers on the products increased by 2022, compared to the levels in 2019, 2020 and 2021. However, this was not the primary reason behind the significant price rises of given products, as the profit of retail trade players formed only the smaller portion of the gross consumer price. The same is true for taxes included in the gross margin. The very high rises in consumer prices were not caused by taxes built into the gross margin, either. All in all, we can say that in the case of the examined non-perishable products, the margin of retailers was usually higher than in the case of e.g., dairy products.

At the same time, the promotion of retail competition is of paramount importance, as that may have a positive impact on the whole supply chain. Retailers are able to influence the lower levels of the supply chain, too, through their purchase negotiations. In addition, more intense competition increases business efficiency, and helps to control higher prices. The GVH intends to make sure that Hungarian consumers can enjoy these benefits as much as possible, so it will continue to devote special attention to the retail sector and to the analysis of consumer prices.

The need for more intensive attention by the competition authority is strengthened by the fact that it can be concluded from the significant price decreases experienced in the examined period – in addition to a number of external factors – that the targeted inquiry and official procedures of the GVH may have contributed to the reduction of the inflation pressure and consumer prices.

## Glossary

**Gross margin:** It means the difference between the retail price and the purchase cost of an article. The gross margin covers the retailer's total operating costs not related to purchases (wages, rents, marketing costs, loan interests etc.). The amount remaining over the purchase and operating costs reflects the profit contents of the gross margin.<sup>2</sup>

**Markup:** The percentage value of the gross margin compared to the retail price is called retail markup, too.<sup>3</sup>

**N:** Number of companies participating in corporate data supplies.

**Primary producer:** Pursuant to Section 3 (2) of Act CXXIII of 2020 on Family Farms (Family Farms Act), 'a primary agricultural producer is a natural person who has reached the age of 16 and is included in the register of primary agricultural producers as a person who is engaged in primary production activities on his own farm' Pursuant to Section 2 (g) of the Family Farms Act, primary production activity is 'agricultural and forestry activity included in the register of primary producers, and supplementary primary production activity.'

**Pasteurisation:** A heat treatment procedure in which the food is heated to a temperature of 60–90°C (definitely below 100°C) in a short time, and then quickly cooled again, to eliminate most of the bacteria in the food.

---

<sup>2</sup> Agárdi Irma (2017): Kereskedelmi marketing és menedzsment. (Commercial Marketing and Management) Budapest, Akadémiai Kiadó.

<sup>3</sup> Agárdi Irma (2017): Kereskedelmi marketing és menedzsment. (Commercial Marketing and Management) Budapest, Akadémiai Kiadó.

## **I. Conditions calling for the initiation of sector inquiry, objective of the inquiry**

The prices of various foods increased significantly in 2022, both in Hungary and in other Members States of the European Union. In Hungary, the increase in the consumer prices of non-perishable foods, mainly canned and frozen vegetable and fruit products, was higher than the rate of the general inflation. Considering the fact that vegetables and fruits are particularly healthy foods, but their consumption by the Hungarian population is lower than international recommendations, this significant price rise may trigger additional unfavourable processes in the health of the population.

If a sector sees significant and sudden price changes, there may be several reasons behind that. In most cases, this can be attributed to an external shock. Such shocks may affect demand (e.g., soaring demand due to state subsidies) and/or supply (e.g., disruption in the supply chain, low yields, *vis major* situations). However, significant price rises can be caused by the unfair market behaviour of market players too, and by the resulting distortion of fair competition. Competition authorities all around the world intend to stop and eliminate such conducts.

The objective of this accelerated sector inquiry is to explore how much the behaviour of market players present at the individual levels of the supply chain may have contributed to the increased prices of canned and frozen vegetable and fruit products, whether it is possible to identify a competition restrictive practice in connection with that, and what are the other conditions and actions that may have influenced market conditions and generated a distortion in competition.

If, in the course of the sector inquiry, the GVH detects any condition that suggests that the rise in the prices of canned and frozen vegetable and fruit products is/was caused by some kind of unfair and competition restricting market behaviour, it will take the necessary steps to remedy that in its statutory competence. If, based on the detected facts, the authority identifies phenomena or market anomalies that may be the causes behind the higher prices of examined products, or may have contributed to that, but their management is beyond the competence of the GVH, they will be highlighted in the report closing the inquiry, and recommendations will be made to manage them.

From the aspect of competition law, food industry is a rather broad and heterogeneous sector, in which a number of affected markets can be identified. The framework of any competition policy analysis is determined by the relevant market, as that is, in fact, the arena of the competition. The reasons for individual market problems – in this case, the significant price increase – can only be understood if we carry out a deeper analysis of a given product type and its production chain. It is probable that the prices of non-perishable foods, for example, changed for different reasons than the prices of milk and dairy products. Therefore, the higher prices of the products of the food industry should not be reviewed in a general sectoral analysis focusing on the competition, but in inquiries focusing on smaller product markets.

In accordance with the above points, along the market processes detected by the GVH and some consumer complaints received, the first inquiry was carried out into the market of domestic milk and dairy products in January 2023, which was followed by the inquiry regarding non-perishable foods (actually frozen and canned vegetables and fruits) in February 2023.

## **II. The accelerated sector inquiry as a legal instrument; methodology of the inquiry, summary of the individual steps of the inquiry**

### **Objective and general rules of sector inquiries**

In the Hungarian legal system, the sector inquiry in the competence of the GVH is a fairly old legal instrument existing since 1 February 2001. According to the act of law ordering the introduction of this type of procedure, ‘this method provides proper data and forms the basis of the market monitoring work of the GVH.’<sup>4</sup> Section 43/D (1) of Act LVII of 1996 on the Prohibition of Unfair and Restrictive Market Practices (hereinafter as: Competition Act), amended several times, specifies that where price movements or other market circumstances suggest that competition may be distorted or restricted in a market within a specific sector, the Hungarian Competition Authority shall, by an injunction, launch a sector inquiry with a view to exploring and assessing the market processes.

According to literature, the objective of the sector inquiry is to clarify the reasons when a competition problem is detected in a relatively well-defined market or sector. In the course of the inquiry, the GVH may use certain executive power instruments, too. In the case of initiating a sector inquiry, it is not possible to clearly define whether the competition was distorted or restricted by the conduct of given undertakings, and it is not possible to assume specific unlawful conduct to an extent that would allow for the initiation of competition supervision proceedings. However, in these cases, the GVH may also need certain instruments it can use - beside ordering compulsory data supplies from undertakings in the sector - to explore the operation, the structure and the conditions of the relevant market.<sup>5</sup>

Pursuant to the Competition Act, if a sector inquiry detects a market failure which cannot be remedied in full or in part by competition supervision proceedings, the GVH has three additional instruments available to it: (i) inform the responsible committee of the Parliament, or the responsible and competent minister or authority, (ii) publish a non-binding public recommendation to market participants concerning best practices and recommended market conducts that facilitate the maintenance and promotion of fair and effective competition and the supply of adequate information to trading parties, or (iii) if necessary, it may initiate the enactment or amendment of legislation with the competent authority.

Based on the legal instrument of sector inquiry – in line with the above provisions - the Government extended the competence of the GVH in July 2021 so that the GVH could have more efficient tools allowing for faster proceedings in managing competition problems calling for urgent intervention.

---

<sup>4</sup> Act CXXXVIII of 2000 on the Amendment of Act LVII of 1996 on the Prohibition of Unfair and Restrictive Market Practices, explanation in Section 20.

<sup>5</sup> Notes to Act LVII of 1996 on Prohibition of Unfair and Restrictive Market Practice, p. 445 (Budapest, 2014; ed.: dr. Juhász Miklós, Ruszthiné dr. Juhász Dorina, dr. Tóth András)

## Special rules of the accelerated sector inquiry

Issue 130 of 8 July 2021 of the Hungarian Official Gazette published the Government Decree<sup>6</sup> - in the form of a government decree, as allowed by the rules of legislation in emergency situation - that allowed the GVH to make certain derogations - for the purpose of urgent interventions - from the general rules of sector inquiries described above and specified in the Competition Act, by introducing a new legal instrument called accelerated sector inquiry.

The provisions regarding the accelerated sector inquiry were added by Act CXXX of 2021 on Regulatory Issues Related to the Emergency Situation<sup>7</sup> to the Competition Act. The amendment did not modify the order of procedures defined by the Government Decree for the conducting of the accelerated sector inquiry, only clarified that in certain points, by including practical experience. Based on all that, the rules of the accelerated sector inquiry are as follows pursuant to the Competition Act.

The accelerated sector inquiry may be initiated under two conditions: on the one hand, it is necessary that (i) on the basis of the features, individual characteristics or structure of a given sector, there is a good reason to assume that competition is distorted or restricted in a market belonging to the sector, and, on the other hand (ii), urgent action is needed to explore and manage these market problems.<sup>8</sup> Thus, it is obvious that compared to the conditions of the sector inquiry specified in Section 43/D (1) of the Competition Act, the reasons for urgent intervention represent an additional condition.

As a main rule, the general rules of the Competition Act on sector inquiries have to be applied in accelerated sector inquiries, too, but with some important differences and additions because of the objective to use the legal instrument in urgent cases. The draft report on the inquiry has to be prepared in one month, and this deadline can be extended twice, by one month on each occasion. The legislator added an important tool to the instruments available to the GVH and increased its efficiency by specifying that the rules of the accelerated sector inquiry - as opposed to the rules of normal sector inquiries - allow dawn raids by the authority in the possession of a preliminary court warrant, if the GVH indicates its suspicion in its request that the evidence related to the objective and the subject of the accelerated sector inquiry may be reasonably found at the place specified in the motion. Based on the Competition Act, the Metropolitan Court of Budapest has to make a decision about this request within 72 hours. The acceleration of the procedure is facilitated by another provision, too, namely that undertakings operating in the sector have only eight days to make comments on the draft report published after the inquiry (as opposed to at least 30 days allowed in 'normal' sector inquiries).

## Methodology of the inquiry, summary of the individual steps of the inquiry

By starting this accelerated sector inquiry, it was already the seventh time that the GVH took advantage of the possibility offered by the government decree and then by the amendment of the

---

<sup>6</sup> Government Decree 406/2021 (VII. 8.) providing for derogations from Act LVII of 1996 on the Prohibition of Unfair and Restrictive Market Practices. In force since: 9 July 2021. In force until: 31 May 2022.

<sup>7</sup> Act CXXX of 2021 on Regulatory Issues Related to the Emergency Situation, Sections 60-63.

<sup>8</sup> Section 43/D. (1A) of the Market Practices Act

Competition Act, and, as a result, on 8 February 2023, started its accelerated sector inquiry into the market of non-perishable foods, in order to explore and evaluate the processes in the market. All that was a consequence of the fact that according to the market reports and information received by the GVH, the prices of a number of non-perishable foods (for example, various types of canned food) had increased at an especially high rate recently and there were temporary shortages, too, and based on the available information, this phenomenon was observed in the whole territory of Hungary.

The order initiating the inquiry was published on the GVH website, and also at the head office of the GVH, at 7:30 a.m., 8 February 2023. Following that, the investigators conducted several coordinated dawn raids within a short time, in various regions of Hungary, and carried out procedural steps at undertakings producing canned and frozen vegetable products and at food retail chains. In the course of the on-site investigations, the affected undertakings operating in the sector had to supply data in two ways:

- on the one hand, they answered the questions of the investigators regarding the structure, the participants and the value chain of the affected market and on the development of prices;
- on the other hand, they provided various documents and numerical data about the sales revenues and volumes of certain products and about turnover data assigned to partners.

In parallel with the dawn raids - in order to collect a wider set of data - additional market players were obliged to supply data of similar contents, as the GVH issued more than 120 request for information.

Prior to the dawn raids and data requests, the investigators used the databases of the Central Statistical Office (CSO) and other publicly available registers and already available information, including negotiations with the AKI, to select the most relevant canned and frozen vegetable and fruit product types, and collected detailed data about these from the market players. In the case of undertakings operating at the individual levels of the value chain, data collection focused on the following:

- (i) in the case of vegetable and fruit producers, cooperatives and integrators, the GVH primarily wanted to find out the types and the volumes of costs related to the growing of plants, as well as the average prices and volumes of products sold by these players;
- (ii) in the case of processors producing canned and frozen vegetable and fruit products, the costs of processing the raw materials and the average prices and volumes of products purchased and sold by them were in focus;
- (iii) at the level of merchants, the emphasis was on purchasing price and retail price levels, and on the analysis of the margin.



### **III. Products examined by the accelerated sectoral inquiry**

#### *Categorisation of canned and frozen vegetable and fruit products*

The categorisation of canned and frozen vegetable and fruit products (hereinafter: examined products) shows minor differences among market players located at various levels of the value chain. While the grouping is basically similar at the level of processors and retailers, categorisation is fairly different in the case of producers, and this can be primarily attributed to the features of the value chain.

#### *Categorisation applied by processors and retailers*

At the level of processors and retailers, we can distinguish between single-component (mono) and multi-component (mix) products, depending on whether the given product has one or several raw material components. Single-component products are, for example, canned green peas, while frozen vegetable mixes are multi-component products.

A special sub-category is formed by products that include other ingredients, too, in addition to vegetables and fruits, such as spices or oil. This can be French fries under frozen products, and the various pickles and compotes under canned food.

Another categorisation may be a breakdown by packing material. Based on that, in the case of frozen products, products in plastic bags and paper boxes are the most typical, while in the case of canned food, the most frequent packing materials are glass, metal and alusil (aluminium).

In addition, the examined products can be grouped according to the way of preservation, too. Within the category of canned food, we can define products preserved with heat treatment, dehydration and pickling. Within heat treatment, there are products processed with pasteurisation and sterilisation, and within dehydration, there is dehydration, drying and lyophilization (freeze-drying). In the case of frozen foods, preservation is solved by quick freezing.

Another grouping is by the way of utilisation. According to that, we can distinguish products for domestic use or for exports, and products for retail trade or industrial use.

#### *Categorisation used by producers*

Regarding the examined products, producers primarily distinguish individual products by considering the production technology, the possibility of automation, the way of use, and the factors of preservation.

According to the production technology, there are conventional and organic or ecological products. By conventional production we basically mean automated production processes planned for mass production, which are based on the use of large volumes of raw materials and energy (e.g. fertilisers, pesticides). However, regarding automation, we have to note that it cannot be used in the cultivation of all vegetables and fruits. In general, it is possible to automate raw materials (vegetables and fruits) that are not perishable, withstand impacts, and their harvesting does not require too much care. For example, the harvesting of green peas can be automated, but the harvesting of cocktail tomatoes cannot. Within the growing of vegetables, growing cucumbers with a cordon system also requires a lot of manual labour.

As opposed to conventional production technology, organic farming means chemical-free production processes focusing on environmental sustainability (primarily biodiversity, soil and water quality). Production technology basically influences the possibility of automation, too. There is a difference between products requiring a lot of manual work (typical in organic or ecological farming) and the produces grown in this way, and production processes that can be basically efficiently automated (and therefore preferred by conventional or traditional production).

Based on the way of utilisation, there are vegetables and fruits for fresh market consumption and for industrial use. As to shelf-life, there are storable (less perishable) and basically not storable (quickly perishable) products.

### Substitutes of canned and frozen vegetable and fruit products

In the opinion of the vast majority of undertakings asked, canned and frozen vegetable and fruit products have substitutes. Based on the data supplies, the primary substitutes for the examined products are fresh vegetables and fruits. In that category, however, we have to pay special attention to the seasonality and the availability of the given products, which basically influence the possibility of substitution, and the competition pressure generated by fresh vegetables and fruits may be significantly lower outside the seasons.

The substitution of canned and frozen products with each other is another way of replacement. In other words, a given canned product may be replaced by its frozen alternative, while the frozen product can also be substituted by its canned version - if they both exist.

Replacement products also include products manufactured or processed with procedures that cannot be included in the categories of frozen or canned food. This category includes products preserved with heat treatment, pickling or dehydration (dried products and concentrates), fruits preserved by sugar and vegetables and vegetable mixes preserved by salt.

## IV. The value chain

The presentation of the value chain of canned and frozen vegetable and fruit products is based on the information provided by market players and other data collected by the GVH. The starting point of the value chain is the producer, while the end point is the consumer. Between these two players, we can typically see integrators, processors and traders, distributors (Table Table 1).

Table 1. Presentation of the value chain of canned and frozen vegetable and fruit products

<b>producers, cooperatives</b>	produce the required agricultural product
<b>integrators</b>	satisfy the basic raw material requirements of producers, organise sale
<b>processors (manufacturers)</b>	process and package the raw materials supplied by the integrator or the producer, prepare it for trading
<b>merchants (wholesaler, retailer, export distributor, import distributor)</b>	make the finished goods produced by the processor available to the consumers in its shops, sell the products
<b>consumers</b>	consume the product as end user

Source: own editing based on data supplies

It is true for the value chain that not all of the market players are present in each case. It may happen that the producer sells certain products directly to the processor, and in other cases the sale to the processor takes place with the involvement of an integrator or other organisation/cooperative. It is also possible that a certain function is not divided among several market players in the value chain, but it is controlled by one undertaking. For instance, the producer and the processor can be the same market player, they do not have to be separated. This model is usually feasible in the case of handicraft products manufactured in small volumes.

Another typical feature is that usually those market players are in direct contact with each other, who are directly under or above each other in the value chain. Consequently, consumers are usually in touch with retail chains only, as that is where they can get the goods, and they usually do not have direct relationships with processors, integrators and producers. This is true for the rest of the players of the value chain, too. A producer, for example, is usually not in direct contact with consumers (exceptions may be the producers' markets or other direct forms of sale), and not even with the given wholesaler and retailer in some cases.

## **V. Growing of vegetables and fruits: producers, cooperatives and integrators**

### **Brief description of domestic vegetable and fruit producers**

The producers' level typically consists of primary producers, private entrepreneurs or business associations with more capital. In the present accelerated sector inquiry, the GVH contacted more than a dozen vegetable and fruit producing undertakings and cooperatives that can be considered significant market players on the basis of the available information.

The scopes of activities of undertakings growing vegetables and fruits, based on the responses of the contacted undertakings, primarily cover the production of raw materials for industrial purposes, i.e. fruit producers are involved in growing seasonal fruits (sour cherry, cherry, apricot, peach, nectarine, plum), while vegetable producers are involved in field growing of plants (wheat, fodder corn, barley, sunflower, lucerne etc.) and vegetables (green peas, green beans, sweet corn, tomato). Most of the undertakings extend their main scope of activities with agricultural services (cultivation, taking care of plants, harvesting) and trading with input materials.

Vegetables and fruits are harvested with machines or temporary workers, the harvested produces are selected, classified and sometimes packed, and then transferred to the processors.

Based on the data supplies received, the raw materials and inputs used by vegetable and fruit producing undertakings usually belong to the following main categories: fertiliser, pesticide, seeds, reproductive materials, energy (mainly electricity) and fuel. Among the above listed inputs, seeds have special importance and weight. Seeds can be purchased from both domestic and foreign suppliers. The majority of other inputs are purchased by the producers from domestic wholesalers, as the collected data indicated.

The customers of undertakings involved in the production of vegetables and fruits for industrial purposes are mainly businesses in the preserving industry, which purchase the produced raw materials for the production of finished goods. Most of the producers contacted in the accelerated sector inquiry produce their goods for domestic canning factories and cold storages, but there are exports, too. At the same time, it is not so frequent that undertakings involved in vegetable and fruit production produce raw materials for exports only, but there are market players like that, too, among domestic farms. Through the cultivation contracts signed with the processors, it is a general practice that volumes, prices and quality conditions are specified for the producers.

A significant number of producers contacted in the accelerated sector inquiry explained that they experienced a significant shortage in the volume of vegetables and fruits over the past period. In the opinion of the producers contacted, the reason for that was adverse weather conditions characterised by drought and hails, because of which they had a harvest of low quantity and poor quality.

Due to the heat waves, products got burned or overripe, and the damage caused by hails further deteriorated the quality of the crops, so a high amount of crops were not suitable for processing. The danger is higher in the case of vegetables, as most of the produces (mainly sweet corn and peas) can be safely produced with irrigation only, but production takes place without irrigation at a lot of areas, so farms are in many cases forced to change for other crops that represent less risks.

Consequently, the motivation to grow plants decreases, and due to the extremely high production risk, the purchase price of crops increases.

Most of the undertakings contacted in this accelerated sector inquiry stated that only a low percentage of domestic cultivated land is irrigated, which may further increase prices and make lots of producers go bankrupt, therefore it would be extremely important to effectively develop irrigation.

### Cooperatives, producer groups

In Hungary, the operation of producer groups is regulated by Decree 42/2015. (VII. 22.) of the Ministry of Agriculture on the recognition of producer groups. Pursuant to Act X of 2006 on Cooperatives (hereinafter: Cooperative Act), a producer group may be a cooperative established according to the Cooperative Act and operating according to Section 22 (1) a) of the Cooperative Act. A producer group is the cooperation of producers organised on the basis of identical products or product groups, in which - in order to strengthen their market positions - a voluntary association is formed for the activity matching their independently pursued basic agricultural or forestry activities, with an agreement to observe the rules defined in the decree.<sup>9</sup>

Based on annually updated contracts, the cooperatives purchase the produced vegetable and fruit raw materials from their members, and then sell it to the processors. Before the purchase, they assess the expected production volumes of their members, and conduct price negotiations with the processors. In these negotiations, they agree with the processors on the terms and conditions of contracts, and on the current purchase price of raw materials, and that will be later the basis of settlement with the producer members. The cooperatives transport the harvested vegetable and fruit raw materials to the plants or factories of processors, then the processors assess the quantity and the quality of the supplied fresh materials, and they settle with each other on the basis of the assessment and the existing terms and conditions. The cooperatives settle accounts with their producer members with the amount and conditions agreed with the processors at the beginning of the year, based on the quantity of materials delivered to the processors.

The majority of vegetable and fruit producing undertakings contacted said that the transfer prices of raw materials were defined by the processing plants.

The objective of the cooperative is to sell the vegetable and fruit raw materials produced by the producer members under the most competitive conditions, based on buyers' expectations and the assortments, but this profit-oriented approach does not work towards the producer members. Cooperatives provide their members with professional assistance and support in the organisation of the vegetable and fruit raw material, in adjusting it to the quality and quantity demands, and coordinate, organise and bring together producer members so that the advantages of joint sale could be utilised.

Several of the contacted cooperatives are planning to build new and complex logistics halls to establish efficient logistic and trading processes in the future, where they could further extend the cold storage, the packing unit, the packing material warehouse, the goods preparation and the

---

<sup>9</sup> Decree 42/2015. (VII.22.) of the Ministry of Agriculture on the recognition of producer groups.

picking sections, too. In the newly constructed logistic halls, automation will play an important role, helping sustainable development and energy management.

Other steps planned in the forthcoming period include the strengthening of the export market, too. Based on the information received during the inquiry, there are cooperatives which established, jointly with several vegetable and fruit producing cooperatives, an organisation specialising in exports, to sell the goods to foreign buyers by offering their joint portfolio. Another reason for establishing the organisation was that their interests could be better enforced by offering more products.

### Integrators

Prior to the sale to processors, an integrator level may also be included in the value chain. Integrators are usually business associations of acknowledged producer groups, situated between the producer and the processor levels, creating a connection point between them. Most of them are undertakings with harvesting capacities, bringing together producers, providing them with input materials in certain cases (e.g., seeds, pesticides, fertilisers, agricultural machines) or with knowledge capital for production (e.g., production advice).

Integrators follow the growing of plants from the preparation of the soil to the harvest, providing plant cultivation and agricultural expertise. They ensure seeds or seedlings, pesticides and even harvesting machines, if necessary. In addition, they buy the vegetables and/or fruits from the producers at the place of the harvest, and transport them to the processors. Their activities mean a significant contribution to the financing of production, as they provide input materials to the producers in advance, and the processors have to pay the price of raw materials only after the harvest.

### Costs and the development of the prices of some vegetables and fruits

In the course of the accelerated sector inquiry, for the analysis of the costs of vegetable and fruit production and the transfer prices of vegetables and fruits, the GVH requested data from undertakings operating at producer level.

Based on the data supplied, the inputs used and vegetables and fruits produced for industrial purposes are fairly heterogeneous. As to the inputs, some of the producers submitted them by key cost types, while others provided them in detailed breakdown. At the level of vegetables and fruits transferred, data were received about several categories and subcategories. From out of which data only those were relevant for the purposes of the investigation, that corresponded to the raw materials of standard products examined at processor and retailer level.

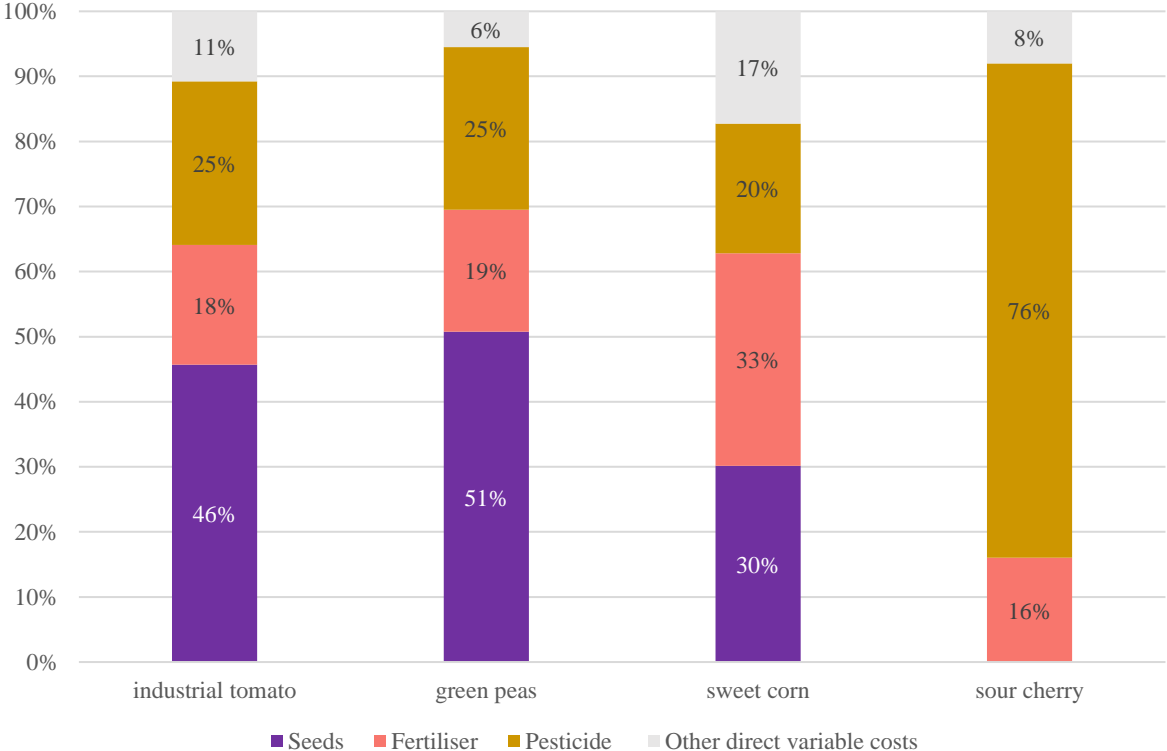
Based on that, the GVH selected three specific input factors and four specific vegetable and fruit products, so it was possible to compare the changes in input prices with the changes in the prices of the transferred products. These specific goods were industrial tomato, sour cherry, sweet corn and green peas.

