



Food Foresight: Impact of COVID-19 on the agri-food sector in Central and Eastern Europe

Country report: **Czechia**

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Executive Summary

The COVID-19 Pandemic has affected every sector of the economy. The pandemic-induced shock is an important test to the resiliency of the economies of Central and Eastern Europe. Businesses and policymakers, alike, have to respond effectively to the quickly changing economic landscape.

Despite its steady growth and relative resilience, the agri-food industry has also been impacted. While the shock necessitated a comprehensive response to support those impacted, it also accelerated certain trends that have already been developing within the agri-food industry. This analysis utilizes the structural historic and the recent pandemic-related development of the agri-food industry in Central and Eastern Europe in order to identify how agri-food will develop in the future under various exogenous circumstances.

Development Trends and Characteristics

Key domestic vulnerabilities throughout Central and Eastern Europe, which could

stifle growth during economic shocks include an ageing workforce, labour shortages, a rising pressure on cost competitiveness, and a high dependence on external markets. Furthermore, there are also vulnerabilities that are specific to the agri-food industry. These include a decreasing share of employment in agriculture, volatility in production, production adaptation costs, as well as import dependence and export-driven demand for specific producers.

COVID-19 Impact Mapping

The impact shocks related to the COVID-19 pandemic on the agri-food industry are three-fold. The most direct are real shocks, which include changes in demand and supply-side gridlocks. The second types of shocks are

financial shocks. Through impulses in the financial sector, the agri-food industry will be faced with more difficulty in acquiring necessary investment and capital, while also being subjected to limited international capital flows. The third type of shocks relate to behavioral changes, both on the side of consumers, who may change their consumption patterns according to their level of risk aversion, and from the firm-side, with rising uncertainty regarding future production and potential legislative changes.

Foresight – Scenario Analysis

The short and medium-term future of the agri-food industry is analysed through the prism of four scenarios considering economic, public policy, and other external factors.

The Future of Agri-Food

The COVID-19 pandemic significantly disrupted all sectors across the agri-food industry in Central and Eastern Europe. These disruptions, while causing great negative impact, have also accelerated trends to which the industry would have had to adapt regardless. The most important of these trends are digitalization and changing consumer preferences. These accelerators create opportunities for a more sustainable recovery. However, various stakeholders across the agri-food value chain have to prepare for structurally larger changes that will impact the sector, among them climate change and more stringent environmental regulation. To a certain extent, the pandemic is a preamble to those changes.

Overall Agri-Food Industry Matrix

Public Policy & other Factors From Unfavourable to Favourable	A New Consumer	Full Recovery
	<ul style="list-style-type: none"> Consumers favoring local products Growing importance of nutritional value Shift to home-cooking beneficial for retailers, while adversely affecting HoReCa. 	<ul style="list-style-type: none"> Undisrupted labour flows Eased price pressures No trade disruptions Changing consumer preferences creating growth opportunity for smaller local players
	Distortion & Disruption	A New Rulebook
	<ul style="list-style-type: none"> Excess supply of goods Disruption of labour flows Decreasing domestic demand Low foreign and domestic investment New policies and regulations generating additional costs 	<ul style="list-style-type: none"> New policies and regulations generating additional costs Protectionism decreasing competition, risk of trade complications Competition subjected to digital value propositions
Economic Factors From Negative to Positive		



The Czechia's Agri-Food Industry: Key Trends and Characteristics before COVID-19

The Agri-Food Industry in Czechia

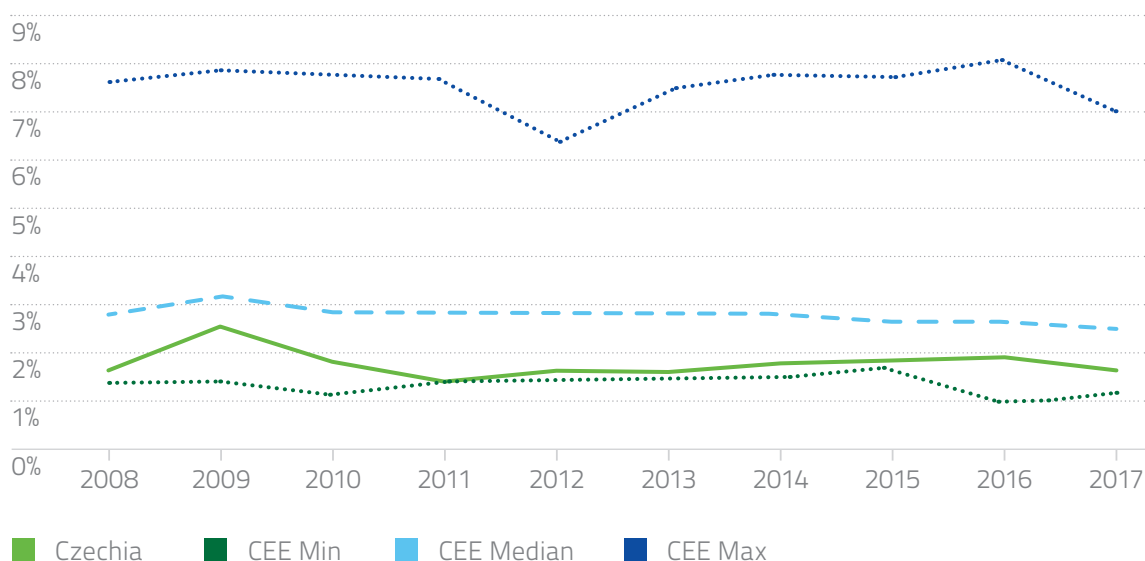
Since the 1990's, the Czechia has been a point of entry for companies looking to enter Central and Eastern European markets. The economy of the country is highly industrialized and export-driven. While agriculture makes up only 2.5% of the economy, it is still highly productive when compared to other countries in the region. However, the sector is limited by geographical features, such as uplands and highlands, with 40% of all agricultural land being at risk of soil erosion.¹

While 90% of farmers in Czechia are small, 70% of all agricultural land is taken up by large farms, which make up 10% of the all farms. Today still, labour productive is below the EU average, as the country struggles with insufficient development and innovation, an

aging workforce, below-average wages, and a lack of inflow of labour market entrants into the sector.²

One of the Czechia's key manufacturing sector is food and beverage processing, notably meat and dairy. The major sub-sectors are meat processing and fodder production, whereas beverages production is dominated by beer brewing and production of beer ingredients, particularly malt. The sector employs 86 thousand workers in 7.5 thousand firms. It is responsible for 2.5% of the country's GDP and 2.6% of employment. Consumption patterns are similar to the other Visegrad countries, with around 25% of consumer spending being allocated to food and beverage products.³ Overall, food products have showed robust

Figure 1. Agriculture, share in total Gross Value Added (%)



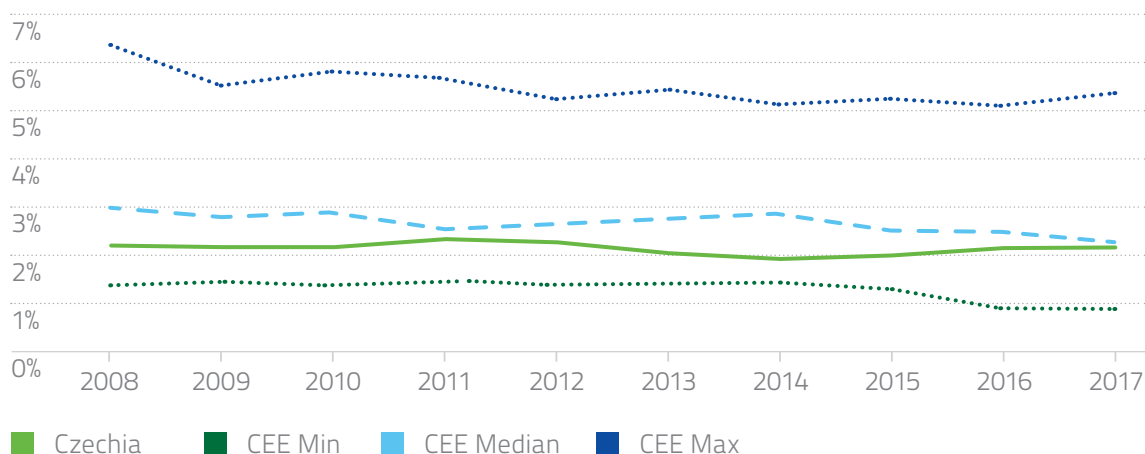
Source: Deloitte, Eurostat

value growth as a result of trade-up to higher quality products, resulting from economic growth, low unemployment, and rising purchasing power. After growth of 3.4% in 2017, retail sales growth slightly slowed down in 2018 and 2019. Internet retailing is the fastest growing channel and has in recent years become strong competition for traditional grocery retailers. In 2018, online purchases account for 10% of total retail sales. Within this trend, grocery online sales have also been very popular, showing 70% year-on-year growth. Currently, food accounts for 2.5% of all internet

sales in the Czechia, ranking in third in Europe behind the UK and France.

The sector is also largely driven by tourism, which saw a record 10 million foreign tourists in 2017. The sector employees 170 thousand people and is made up of more than 60 thousand firms. With growing consumer awareness on food nutrition, tourism has positively affected the demand for high quality food service.

Figure 2. Manufacture of food products, beverages and tobacco products, share in total Gross Value Added (%)



Source: Deloitte, Eurostat

The role of international trade in the agri-food industry

Over the last few decades, significant internationalization of the production process has been observed around the globe. Development of global value chains (GVCs) offers many opportunities to producers and consumers but also poses certain risks, especially during unexpected shocks in the economy, like e.g. demand shock in one country which may be passed upstream (to input suppliers) or downstream (to consumers), magnifying the initial shock. In order to evaluate specific vulnerabilities resulting from supply chain linkages, import and export dependencies, including direct and indirect linkages, of the agri-food industry in Czechia and other CEE countries were analysed.

Import-dependence of the agri-food industry in Czechia

Import-dependence related to the intermediate inputs

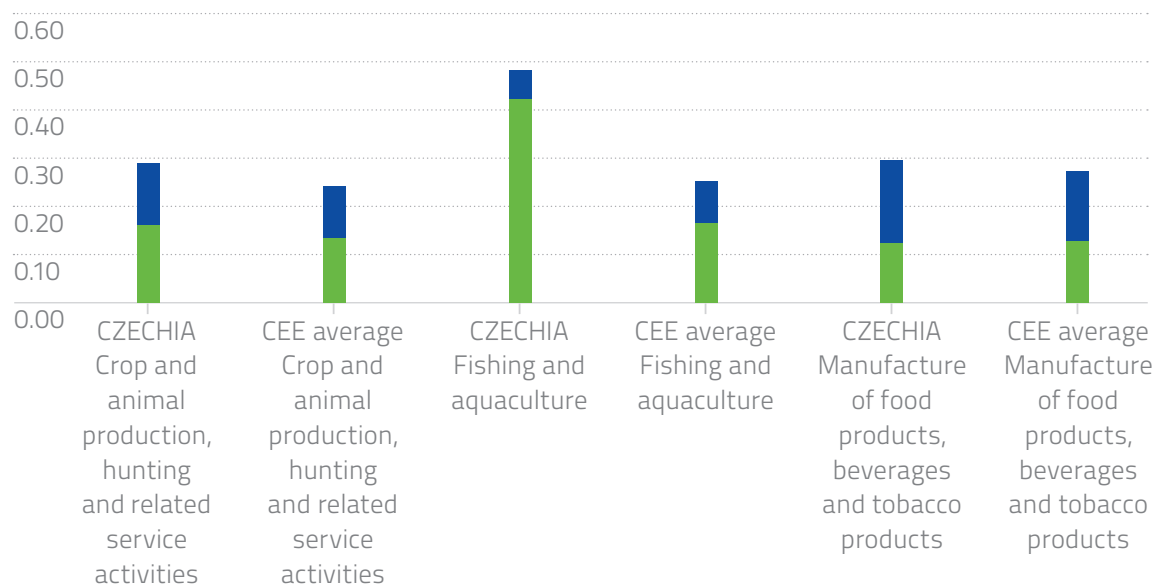
The use of imported intermediate inputs, goods and services in a given economy represent a stream of money flowing out of the domestic economy to foreign countries. Intermediate inputs import dependence can be analysed in two ways – as direct import dependence (also called import content) and an indirect import dependence⁴ – a sum of these two indicators gives a complete picture of the total amount of intermediate inputs required to produce one unit of output of the agri-food industry. Although the higher the value of total import content the greater the vulnerability to trade shocks, a certain amount of import is considered to bring positive effects, like facilitating product diversification and triggering pro-competition effects, inducing cost reductions and quality improvements in the final product.⁵

The agri-food industry in the Czechia in general is moderately dependent on imports of intermediate inputs. The higher than the CEE average and the highest dependence in the region is related to inputs for the fishing and aquaculture sector (total dependence ratio: 0.48). Import dependence of crop and animal production is a few pp above the average (0.29 vs. 0.24 average) and for food and beverages sector it's 3pp above the average (0.30 vs. 0.27 average).

Import-dependence related to the final demand components

- Czechia's households rely heavily on import of final goods from the fishing and aquaculture sector – the direct import dependence is the highest in the CEE region and equals 0.89. Direct import dependence of households in the remaining two sectors is also fairly high and above the CEE average (0.38 in the crop and animal production sector and 0.51 in the food & manufacturing sector).
- Imported final consumption expenditure by general government, which includes the value of goods and services purchased or produced by general government and directly supplied to private households for consumption purposes⁶, is higher in Czechia than in the CEE average in the crop and animal production sector (0.34 vs. 0.19 average) and food & beverages manufacturing sector (0.41 vs. 0.30 average). The dependence in the fish and aquaculture sector is substantially lower than in the CEE on average (0.23 vs. 0.45 in the region).
- Imported gross capital formation is fairly low, with the lowest value in crop and animal production (0.05 vs 0.12 average), and values very much in line with the CEE average in the food & beverages manufacturing sector (0.20 vs 0.18 average) and fish and aquaculture sector (0.11 vs 0.10 average).