The specific inputs identified for the analysis included the factors about which the highest number of producers supplied data to the GVH in a way that data were suitable for comparison with each other. However, the data used were not taken from the data supplies, but from the AKI database,

so data supplies served only as a kind of reference point from the aspect of inputs. Based on that, the examined inputs were fertilisers and pesticides used for the production of raw materials of industrial purpose, and the seeds for the selected products.

The distribution of the examined inputs was different in the case of the various vegetables or fruits, as they are grown in different ways. These differences mean the application of different technological procedures, which show differences in the ratios of inputs used, too. Using the assumption that the technology of vegetable and fruit production did not change in the examined period, the distribution (weight) of the inputs was defined on the basis of 2021 data in the AKI Test Operation Information System. The distribution of the inputs used for the production of the selected products, i.e. the cost structure differences of the products are illustrated by Figure Figure

Figure 1. Distribution of input factors examined by the GVH within direct variable costs



Source: Own calculation based on AKI data

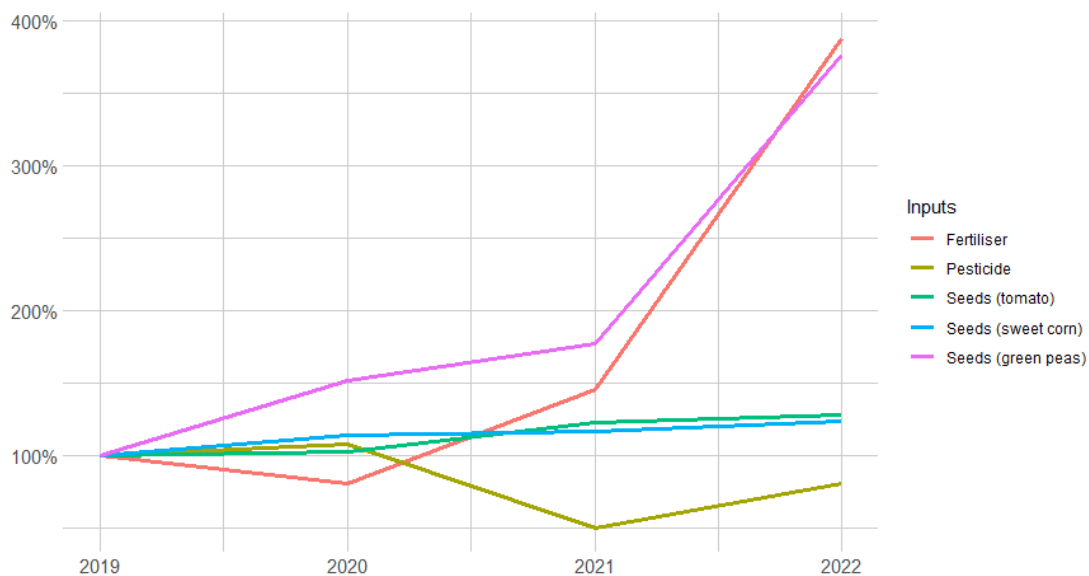
The three cost factors examined by the GVH cover approximately 90% of all direct variable costs of individual products, and approximately 36% of all production costs. Therefore, the analysis does not include, among other things, cost elements of significant weight, such as machine costs, rent of land, and labour related costs. The latter is a factor of special importance, as the examined sector covers mainly labour-intensive activities, so the increase of wages over the past years meant a significant cost increase for agricultural producers. As the inputs involved in the analysis do not give a full picture about the cost structure of the examined products, the data in Figure were compared with the data of other researches, too. In the business economics analyses of the Horticultural Institute of the Faculty of Agricultural and Food Sciences and Environmental Management of the University of Debrecen, the earlier presented inputs are distributed in a similar way for sour cherry, while they are more even for other products. However, when looking at the



experienced differences, it may be an important circumstance that the analyses of the inputs used different methodological and data recording approaches.

Although the input requirements of examined vegetables and fruits may be different, their sale, owing to the nature of the products, can be considered seasonal, as the ripening and the harvest of vegetables and fruits are not continuous, but usually related to a given period of the year. Based on the submitted data, similar seasonality may be observed in the respect of input factors selected by the GVH. As a consequence, we used data of yearly frequency in the analysis.

Figure 2. Expenses of vegetable and fruit producing undertakings (2019 = 100%)



Source: Own calculation based on AKI data

Based on Figure 2. it is obvious that the inputs examined by the GVH followed a positive trend in the majority of the period, although this happened in a rather heterogeneous way. By 2022, the price of pesticides did not reach the initial 2019 value, either, but in the case of all other factors, we can see significant price rises. Among seeds, the prices of sweet corn and tomato seeds were continuously rising, and by the end of the period, these prices were almost 25 per cent higher than their initial values. It was the prices of fertilisers and green pea seeds that increased most in the examined years, the prices of both factors were almost four times higher by the end of the period, which can be classified as a drastic change. In the case of fertilisers, this was preceded by a significant price decrease in 2020, which can be attributed to the lower prices of energy sources because of the Covid19 epidemic. Most of these facts are reflected in the business economics analyses of the University of Debrecen, too.

The annual transfer prices are the producers' average prices calculated from data supplies, but they were adjusted with the changes in the annual average yields of examined vegetables and fruits. The yield, as an indicator, shows the volume of the annual harvest in the land used for growing the given vegetable or fruit (kg/hectare). The changes in this indicator reflect how the natural conditions modified the supply of the given product every year (for example, how hard the given

year was hit by drought), as the size of the cultivated land can be considered more or less constant in time (although it decreased a little). Consequently, the changes in yields are good indications of changes in supply that are especially important from the aspect of price changes (an extended supply usually reduces the prices, while smaller supply usually increases prices).

With these adjustments, we can see the input aspects of one unit of output produced in a given year for individual products. Yield data used for average prices adjusted with yield, the annual input factors and the weighted cost index calculated from them are from the AKI, as indicated above. The yield data used were also compared with the analyses of the University of Debrecen. The analyses show similar trends regarding the growth of examined yields, although, for the yields of sour cherry, for example, there are significant differences.

The aggregated price rises of the examined costs, weighted along cost ratios, and the changes in the average prices of vegetables and fruits adjusted with yields are illustrated by Figure 3, Figure 4, Figure 5. and Figure 6..

Figure 3. The adjusted price and the weighted cost index of sour cherry (2019 = 100%)



Note: N = 5

Source: Own calculation based on AKI data and corporate data

The adjusted price of sour cherry moved more or less in line with the calculated cost index, so the decrease or increase in costs was followed by changes in the price of sour cherry. Until 2021, it happened in a way that in case of increase, the price increased more, and in the case of decrease, the price decreased less than the changes in the costs examined by us. By 2022, however, all this changed, as the costs of sour cherry showed a much steeper increase, and this resulted in the highest change in the period, almost 65%. As to the prices, we can see a significant (22%) increase by 2022, too (Figure 3).

Until 2021, the adjusted price of tomato moved closely in line with the costs examined by us, showing only marginal changes. In 2022, transfer prices increased significantly, while the

examined costs also increased a lot, but not as much as prices. The price actually increased by almost two and a half times compared to the value at the start of the period, while the calculated cost index of the tomato had an approximately 70% higher value than in 2019 (Figure 4).

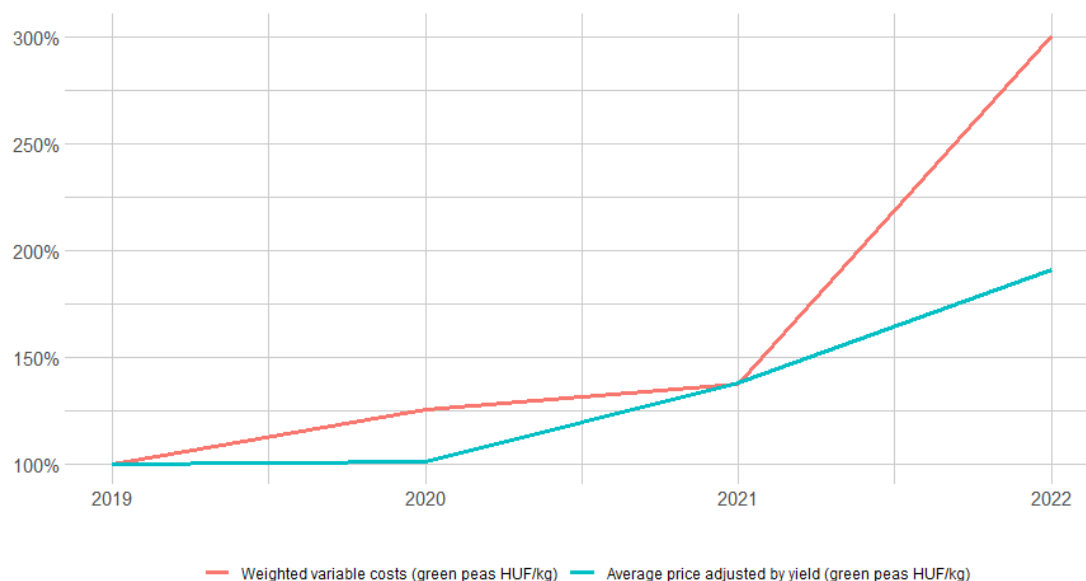
Figure 4. The adjusted price and the weighted cost index of industrial tomato (2019 = 100%)



Note: N = 7  
 Source: Own calculation based on AKI data and corporate data

In the case of green peas, it can be observed that the average price adjusted by yield and the cost index calculated by the GVH moved in relatively different ways, although from 2020 they changed to different extents, but in the same direction, as they showed continuous increase. By 2022, both time series grew significantly, but the increase in examined costs was much higher than the increase in the price of green peas, which can be primarily attributed to the high price increases in seeds and fertilisers (Figure 5.).

Figure 5. The adjusted price and the weighted cost index of green peas (2019 = 100%)

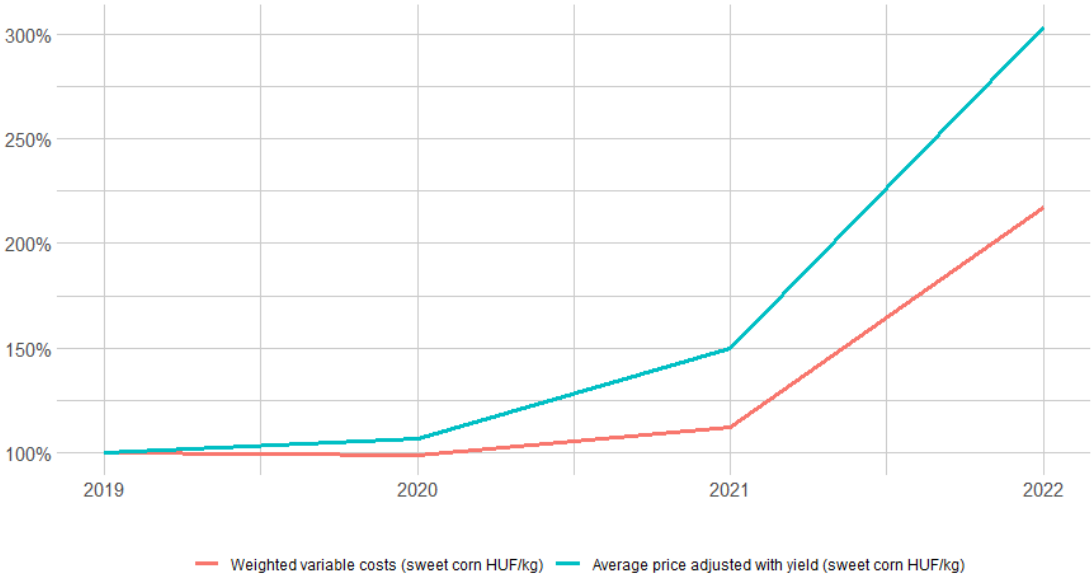


Note: N = 9

Source: Own calculation based on AKI data and corporate data

Similarly to industrial tomato, in the majority of the period, the adjusted price of sweet corn and its weighted variable cost index moved together. As of 2020, both factors started to grow continuously, although the prices increased more than the costs examined by us. By 2022, both the price and the costs reached their highest increase, the initial value of the former increased almost three times, while that of the latter increased by almost twice (Figure 5.). At the same time, it is important to point out that the examined cost index does not include all the costs, as labour costs, for example, were not considered.

Figure 6. The adjusted price and the weighted cost index of sweet corn (2019 = 100%)



Note: N = 10

Source: Own calculation based on AKI data and corporate data

## **VI. Production of consumer goods: canning factories and frozen food manufacturers**

The next important pillar of the value chain is represented by the processor level, which, for the affected products, primarily covers canning factories and frozen food manufacturers. From the raw materials supplied by farmers, canning factories and frozen food manufacturers produce completely processed finished goods that are ready for consumption, regularly packed and labelled, according to the customers' demands. Products manufactured this way are sold to wholesale or retail chains.

Apart from canning factories and frozen food manufacturers, warehousing also belongs to the processor level, and this is of special importance for the examined products. The reason is that most of the raw materials (vegetables and fruits) are available in limited periods of time only, seasonally, therefore, for a continuous supply to consumers, it is necessary to store the products of the required quantity for 6-12 months in average. In most cases, warehousing is the task of the processor, but in certain cases it is/can be done by the wholesaler or the commercial network, too. Various logistics companies provide places and/or devices for this.

Compared to the number of vegetable and fruit producers shown above, the number of domestic undertakings and their plants involved in vegetable and fruit processing is, of course, lower. According to the information collected in the course of the accelerated sector inquiry, the number of major undertakings involved in the production of canned and frozen vegetables and fruits is not more than thirty, and less than ten companies can be considered really important market players.

In the following sections, we will briefly describe this level of the value chain on the basis of the responses, data and information received from those domestic canning factories and frozen food manufacturers that seem to be the most significant companies.

### **Key market players and their categorisation**

Pursuant to the information collected in the accelerated sector inquiry and to publicly available information, the following undertakings can be presently considered the most important canned food producing market players in Hungary: Bonduelle Central Europe Kft., EKO Konzervipari Kft., Univer-Product Zrt., Globus Zrt. and Kecskeméti Konzerv Kft. In addition to these companies, other important market players are Szatmári Konzervgyár Kft., Parmen Konzervipari Zrt., Global Green Europe Kft. and Gloster Kft. Smaller players among canned vegetable and fruit producers are Aranyfácán Product Kft., Kalocsai Fűszerpaprika Zrt., Schenk és Társa Kft., and TERM-CO Zrt.

In the field of the production of frozen vegetable and fruit products, the most important players are Agrosprint Zrt., Jégtrade Kft., Fevita Hungary Zrt. and Sugo Food Kft. In addition to the above companies, other important players are, for example, Mirelite Mirsa Zrt. and JÁSZ-TÉSZ Kft., too. On the market of the production of frozen vegetables, one of the smaller players is, for example, Kabafrost Kft., and we can mention Nádudvari Élelmiszer Kft., too, which is present on the market of frozen vegetable products with breaded products only.

The above-mentioned market players can be grouped on the basis of the shares of their products within the examined products, or based on the raw materials (vegetables, fruits) from which they produce their products. Preliminarily we can say that it is not typical that a given undertaking produces both canned and frozen products. We can also determine processors who produce their products from multiple kinds of raw materials - i.e. they are represented in almost all product types -, and undertakings with a narrower product range, perhaps specialising in one particular product type and producing and distributing only that.

In the field of canned vegetables, Bonduelle Central Europe Kft. and Globus Zrt. offer a wide range of products. Kecskeméti Konzerv Kft. specialises in the production of a few types of canned vegetables, primarily green peas and sweet corn. In addition to canned vegetables, canned fruits are also produced by Global Green Europe Kft., Schenk és Társa Kft. and Kalocsai Fűszerpaprika Zrt. In addition to vegetable and fruit products, pickles are also produced by Szatmári Konzervgyár Kft., Parmen Konzervipari Zrt., Gloster Kft. and EKO Konzervipari Kft. Univer-Product Zrt. and Aranyfácán Product Kft. – in the field of canned vegetables and fruits - manufacture only tomato paste and tomato-based products.

Among undertakings manufacturing frozen products, Fevita Hungary Zrt., Agrosprint Zrt., Kabafrost Kft. and Sugo Food Kft. manufacture only frozen vegetable products, from various vegetables. All of these undertakings produce mono (containing only one type of vegetable) and also mix (mixed) products.

Mirelite Mirsa Zrt., Jégtrade Kft. and JÁSZ-TÉSZ Kft. produce both vegetable and fruit products, in both mono and mixed versions. Nádudvari Élelmiszer Kft. has a narrower range of frozen foods, as they produce breaded products only.

We can conclude that almost all processors supply products to multiple domestic retail chains with national coverage, so customers can find the products of all processors in the shops.

### Raw materials used by processors

The most important raw materials used by both canned and frozen product manufacturers are raw vegetables and fruits. The processors buy most of these raw materials from domestic producers, integrators and wholesalers, but the use of imported materials is also widespread. Processors usually use imported raw materials when the given material is not available in Hungary at all, or not in proper quality or quantity. In the case of vegetables, imported raw materials can be gherkins, beetroot, sweet corn, baby corn, shallot, onion, zucchini, paprika, carrot, celery, spinach, legumes (white beans, red beans, chickpeas, lentils, green peas, green beans), broccoli, quinoa, Brussels sprouts, cauliflower, potato; in the case of fruits, it can be sour cherry, pomegranate, raspberry, gooseberry, strawberry, blackberry and red current. Thus, it is obvious that domestic undertakings are forced to use a wide range of imported materials, in the field of both vegetables and fruits. Based on the data received, we can conclude that the ratio of imported raw materials usually does not exceed 30%. Imported goods arrive from several EU Member States and from countries outside the EU, mainly from the Balkans, and some of the products (e.g., beans, chickpeas) come from the USA and Canada. It is generally fair to say that the ratio of imported raw materials increased by approximately 8-25% in the case of frozen products from 2021 to 2022, while in the case of canned products, the increase was approximately 4-27%.



The conclusion of cultivation contracts is an extremely widespread instrument in the purchase and selling of raw materials available in Hungary. By concluding a cultivation contract, the producer signs a contract with the purchaser about the sale of produce produced by himself in an area owned or used by him, in a way that performance will take place after the harvest only. With a few exceptions, basically all the producers contacted in the accelerated sector inquiry concluded such cultivation contracts, and purchased the majority or all the required raw material under such contracts from domestic producers.

Apart from vegetable and fruit raw materials, canning factories use auxiliary materials, too (usually vinegar, sugar, salt, flavours and spices). Both the canning factories and the frozen food manufacturers use packing materials for their products (among other things, bottles/jars, metal cans, jar caps, labels, shrink foil, paper trays, pallets). They can buy these items from both domestic and foreign sources. Some of the products, however (e.g., metal cans for canned food) can be purchased only from a few manufacturers in Europe. Based on the data supplied by market players during the investigation, the non-availability of products manufactured in Ukraine resulted in much narrower supply and higher prices in the case of both steel and glass packing materials.

### Branded and private label products

The majority of domestic canning factories and cold stores manufacture products not only under their own brand names, but on the order of retail chains that have business relations with them, they produce so-called commercial or private label products, too. Some undertakings produce private label products only.

The difference between manufacturer branded and private label products can be expressed in the terms of appearance and composition. In the case of private label products, the quality and the look of the label, the cap, the packing material and the paper tray are typically different from those of branded products.

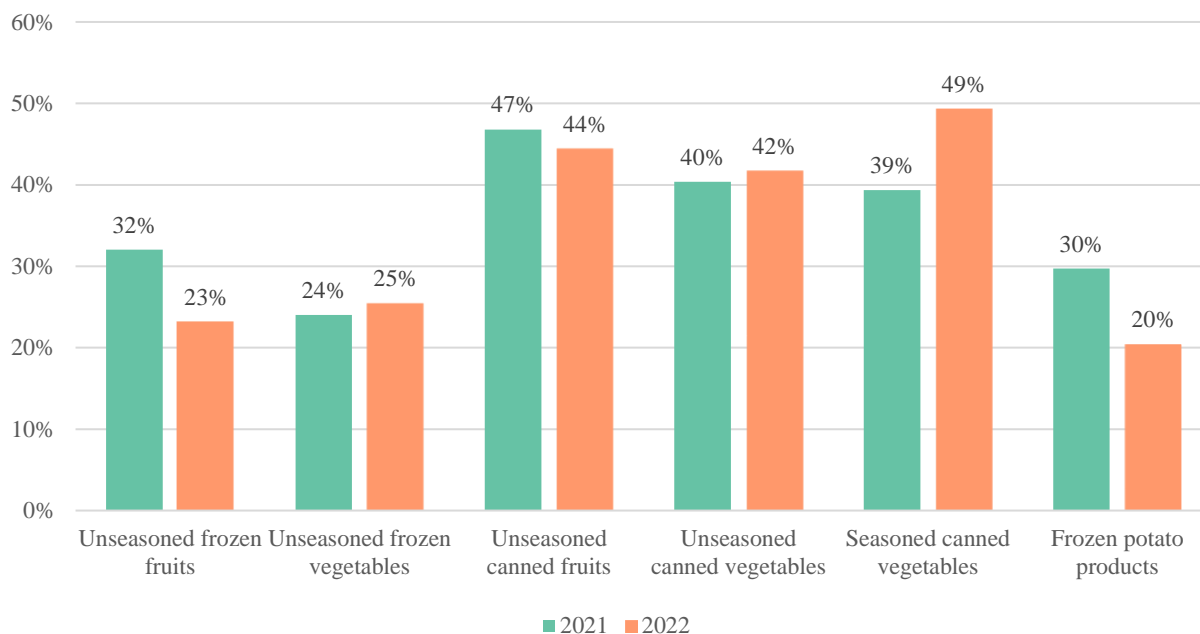
As to the composition, the difference between branded and private label products can be the seasoning (e.g., salt and sugar content, applied spices), the quality and the characteristics of raw materials (e.g., sweetness, hardness), and, in the case of vegetable mixes, the ratio of raw materials used. Naturally, the requirements of customers ordering the private label products also influence the composition. We can say that regarding the difference in composition, the practice of processing undertakings is not uniform. In the case of some of the undertakings, there is a difference between branded and private label products, while in other cases, products with completely identical contents are produced in both cases.

The reason for the difference between the prices of private label and manufacturer branded products are - in addition to the above detailed differences - the different logistics and marketing costs. On the other hand, in the trends related to the increasing prices of products, there was no difference between branded and private label products.

The share of products manufactured for private label distribution is different among individual product categories, in the case of the examined companies, this ratio is higher for unseasoned canned fruits or vegetables (40-50%), and lower for frozen vegetables and fruits (20-30%). In 2021-2022, these ratios changed to different extents in individual categories. While the volume of

products sold under private labels dropped by about 10 percentage points in the case of frozen potato products and unseasoned fruits, it increased by 5-10 percentage points for unseasoned frozen vegetables and seasoned canned vegetables.

Figure 7. Ratio of private label products at processor level. (% of volume)



Note: N = 10

Source: own calculation based on corporate data

### Ratio of products exported by processors

Based on the information collected in the accelerated sector inquiry, we can conclude that almost all canning factories and frozen food companies operating in Hungary export some of the products manufactured by them. The destinations are usually EU Member States, but the products of Hungarian processors are present on six continents. The majority of both canning factories and cold stores export more than 50% of their volumes, and one third of the canning factories export more than 90%. Thus, export sales are very significant.

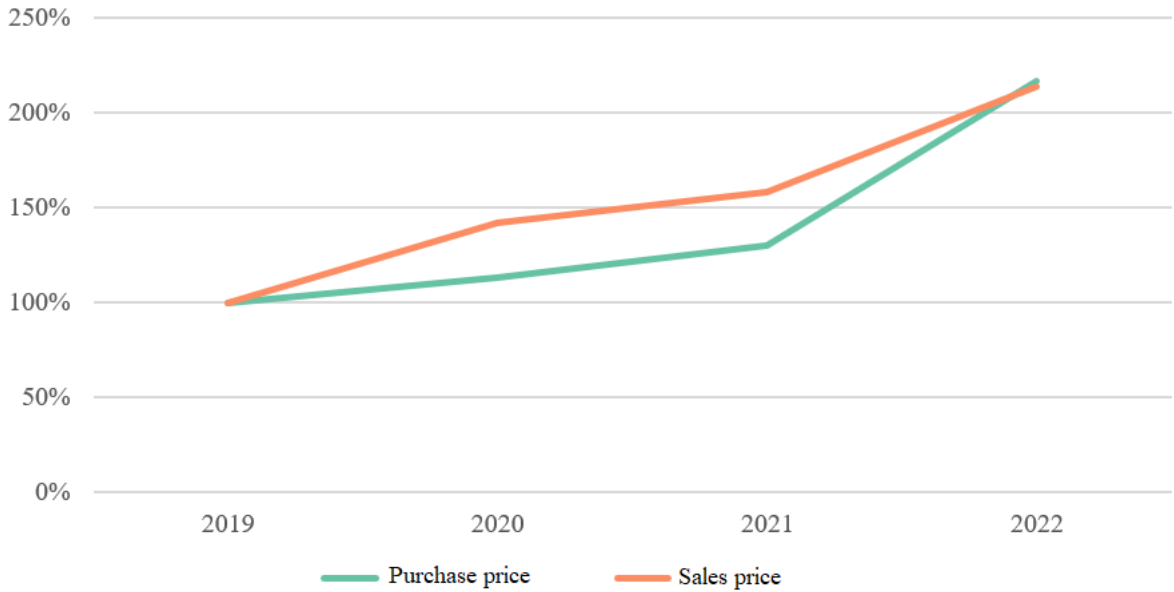
### Development of the purchase and sales prices of processors

Based on the data supplied by processing companies, the primary basic inputs used for production are raw vegetables and fruits. Thus, from the data supplied by the companies, the GVH explored the price changes of raw materials related to the examined products. In the case of certain products, purchase prices and processors' transfer prices are significantly different in both their values and the rates of their changes (as we saw in chapter V), therefore these developments are presented separately for each product. In each case, taking the seasonality of production during the year into consideration, we examined production years from June to May, as undertakings sell the finished goods - usually produced in the summer - to the retailers in the following 12 months.

From the examined products, in the case of sweet corn (Figure 8 and Figure 9), quick-frozen French fries (Figure 10), tomato paste (Figure 11. ), sour cherry (Figure 12) and chili beans (Figure 13), in every year, the processors' transfer prices for finished goods increased slightly more (but

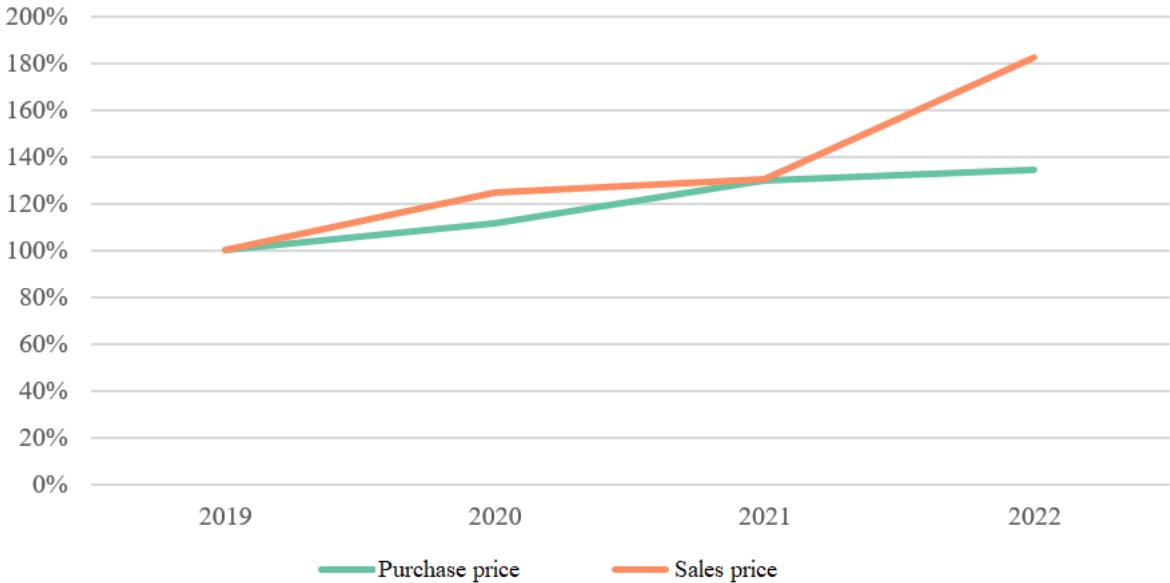
not extremely) than the purchase prices of main raw materials, so canning factories and frozen food manufacturers were able to realise increasing margins on these products. At the same time, in the case of canned corn, the price rise of the corn used as raw material increased slightly more than the price of the finished product in 2022, so the processor's margin on this product declined slightly.

Figure 8. Changes in the purchase price of the raw material for canned sweet corn and in the processor transfer price (2019 = 100%)



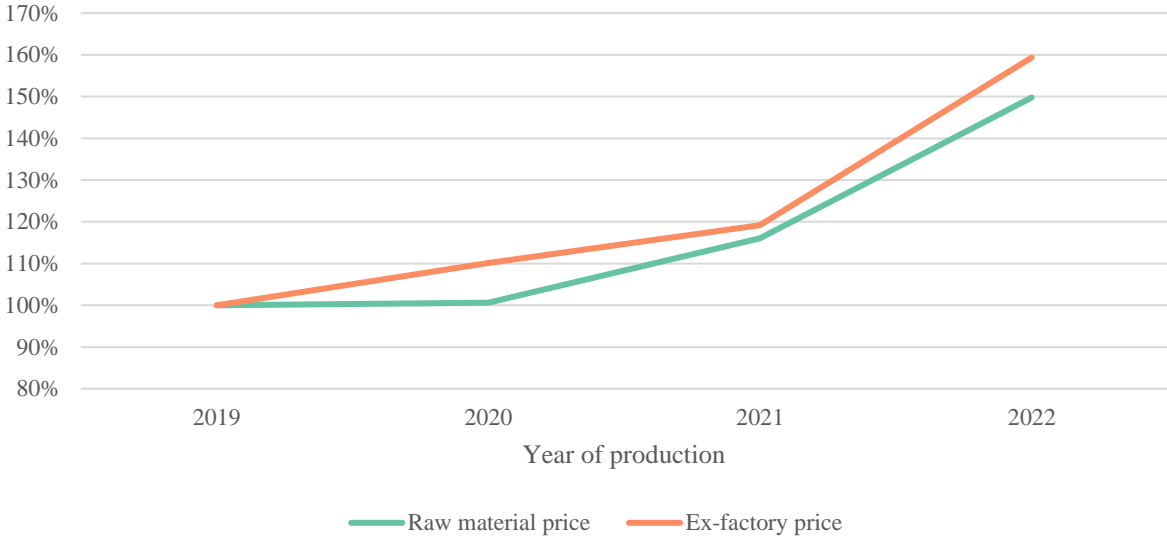
Note: N = 5  
 Source: own calculation based on corporate data

Figure 9. Changes in the purchase price of the raw material for quick-frozen sweet corn and in the processor transfer price (2019 = 100%)



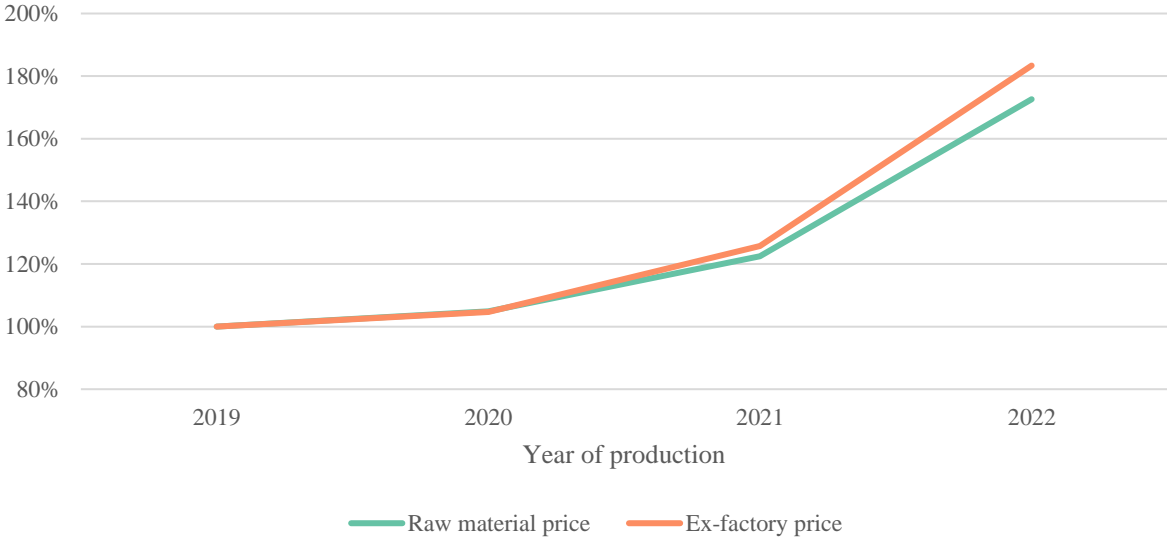
Note: N = 6  
 Source: own calculation based on corporate data

Figure 10. Changes in the purchase price of the raw material for quick-frozen French fries and in the processor transfer price (2019 = 100%)



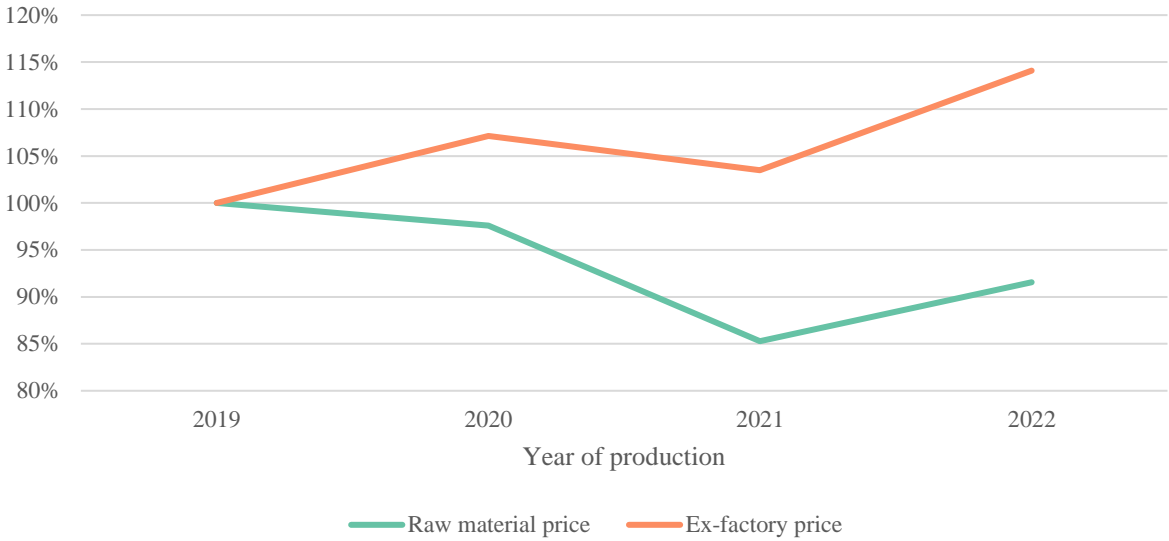
Note: N = 4  
 Source: own calculation based on corporate data

Figure 11. Changes in the purchase price of the raw material for tomato paste and in the processor transfer price (2019 = 100%)



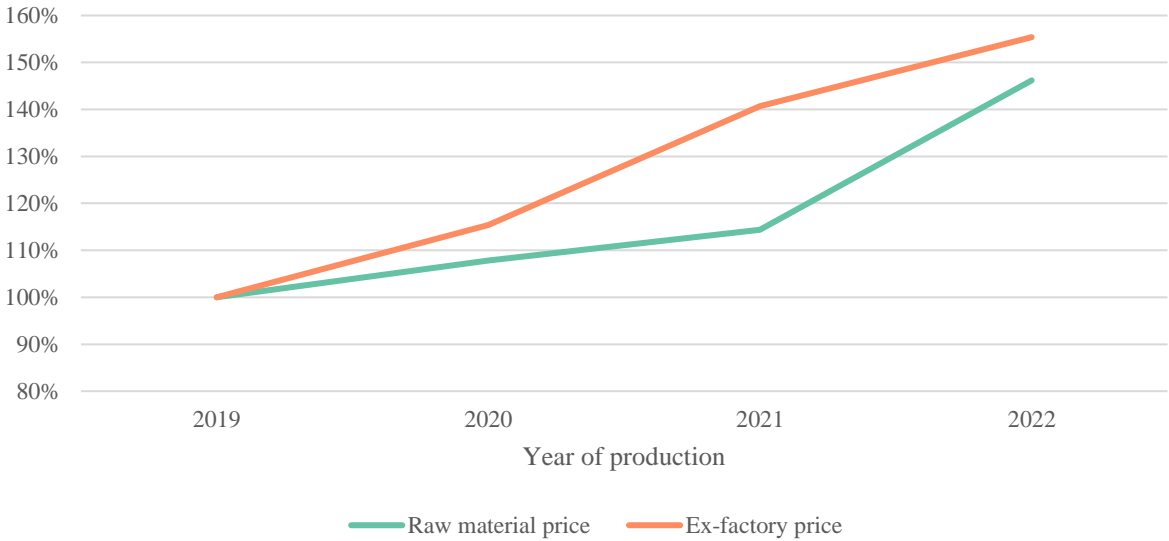
Note: N = 4  
 Source: own calculation based on corporate data

Figure 12. Changes in the purchase price of the raw material for canned sour cherry and in the processor transfer price (2019 = 100%)



Note: N = 10  
 Source: own calculation based on corporate data

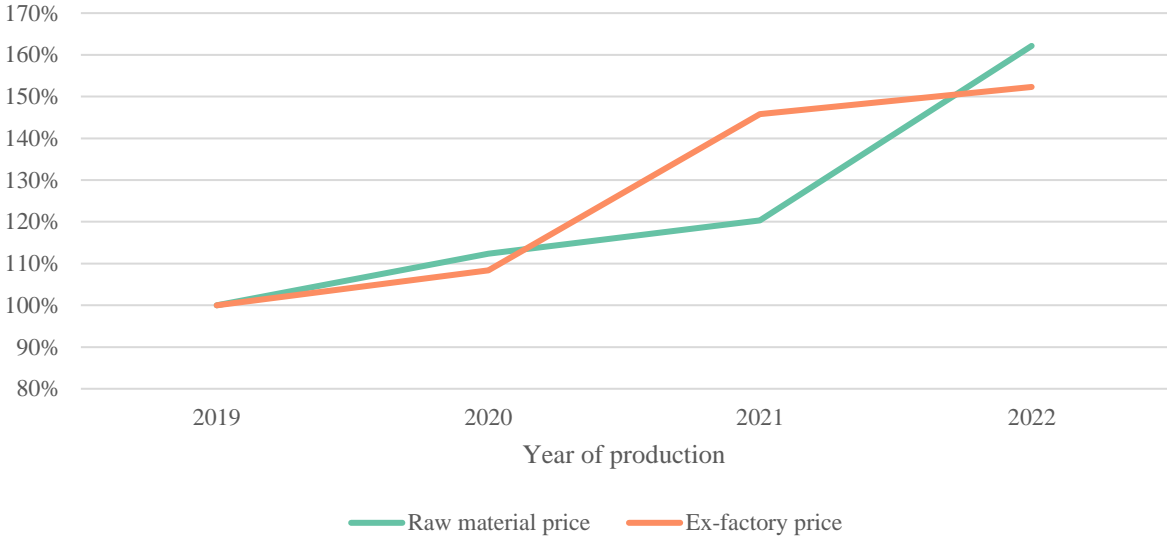
Figure 13. Changes in the purchase price of the raw material for canned chili beans and in the processor transfer price (2019 = 100%)



Note: N = 5  
 Source: own calculation based on corporate data

In the case of quick-frozen green peas (Figure 14.) and gherkins in jar (Figure 15.), the increase in processor transfer prices was slightly less than the price rise in the related raw material, but the difference is not significant, and in the case of green peas, prices got somewhat stabilised in 2022, following the significant increases in 2021.

Figure 14. Changes in the purchase price of the raw material for quick-frozen green peas and in the processor transfer price (2019 = 100%)



Note: N = 9  
 Source: own calculation based on corporate data

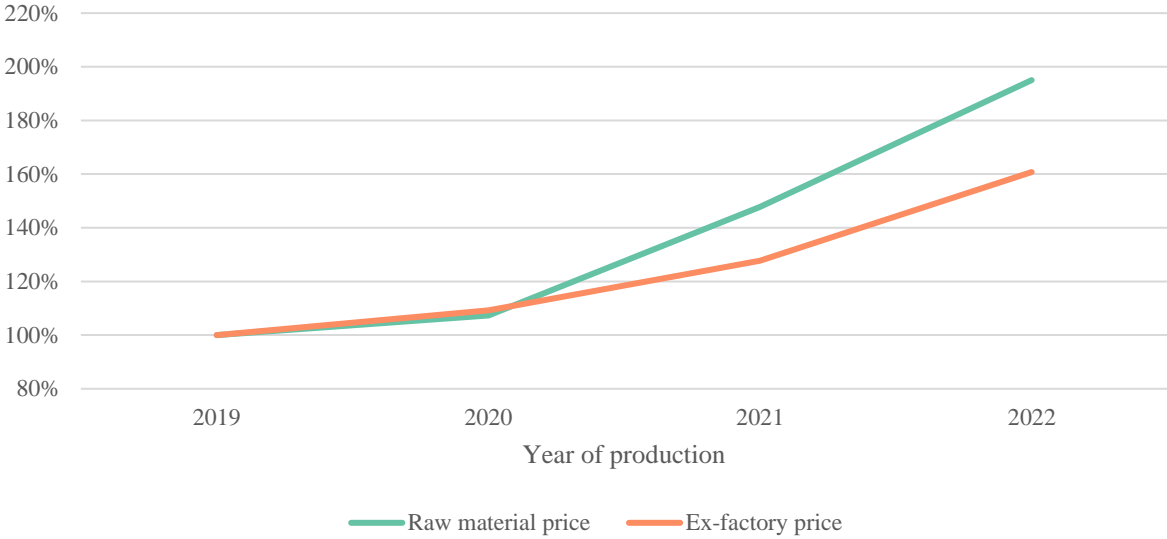
Figure 15. Changes in the purchase price of the raw material for gherkins in jars and in the processor transfer price (2019 = 100%)



Note: N = 10  
 Source: own calculation based on corporate data

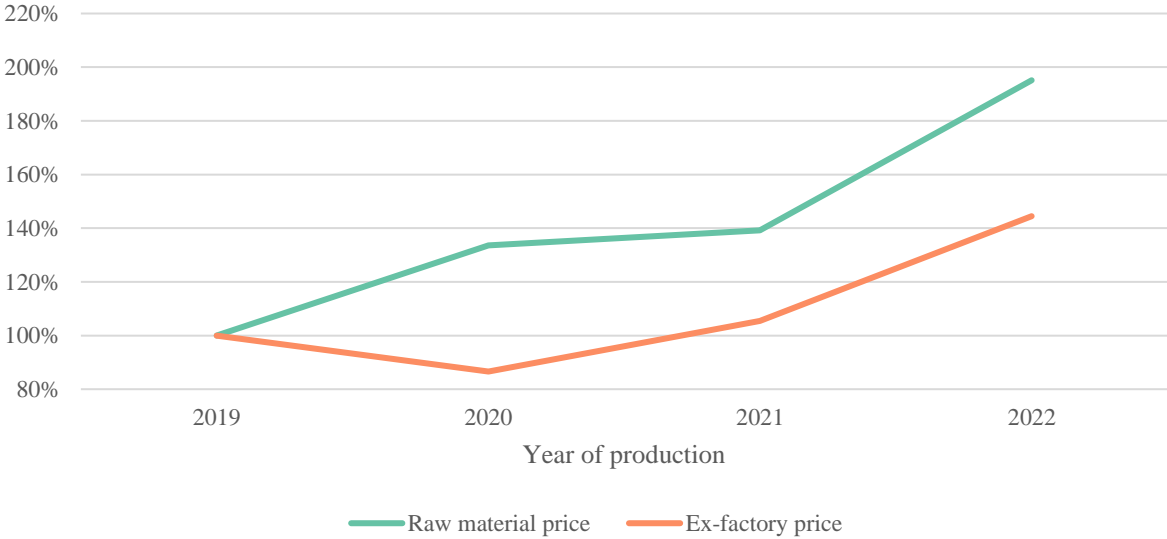
Finally, in the case of two examined products, canned chickpeas (Figure 16) and quick-frozen shredded marrows (Figure 17), the price of the purchased raw material increased more than processors’ transfer prices in the examined period. However, these products are manufactured only by a low number of undertakings contacted, and production volumes may change more significantly from one year to the other, so this data is less reliable than the data of other products.

Figure 16. Changes in the purchase price of the raw material for canned chickpeas and in the processor transfer price (2019 = 100%)



Note: N = 3  
 Source: own calculation based on corporate data

Figure 17. Changes in the purchase price of the raw material for quick-frozen shredded marrows and in the processor transfer price (2019 = 100%)



Note: N = 5  
 Source: own calculation based on corporate data

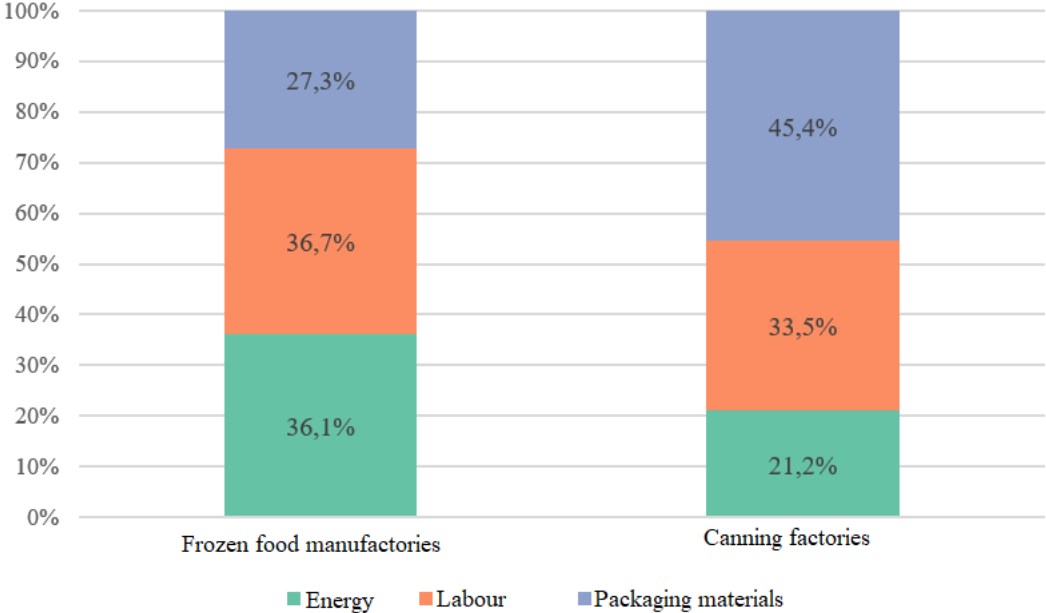
Development of production costs

In order to understand the changes in prices at the processor level, it is necessary to review other expenses of canning factories and frozen food manufacturers, too. In the following sections, we will examine the three major cost elements indicated in the data supplied by processing undertakings, namely energy, labour and packing materials. The cost structure of undertakings is shown by Figure 18. It is clear that in the case of cold stores, packaging is more simple, therefore cheaper, too (usually plastic foil), while due to the constant cooling requirement, energy costs



represent a higher percentage within total costs. As opposed to that, in the case of canning factories, the primary cost element is packaging, while energy costs play minor roles.

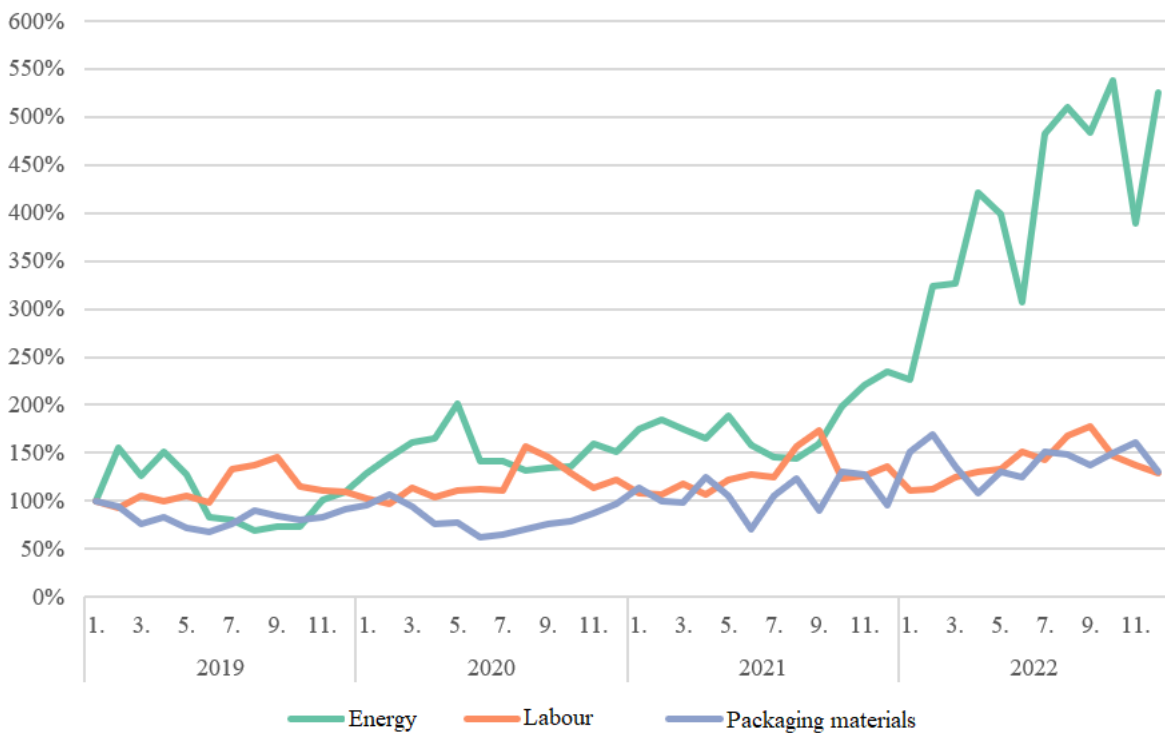
Figure 18. Cost structure of frozen food manufacturers and canning factories (in production year 2021)



Note: N = 10  
 Source: own calculation based on corporate data

In the examined period, all three cost elements were generally characterised by increasing unit prices, but the individual elements increased in different ways and to different extents (Figure 19). The most striking change is the drastic increase in energy prices (gas and electricity), which increased by four or five times by the end of 2022, compared to the level in early 2019. Although the increase in other cost elements looks small beside energy, the prices of labour and packing materials also increased by 30-40% in average, compared to the level of 2019.

Figure 19. Changes in the prices of the key expenses of processors (2019 = 100%)

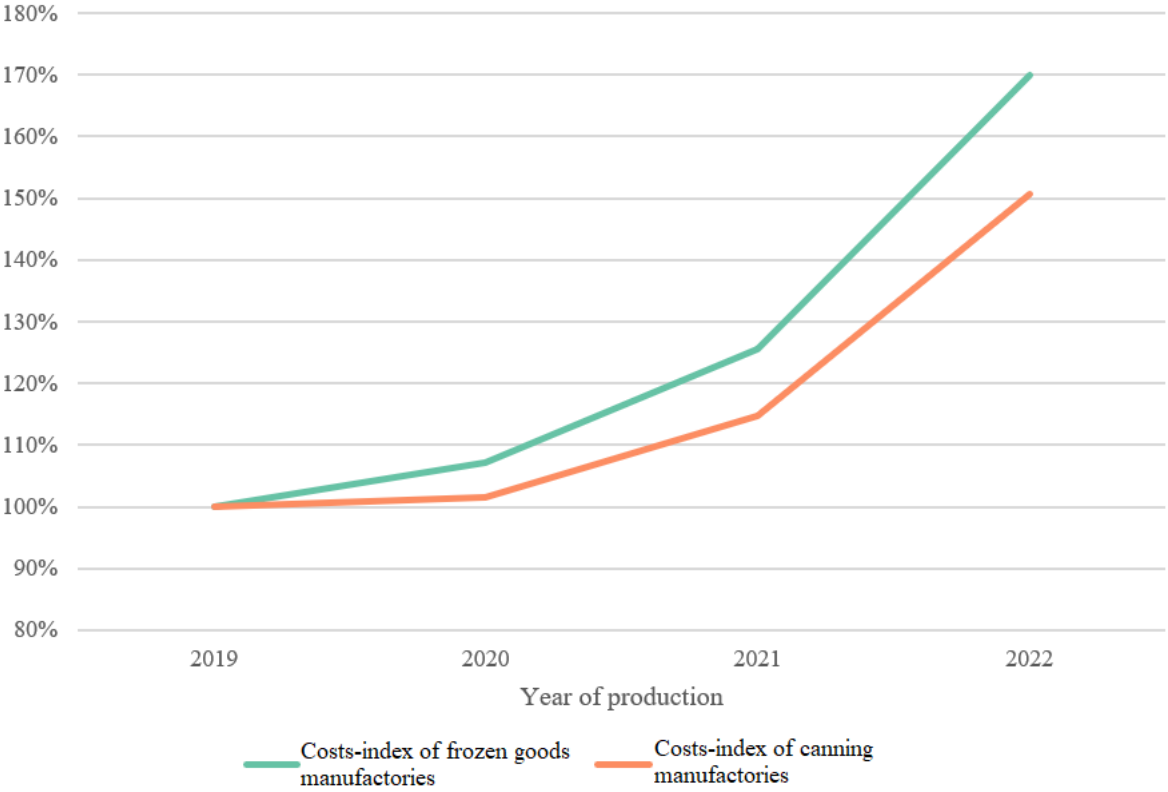


Note: N = 16

Source: own calculation based on corporate data

Compared to the picture revealed by price rises, we get a more accurate overview if we apply a cost index in which individual cost elements are weighted according to their significance in the cost structure (Figure 18). Based on Figure 20, it is clear that due to the higher energy exposure of cold stores, their costs increased more, and by the production year of 2022, this increase generated costs 1.7 times higher than in 2019. In the case of canning factories, costs increased to a smaller extent, but still significantly, mainly in 2022. All in all, what we can see is that the changes in processors' transfer prices indicated in the previous sub-section for the examined standard products were in most cases around the cost index, so processors were able to cover their increasing costs from the growing transfer prices.