Figure 3. Direct and indirect import content related to intermediate inputs of the agri-food sector in Czechia and CEE countries

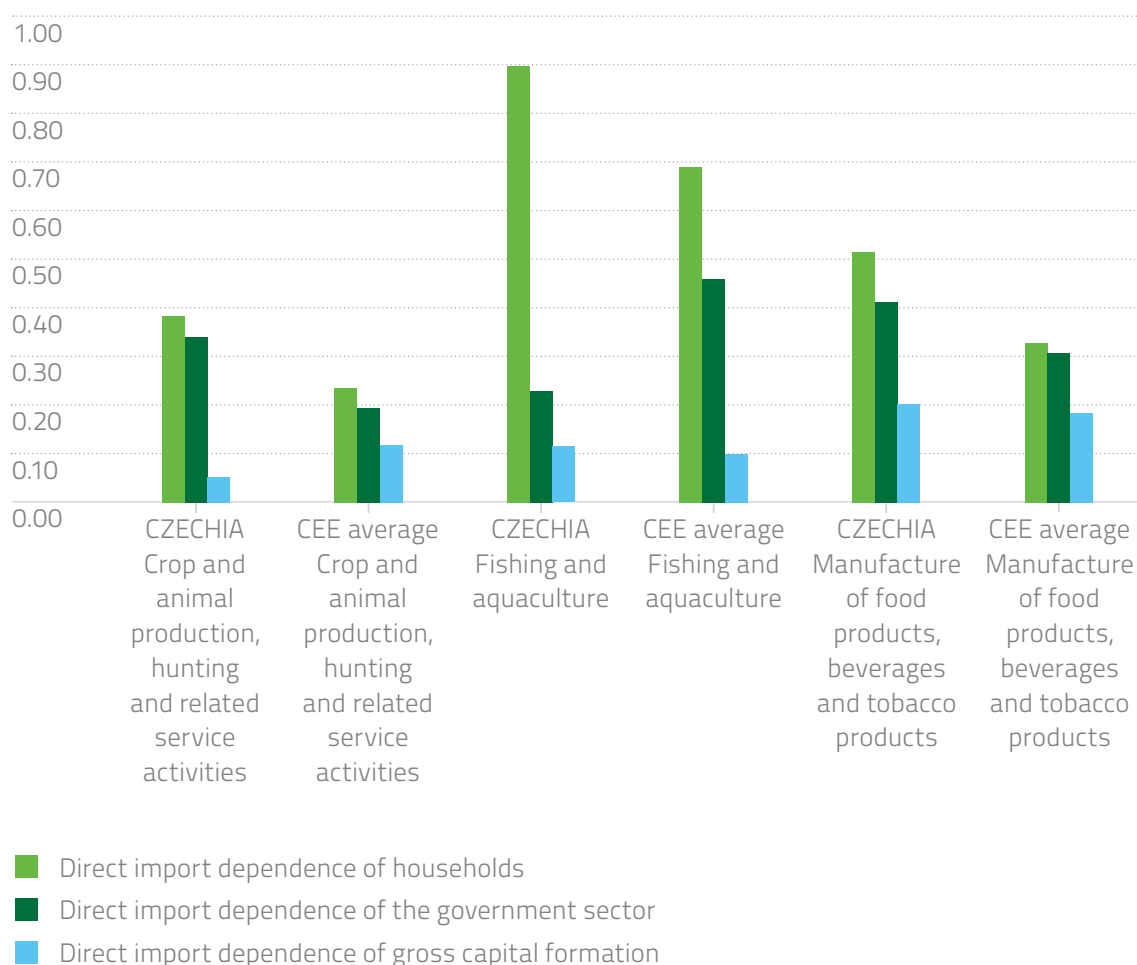


■ Direct import content ■ Indirect import content

Source: own elaboration based on input-output calculations



Figure 4. Direct import dependence related to the component of final demand of the agri-food sector in Czechia and CEE countries



Source: own elaboration based on input-output calculations

Export-intensity of the agri-food industry in Czechia

Due to the liberalisation of trade on global markets, including the agri-food markets, export competitiveness has become increasingly important in ensuring long-term success of companies by contributing to creation of their competitive advantage.

Czechia has the highest export intensity in the CEE region in the fishing and aquacultures sector – as much as 84% of the output is exported. Exports in the food and manufacturing sector are also considerably high – standing at 40% vs. 28% region average. Export intensity in the crop and animal production sector is in line with the CEE average – 20%.



Identified macro vulnerabilities

The Czechia has an industry-intensive economy, which thanks to growing trade, a stable and well-capitalized banking system and FDI has been able to catch up to the rest of the European Union.

In regards to future growth, the main challenges include population ageing and adaptation to technology and climate change. The largest structural obstacles for such a transition, according to the European Commission are "(i) the low investment in sustainable transport and in the transition to low-carbon energy sources; (ii) a moderate performance in domestic research and innovation; and (iii) acute labour and skill shortages. Furthermore, while the labor

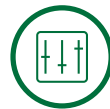
market has continued to development, growing labour costs may hinder growth through decreasing cost competitiveness.⁷ The single most significant threat to long-term public financial stability are costs related to an ageing population. In the short-term, public finances are expected to remain stable and fall around 30% of GDP. However, per the European Commission "a lack of concrete action to deal with increasing ageing-related costs puts increasing pressure on the long-term sustainability of public finances".

The Czechia also benefits from a relatively high consumer confidence, which together with higher interest rates is expected to encourage households to increase savings.

Conclusions - key macro vulnerabilities



Labour and skills shortages



Long-term ageing-related costs



Continuous increases in unit labour costs - threatened cost-competitiveness



Decreasing consumer confidence



COVID-19 Impact Mapping

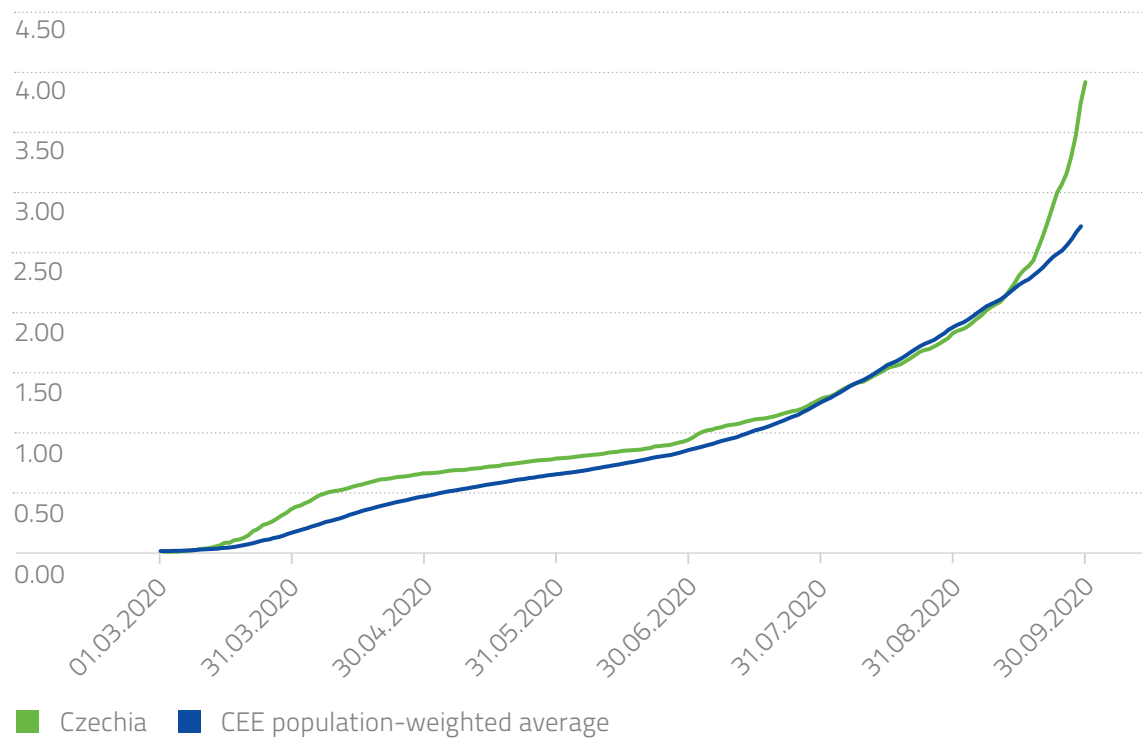
Disruption caused by the COVID-19 is unique and cannot be compared to other crises in the recent years, including the Great Recession of 2009. High uncertainty regarding its duration, depth and lack of ready prescriptions "from economic textbooks" requires robust scenario analysis. But, there is a consensus that impact of the COVID-19 is present both on the demand and supply-side of the economy. We might also distinguish real shocks, financial shocks as well as expectations in economic analysis of this shock.