Figure 20. Development of the weighted cost index of frozen food manufacturers and canning factories (2019 = 100%)



Note: N = 16  
Source: own calculation based on corporate data

## VII. Retailers

At the lowest level of the value chain of canned and frozen vegetable and fruit products, before the consumers, we can find the players who sell the products directly to the consumers. Retail companies usually buy the products from processors, wholesalers and importers.

In the rest of this chapter, we will describe the pricing and purchasing practices of retailers, as well as the problems experienced by them and their comments, based on the data received and publicly available sources.

Within the present accelerated sector inquiry, the GVH did not examine the effects of Government Decree 6/2022, (I. 14.) (food price stop), as the examined products were not affected by the price stop, and the draft report on the accelerated sector inquiry into the market of milk and dairy products discusses this issue in detail. All in all, it is worth mentioning, that while in 2019-2021 the domestic retail sector operated with profit, this profitability shrank significantly in 2022. Based on the data supplies received, retailers on the whole were operating with losses on the FMCG market. Behind this, of course, a highly heterogeneous situation can be observed. Some of the merchants were able to make profit in 2022, too; in fact, some of the retailers were able to actually increase their profit in 2022 - the latter are all retailers of smaller sizes, operating as franchise partners of domestic chains.

### Key market players and their categorisation

The number of retail chain stores of significant size is low, based on the data supplied, it is around ten. Retail chains include companies in domestic ownership and companies owned by foreign parent companies, too.

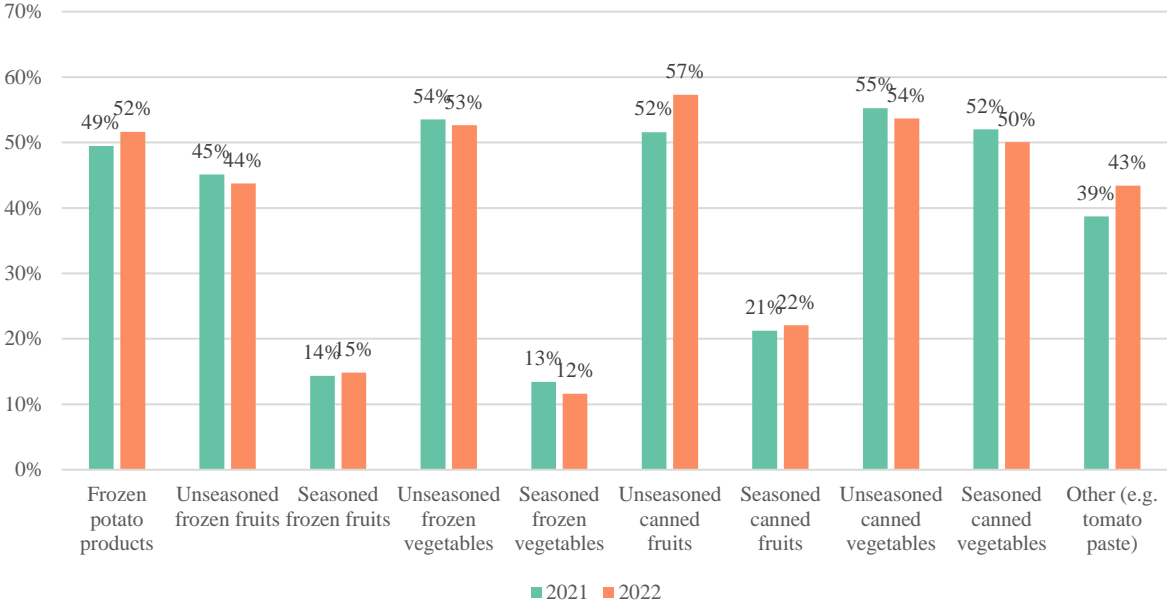
As to the way of operation, we can find companies operating franchise networks, there are discount stores, hypermarkets, companies operating convenience units, and companies selling products in the online space only. The usual setup is that the central operator is in contact with the national suppliers and serves the individual retailers. It is a typical feature of the operation of franchise networks that their stores are not managed directly by the centre, but the companies contracted as franchises perform these tasks. In the case of undertakings operating in systems other than franchise, the formulation of the business policy and the renting of the required areas are carried out by the central undertaking.

### Ratio of branded and private label products

Before discussing factors influencing price changes, we will briefly describe how important the roles played by the private label products of retailers are in individual product groups, and what their share is in the sales volume. We can observe on Figure 21. that the ratio of private label products increased in half of the groups by 2022 (by 2.8 percentage points in average), but in the rest of the groups, it did not change or even dropped slightly. Among the various product groups, it was unseasoned canned vegetables and fruits that chain stores sold in the highest ratio under their own labels, and private label seasoned frozen vegetables and fruits were sold in the lowest ratio. All in all, in the respect of retailers, we can see that there has been no significant change in

the sales ratios of private label products over the past years. However, there is a strong heterogeneity behind the data of Figure 21., as in the case of some retailers, most of the products are private label products, while in other cases, the role of such products is less significant.

Figure 21. Average volume ratio of private label products in the sales of retail players, by product group, in 2021 and 2022



Note: N = 18  
 Source: own calculation based on corporate data

### Expenses of retailers, factors considered when setting consumer prices

Based on the data received, retailers use a complex system of considerations for the definition of their consumer prices to be applied in the case of various canned and frozen vegetables and fruits. It is usually the costs, the purchase prices and the prices of competitors that play the key roles in pricing.

The expenses of undertakings have increased considerably over the past period, and this is reflected in the prices, too. This is true for energy costs, raw materials, wages, rents of shops, logistics and operation costs, too. The significant increase in energy prices had an especially strong impact on the prices of frozen products because of the cooling requirement.

As to purchase prices, we can see that costs increased significantly at the levels preceding retailers in the value chain, and market players enforced these increased costs in the setting of their transfer prices charged to retailers. Last year, the supplier partners of retail undertakings asked for the renegotiation of supplier contracts much more frequently than before, usually with the intention of specifying higher prices. For this reason and due to the already listed impacts, increased purchase prices appeared in consumer prices, too, causing price increases over the past period. Based on an obligation defined by legal regulations<sup>10</sup>, retail chains cannot sell their products at a level below the purchase price, so the prices increased by producers and processors will inevitably appear in

<sup>10</sup> Act CLXIV of 2005 on Retail Trade, Section 7 (2) i)

shelf prices, too. At the same time, in the definition of individual consumer prices, retailers monitor the prices applied by competitor undertakings, too, and take these prices into consideration.

Exposure to the supplier side is another important factor in pricing. Several market players indicated that the producer/purchaser side - and the processor/producer side also - has a strong interest enforcing ability and lobbying power in both the management of the sector and in agricultural chamber organisations holding official competences, too. Traders do not have such interest enforcing powers, so they are exposed to the requirements of other players in the value chain to some extent.

In addition to the above-mentioned factors, the prices applied by retailers are influenced by certain sector-specific factors, too. These include tax burdens applicable to the retail sector (too), such as the retail tax<sup>11</sup> and the supplementary retail tax,<sup>12</sup> and some traders make up for their losses made on the sale of products subject to the price caps in the pricing of other products.

Retail companies usually apply uniform prices in their individual trading units. In the case of companies applying identical prices in each unit, possible price differences may be primarily attributed to special conditions, such as the close expiry of the product or the use of home delivery service. Companies with units using different prices explain this with the different characteristics of the trading units and their locations. This way in smaller shops and in shops operating deli counters and fridges, and selling fresh bakery products, due to the higher operation costs, prices may be higher than in larger shops not involved in such activities.

According to the data received, producers and processors do not and cannot specify any requirements against retail trading units regarding their shelf prices.

### Analysis of retail prices and margins

In the analysis of the changes in consumer prices, the GVH examined the purchase prices and the expenses of retail players, and based on that assessed how the margins and the profitability of retail players changed between 2019 and 2022.

In the case of retail companies, the majority of the income from the final sales price (61% in average) covers the purchase value of the goods sold, and this ratio was basically constant in the examined period.

The difference between the sales price and the purchase price of the product is called gross margin. The retail company has to use this gross margin to cover all other costs, from the wage of employees to energy and operation costs and taxes paid. The amount remaining after the deduction of all costs is the profit of the company. It is fair to say in general that the more intensive the competition in the retail sector is, the closer the changes in the gross margin will follow the changes in costs, as traders increasing the prices more than the increase in costs will not be popular among consumers. At the same time, when defining the consumer prices, the retailer is influenced by a number of factors other than cost, and they affect the specific pricing strategy of individual products. The retailer has to take into account, on the one hand, the demand for the product and

---

<sup>11</sup> Act XLV of 2020 on Retail Tax

<sup>12</sup> 197/2022. (VI. 4.) Government Decree

some of the characteristics of the product (e.g., shelf life), and on the other hand, the structure of the retail market and the intensity of the competition.

When analysing the prices and margins, the GVH examined canned and frozen vegetable and fruit products in a breakdown to eight product groups (unseasoned frozen vegetables, unseasoned frozen fruits, seasoned frozen vegetables, unseasoned canned vegetables, unseasoned canned fruits, seasoned canned vegetables, frozen potato products, and other products, e.g., tomato paste). In the case of these eight product groups, the prices of usually one or two, sometimes three standard products with high consumption rates were examined in detail. Now we present the development of the purchase and sales prices of these products and the differences between the two, i.e. the change in gross margin over time from 2019 to 2022.

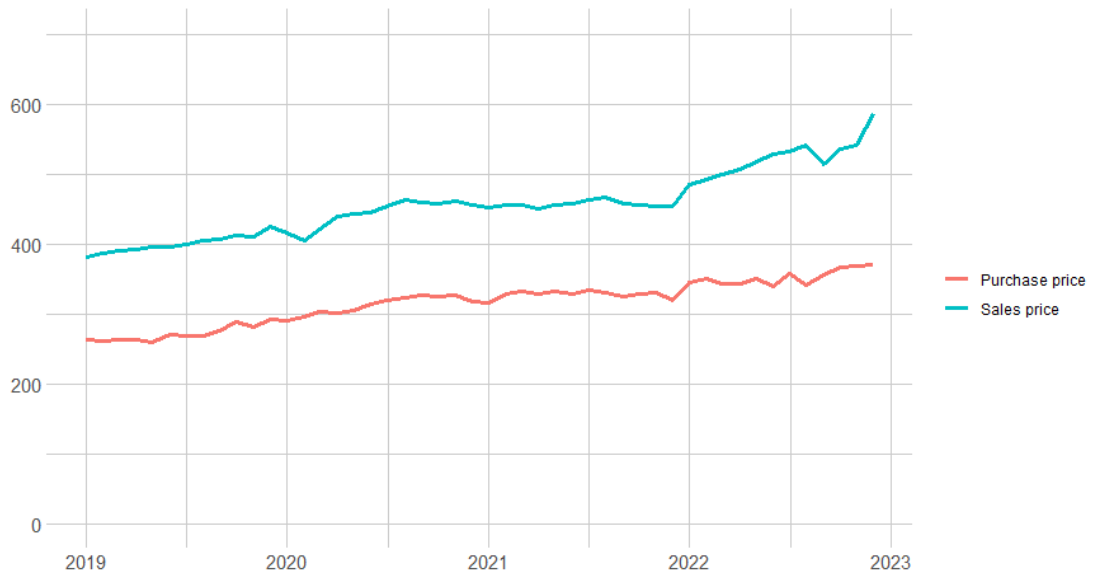
The gross margin was broken down by cost type, too, in the analysis. It is an assumption behind the applied statistical method that non-dividable costs were attached to each product proportionally in 2019, so, for example, the operation costs of shops were divided among each product distributed in the shop in a proportional way in 2019. Then we examined how the size of individual costs changed in the following years (in 2020, 2021 and 2022); and based on the changes in costs in percentage, we examined how the gross margins should have changed if these increased costs had been added by retailers to the prices of individual products. The numbers calculated in this way basically mean that if the costs of the company are distributed proportionally among the products sold, then, in a given year, from the gross margin realised on one unit of a product (one litre, one kilogram etc.) how many forints were spent by retailers on certain cost elements, and how many forints were realised as profit. If retailers increased the gross margin of individual products to a higher (lower) extent in 2020, 2021 or 2022 than the proportionate change in costs, they had more (less) profit on the given product.

In reality, differences even bigger than the ones specified in this theoretical assumption are possible, as retailers consider other factors (e.g., price flexibility of demand, shelf-life of products) in their pricing, too, and retailers are free to determine their pricing strategies, including how much they change the prices of certain products, what products would be offered at a lower price or at a relatively higher price. Therefore, the price and cost analysis presented here is only an illustration. The situation is made even more complicated by the fact that the maximum price ('price stop') introduced for some food products caused significant losses to retailers on a few products, and that may have upset the earlier established pricing strategy, which had to be rethought, and that affected all product categories.

### *Unseasoned canned vegetables*

From the product group of unseasoned canned vegetables, we examined gherkins sold in jars and chickpeas and crumbled sweet corn sold in metal cans. In the case of all three products, purchase and sales prices moved together and grew continuously in most of the period, then, from the end of 2021 and from the beginning of 2022, the trend was broken, as the size of differences between time series increased in forints, i.e. margins started to grow more. At the end of the period, margins in most cases were 1.7 times higher than the initial values.

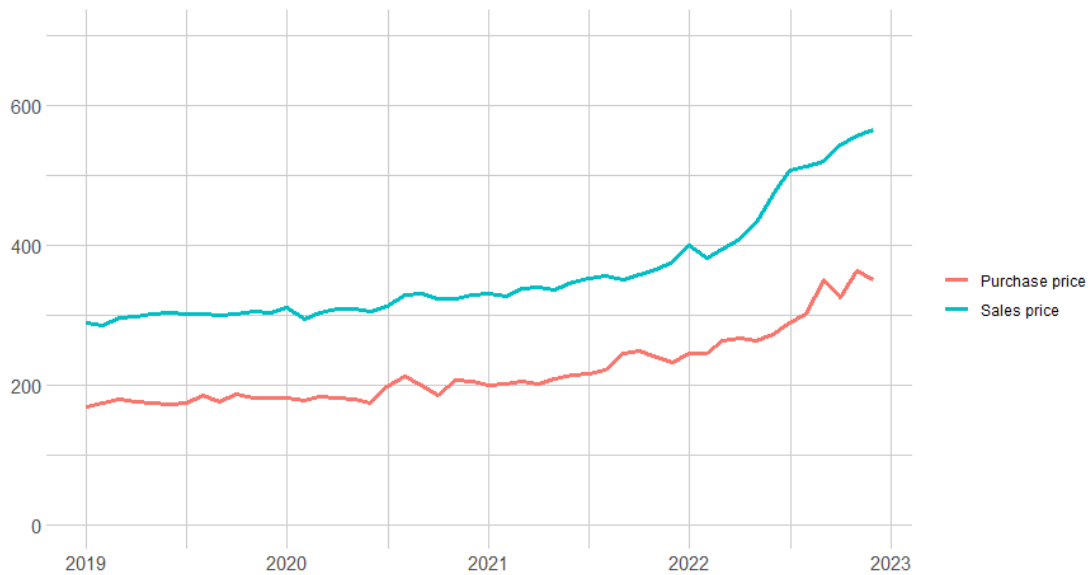
Figure 22. Average purchase prices and net sales prices of gherkins of 6-9 cm (HUF/jar)



Note: N = 16

Source: own calculation based on corporate data

Figure 23. Average purchase prices and net sales prices of crumbled sweet corn (HUF/can)

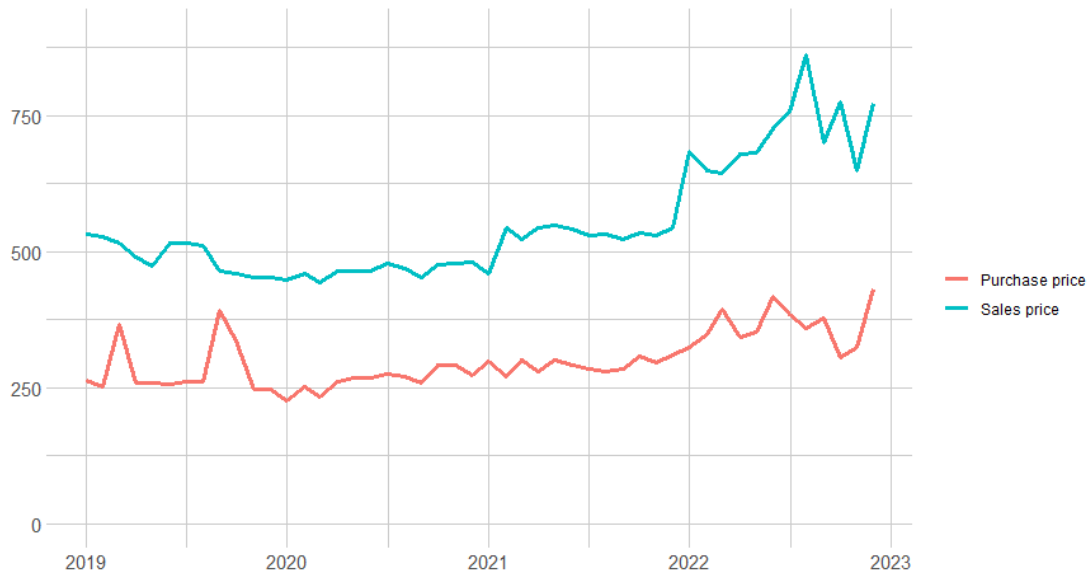


Note: N = 16

Source: own calculation based on corporate data



Figure 24. Average purchase prices and net sales prices of canned chickpeas (HUF/can)

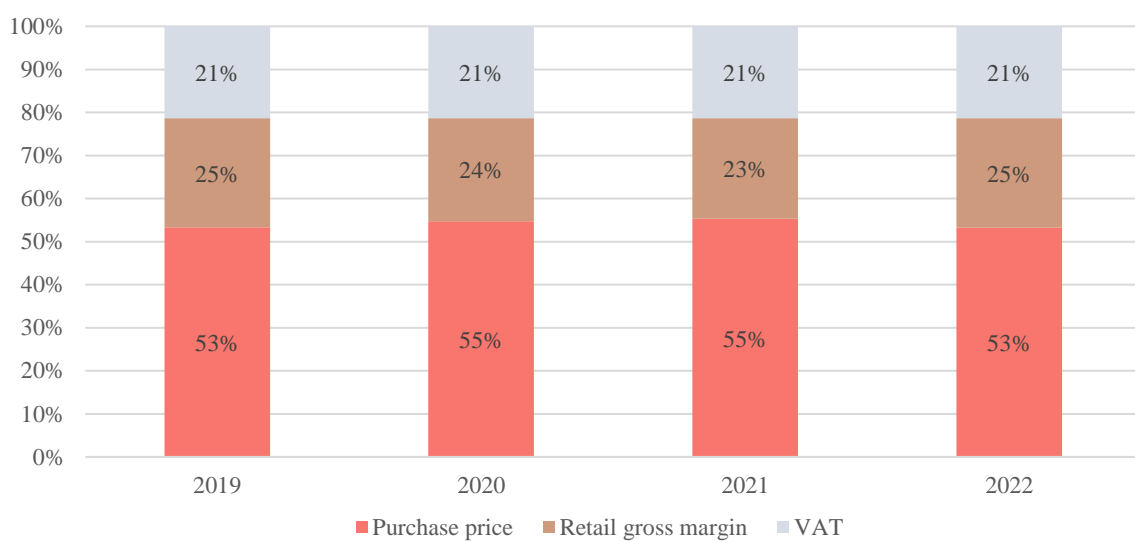


Note: N = 16

Source: own calculation based on corporate data

Based on the breakdown of consumer prices, we can observe that the percentages of margins developed in different ways for various products. While in 2022, following a relatively steady status over the previous years, the margin of sweet corn and chickpeas dropped, there was an increase in the case of gherkins. These changes can be considered significant in the case of gherkins (growth by 2 percentage points) and chickpeas (drop by 9 percentage points).

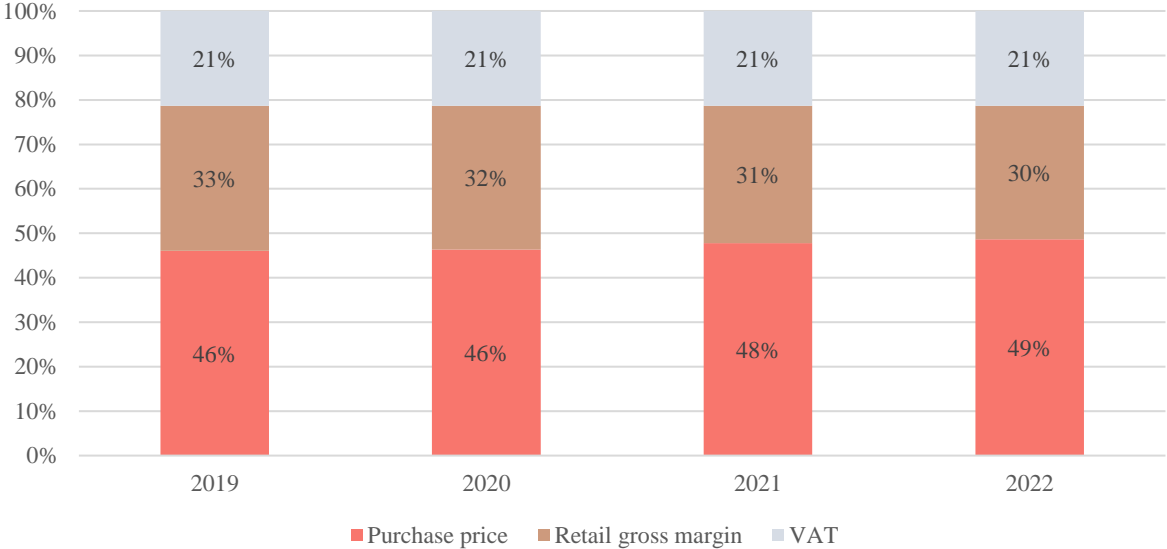
Figure 25. Breakdown of the consumer price of gherkins of 6-9 cm



Note: N = 11

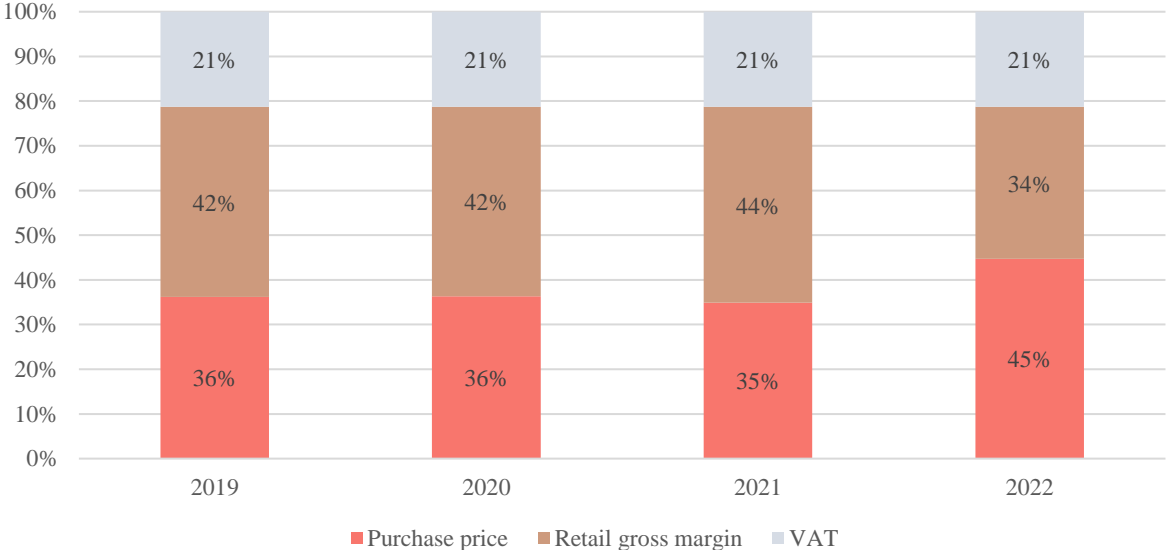
Source: own calculation based on corporate data

Figure 26. Breakdown of the consumer price of crumbled sweet corn



Note: N = 11  
 Source: own calculation based on corporate data

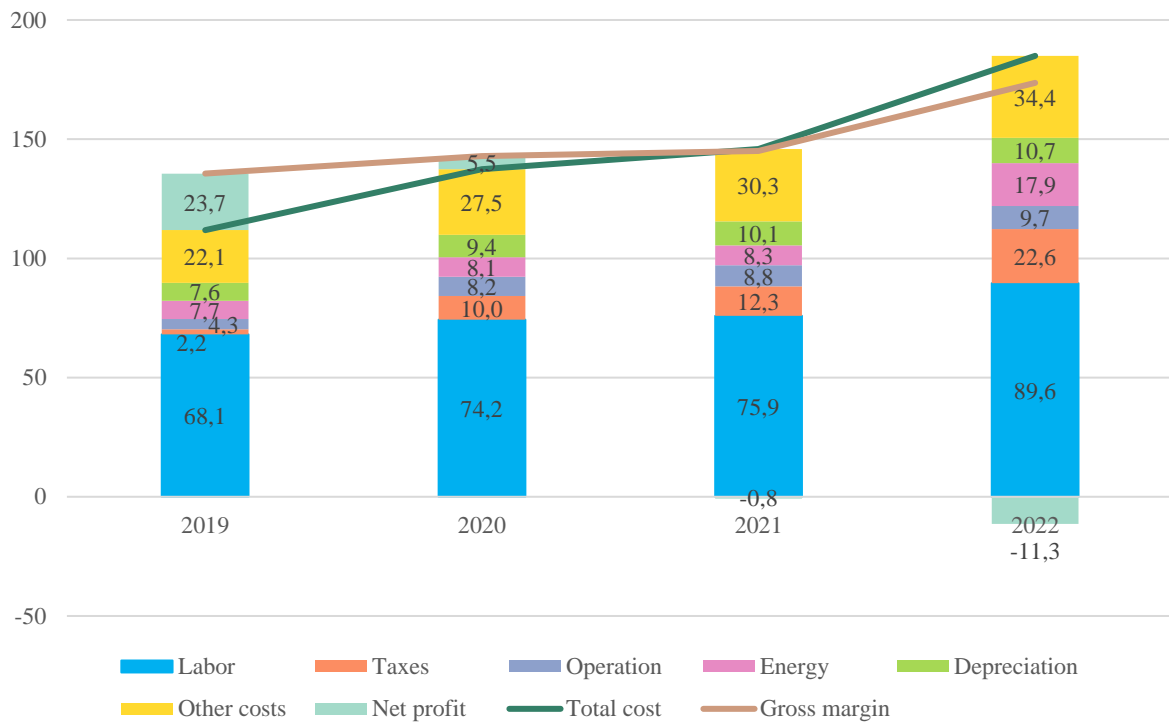
Figure 27. Breakdown of the consumer price of canned chickpeas



Note: N = 11  
 Source: own calculation based on corporate data

However, the gross margins of retailers in HUF increased in a lot of cases, even when the margin decreased in percentage, and this can be attributed to the significantly increased purchase prices. Even so, in this product group, only sweet corn remained profitable during the period, as in the case of this product, profit per one unit of product increased by 2022. In the case of the two other standard products, however, we can see a small loss in 2022. Due to the high margin in percentage and the applied statistical methodology, in reality this implies that retailers had a smaller profit on this product than in previous years, but the gross margin of retailers still makes up approximately one third of consumer prices, which is relatively high.