We draw conclusions based on the data regarding the spread of the pandemic and its mortality, economic activity as well as the government's undertaken measures – imposed restrictions and support provided. The data is also checked against that of the entire region's averages to measure how well the country performed in containing the spread and supporting its citizens.

The COVID-19 Pandemic in Czechia

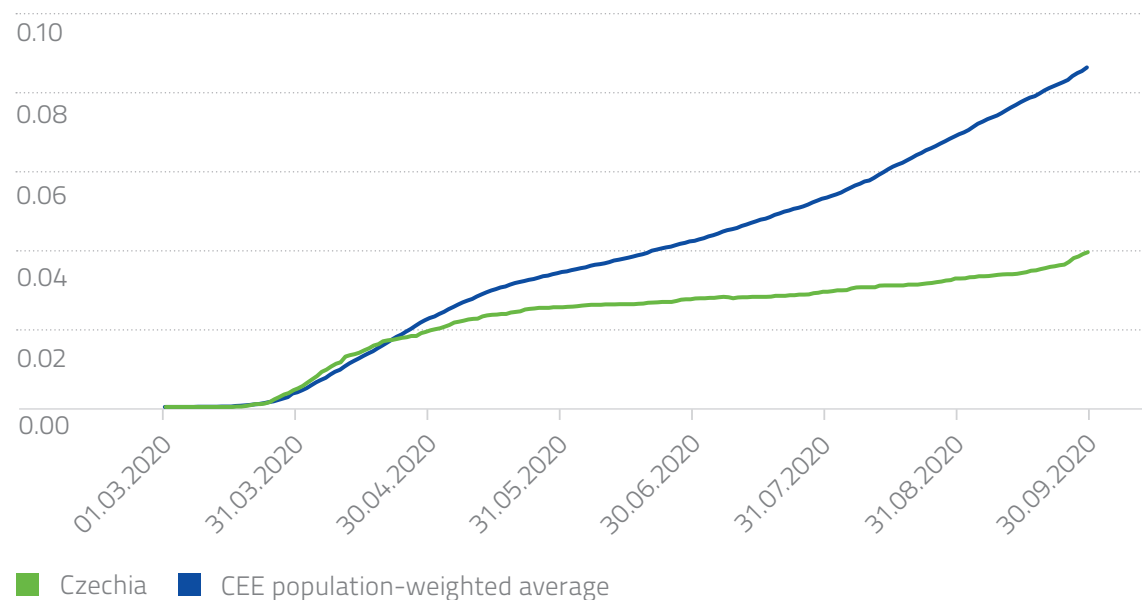
The COVID-19 Pandemic has directly affected thousands of people across Central and Eastern Europe. As of mid-September 2020, in the twelve countries analyzed in this report, there have been over 335 thousand confirmed cases of COVID-19. In this same timeframe, nearly 10 thousand people in the region have died as a result of COVID-19.

Figure 5. COVID-19 confirmed cases, aggregate per 1000 inhabitants



Source: Deloitte, Macrobond

Figure 6. COVID-19 total deaths, aggregate per 1000 inhabitants



Source: Deloitte, Macrobond

The amount of noted cases in Czechia was slightly higher or the same as the CEE average, however it began to grow faster in early September, eventually growing far above the average values. The amount of total deaths was also lower than average throughout the entire duration of the pandemic (except for the first few weeks). Overall, the situation in Czechia did not differ greatly when compared to the region, save for managing to maintain much lower mortality rates.

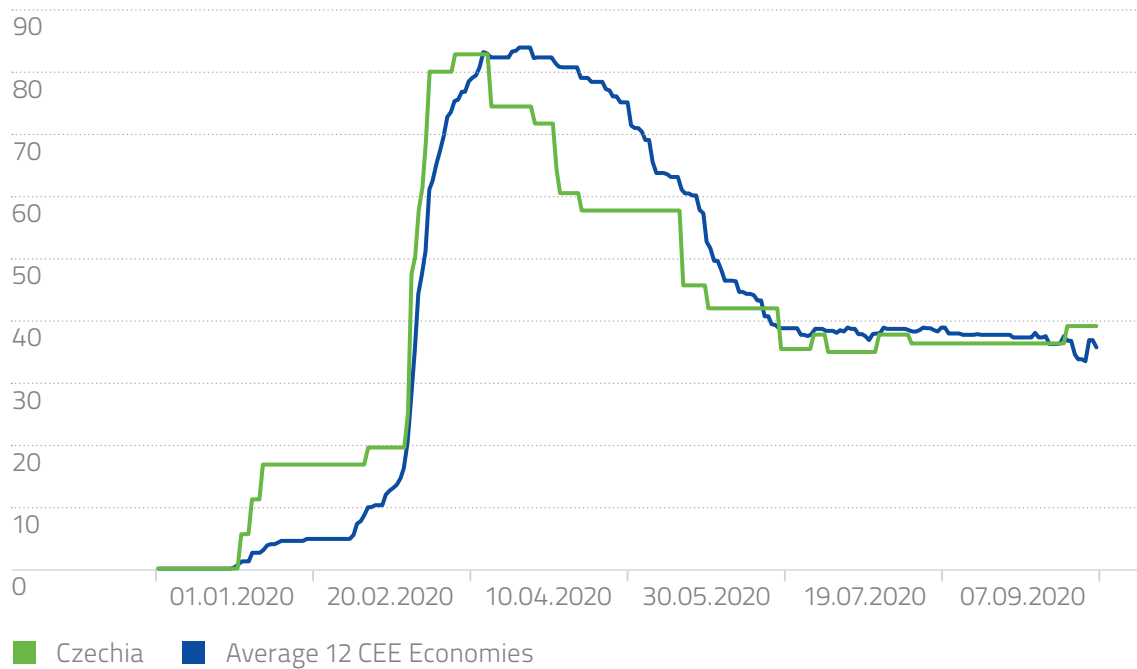
Czechia's lockdown measures do not differ greatly from those observed in the rest of the CE region. Interestingly, the announced amount of financial measures is the highest in the region when compared to the country's GDP. The stringency index observed in Czechia was higher in the first months of the pandemic and later decreased below the region's average. Since mid-June it is on par with the average stringency.

Table 1. Containment measures and public support mechanisms in Czechia

Category	Description
Containment measures	State of emergency lasting for 67 days. Sales of goods and services on the business premises was prohibited – excluding essential businesses. Accommodation services were also disallowed except for guests who needed accommodation for work or business purposes. Later, restaurant and cafes were allowed to start operating outdoors and gradually most restrictions were lifted.
Public support mechanisms	<ul style="list-style-type: none"> • Total value of announced measures reached 20.8% of GDP; • State support to maintain employment, salary contributions; • Moratorium of loans and mortgages for either three or six months (debtor's choice), available for both natural persons and businesses; • Operating loans available for SMEs; • Loans for export-oriented large companies; • Tax submission deadline extension, reduced penalties for late payments of social securities by employers; • Compensation of wage costs, support for parents and the self-employed; • Help aimed at the agricultural sector - "Support and Guarantee Agricultural and Forestry Fund, Operation 2020 - reduction of the loan principal".

Source: Deloitte survey and research

Figure 7. Containment measures - The Stringency Index



Source: Deloitte, Hale, Thomas, Noam Angrist, Emily Cameron-Blake, Laura Hallas, Beatriz Kira, Saptarshi Majumdar, Anna Petherick, Toby Phillips, Helen Tatlow, Samuel Webster (2020). Oxford COVID-19 Government Response Tracker, Blavatnik School of Government.

Conclusions



The amount of recorded cases higher in Czechia with a visible spike in September



Containment measures and public support are appropriate in limiting the spread



The amount of deaths is lower than average



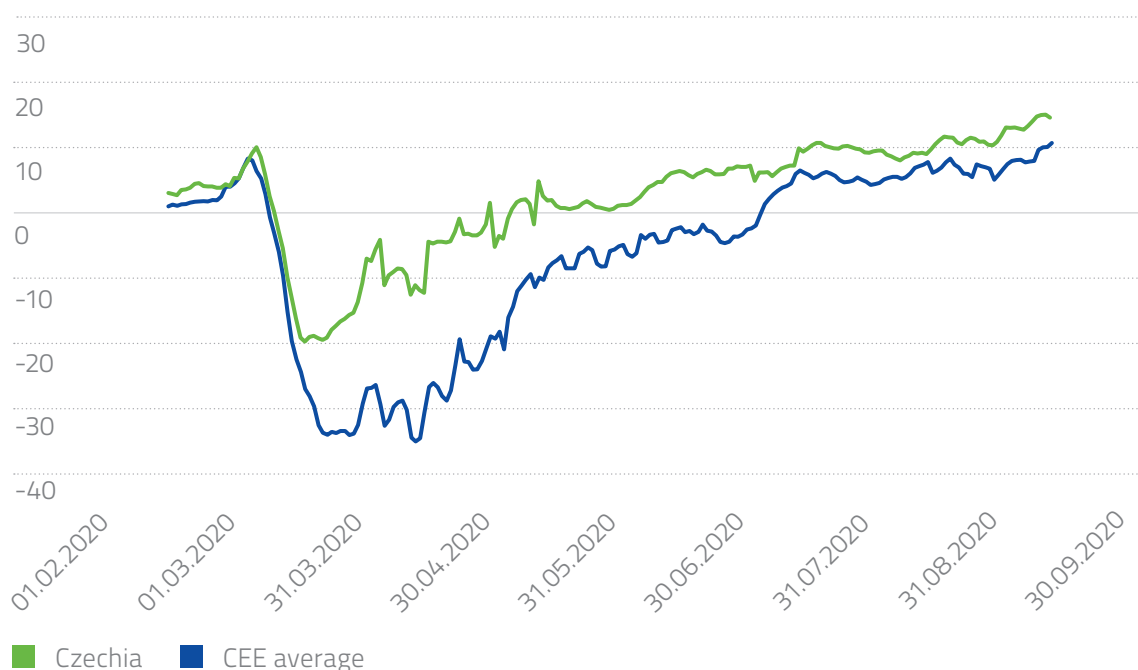
Stringency was initially higher than other countries but later on became more lenient

COVID-19 Impact on the Agri-food industry in Czechia

In order to quantify impact of the COVID-19, several indicators were analysed. First, we reviewed data on consumer mobility which serves as a proxy for consumer sentiment and/or severity of containment measures. Then, available short-term indices were

extracted and recalculated in order to showcase the depth and duration of the economic shock, both on the supply side (production) and demand (mostly retail trade). Each indicator is displayed with a proper CEE benchmark consisting of 12 economies.

Figure 8. Mobility of consumers, grocery and pharmacy, compared to baseline (%)



Source: Deloitte, Macrobond

The mobility within the retail sector of both necessary goods and recreation was impacted most severely by the initial lockdown restrictions. At the beginning of May, as the containment measures were starting to loosen, the mobility gradually started to increase to its usual, pre-pandemic levels. Czech customers in the grocery and pharmaceutical sector remained much more active throughout the pandemic than

the CEE average. When it comes to non-essential shopping the values are in line with CEE averages. The mobility average in Czechia is far less impacted by the actual growth of COVID-19 cases, meaning that most consumers reacted the strongest to the undertaken preventive measures themselves. Even though the amount of cases remains high, the mobility continues to improve.

Table 2. COVID-19 impact heat map - manufacturing output

Production of selected goods		March 2020 as % of March 2019	April 2020 as % of April 2019	May 2020 as % of May 2019	June 2020 as % of June 2019	July 2020 as % of July 2019
Manufacture of capital goods	Czechia	79%	47%	69%	86%	95%
	CEE GDP- weighted average	81%	51%	65%	84%	93%
Manufacture of durable consumer goods	Czechia	84%	65%	84%	91%	101%
	CEE GDP- weighted average	84%	57%	79%	101%	112%
Manufacture of non-durable consumer goods	Czechia	101%	86%	93%	97%	101%
	CEE GDP- weighted average	98%	84%	91%	96%	98%
Manufacture of food products and beverages	Czechia	99%	84%	91%	96%	100%
	CEE GDP- weighted average	104%	87%	93%	98%	101%

Table presents seasonally and calendar-adjusted data.
Source: Deloitte, Eurostat

The mobility data provided by Google looks positive, but the time spent in stores is not the same as the number of visits. And yet, it may not be a representative sample of consumers for the entire population, thus many store owners still have liquidity problems or even face bankruptcy. Although consumption might slow down or even fall again as a result of the deteriorating situation on the labor market (e.g. loss of jobs by some people whose jobs are maintained thanks to the government programs), sales of food and beverages will be relatively resilient. As a consequence, manufacturing of foodstuffs will perform alike.

This expectation is supported by the evidence from recent months, which is displayed on the "heat maps".

In line with economic theory, production of non-durable consumer goods in Czechia performed significantly better than of durable. In July 2020, it slightly exceeded the level from previous year, but the recovery was higher than the CEE average. The manufacture of food products and beverages also achieved satisfying results (84% in April y/y and 100% in July y/y), albeit slightly lower than CEE peers (87% in April y/y and 101% in July y/y).

Table 3. COVID-19 impact heat map - wholesale and retail

Turnover (constant prices)		March 2020 as % of March 2019	April 2020 as % of April 2019	May 2020 as % of May 2019	June 2020 as % of June 2019	July 2020 as % of July 2019
Retail trade, except of motor vehicles and motorcycles	Czechia	93%	90%	101%	99%	102%
	CEE GDP- weighted average	98%	87%	98%	100%	102%
Retail sale of food, beverages and tobacco	Czechia	103%	96%	99%	97%	98%
	CEE GDP- weighted average	106%	94%	97%	97%	99%
Retail sale of non-food products (including fuel)	Czechia	88%	86%	102%	100%	105%
	CEE GDP- weighted average	93%	83%	98%	102%	104%
Retail sale in non-specialised stores with food, beverages or tobacco predominating	Czechia	104%	97%	100%	97%	98%
	CEE GDP- weighted average	106%	94%	97%	96%	99%
Retail sale of food, beverages and tobacco in specialised stores	Czechia	85%	65%	75%	93%	90%
	CEE GDP- weighted average	99%	86%	92%	97%	97%

Table presents seasonally and calendar-adjusted data. No available data for Wholesale trade, except of motor vehicles and motorcycles

Source: Deloitte, Eurostat

In line with well-performing manufacturing, the retail sector also shows promising results. Overall retail trade performed very similarly to the region, with either the same or higher values. Retail of food, beverages and tobacco, par for a slight decline was mostly unaffected by the pandemic and in general performed above average. Non-food sales can be seen dropping as low as to 86% in April, which

when compared to the region's 83% also is not worrying. Non-food later recovered to 105% in July, still higher than CEE average 104%. Czech specialized stores were the ones to suffer the most, their decline started in March, later fell to 65% in April y/y (86% in the region) and slowly recovered up to 90% in July (97% in the region). Overall however, the retail sector is on the right path to full recovery.