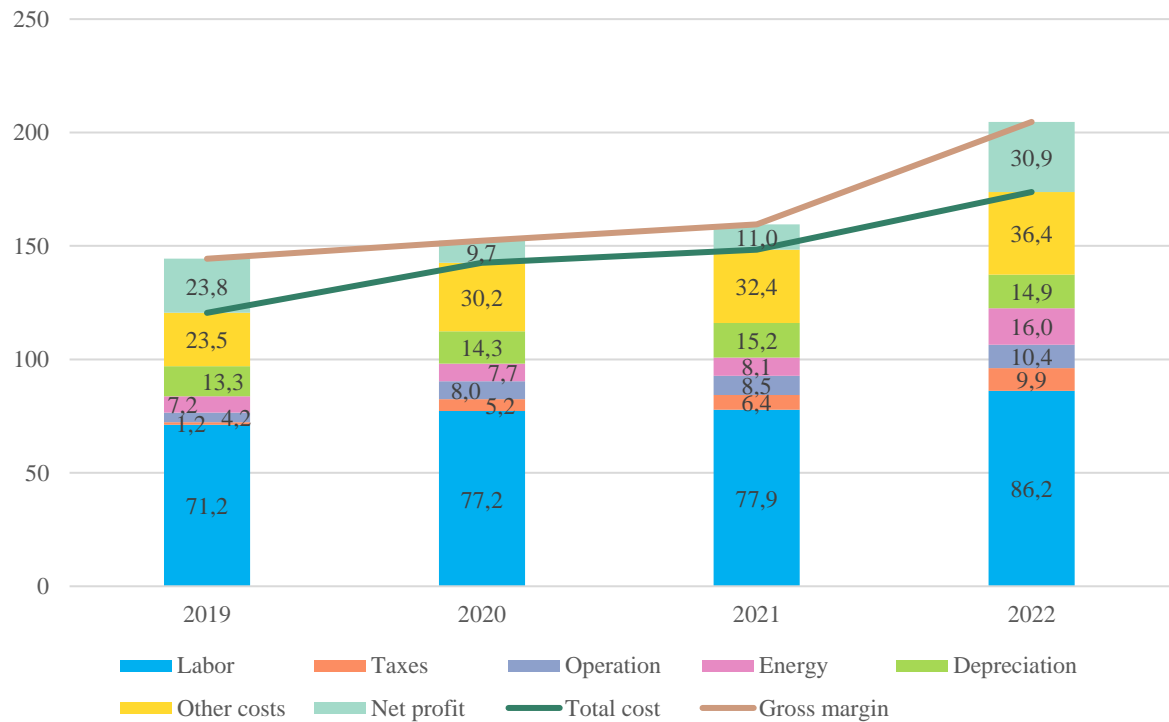
Figure 28. Profitability of gherkins of 6-9 cm (HUF/jar)



Note: N = 11

Source: own calculation based on corporate data

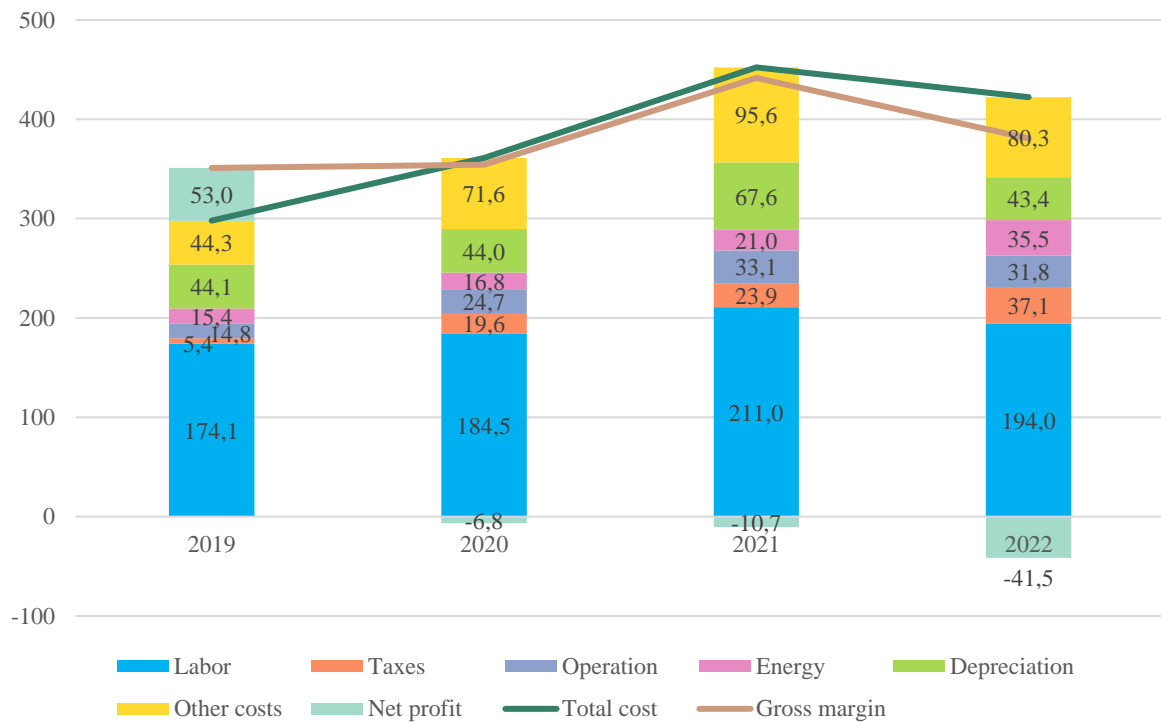
Figure 29. Profitability of crumbled sweet corn (HUF/can)



Note: N = 11

Source: own calculation based on corporate data

Figure 30. Profitability of chickpeas in metal can, 400 g (HUF/can)



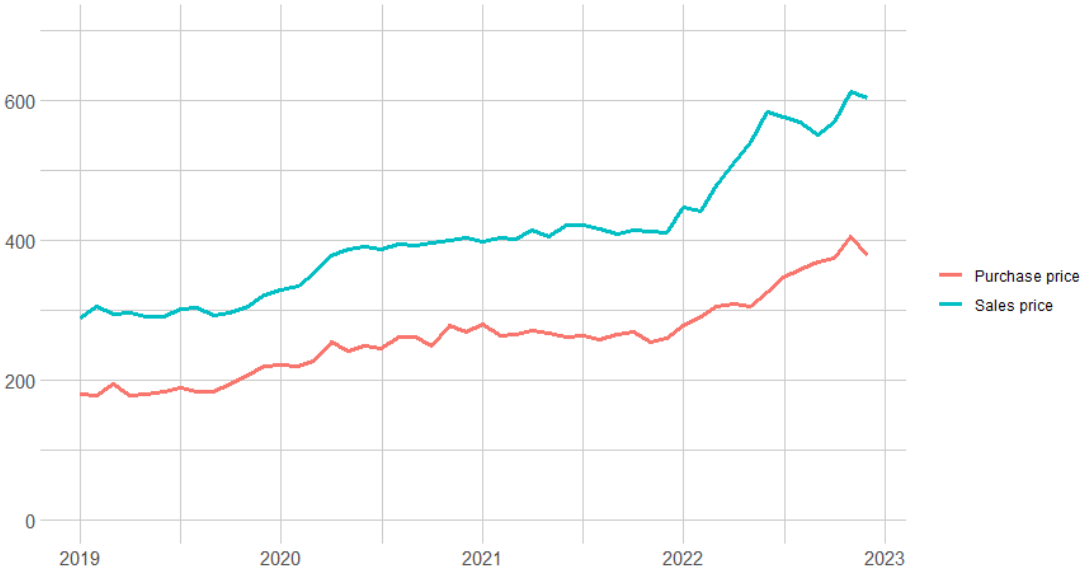
Note: N = 11

Source: own calculation based on corporate data

### Seasoned canned vegetables

In the case of this product group, the product examined by during the investigation was canned chili beans (red beans in hot sauce). In the case of this product, we can also observe that purchase prices and sales prices moved together and continuously increased in most of the period. As of the autumn of 2021, the growth rate of the purchase price was different from that of the sales price, to an extent that by the end of the period, the margin was 2.2 times higher than at the beginning of the period.

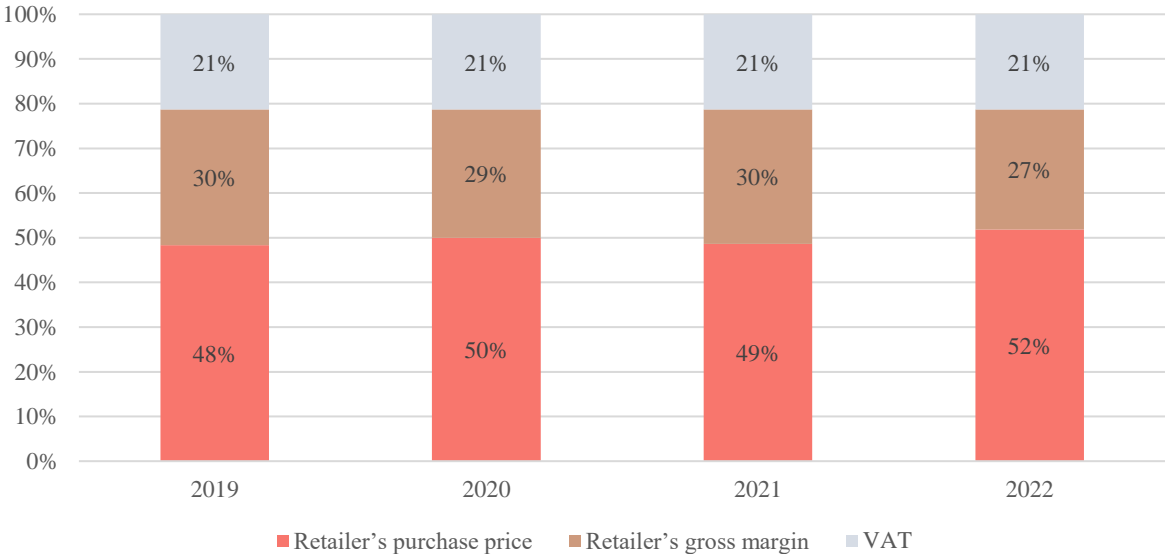
Figure 31. Average purchase prices and net sales prices of canned chili beans (HUF/can)



Note: N = 16  
 Source: own calculation based on corporate data

Based on the breakdown of consumer prices, we can see that in the examined period, the margin of retailers did not change significantly in percentage before 2022, as there were changes of about one percentage point only every year (both in positive and negative directions). By 2022, however, a significant decrease was experienced, as the percentage rate of the margin dropped to 27% from the earlier 30%.

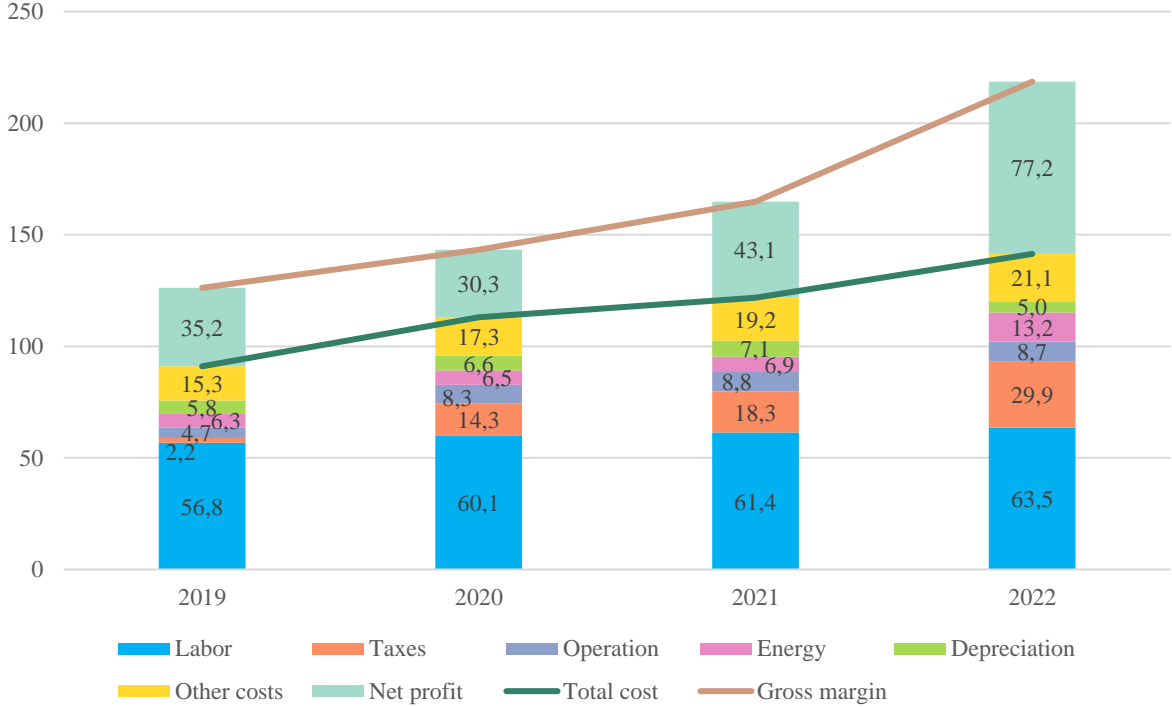
Figure 32. Breakdown of the consumer price of chili beans



Note: N = 11  
 Source: own calculation based on corporate data

Based on Figure 33., it is clear that chili beans were profitable throughout the whole period, and since 2021, the ratio of the profit within the margin has been continuously growing.

Figure 33. Profitability of chili beans (HUF/can)

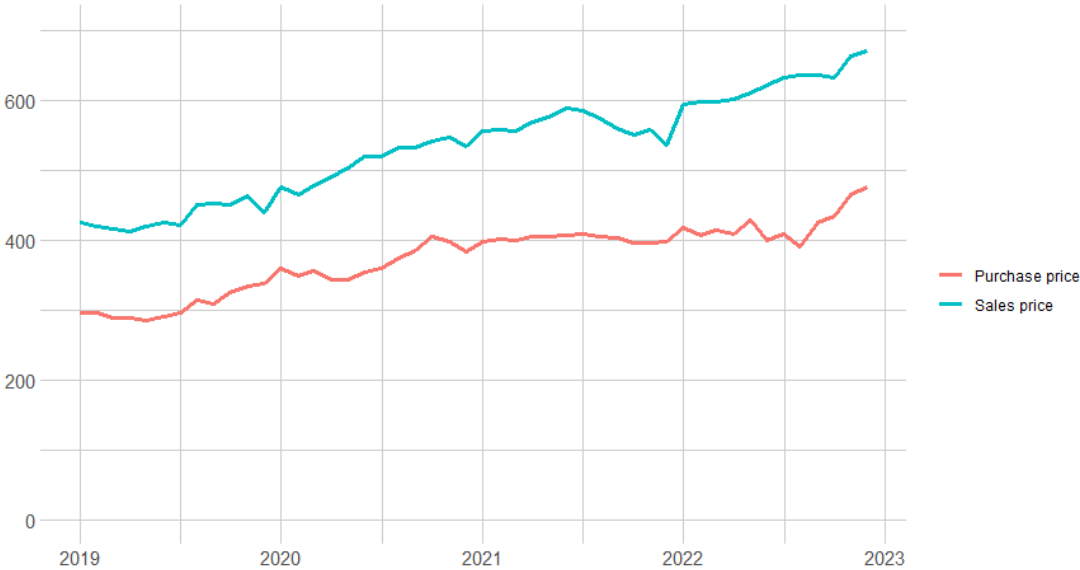


Note: N = 11  
 Source: own calculation based on company data

*Unseasoned canned fruits*

For the illustration of unseasoned canned fruits, we used pitted sour cherry in jar, as a standard product. Based on Figure 34., we can observe that purchase prices and sales prices moved together and followed a positive trend in the examined period, and from the end of 2021, the growth rate of the purchase price was different from that of the sales price. At the end of the examined period, similarly to unseasoned canned vegetables, the margin was 1.7 times higher than its initial value.

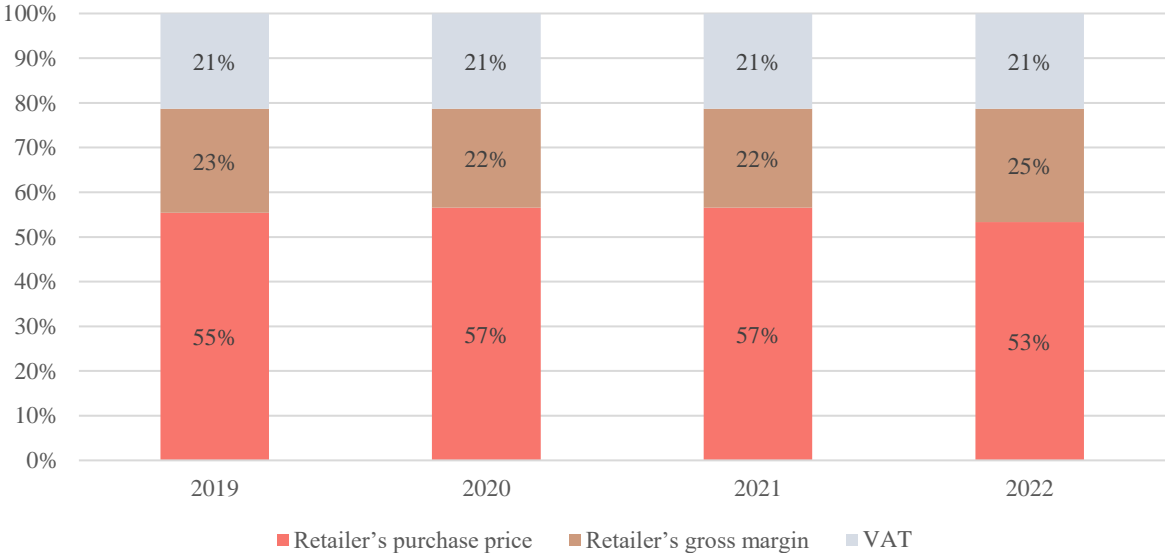
Figure 34. Average purchase prices and net sales prices of pitted sour cherry in jar (HUF/jar)



Note: N = 16  
 Source: own calculation based on corporate data

The percentage ratio of the margin of sour cherry in the consumer price did not show significant changes between 2019 and 2021, but by 2022, we observed a significant change of about 3 percentage points.

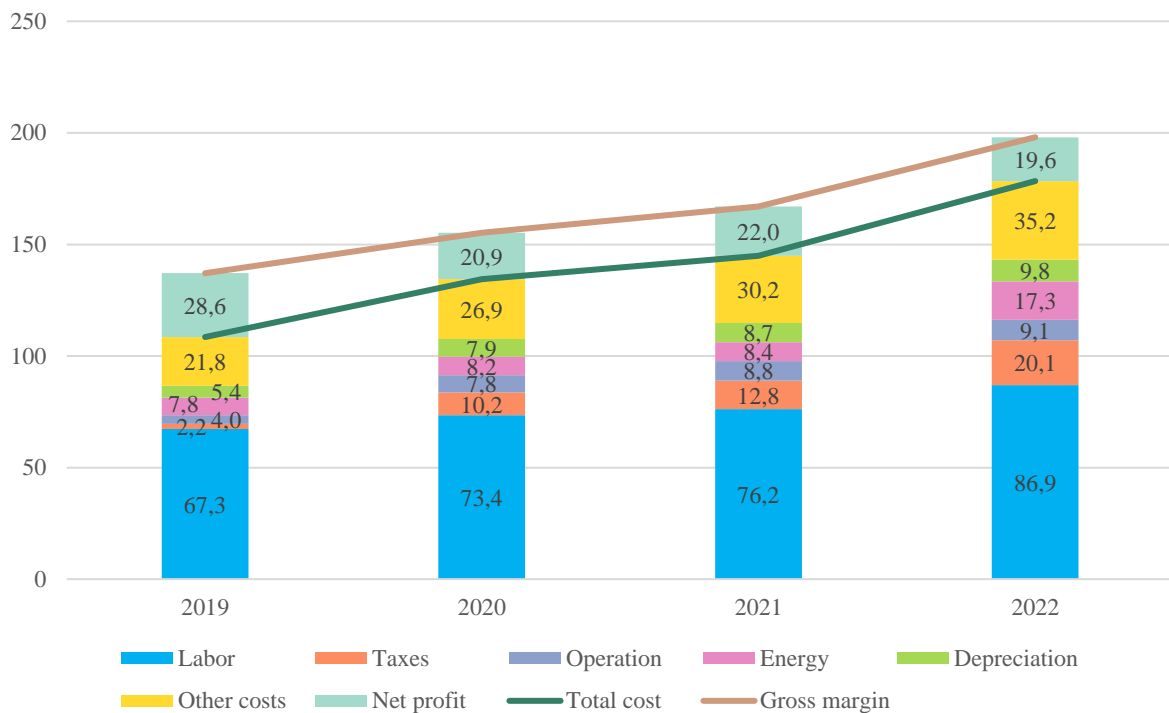
Figure 35. Breakdown of the consumer price of pitted sour cherry in jar



Note: N = 11  
 Source: own calculation based on corporate data

Together with the growth in percentage, the size of the margin in HUF also increased, and the product remained profitable throughout the whole period.

Figure 36. Profitability of pitted sour cherry in jar (HUF/jar)



Note: N = 11

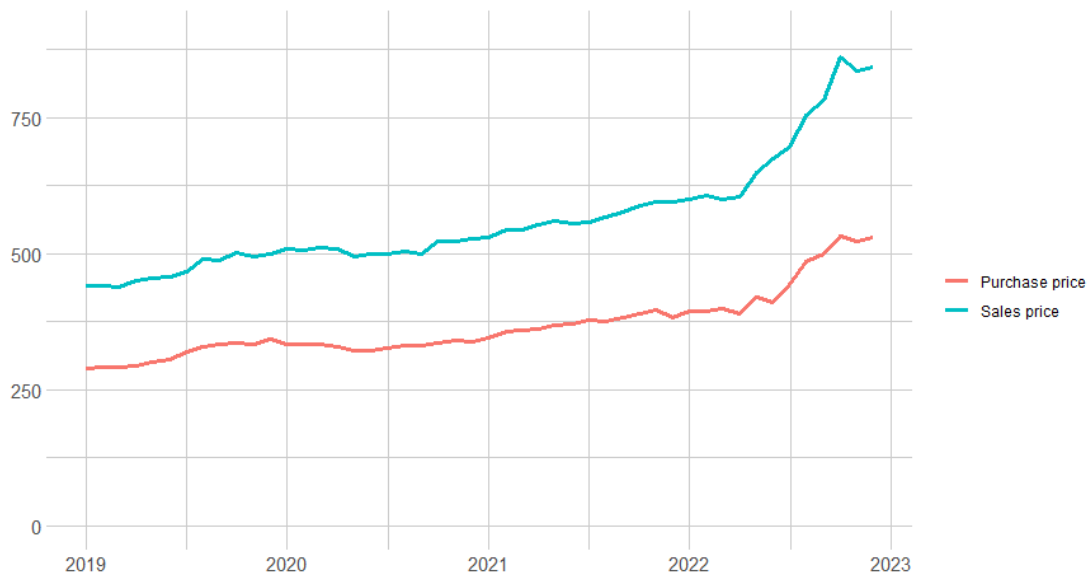
Source: own calculation based on corporate data

### Unseasoned frozen vegetables

From this product group, we examined quick-frozen green peas, sweet corn and Mexican vegetable mix as standard products. In the case of all three products, the purchase and the sale time series moved together and increased continuously in most of the period, although this moving together was stronger in the case of green peas. As of the first half of 2022, margins grew more intensively for these products. At the end of the examined period, the margin was about 1.7 times higher than initially, and this was basically identical with the situation of unseasoned canned vegetables.