Conclusions



COVID-19 confirmed cases were similar to the average in CEE countries, but show rapid growth in early September



Manufacturing of food and beverages performed better than capital and durable goods, and on par with non-durables compared to other domestic industries and was slightly weaker than CEE peers



COVID-19 mortality is much lower than average



Consumer demand for food products fell only by 4 p.p. but rebounded to 98% level of the previous year in July



Stringency of containment measures was initially higher than average, but later showed more leniency





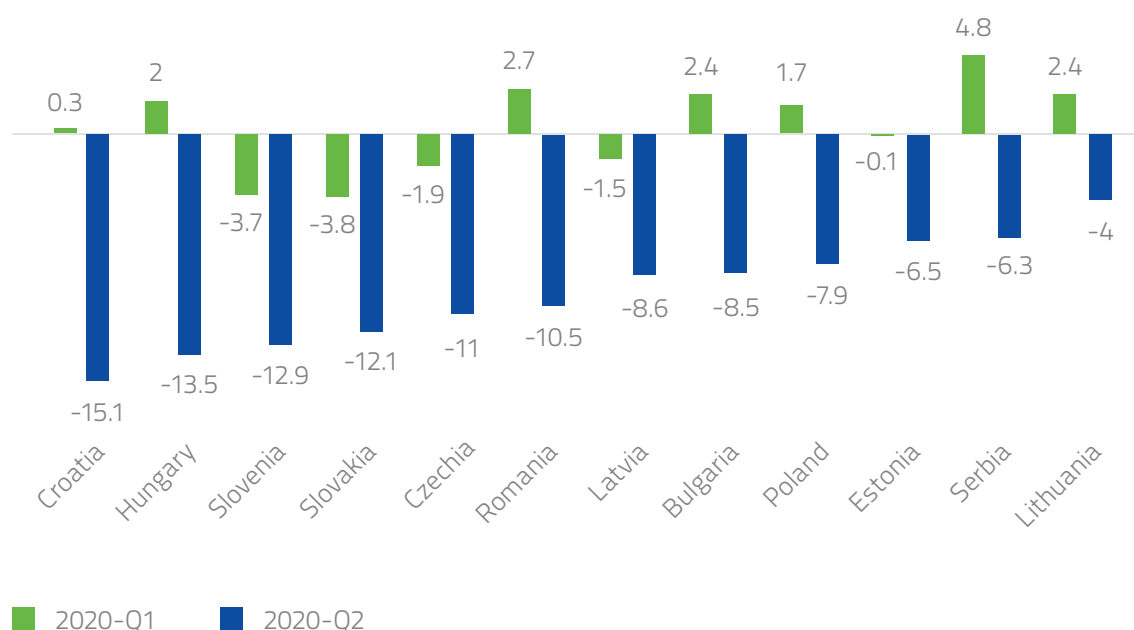
Foresight – Scenarios & Consequences

Status of the recovery

It is too early to predict whether next year's GDP growth will allow Czechia to recover most of the effects of the pandemic, or whether they will turn out to be so drastic that will still hinder the economy in 2021. It is also worth remembering about the extremely high uncertainty of forecasts due to the constantly evolving pandemic situation. However, in a comparative perspective we might identify some important factors that will determine possible future scenarios for the country and agri-food industry.

The GDP in the second quarter of 2020 marked a sharp fall of –11% y/y for Czechia. After the last few years of stable growth this was a heavy blow to the country's economy, and combined with the decrease in the first quarter, the European Commission predicts the annual GDP to contract by 7.8% y/y. However, Czechia, along with other countries is poised to recover in the next months, causing the economy to most likely begin recovering in the next year.

Figure 9. GDP Change, % annual basis



Source: Deloitte, Eurostat, Statistical Office of the Slovak Republic

Table 4. European Commission's macroeconomic forecasts

Country	GDP (% change y/y)		Inflation rate – HICP (%)		Employment* (% change y/y)		Private consumption* (% change y/y)		General government balance* (% GDP)	
	2020	2021	2020	2021	2020	2021	2020	2021	2020	2021
Bulgaria	-7.1	5.3	1.0	1.1	-2.5	0.5	-5.8	5.6	-2.8	-1.8
Croatia	-10.8	7.5	0.4	1.4	-3.9	3.0	-6.9	6.1	-7.1	-2.2
Czechia	-7.8	4.5	2.8	2.2	-3.1	0.8	-4.6	4.0	-6.7	-4.0
Estonia	-7.7	6.2	0.3	1.9	-5.7	3.7	-7.2	7.1	-8.3	-3.4
Hungary	-7.0	6.0	3.5	2.8	-3.8	1.1	-6.0	5.5	-5.2	-4.0
Latvia	-7.0	6.4	0.4	2.0	-2.6	0.9	-6.1	7.0	-7.3	-4.5
Lithuania	-7.1	6.7	0.8	1.5	-3.5	2.0	-9.9	7.8	-6.9	-2.7
Poland	-4.6	4.3	2.7	2.8	-4.5	2.2	-4.9	3.8	-9.5	-3.8
Romania	-6.0	4.0	2.5	2.8	-2.5	0.6	-6.2	4.9	-9.2	-11.4
Serbia**	-2.4	4.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Slovakia	-9.0	7.4	1.9	0.8	-3.4	2.0	-7.1	7.2	-8.5	-4.2
Slovenia	-7.0	6.1	0.2	1.1	-2.7	2.0	-6.1	6.3	-7.2	-2.1

* Spring 2020 forecasts. Other forecasts from the Summer 2020 edition.

**World Bank's forecasts for Serbia.

Source: Deloitte, Eurostat, World Bank

The forecast of the European Commission assumes further, gradual lifting of restrictions and the return of the health situation to normal. It is therefore assumed that there will be no relapse of the virus - a "second wave". In addition to the coronavirus, in the upcoming

quarters, more and more will depend on the adopted strategy and measures for recovery in the medium term, as well as the quality of the business environment, and less on short-term measures such as providing liquidity to companies or subsidizing employment.

Defining and contextualizing the scenarios for the Czech agri-food industry

The foresight analysis will employ a scenario-planning methodology⁸. A matrix has been constructed based on two high-level variables (themselves encapsulating multiple relevant sub-variables), producing four alternative scenario quadrants, which between them represent pessimistic, moderate, and optimistic future environments. These scenarios are elaborated in detail on the basis of local market and regional analysis and enriched through inputs derived from workshops conducted with EIT Food experts

representing each region. This ensures that the Agri-food value chains within our scope are appropriately situated in their regional contexts within the foresight matrix, through the integration of "bottom-up" analysis in a "top-down" framework.

The two high-level variables chosen are economic factors, and public policy & other factors. The sub-variables (exogenous variables) evaluated within these are the following »





Economic factors

Domestic demand

High: Consumer demand for goods recovers and supply chains subject to minimal disruption.

Low: Economic contraction (and unemployment) reduces consumer spending power and consequently demand. Consumer disposable incomes fall and spending habits become more conservative, avoiding expenditure on premium foods.

External Trade Conditions

Favourable: As markets recover, local supply chains are able to return to typical trading activity, reflected in pre-pandemic prices. Pandemic-related trade barriers within and outside of EU overcome.

Unfavourable: Demand-destruction on international commodity markets depresses the value of local exports and production. As

a narrow margin market, local farmers suffer from external price shocks. Trade disruptions appear both case-by-case within the EU and in other foreign markets.

Consumer and business confidence

Favourable: Consumer demand for goods recovers in a sustainable way and supply chains feel minimal disruption. Risk-aversion related to a health is at the pre-shock level. Consumers become more informed and educated over time.

Unfavourable: Consumers do not return fully to old spending habits and patterns, reducing expenditure on luxury and high value-added products, with retention of some shift towards cheaper staples and durables. Consumers are less willing to eat in restaurants and prepare food at home more often, using low value-added produce.



Public policy and other factors

Containment measures

Favourable: Lockdowns ease, ending disruptions to supply chains and labour flows.

Unfavourable: Lockdowns persist with recurrent "waves" – quarantines and extra check become a norm. Restaurants stay in restricted-states with limited capacity, directly destroying demand.

Policy support

High: Governments provide appropriate relief packages which support economic activity, supporting consumer and business confidence, as well as spending power – thus helping maintain demand for food and beverages.

Low: Government support is inadequate to reassure consumers, preserve places of employment, and support the sustainable recovery of the economy.

Scenario 1 Full Recovery Pathway

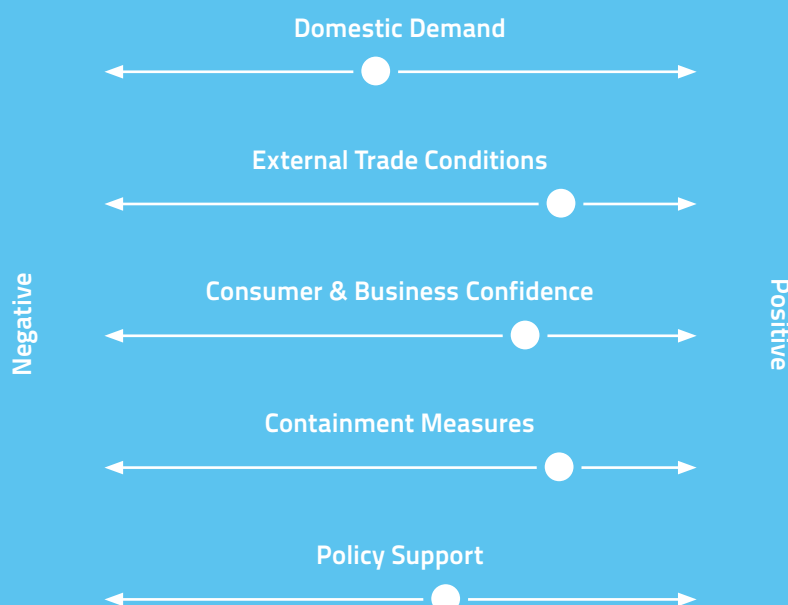


In order to see a "Full Recovery" scenario, one might expect a number of both endogenous and exogenous variables to move in a favourable direction. The requirement of favourable conditions across the board makes this what could be termed an "optimistic scenario".

- Containment measures are completely lifted. A vaccine or medicine is developed and distributed with success.

- Easing of the disruption to labour and trade flows, as well as the HoReCa sector.
- Improvement in business and consumer confidence.
- Key trading partners and tourist sources enjoy similarly favourable conditions.
- Effective policy support from national governments to catalyse and trigger the early changes.

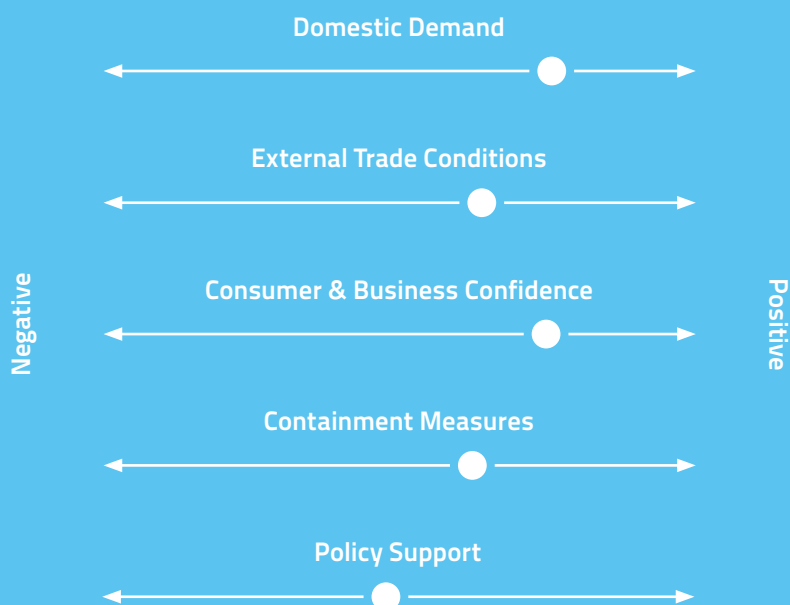
Scenario 2 A New Consumer Pathway



As one of the two "moderate" scenarios, the "New Consumer" scenario could be expected as the product of a particular mix of conditions which on the one hand give the opportunity of a full recovery, and on the other in practice prevent this, through significant and lasting impacts on consumer trends and behaviours which translate into demand shifts to which entire agri-food industry value chains must adapt to some degree.

- The lifting of containment measures is a distinctive precursor. A vaccine or medicine has been developed and distributed with success.
- Retention of behavioural impacts which filter up through the agri-food industry value chain.
- Shift in demand, most likely manifesting in a reduction of demand for higher value added foods.
- Low policy support (failing to reignite consumption).
- Global economic recovery moves in a positive direction, allowing foreign markets to absorb new domestic surpluses to a degree.
- HoReCa sector sees reduced performance (if only through drop in domestic travel).

Scenario 3 A New Rulebook Pathway



As one of the two "moderate" scenarios, the "New Rulebook" scenario results from a mix of conditions somewhat opposite to those in the "New Consumer" scenario. In contrast to the aforementioned case, here the consumer-base in fact is distinctly ready to return to a pre-pandemic state, however governmental policy implications – restrictive containment measures – are such that this is somewhat encumbered.

- Lifting of containment measures is not guaranteed. A vaccine or medicine not yet distributed domestically.
- Government policy presents a mix of financial support and containment measures.
- The HoReCa sector suffers, struggling to recover under an aura of lingering risks and lockdowns.
- The structure of consumption between sectors and between goods within them will therefore change.
- Supply chain disruptions and barriers to flow of seasonal (migrant) labour.
- Potential delay and suspension of certain investments in value adding food processing capacities.

Scenario 4 Distortion & Disruption Pathway



The "Distortion & Disruption" pathway is the manifestation of a "pessimistic" scenario where both economic and public policy factors align unfavourably.

- Strong containment measures, unfavourable external trade conditions, and insufficient policy support.
- Depressed consumer and business confidence; domestic demand falls.

- Worsening trade conditions may result in depressed global market prices – threat to agricultural producers. Risk of protectionism spirals exacerbating contraction.
- Stricter sanitary standards, rules on social distancing and other changes in regulations, increase costs of business operations / decrease productivity (income per employee).