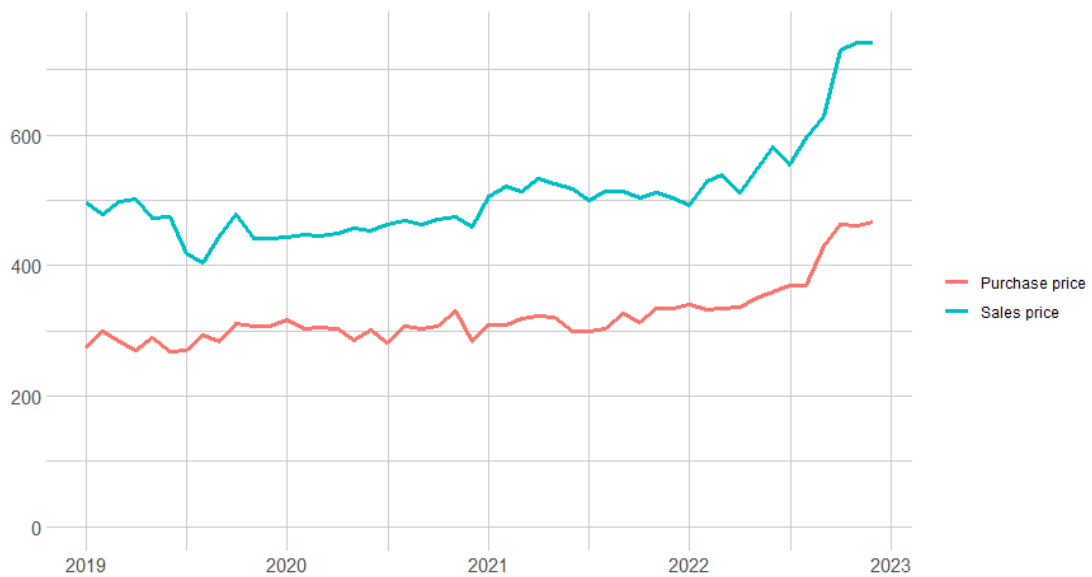
Figure 37. Average purchase prices and net sales prices of quick-frozen green peas (HUF/kg)



Note: N = 16

Source: own calculation based on corporate data

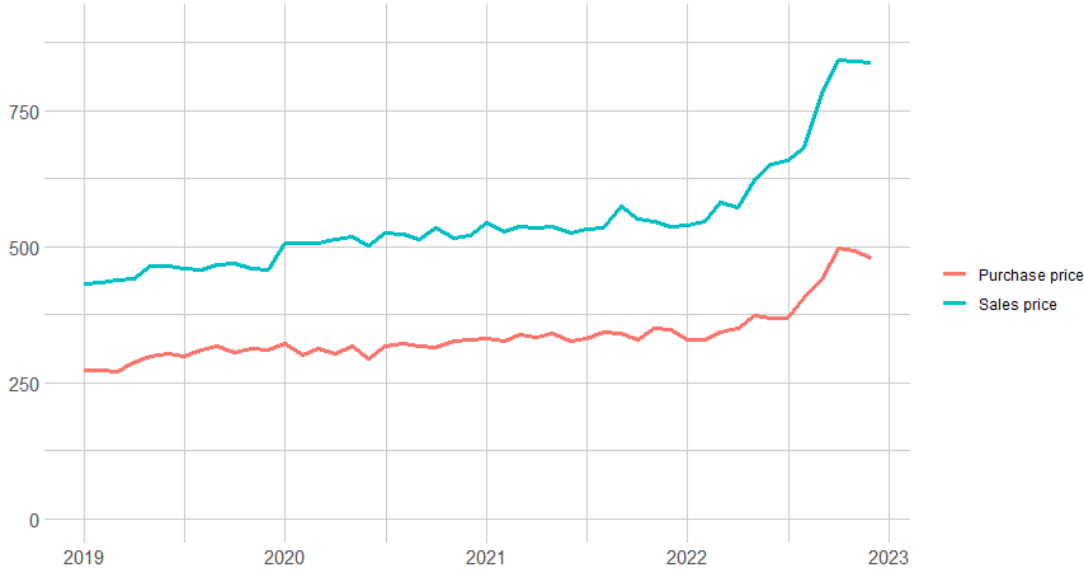
Figure 38. Average purchase prices and net sales prices of quick-frozen sweet corn (HUF/kg)



Note: N = 16

Source: own calculation based on corporate data

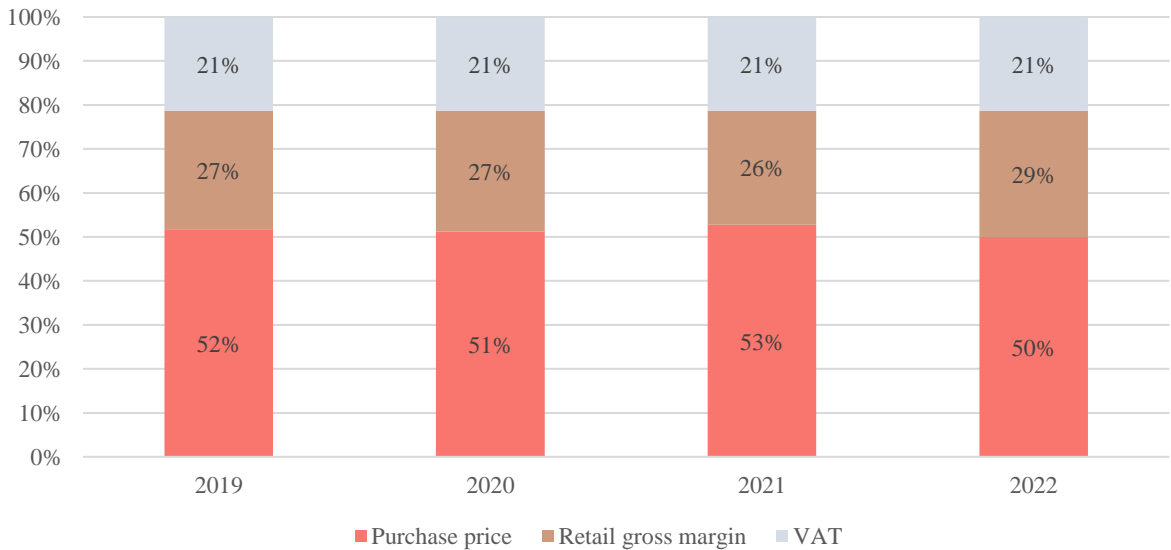
Figure 39. Average purchase prices and net sales prices of quick-frozen Mexican vegetable mix (HUF/kg)



Note: N = 16  
 Source: own calculation based on corporate data

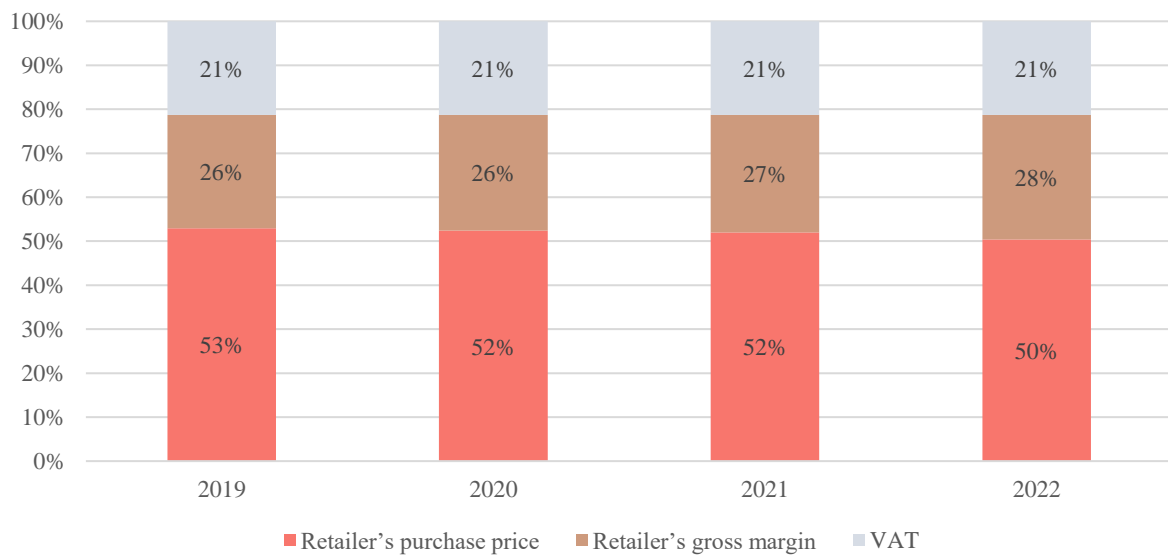
Based on the breakdown of consumer prices, it is obvious that the margin of retailers was relatively different in percentage, although by 2022, the margins of all three commodities reached their highest growth. In the case of frozen green peas and the Mexican vegetable mix, this was preceded by aberrations in both directions, while in the case of frozen sweet corn, it was preceded by small but steady growth.

Figure 40. Breakdown of the consumer price of quick-frozen green peas



Note: N = 11  
 Source: own calculation based on corporate data

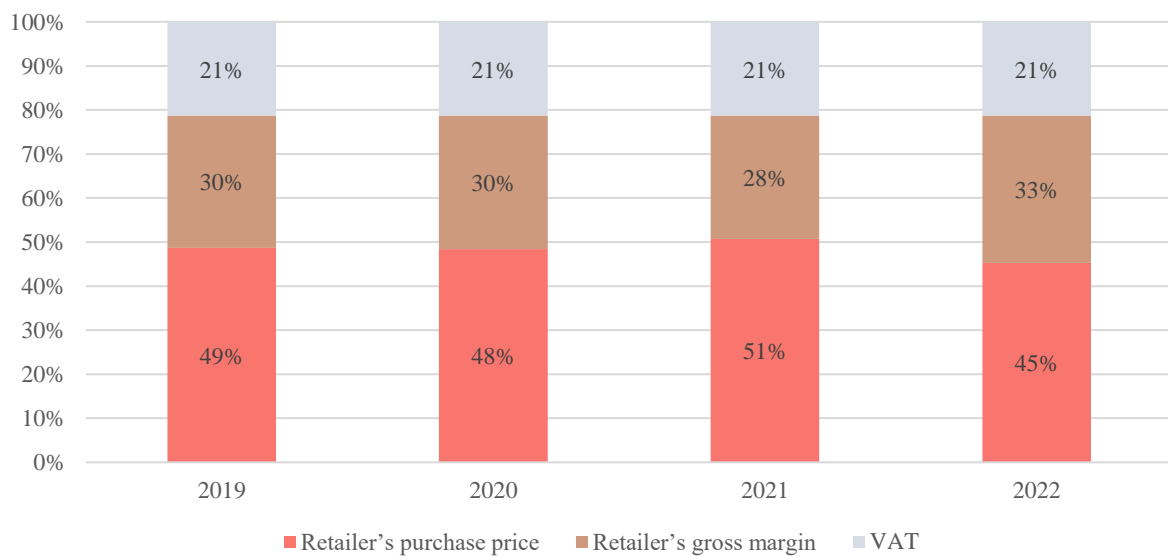
Figure 41. Breakdown of the consumer price of quick-frozen sweet corn



Note: N = 11

Source: own calculation based on corporate data

Figure 42: Breakdown of the consumer price of the quick-frozen Mexican vegetable mix

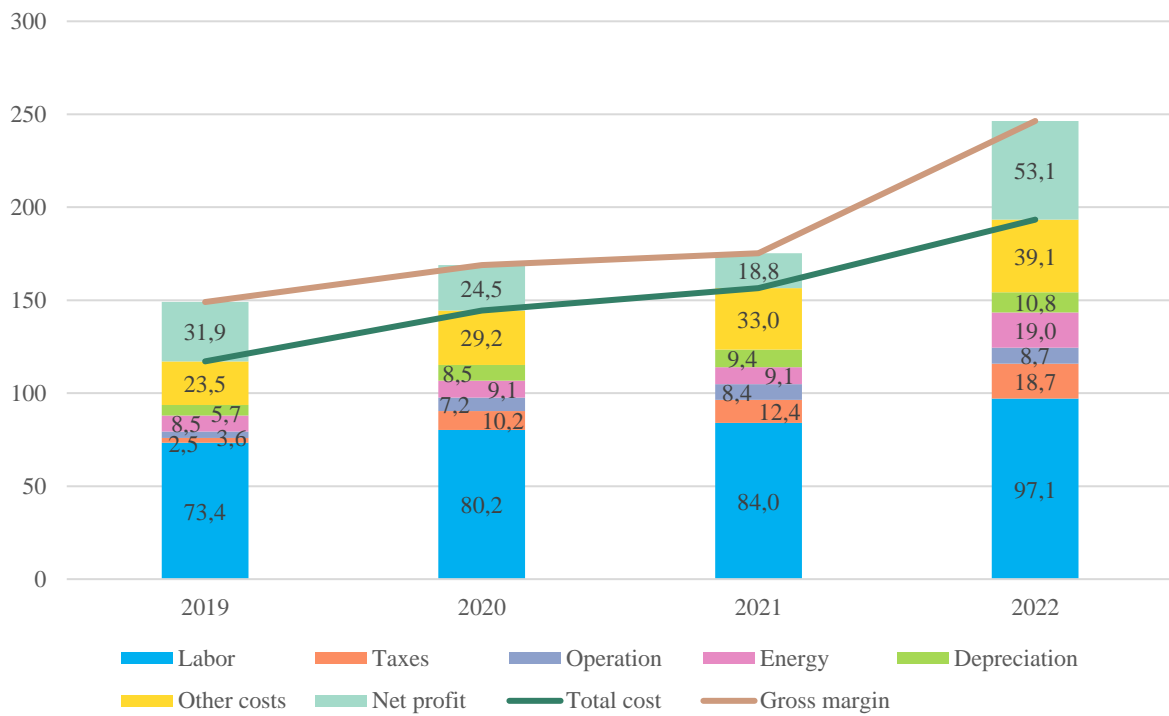


Note: N = 11

Source: own calculation based on corporate data

Based on the breakdown of the gross margin, the HUF values of the commodities of this product group continuously grew in the examined period, and they were profitable during the whole period (except for the Mexican vegetable mix in 2021). By 2022, the ratio of profit within the margin on one unit of product increased for all three products, but this ratio is still small.

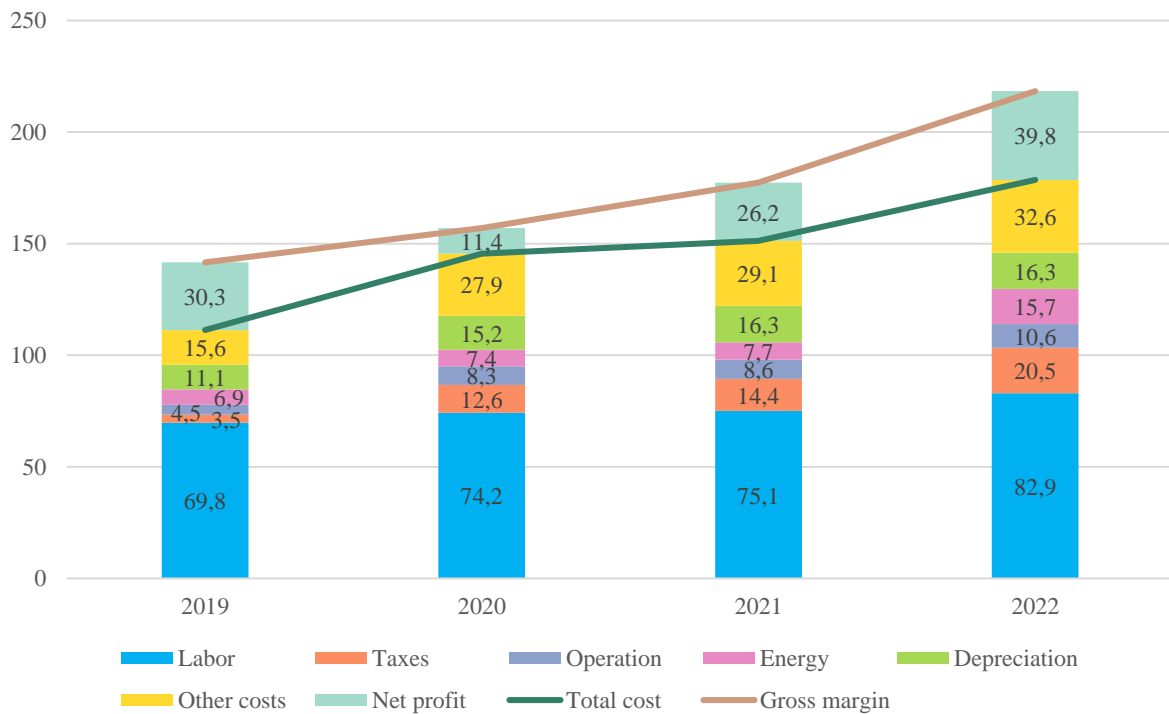
Figure 43. Profitability of quick-frozen green peas (HUF/kg)



Note: N = 11

Source: own calculation based on corporate data

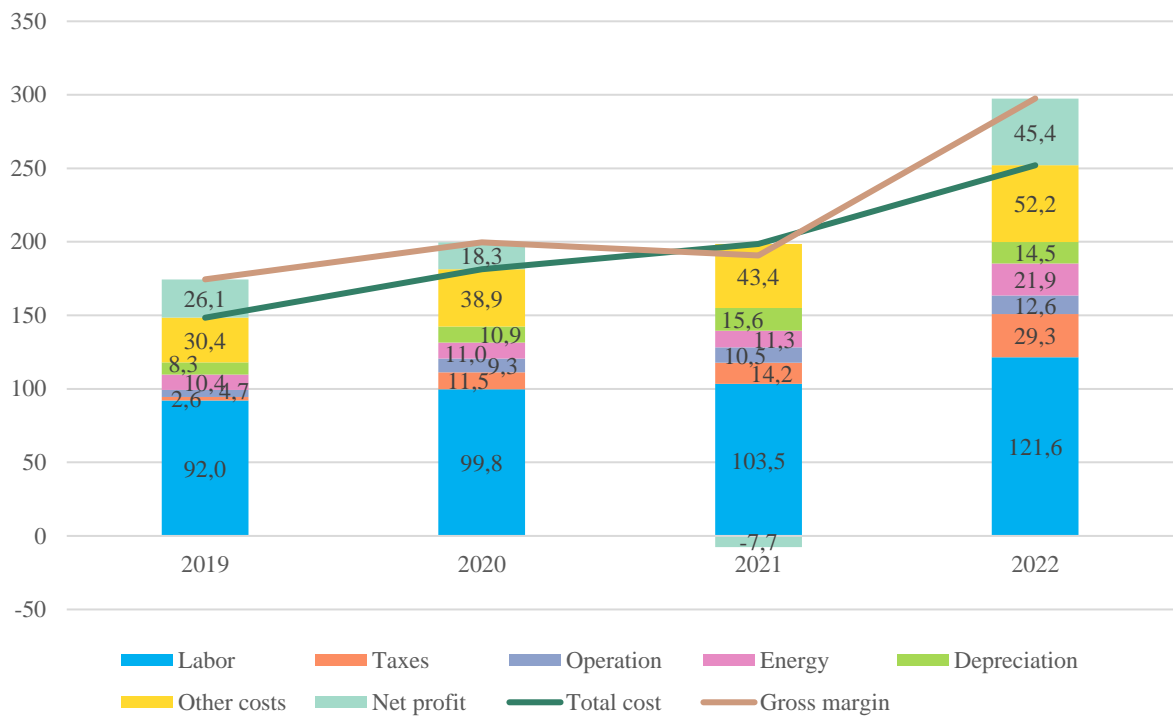
Figure 44. Profitability of quick-frozen sweet corn (HUF/kg)



Note: N = 11

Source: own calculation based on corporate data

Figure 45. Profitability of the quick-frozen Mexican vegetable mix (HUF/kg)



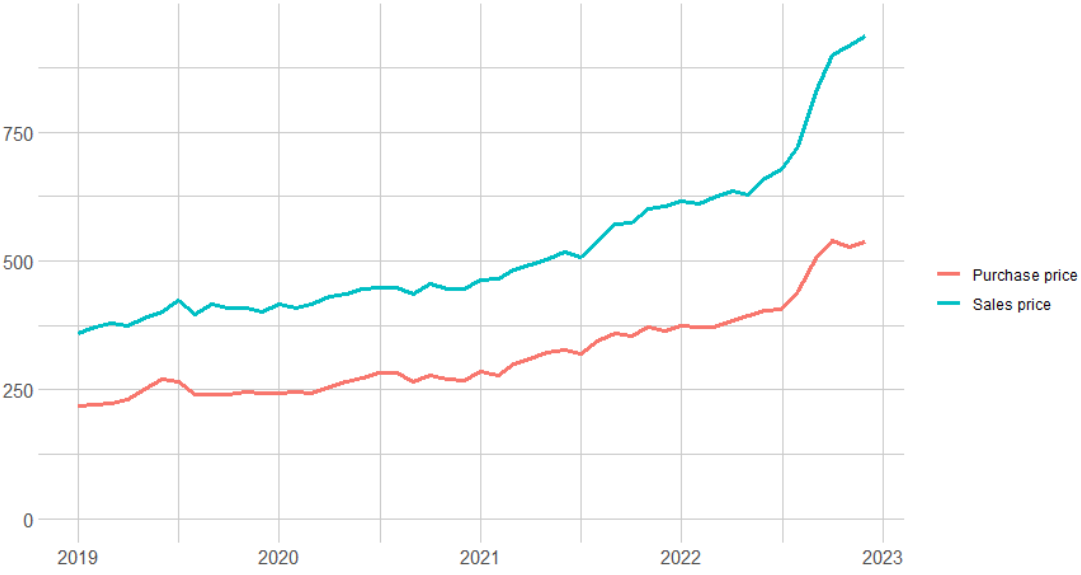
Note: N = 11

Source: own calculation based on corporate data

### Seasoned frozen vegetables

In the case of seasoned frozen vegetables, we examined shredded marrows with dill. The purchase and the sale time series moved together and followed a positive trend during the period. As of the second half of 2022, margins grew more intensively. At the end of the examined period, the margin was about 2.3 times higher than initially, and this was basically identical with the situation of seasoned canned vegetables.

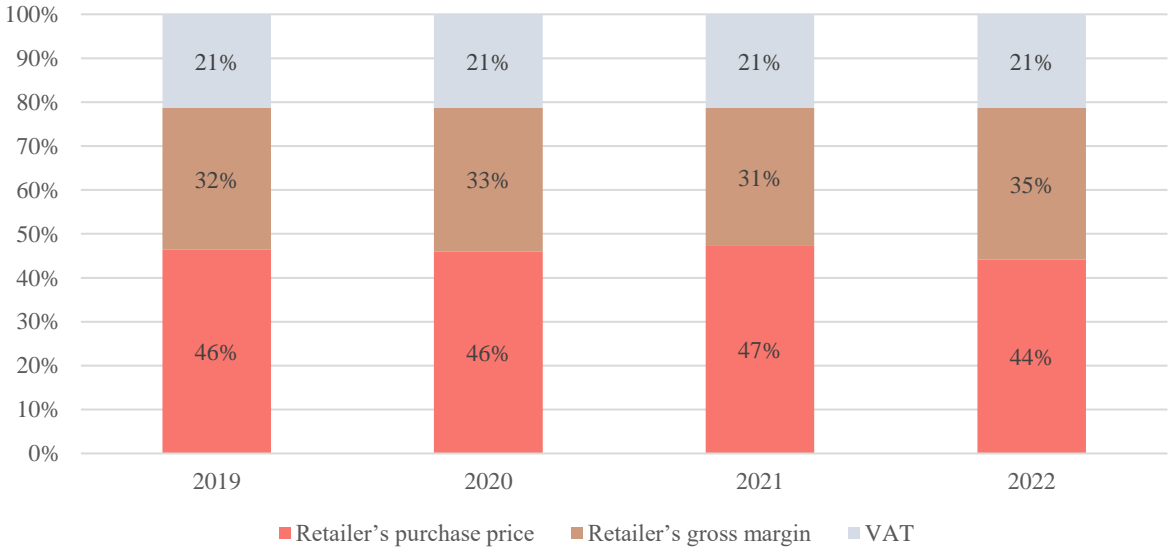
Figure 46. Average purchase prices and the net sales prices of the quick-frozen shredded marrows with dill (HUF/kg)



Note: N = 16  
 Source: own calculation based on corporate data

Based on the breakdown of the consumer price, we can see that although in 2021 we experienced a one or one and a half percentage point decrease in the percentage ratio of margins, this was followed by a more significant growth in 2022.

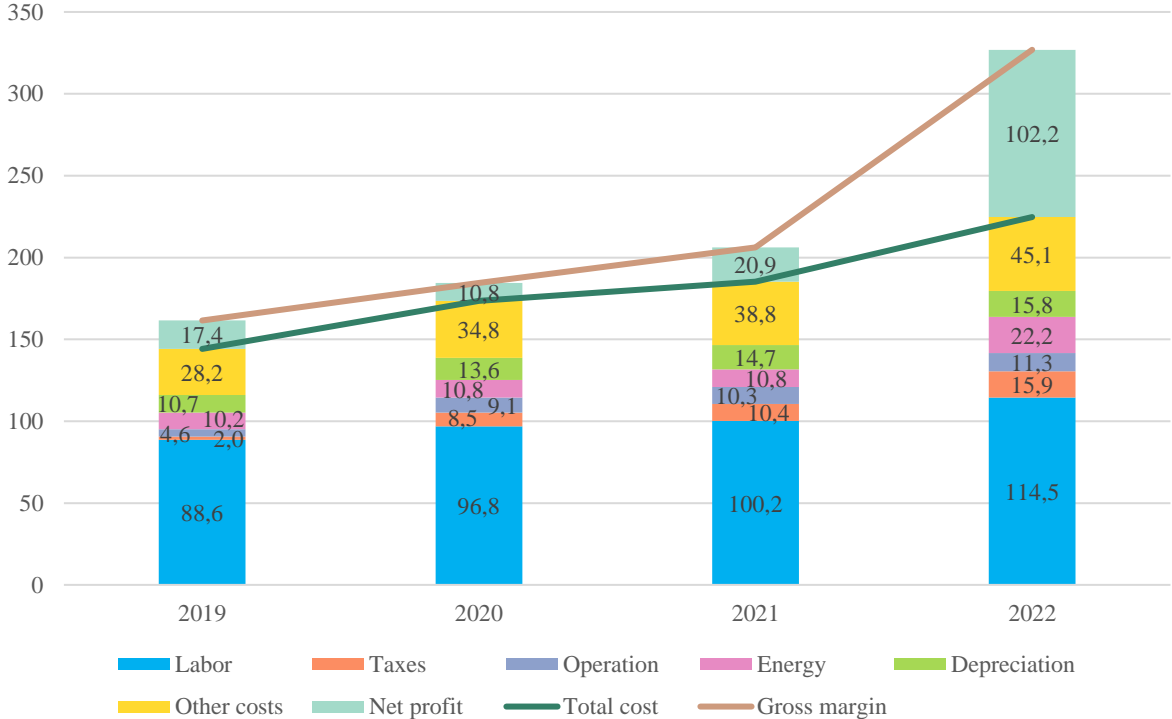
Figure 47. Breakdown of the price of quick-frozen shredded marrows with dill



Note: N = 11  
 Source: own calculation based on corporate data

Looking at the gross margin of shredded marrows, we can see that this product was profitable all the time, and the ratio of the profit dropped in 2020 only. By 2022, the ratio of profit within the margin showed a significant growth of almost 20 percentage points.

Figure 48. Profitability of quick-frozen shredded marrows with dill (HUF/kg)

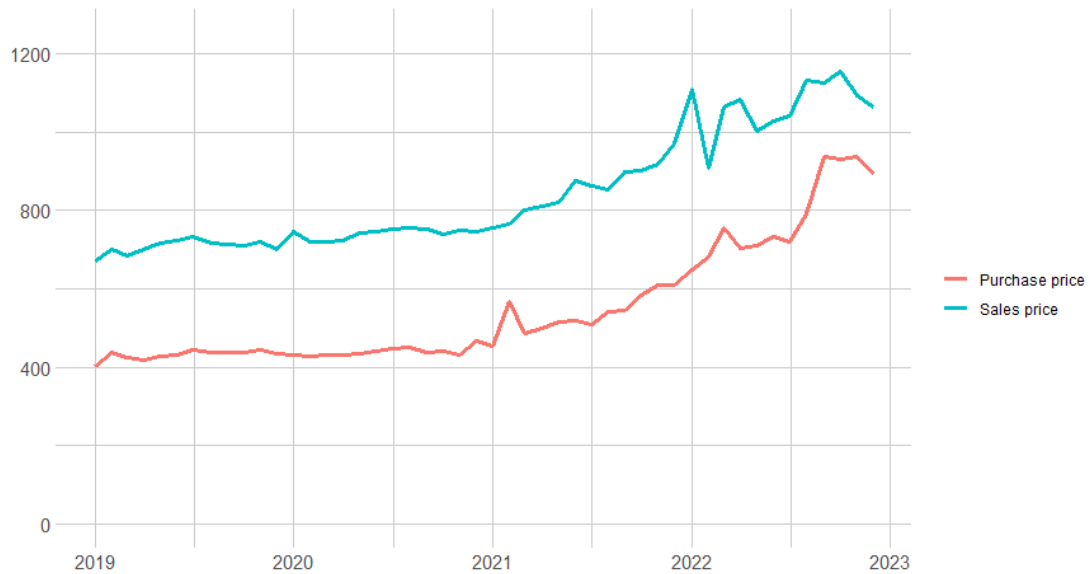


Note: N = 11  
 Source: own calculation based on company data

*Unseasoned frozen fruits*

In this product group, the frozen fruit mix is presented. The time series of purchasing prices and sales prices followed a positive trend during the period. Since the autumn of 2021, relatively strong fluctuations have been experienced in both time series, the size of the margin started to grow significantly, and then dropped again at the end of the period. At the end of the examined period, it was 1.6 times higher than the initial value.

Figure 49. Average purchase prices and net sales prices of the frozen fruit mix (HUF/kg)

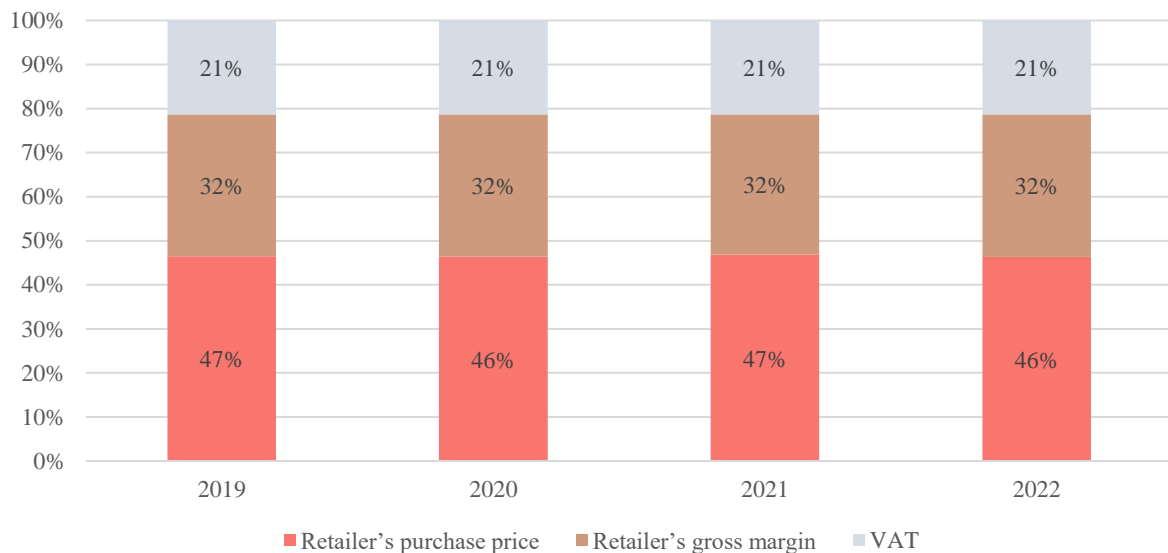


Note: N = 16

Source: own calculation based on corporate data

There were no major changes in the percentage distribution of the elements of the consumer price in the examined period. As to the margin, a small decline was experienced by 2021, but it returned to the level of the previous years by 2022.

Figure 50. Breakdown of the consumer price of frozen fruit mix



Note: N = 11

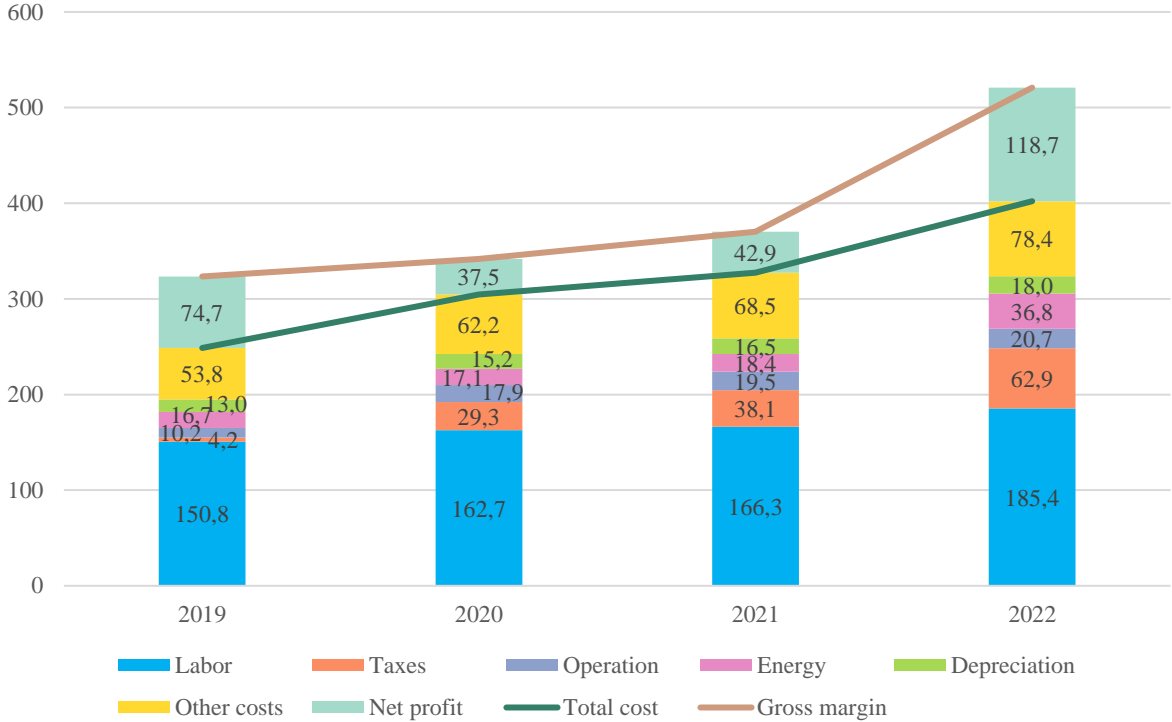
Source: own calculation based on corporate data

With the relative stagnation of the margin in terms of percentage, there was a change in terms of forints, as the margin showed a continuous increase. Based on the breakdown of the gross margin, it is obvious that retailers were making profit on this product throughout the whole period, in fact,



by 2022, the growth (by 11 percentage points) in the ratio of profit per unit of product was the highest in the examined period. In 2022, the ratio of profit within the margin reached the value of 2019.

Figure 51. Profitability of frozen fruit mix (HUF/kg)

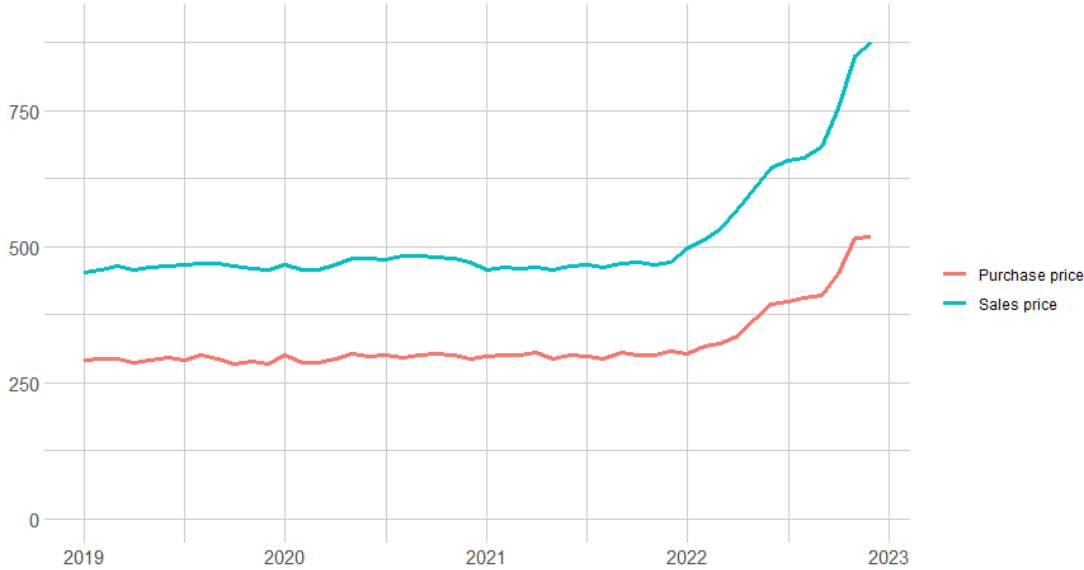


Note: N = 11  
 Source: own calculation based on corporate data

*Frozen potato products*

For the demonstration of this product group, we used the quick-frozen precooked French fries. We observed that the time series of purchase prices and sales prices moved together in the majority of the period, then, as of 2022, the margin started to grow significantly and continuously. At the end of the examined period, the margin was 2.21 times higher than its initial value.

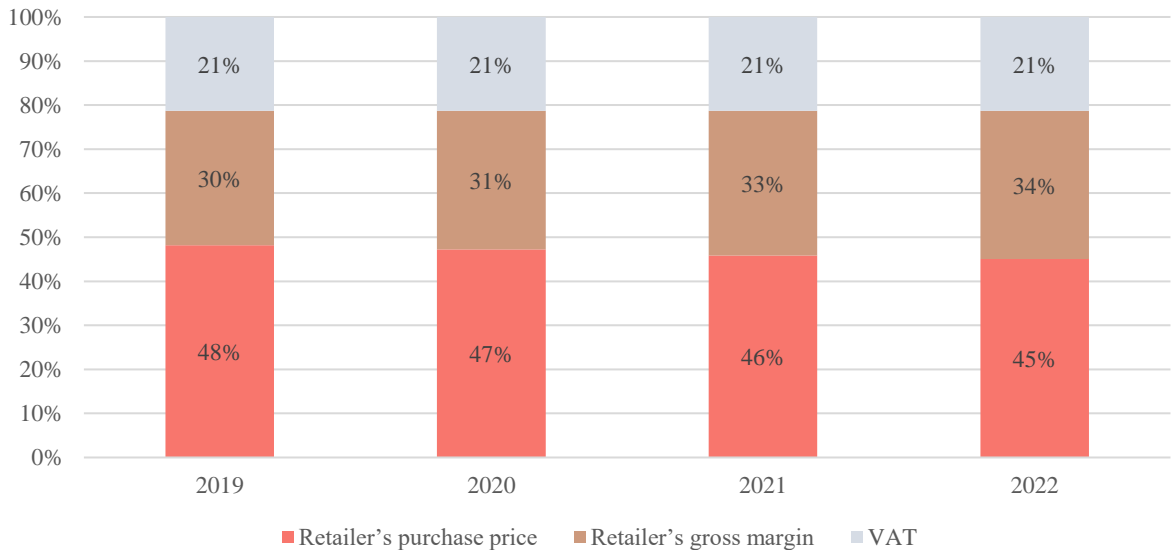
Figure 52. Average purchase prices and net sales prices of quick-frozen precooked French fries (HUF/kg)



Note: N = 11  
 Source: own calculation based on corporate data

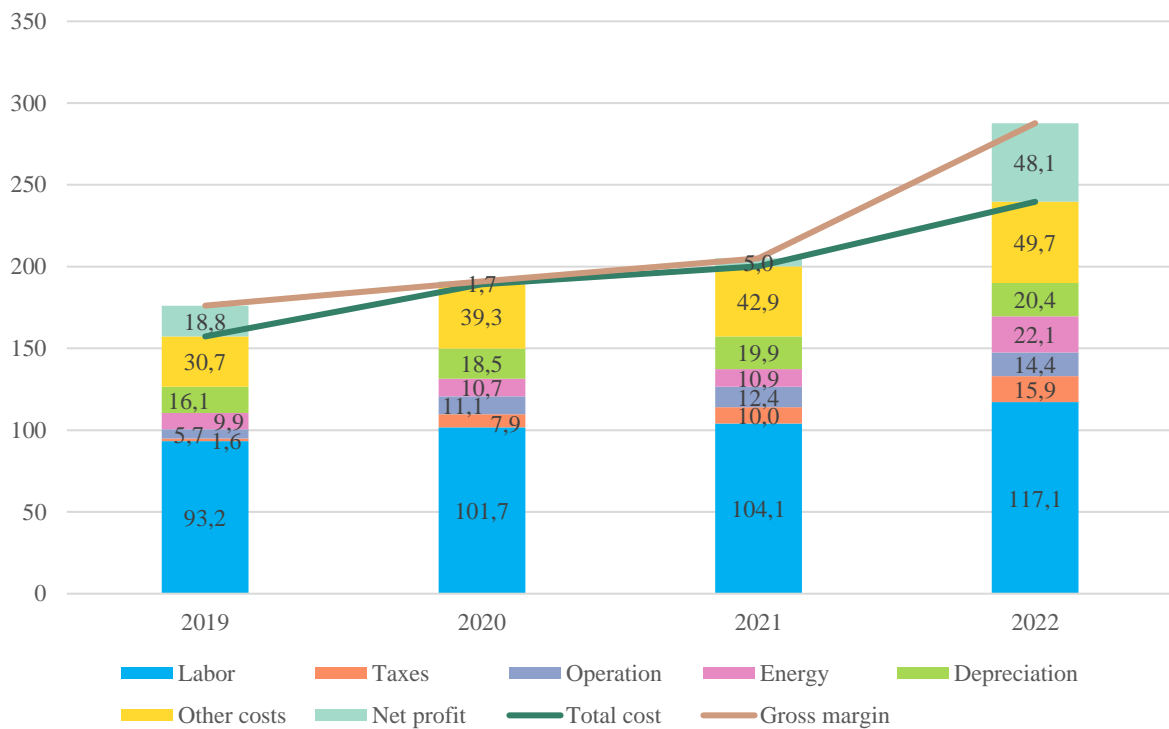
Based on the breakdown of the consumer price, we can see that in the examined period, the margin of precooked French fries showed a continuous growth in percentage. However, based on the breakdown of gross margin, we can see that this product achieved only marginal profit in the middle of the period. By 2022, the ratio of the profit on the product within the margin exceeded even the level of 2019.

Figure 53. Breakdown of the price of quick-frozen precooked French fries



Note: N = 11  
 Source: own calculation based on corporate data

Figure 54. Profitability of quick-frozen precooked French fries (HUF/kg)



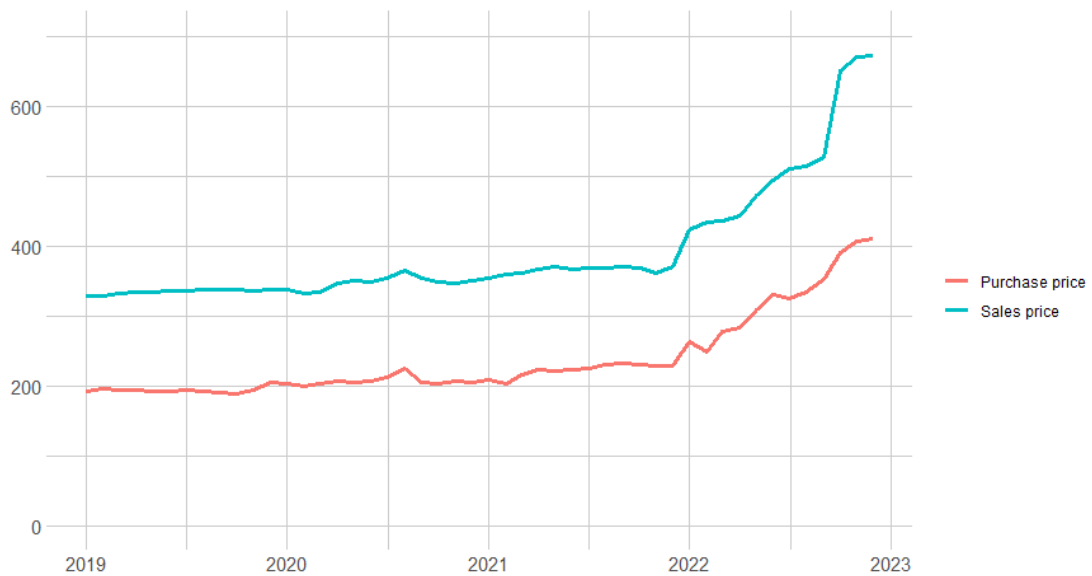
Note: N = 11

Source: own calculation based on corporate data

### Other products

Within the group of other products, the subject of the examination was tomato paste sold in jar. It is true in this case, too, that the time series of purchase prices and sales prices grew together continuously in most of the period, then in the autumn of 2021, margin started to grow significantly, and this continued until the end of the period. At the end of the examined period, the margin was twice higher than the initial value.

Figure 55. Average purchase prices and net sales prices of tomato paste (HUF/jar)

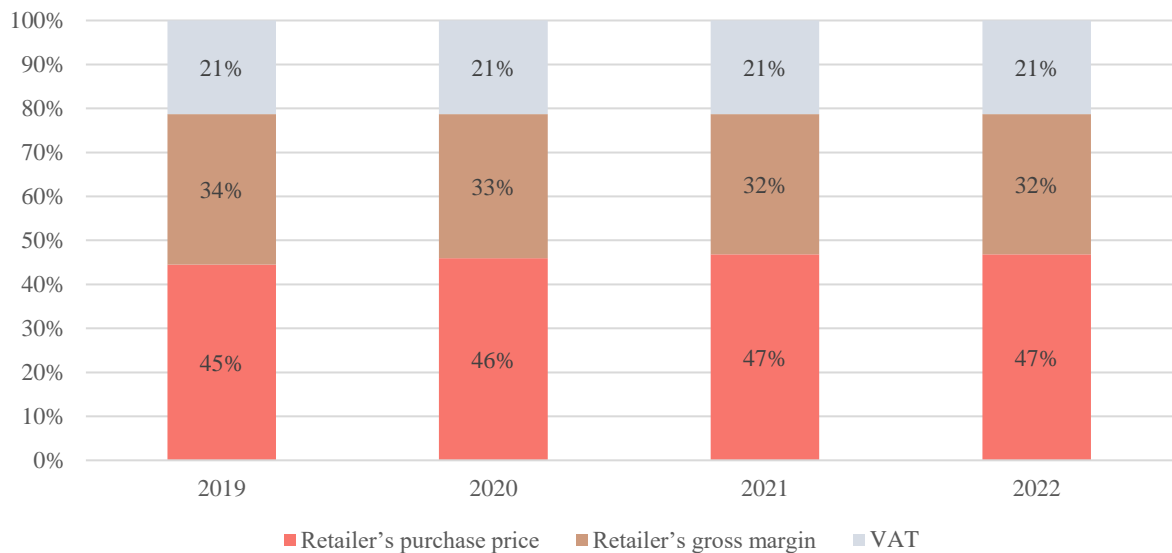


Note: N = 16

Source: own calculation based on corporate data

Based on the diagram below, a continuous decline of about 1 percentage point per year can be observed in the ratio of the margin in the consumer price of tomato paste. This decline finally stopped in 2022, at a 31.9% share in the consumer price.

Figure 56. Breakdown of the consumer price of tomato paste



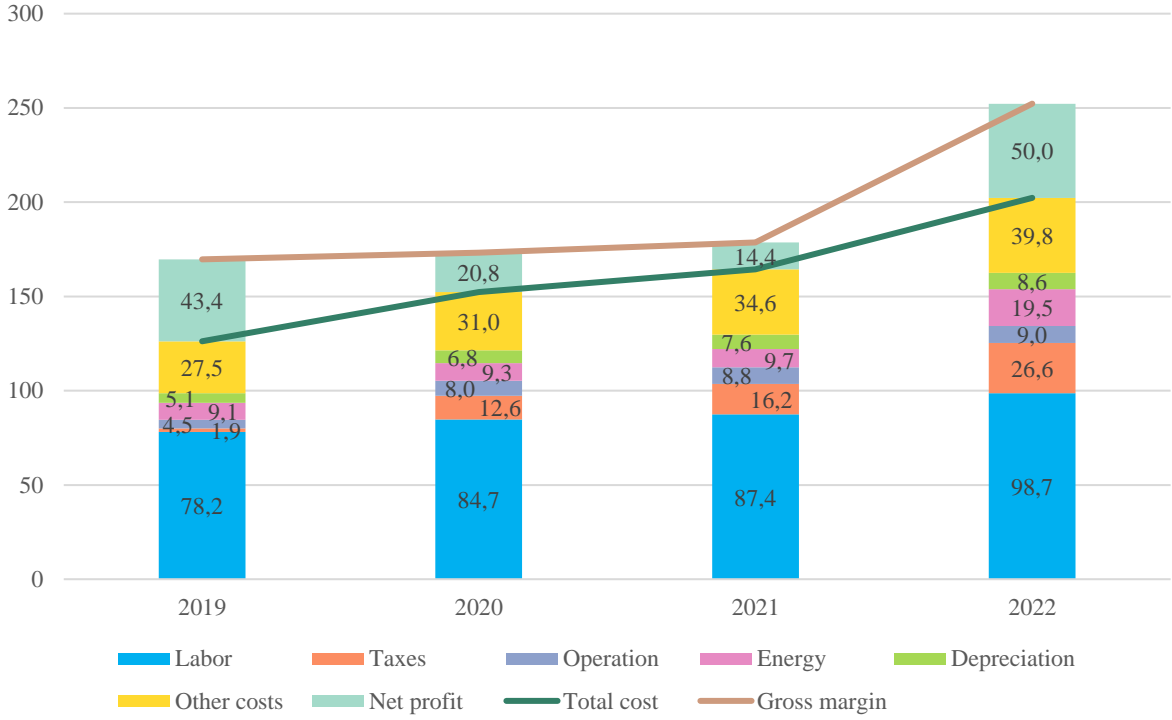
Note: N = 11

Source: own calculation based on corporate data

The breakdown of the margin clearly indicates that this product was profitable during the whole examined period, and the margin showed a continuous increase in forints. Although the share of

profit showed a continuously decreasing trend until 2021, by 2022, a significant increase of twelve percentage points was experienced.

Figure 57. Profitability of tomato paste (HUF/jar)



Note: N = 11  
 Source: own calculation based on corporate data

## VIII. International outlook

The significant price rises of foods, including canned and frozen vegetable and fruit products, observed in Hungary were detected in other countries, too. This is why the GVH attempted to examine these phenomena in a non-isolated way, and concurrently with exploring domestic processes in detail, the competition authority aimed to learn about changes in food prices in the European Union and the relevant responses of the competition authorities and governments of individual Member States to the increasing prices.

### Changes in consumer price index, development of vegetable and fruit prices and their foreign trade

The GVH found it worthwhile to examine the increases in food prices in international comparison, too, as the whole of Europe is characterised by high inflation, although individual regions and countries experience different rates. The sources of the statistical reports on European food prices are the Eurostat data, which show international trends in comparison with the same periods of the past three years.

The rate of the annual change in the harmonised index of consumer prices (HICP) shows how much the prices of consumer goods and services changed compared to the same period of the previous year. This data makes it possible to compare the inflation rates of individual countries, because they are determined by the statistical offices of the Member States according to harmonised definitions (the data are published by the Eurostat).<sup>13</sup> The HICP contains a lot of subcategories, and food is only one of them. 2. Table contains data regarding the food segment.

2. Table. Annual rate of food inflation in individual EU countries

Country	March 2021	March 2022	March 2023
Austria	1.3	5.3	14.6
Belgium	-0.6	4.7	20.7
Bulgaria	0.2	17.0	22.2
Cyprus	-1.5	10.5	6.1
Czechia	-0.2	7.8	24.6
Denmark	-1.3	6.8	16.1
Estonia	0.6	13.8	25.5
Finland	0.3	4.1	17.7
France	1.1	3.4	17.2
Greece	-0.1	8.5	14.1
The Netherlands	-1.3	6.2	18.4

<sup>13</sup> <https://ec.europa.eu/eurostat/web/hicp/overview?language=hu#> (downloaded: 3 May 2023)

Croatia	-1.3	11.4	18.3
Ireland	-1.0	3.0	13.3
Poland	-0.1	9.1	25.1
Latvia	-0.4	15.1	24.3
Lithuania	-0.2	17.6	27.5
Luxembourg	1.5	4.0	13.5
Hungary	1.9	14.3	45.1
Malta	0.9	9.4	13.3
Germany	1.5	6.2	22.9
Italy	0.0	6.0	13.3
Portugal	1.0	7.4	20.0
Romania	0.8	12.1	22.2
Spain	1.2	6.9	16.5
Sweden	-0.1	5.9	21.0
Slovakia	-1.1	12.0	29.1
Slovenia	-0.7	7.0	19.8

Source: [https://ec.europa.eu/eurostat/databrowser/view/PRC\\_HICP\\_MANR\\_custom\\_4826878/bookmark/table?lang=en&bookmarkId=8089dbc9-3b2f-4ab9-bfd2-23d2aa192d04](https://ec.europa.eu/eurostat/databrowser/view/PRC_HICP_MANR_custom_4826878/bookmark/table?lang=en&bookmarkId=8089dbc9-3b2f-4ab9-bfd2-23d2aa192d04) (downloaded: 25 April 2023)

The food price inflation presented in the previous table refers to the general food category, which can be further broken down to smaller categories. The subjects of this sector inquiry are non-perishable foods, specifically the market of canned and frozen vegetables and fruits, so the following tables focus on these products and present their statistical data. Although the statistical offices of not all Member States provided information about these products, and thus not all the tables are complete, the comparison of existing data may still provide important information. The data in 3. Table and Table 4. show the changes compared to the same period of the previous year.

3. Table. Annual inflation of frozen fruits in individual EU Member States

Country	March 2021	March 2022	March 2023
Austria	-	-	-
Belgium	-	-	-
Bulgaria	-	-	-
Cyprus	-	-	-
Czechia	-	-	-
Denmark	1.3	12.3	5.4

Estonia	-3.9	4.3	23.4
Finland	-1.9	0.1	5.1
France	0.6	33.4	16.0
Greece	-	-	-
The Netherlands	-	-	-
Croatia	-3.0	16.6	55.4
Ireland	-	-	-
Poland	0.9	1.7	22.9
Latvia	-	-	-
Lithuania	3.7	0.3	15.9
Luxembourg	4.9	14.5	18.2
Hungary	1.9	12.0	30.0
Malta	-	-	-
Germany	-0.7	22.5	9.5
Italy	-	-	-
Portugal	-	-	-
Romania	1.9	6.2	20.2
Spain	-	-	-
Sweden	2.2	13.1	10.2
Slovakia	-	-	-
Slovenia	-2.2	35.7	0.4

Source: [https://ec.europa.eu/eurostat/databrowser/view/PRC\\_HICP\\_MANR\\_custom\\_5964626/default/table?lang=en](https://ec.europa.eu/eurostat/databrowser/view/PRC_HICP_MANR_custom_5964626/default/table?lang=en) (downloaded: 25 April 2023)

Table 4. Annual inflation of frozen vegetables (except for potato and other tuberous plants) in individual EU Member States

Country	March 2021	March 2022	March 2023
Austria	2.9	0.3	16.1
Belgium	-0.8	2.5	24.0
Bulgaria	2.2	8.9	28.2
Cyprus	-8.8	9.0	11.7
Czechia	-0.9	7.2	17.8
Denmark	-2.4	5.2	17.7



Estonia	4.9	4.2	25.7
Finland	-1.4	1.3	14.5
France	0.6	1.4	21.3
Greece	-3.7	4.5	15.7
The Netherlands	1.9	6.6	12.7
Croatia	-0.1	19.5	21.7
Ireland	3.8	2.8	8.4
Poland	4.4	5.6	22.9
Latvia	-3.3	7.7	23.8
Lithuania	3.7	4.5	38.2
Luxembourg	0.4	-2.5	10.9
Hungary	4.5	5.0	38.4
Malta	4.4	3.9	9.8
Germany	6.9	1.9	21.0
Italy	-0.1	5.4	17.9
Portugal	-4.4	3.8	22.4
Romania	4.4	7.8	14.6
Spain	1.8	6.0	17.1
Sweden	1.8	2.3	15.9
Slovakia	0.1	11.8	19.9
Slovenia	-0.4	3.0	15.9

Source: [https://ec.europa.eu/eurostat/databrowser/view/PRC\\_HICP\\_MANR\\_custom\\_5965044/default/table?lang=en](https://ec.europa.eu/eurostat/databrowser/view/PRC_HICP_MANR_custom_5965044/default/table?lang=en) (downloaded: 25 April 2023)

Table 5. Annual inflation of preserved fruits and fruit-based products in individual EU Member States

Country	March 2021	March 2022	March 2023
Austria	-	-	-
Belgium	-1.1	3.0	20.7
Bulgaria	-	-	-
Cyprus	-	-	-
Czechia	-0.6	25.8	12.8
Denmark	-3.5	2.0	9.9

Estonia	3.9	3.7	20.0
Finland	3.7	2.6	9.1
France	3.1	5.1	18.2
Greece	-1.1	14.5	11.9
The Netherlands	-1.4	11.7	20.7
Croatia	1.6	4.8	15.6
Ireland	1.0	9.2	16.5
Poland	3.4	16.7	22.6
Latvia	13.3	17.5	4.1
Lithuania	4.6	5.2	22.4
Luxembourg	0.5	3.3	8.2
Hungary	11.7	20.8	28.6
Malta	-	-	-
Germany	2.2	5.1	26.9
Italy	-1.1	4.5	12.0
Portugal	4.6	18.9	29.8
Romania	5.9	8.5	21.1
Spain	0.9	11.3	22.0
Sweden	1.8	6.7	19.1
Slovakia	-	-	-
Slovenia	6.3	4.6	21.3

Source: [https://ec.europa.eu/eurostat/databrowser/view/PRC\\_HICP\\_MANR\\_custom\\_5965407/default/table?lang=en](https://ec.europa.eu/eurostat/databrowser/view/PRC_HICP_MANR_custom_5965407/default/table?lang=en) (downloaded: 25 April 2023)

Table 6. Annual inflation of dried vegetables, other preserved or processed vegetables in the EU Member States

Country	March 2021	March 2022	March 2023
Austria	3.3	5.4	14.3
Belgium	0.8	4.6	21.4
Bulgaria	7.2	13.1	22.0
Cyprus	2.7	14.0	16.6
Czechia	5.0	4.4	19.1
Denmark	0.4	3.0	32.1

Estonia	2.4	10.9	20.4
Finland	-0.1	2.0	13.6
France	-0.7	2.1	16.9
Greece	1.5	5.8	13.4
The Netherlands	-0.8	2.0	18.9
Croatia	1.8	10.8	18.2
Ireland	0.4	3.2	11.0
Poland	4.3	3.9	24.4
Latvia	0.5	8.6	21.9
Lithuania	-0.7	13.2	25.0
Luxembourg	0.0	3.4	12.8
Hungary	7.8	12.2	35.6
Malta	1.9	6.6	20.7
Germany	3.9	6.3	27.4
Italy	0.5	2.9	15.2
Portugal	1.8	7.8	25.0
Romania	8.5	7.7	16.4
Spain	1.0	7.4	14.9
Sweden	-1.7	2.8	20.2
Slovakia	4.1	7.8	29.1
Slovenia	1.2	4.3	18.5

Source: [https://ec.europa.eu/eurostat/databrowser/view/PRC\\_HICP\\_MANR\\_custom\\_5965831/default/table?lang=en](https://ec.europa.eu/eurostat/databrowser/view/PRC_HICP_MANR_custom_5965831/default/table?lang=en) (downloaded: 25 April 2023)

The European market of processed fruits and vegetables is the largest market of this kind in the world, and represents 40% of global imports; its value shows a 2.4% annual growth from 2017 to 2021, and its volume shows a growth of 0.5%. The European imports of frozen fruits and vegetables dropped by 0.4% per year in average in 2017-2021, while its value grew by 3.4% per year in average. The growth in the total value of imports was driven by the demand for smoothies containing healthy ingredients.<sup>14</sup> The following table contains figures for the referenced period and foods in the scope of the inquiry.

---

<sup>14</sup> <https://www.cbi.eu/market-information/processed-fruit-vegetables-edible-nuts/what-demand> (downloaded: 26 April 2023)

Table 7. European imports of processed fruits and vegetables by category (thousand tons)

Product	2017	2018	2019	2020	2021
Preserved fruits and vegetables	7,047,501	7,160,184	7,290,241	7,362,591	7,195,577
Frozen fruits and vegetables	4,390,017	4,521,704	4,651,656	4,451,744	4,324,893

Source: <https://www.cbi.eu/market-information/processed-fruit-vegetables-edible-nuts/what-demand> (downloaded: 26 April 2023)

Table 8. European imports of processed fruits and vegetables by category (billion EUR)

Product	2017	2018	2019	2020	2021
Preserved fruits and vegetables	9.4	9.6	9.9	10.2	10.4
Frozen fruits and vegetables	4.6	4.8	5.0	5.0	5.3

Source: <https://www.cbi.eu/market-information/processed-fruit-vegetables-edible-nuts/what-demand> (downloaded: 26 April 2023)

## Actions and other measures of competition authorities in the EU in relation to rising food prices

The drastic increase in food prices over the past period causes problems all over Europe. Besides the GVH, a lot of national competition authorities launched investigations to explore the reasons for higher prices. It is important to point out that most of these investigations examined the food market as a whole. The accelerated sector inquiry of the GVH, however, examines the market of non-perishable foods. In spite of the fact that the subjects of inquiries do not cover each other completely, and smaller things are compared to bigger things, it is worth presenting the relevant experiences of competition authorities and the government measures here, too, in the same way as the Hungarian Competition Authority did in its previous sector inquiry regarding milk and dairy products.

On 21 February 2023, the Czech competition authority also started an accelerated sector inquiry into the market of some basic foods, including the market of dairy products, too. The objective of the inquiry is to find out whether margins increased in the supply chain from primary producers, through food processors to retailers, and if they did, at which market player it was significant. If the Czech competition authority detects any sign of anti-competition conduct, it is planning to start an administrative procedure, as a result of which fines as much as 10% of the annual turnover may be imposed on parties showing anti-competitive conduct. The inquiry was closed in May 2023, and the results are publicly available on the website of the authority.<sup>15</sup> All in all, as a result of the inquiry, we can say that the competition authority found no evidence of anti-competitive conduct in connection with the price rises of the examined food products.

<sup>15</sup> <https://www.uohs.cz/en/information-centre/press-releases/competition/3584-investigation-of-five-staple-foods-shows-no-distortion-of-competition.html> downloaded: 26 July 2023)

The Austrian competition authority started a sector inquiry<sup>16</sup> into the market of foods in October 2022. The initiation of the procedure was explained with the rising prices, the bottlenecks in the supply chain and growing inflation. The sector inquiry focuses on four issues: i) which player of the value chain was hit hardest by the rising food prices detected in 2022; ii) in what direction did the product concentration change, and what was the market share of private label products; iii) how did the competition in the food market change over the past years; and iv) what is the impact of the increasingly important on-line retail trade on the competition in the market of foods. The consumer basket examined by the inquiry contains fast-moving consumer goods such as milk, bread, meat, fruits and vegetables, bottled beer and alcohol-free drinks. In 2023 the inquiry was extended mainly with data collection steps in multiple phases, it is expected to be closed in the autumn of 2023.<sup>17</sup>

The purpose of the sector inquiry<sup>18</sup> conducted by the Dutch competition authority from 2019 to 2022 was to detect the underlying causes of pricing in the agricultural sector of the country and to explore the motivations behind the purchasing of ecological products. The evaluation of the sustainability of the sector is a key issue in the inquiry. In the course of the inquiry, the pricing of seven products were monitored; these products are potato, onion, pear, tomato, mushroom, fresh milk and pork.

The Portuguese competition authority also examined the topic of inflation, and in connection with that, they published their study in August 2022,<sup>19</sup> in which they emphasized the importance of preserving the purchasing power of households in inflationary environment, and explained how much the efficient application of competition law can contribute to that.

The Romanian competition authority has been operating an on-line platform called ‘Price monitor’<sup>20</sup> since 2019, where retail food and fuel prices can be accessed. This platform, which is available to the population, too, processes the data of food prices uploaded by major food retailers with daily frequency, on a voluntary basis. The platform displays information about approximately 30,000 products, based on the data of more than 1,700 shops. The platform contains, among others, information on non-perishable foods like canned food and frozen vegetables and fruits, too. The main purpose of the platform was to support the optimal operation of food and fuel retail markets. One of the assets required for that is the monitoring of market mechanisms, exploring possible distortions/violations of law. If there is enough evidence for the latter, the companies responsible for that might as well be sanctioned. The other main objective of the platform is to enhance competition in the food and fuel retail markets, and to improve the competitive environment, so that the end user could enjoy the benefits. The Romanian competition authority has no competence

---

<sup>16</sup> <https://www.bwb.gv.at/en/news/news-2022/detail/bwb-veroeffentlicht-finale-leitlinien-fuer-unternehmen-zu-nachhaltigkeitskooperationen-1-1-1-1> (downloaded: 14 April 2023)

<sup>17</sup> <https://www.bwb.gv.at/en/news/news-2022/detail-1/update-on-sector-inquiry-into-food-industry-afca-questions-price-comparison-sites> (downloaded: 26 July 2023)

<sup>18</sup> <https://www.acm.nl/en/publications/agro-nutri-monitor-2022-price-formation-process-foodstuffs-and-reasons-purchasing-organic-products> (downloaded: 14 April 2023)

<sup>19</sup> <https://www.concorrenca.pt/sites/default/files/Competition%20and%20purchasing%20power%20in%20times%20of%20inflation.pdf> (downloaded: 14 April 2023)

<sup>20</sup> <https://monitorulpreturilor.info/> (downloaded: 14 April 2023)

to influence the sales prices charged by undertakings active on the market or to regulate their price levels.

In Greece, the monitoring of retail prices has two pillars. The first was created on the basis of a government measure<sup>21</sup>, a price monitoring platform,<sup>22</sup> which contains food and fuel prices, and the second pillar is a platform operated by the Greek competition authority, with artificial intelligence, which processes data and which is suitable for filtering the patterns that raise the suspicion of the violation of competition law.

In October 2022, the Greek government decided that retail chains with total annual turnover over a specified amount should be obliged to regularly submit to the government the prices of products, namely of those, which qualify as consumer goods required for the decent living of households ('household basket') and sold at reasonable prices, distributed by them. The product categories in the 'household basket' are defined and published by the Ministry of Development and Investments. In the case of at least one product from each product category in the household basket, the affected retail chains have to make sure that the product is available at a reasonable price compared to other products belonging to the same category.

The Greek government asked for the opinion of the national competition authority about the compliance of the measure with competition law, and the competition authority gave a positive opinion, considering the fact that the measure is of temporary nature, does not distort competition, as it defines a wide range of products and does not select specific products, and the range of discounted products has to be changed with a certain frequency (7 and 15 days). At the same time, the Greek competition authority requested the government to examine and monitor whether retail chains give preference<sup>23</sup> to their own private label products. The competition authority also indicated that they would examine if there is any collusion between chain stores in the respect of prices.

In February 2023, the Greek government extended the duration of its measure taken in the autumn of 2022 until Easter 2023, and extended the scope of product categories in the household basket with food products closely related to the festive season.<sup>23</sup> There has been no official and openly accessible information released about the extension of the term of the measure. According to the statement of the Greek minister for economy, prices dropped by 1% per week, and altogether by 5% over the past period, owing to the 'household basket' and the price monitoring platform,<sup>24</sup> but this is not reflected by official inflation data, as (food) inflation in Greece slightly increased in March 2023 compared to the value in the previous month.<sup>25</sup> Similar patterns can be seen in the rest

---

<sup>21</sup> Logically, this would belong to the next chapter, but the strong reliance of the work of the government and the competition authority on each other makes it necessary to discuss them together.

<sup>22</sup> <https://e-katanalotis.gov.gr/householdBasket> (downloaded: 14 April 2023)

<sup>23</sup> <https://www.tornosnews.gr/en/greek-news/economy/48455-greek-government-announces-lent-basket-and-additions-to-household-basket.html> (downloaded: 14 April 2023)

<sup>24</sup> <https://www.ot.gr/2023/04/13/english-edition/dev-min-on-household-basket-prices-are-not-just-stable-but-they-are-going-down> (downloaded: 14 April 2023)

<sup>25</sup> [https://ec.europa.eu/eurostat/databrowser/view/PRC\\_HICP\\_MIDX\\_custom\\_5784023/bookmark/table?lang=en&bookmarkId=f4543573-a640-4070-95d8-3f7226c8e66b](https://ec.europa.eu/eurostat/databrowser/view/PRC_HICP_MIDX_custom_5784023/bookmark/table?lang=en&bookmarkId=f4543573-a640-4070-95d8-3f7226c8e66b) (downloaded: 14 April 2023)

of the year, too, so, according to press information, the newly formed Greek government is planning to extend the existing measures until the end of 2023.<sup>26</sup>

The online price monitoring systems presented in the Romanian and Greek examples are getting more and more popular, and owing to the progress in technology, they are now easier to implement. Although - as the above examples indicate - these systems are not able to effectively break the growth of inflation, by improving the flow of information and thus reducing information asymmetry, they can offer significant help to poorer households in reducing the impacts of inflation on them. In addition, such online platforms may make the work of competition authorities much easier.

Based on press information, the Swedish competition authority initiated a sector inquiry in February 2023<sup>27</sup> to find out the reasons behind high food prices. This measure was necessary because Swedish food inflation is extremely high among Scandinavian countries. Within the Swedish food inflation, the increase in vegetables prices is extremely high, as they grew slightly faster than the prices of other foods.<sup>28</sup> Following the first preliminary inquiry, the authority pointed out, among others, the oligopolist structure of the Swedish retail market, as one of the possible reasons for high food inflation.<sup>29</sup>

## Government measures

In order to put the results of the accelerated sector inquiry into context, it is important to find out what responses are given by other EU Member States to inflation, in particular to food inflation. There are various measures, but if we group them, it is easier to see the main directions. Measures will be presented in the following groups: VAT reduction, price cap, regulation of energy prices, various direct financial aids and sectoral aids.

The governments of a lot of Member States resorted to VAT reduction. The Bulgarian government reduced the VAT on bread and flour to 0% until the end of 2023.<sup>30,31</sup> In Croatia, the VAT on basic foods was reduced to 5%. This measure by the Croatian government meant the biggest VAT reduction in the case of butter and margarine, as earlier they had a VAT of 25%. The Polish government also reduced VAT in response to higher inflation. At the beginning of 2022, they introduced a package of measures called ‘shield against inflation’, along which the VAT on electricity, fuel and basic foods were reduced to 0%. For foods, this measure will be in force until the end of 2023.<sup>32</sup> The Spanish government also reduced the VAT on basic foods, such as

---

<sup>26</sup> <https://www.ekathimerini.com/economy/1214457/household-basket-extended/> (downloaded 26.July 2023.)

<sup>27</sup> <https://theswedishtimes.se/articles/rising-food-prices-in-sweden-spark-investigation-by-competition-authority> (downloaded: 14 April 2023)

<sup>28</sup> <https://www.scb.se/en/finding-statistics/statistics-by-subject-area/prices-and-consumption/consumer-price-index/consumer-price-index-cpi/pong/statistical-news/consumer-price-index-cpi-february-2023/> (downloaded: 25 April 2023)

<sup>29</sup> <https://sweden.postsen.com/business/82891/Rising-food-prices-may-be-due-to-poor-competition.html> (downloaded: 25 April 2023)

<sup>30</sup> <https://www.euractiv.com/section/agriculture-food/news/agrifood-special-capitals-brief-controlling-food-prices/> (downloaded: 14 April 2023)

<sup>31</sup> <https://www.agroberichtenbuitenland.nl/actueel/nieuws/2023/03/02/0-vat-on-bread-and-flour-in-bulgaria-extended-until-end-of-2023> (downloaded: 26 July 2023)

<sup>32</sup> <https://www.vatcalc.com/poland/poland-extends-to-31-dec-2022-inflation-vat-rate-cuts/> (downloaded: 26 July 2023)



vegetables, fruits, bread or milk, from 4% to 0%. In addition, they cut the VAT on pasta and oils from 10% to 5%. VAT reductions were in force until June 2023 in the country,<sup>33</sup> but since then they have been extended for an indefinite period.<sup>34</sup>

Similarly to the Hungarian government, the Croatian government also introduced price caps on certain foods (milk, sunflower oil, fine wheat flour, granulated sugar, whole chicken, pork and minced meat) in September 2022, and this measure is still in force at the time of issuing this report.<sup>35</sup>

A lot of governments tried to mitigate inflation by curbing the soaring energy prices. The measures regarding energy prices are different. Some countries provide aids to cover the increased costs, while others introduced price caps, similarly to food, and it also happened that national governments reacted with VAT reduction in this field, too. Indirectly, all these steps affected the market of food, too.

In order to stop the rise in energy prices, the Austrian government introduced several measures. Households received a coupon of EUR 150, as a contribution to increased energy costs. In addition, on electricity consumption corresponding to 80% of the average consumption in 2021, households have to pay a certain lower amount.<sup>36</sup> Businesses were assisted by reductions in taxes on energy.<sup>37</sup> The Belgian government reduced the VAT on electricity and natural gas,<sup>38</sup> and this became permanent for households from April 2023, although the excise tax reform introduced in parallel with that partly sets off the advantages of the former.<sup>39</sup> The French government introduced the so-called ‘tariff shield’ in 2022, in order to regulate energy prices..<sup>40</sup> This measure will be in force with minor modifications until January 2024.<sup>41</sup> The Croatian government introduced a price cap for the price of electricity, too, from 1 October 2022 to 30 September 2023.<sup>42</sup> As we already described above, the Polish measures included the reduction of the VAT on electricity to 0%, but this measure is not in force any more.<sup>43</sup> In Luxembourg, from 1 January 2023 to 31 December 2023, the price rise of natural gas was maximised at 15%, for which the benchmark is the price of gas in September 2022. The government of Luxembourg defined the price of electricity at the level

---

<sup>33</sup> <https://www.euractiv.com/section/agriculture-food/news/agrifood-special-capitals-brief-controlling-food-prices/> (downloaded: 14 April 2023)

<sup>34</sup> <https://rightcasa.com/vat-reduction-on-food-remains-in-spain/> (downloaded: July 2023. 26.)

<sup>35</sup> <https://agrokep.vg.hu/kozelet/kulfoldi-hirek/elelmiszerarstopot-vezethet-be-a-horvat-kormany-27472/> (downloaded: 2023. April 14) and <https://vlada.gov.hr/news/gov-t-set-of-measures-is-timely-and-strong-intervention/36041> (downloaded: 14 April 2023)

<sup>36</sup> <https://www.mfat.govt.nz/en/trade/mfat-market-reports/austrias-response-to-the-european-energy-crunch-november-2022/?m=271691#search:YXVzdHJpYSdzIHJlc3BvbNIIHRvIHRoZSBldXJvcGVhbg==> (downloaded: 2023. April 14)

<sup>37</sup> <https://www.bmf.gv.at/en/current-issues/Support-to-cushion-consumers-against-high-energy-costs-.html> (downloaded: 14 April 2023)

<sup>38</sup> <https://www.brusselstimes.com/299896/belgium-to-make-reduced-6-vat-for-gas-and-electricity-permanent> (downloaded: 14 April 2023)

<sup>39</sup> <https://www.bdo.be/en-gb/news/2023/vat-reduction-gas-electricity-1-april-2023> (downloaded: 26 July 2023)

<sup>40</sup> <https://www.service-public.fr/particuliers/actualites/A15480?lang=en> (downloaded: 14 April 2023)

<sup>41</sup> <https://www.reuters.com/business/energy/french-aid-expected-dampen-near-84-power-price-rise-insee-2023-02-01/> (downloaded: 26 July 2023)

<sup>42</sup> <https://vlada.gov.hr/news/gov-t-set-of-measures-is-timely-and-strong-intervention/36041> (downloaded: 2023. April 14)

<sup>43</sup> <https://www.euractiv.com/section/agriculture-food/news/agrifood-special-capitals-brief-controlling-food-prices/> (downloaded: 14 April 2023)



of 2022, if consumption stays below the specified average consumption.<sup>44</sup> In addition, a one-off aid is provided every year to cover increased energy prices.<sup>45</sup> The Portuguese government reduced the VAT on household electricity with effect from 1 October 2022, from 13% to 6%, this measure is in force until the end of 2023.<sup>46</sup> The Slovenian government, for the period from 1 September 2022 to 31 May 2023, reduced the VAT on electricity, natural gas, remote heating and firewood from 22% to 9.5%.<sup>47</sup>

As a social benefit, the Austrian government decided to provide a one-off financial aid of EUR 300 to vulnerable groups.<sup>48</sup> The government of Cyprus decided to provide one-off aids to certain vulnerable groups, these aids are provided in cash to the beneficiaries.<sup>49</sup> In Germany, in the field of financial aids, the focus was on students, their benefits were increased.<sup>50</sup> The French government increased the scope of the use of food coupons.<sup>51</sup> The Irish government increased the amounts of benefits provided to families with children, in addition to the one-off aid to socially vulnerable groups.<sup>52</sup> The Latvian<sup>53</sup> and the Lithuanian<sup>54</sup> governments also decided to introduce various social benefits. The Government of Malta provided significant financial aid to vulnerable citizens. The Italian government provided coupons to the poorest families.<sup>55</sup> The Slovakian and the Slovenian governments also decided to introduce aids supporting families.<sup>56</sup>

In Greece, they introduced the so-called Market Pass online platform, on which people can apply for monetary aid. Roughly 85% of Greek households are beneficiaries. The platform called Market Pass runs from February 2023 to July 2023, and according to press information, the new Government will extend it until December 2023.<sup>57</sup> Single-person households are entitled to receive EUR 220 for the period, and after each additional person, EUR 100 is due for six months. The objective of the Market Pass is to cover the increased costs of households, in particular related to foods. Eligibility is subject to income or property. The amount can be applied for in two ways, the

---

<sup>44</sup> [https://gouvernement.lu/fr/actualites/toutes\\_actualites/communiqués/2022/11-novembre/14-mesures-transition-energetique-menages.html](https://gouvernement.lu/fr/actualites/toutes_actualites/communiqués/2022/11-novembre/14-mesures-transition-energetique-menages.html) (downloaded: 14 April 2023)

<sup>45</sup> [https://gouvernement.lu/en/actualites/toutes\\_actualites/communiqués/2022/02-fevrier/28-impact-prix-energie.html](https://gouvernement.lu/en/actualites/toutes_actualites/communiqués/2022/02-fevrier/28-impact-prix-energie.html) (downloaded: 14 April 2023)

<sup>46</sup> <https://www.vatcalc.com/portugal/portugal-cuts-domestic-electricity-vat-from-13-to-6/> (downloaded: 14 April 2023)

<sup>47</sup> <https://www.gov.si/en/registries/projects/measures-to-mitigate-price-increases/> (downloaded: 2023. April 14)

<sup>48</sup> <https://ec.europa.eu/social/main.jsp?langId=en&catId=89&newsId=10346&furtherNews=yes> (downloaded: 14 April 2023)

<sup>49</sup> <https://www.reuters.com/world/middle-east/cyprus-caps-vat-electricity-increases-pensions-cushion-inflation-blows-2022-05-27/> (downloaded: 14 April 2023)

<sup>50</sup> <https://www.euractiv.com/section/agriculture-food/news/agrifood-special-capitals-brief-controlling-food-prices/> (downloaded: 14 April 2023)

<sup>51</sup> <https://www.euractiv.com/section/agriculture-food/news/agrifood-special-capitals-brief-controlling-food-prices/> (downloaded: 14 April 2023)

<sup>52</sup> <https://www.gov.ie/en/press-release/dc139-government-announces-new-cost-of-living-measures-for-families-businesses-and-the-most-vulnerable/> (downloaded: 14 April 2023)

<sup>53</sup> <https://www.ips-journal.eu/topics/economy-and-ecology/protecting-people-from-inflation-6139/> (downloaded: 14 April 2023)

<sup>54</sup> <https://finmin.lrv.lt/en/news/the-eur-2-26-billion-package-presented-to-counter-the-effects-of-inflation-and-to-strengthen-energy-independence> (downloaded: 14 April 2023)

<sup>55</sup> <https://www.euractiv.com/section/agriculture-food/news/agrifood-special-capitals-brief-controlling-food-prices/> (downloaded: 14 April 2023)

<sup>56</sup> <https://www.gov.si/en/registries/projects/measures-to-mitigate-price-increases/> (downloaded: 14 April 2023)

<sup>57</sup> <https://hellas.postsen.com/business/404202/Market-Pass-%E2%80%93-Expansion-with-new-beneficiaries-announced.html> (downloaded: 26 July 2023)

first option is on a digital debit card, then the funds may be used in grocery stores, supermarkets, producers' markets, bakeries and butchers' shops. The other option is to transfer the funds to the beneficiary's bank account, but in this case, they are only eligible to 80% of the amount, as usage is not restricted in this case.<sup>58</sup>

In Romania, under the 'Support for Romania' programme, the government provided coupons in electronic form, and the scope of eligible people was defined on the basis of social conditions. The coupons were distributed in every second month in the value of RON 250, until January 2023. Altogether 2.5 million Romanian citizens enjoyed these benefits. In addition, the Romanian government provided a one-off benefit of RON 700 to pensioners meeting the conditions defined on social basis. Approximately 3.3 million people received this kind of benefit. Prior to that, already in January 2022, the Romanian government decided to provide a similar benefit.<sup>59</sup> The Spanish government distributed cheques in the value of EUR 200 to families with lower incomes.<sup>60</sup>

In April 2023, the cabinet in Cyprus passed a bill on the establishment of an online price monitoring platform. The model of the system was the Greek price monitoring system. According to the bill, only food retailers with turnovers over a certain level will be obliged to supply information to the price monitoring platform. The products listed on the platform will include both private label and branded products, and retailers will be obliged to leave prices unchanged for two months following their publication.<sup>61</sup>

---

<sup>58</sup> <https://www.keeptalkinggreece.com/2023/02/20/market-pass-platform-open-feb21-qa/> (downloaded: 14 April 2023)

<sup>59</sup> <https://www.euractiv.com/section/agriculture-food/news/agrifood-special-capitals-brief-controlling-food-prices/> (downloaded: 14 April 2023)

<sup>60</sup> <https://www.euractiv.com/section/agriculture-food/news/agrifood-special-capitals-brief-controlling-food-prices/> (downloaded: 14 April 2023)

<sup>61</sup> <https://cyprus-mail.com/2023/04/21/new-price-comparison-consumer-platform-approved-by-cabinet/> (downloaded: 26 April 2023)