Outcomes of the Scenario Analysis and Consequences

Agricultural & Input providers

- Czechia has a small agricultural sector. While the sector is efficient, it still struggles to compete with neighbouring markets such as in Poland, where agricultural costs are lower – even under typical conditions. A pessimistic scenario and depression of global commodity markets could potentially decimate the competitiveness of Czech agricultural production.⁹
- Consumers may increasingly pay greater attention to ingredients and preservatives added to raw or low-processed products, as a way to sustain good immunity.
- Domestic brewery input providers are placed at risk in pessimistic scenarios, as lockdowns disrupt restaurant and bar operation, reducing demand for Czech alcohols.
- Higher disruption might be expected for goods consumed mostly by those with lesser spending power, characterized by high sensitivity (elasticity) of the demand to changes in prices and disposable income. To a degree this supports demand for certain agricultural sectors, but not others. Livestock and higher end meat production may suffer in worse economic climates on account of price.
- While price is still the major purchasing factor for Czech consumers, and the Czech agricultural sector is small, pre-pandemic trends of growing consumer awareness and interest in food safety issues may offer an opportunity for increase demand of locally sourced produce.

Public Policy & Other Factors From Unfavourable to Favourable	A New Consumer	Full Recovery
	<ul style="list-style-type: none"> • Changing consumer preferences for more local produce. • Potentially increased demand for less processed agricultural produce as consumers cook at home more often. • Growing importance of goods with nutritional value which may support health. 	<ul style="list-style-type: none"> • Production surpluses dissipate as demand returns to pre-pandemic stage. • Labour flow disruptions cease. • Price and wage pressures on farmers ease.
	Distortion & Disruption	A New Rulebook
	<ul style="list-style-type: none"> • Disruption of seasonal and international labour flows. • Excess supply depresses commodity markets, compounding pressure on food producers. • Domestic demand decreasing as result of economic downturn. 	<ul style="list-style-type: none"> • Growing wage pressures on farmers. • Risk of trade complications (particularly with livestock) and also protectionism. • Additional health & safety measures potentially raise costs. • Consumer demand returns to pre-pandemic structure.
Economic Factors From Negative to Positive		

Source: Deloitte analysis

Food & Beverage Manufacturing

- Success and shape of food processing sector strongly tied to demand for high value-added products.
- Significant source of demand for high value added produce (such as produced by Czechia's beverage industry) depends on HoReCa sector.¹⁰
- With a significant tourism sector, Czechia may see reduced opportunities for local value adding processing as demand for locally manufactured goods falls.¹¹
- Lockdown impacts on restaurants to be modulated by delivery apps and stringency of policy.
- Czech retailers have long complained that Czechia is a highly price sensitive market, and that often they struggle to move goods without the aid of sales. Consequently, it can be expected that pessimistic scenarios (undermining consumer purchasing power) will have a distinctly strong effect on the Czech market, decimating demand for higher value added and expensive goods.
- Manufacturers benefit from global surpluses – capturing value from falling prices of inputs.

Public Policy & Other Factors From Unfavourable to Favourable	A New Consumer <ul style="list-style-type: none"> • Altered consumer patterns away from restaurants and into eating at home. • Necessity for food producers to reposition themselves due to changing demand. • HoReCa sector recovery supports breweries. • Food manufacturers benefit from lower prices on international market. 	Full Recovery <ul style="list-style-type: none"> • Growth and demand levels return to past dynamic. • Sector remains competitive and attractive to investors. • Growing consumer confidence and spending power. • Revived demand from HoReCa sector.
	Distortion & Disruption <ul style="list-style-type: none"> • Food manufacturing impacted by HoReCa disruptions. • Conservative consumer consumption patterns undermines growth potential of processors and manufacturers. • New policies and regulations generating additional costs. • Investment in food processing facilities and updated production processes stalls. 	A New Rulebook <ul style="list-style-type: none"> • Food manufacturing impacted by HoReCa disruptions. • New policies and regulations may generate additional costs. • Protectionism may threaten trade environment. • Food manufacturers may potentially benefit from lower agricultural commodity prices.
	Economic Factors From Negative to Positive	

Source: Deloitte analysis

Retail

- (Grocery) retailers better insulated from pandemic shocks than other sectors – shifts from restaurant consumption to home consumption supports consumption of groceries.
- A lifting of containment measures would support recovery of the HoReCa sector, which in turn would reignite growth opportunities for high value added products. Under lockdowns, the Czech HoReCa sector is severely threatened. 2017 saw a record number of tourists visit Prague – matching the local population; the loss of, or disruption to, such large volumes of potential customer is a devastating destruction of demand for higher value added goods such as those offered in restaurants and bars, with potentially negative consequences for local food processing segments.
- Online grocery retail becomes a key medium for competition, requiring strong investment in logistical networks and online advertising structures. Studies have shown that fresh fruit and vegetables became a key segment where the consumer interest in delivery and e-commerce solutions grew significantly, and with growing concern for health being a key pre-pandemic food trend in Czechia this would likely only strengthen.¹²
- Shift to online grocery shopping risks reduction of traffic through brick-and-mortar stores, putting pressure on stores that may struggle to pay overheads.
- Demographic changes may impact sales. Reports suggest during lockdowns, men increasingly take over the role of primary grocery buyer for households, with retailers reporting consequent changes to what is bought and how.¹³
- In a New Rulebook scenario, structurally, consumers revert to demand for similar produce as consumed before the pandemic, however restrictions reduce the scale of total consumption.
- In the event of favourable economic conditions, consumer confidence and spending power will recover and grow, allowing the market to return to pre-pandemic trends of growing demand for higher quality and higher value added goods.

The importance of weather

Favourable weather conditions would be a welcome catalyst for recovery. Climate change brings with it unwelcome variability in weather, increasing weather extremes – whether in the form of atypically extensive rainfall (at an inopportune time), or unusually hot spells and heat records which spur the increasing trend of droughts and falling soil moisture across CEE. Falling soil moisture is particularly troublesome for agricultural and input providers, not only for reasons of increasing desertification and loss of arable land, but also reduced harvest volumes on account of drier soils failing to dissolve (and therefore retain) important fertilisers.

Weather is a variable of natural significance to an analysis for the agri-food industry. As a valid exogenous variable, it could be included in the matrices within "other" as a factor. For reasons of maintaining a cohesive set of variables that can be better influenced and predicted, it has been extracted from the above methodology. However, this by no means should diminish the importance of its presence in such a report, and should be borne in mind as a modulating factor which could impact each and every scenario favourably or unfavourably, acting as a catalyst of barrier to any particular change, particularly for the agricultural and input providers.

A New Consumer

- Necessary for retailers to adjust marketing strategies to adapt to changing consumer needs (shift to simpler foods and healthier staples with increased home cooking).
- Larger online shopping capacity required to meet client expectations.
- High competition among retailers to meet need demand and expectations.

Distortion & Disruption

- Decreasing consumer confidence leads to lower consumption.¹⁴
- Conservative consumption patterns lead to less frequent store visits and lower expenditures.
- Retailers faced with additional costs to ensure health and safety regulations are met.
- Not only does HoReCa suffer, but delivery services offer stunted avenues for sales retention (where the wider economic climate undermines purchasing power of the consumer base).

Full Recovery

- Business as usual for large retailers.
- Growth opportunity for smaller local players.
- Foot traffic & consumer spending power increase leads to consumption growth.
- HoReCa sector returns to pre-pandemic levels, boosting connected sectors.
- Inertia from investment in grocery e-commerce.

A New Rulebook

- Retailers may benefit from shift to home cooking which supports foot traffic in grocery stores.
- Food services and catering suffering from low demand.
- Competition subjected to digital value propositions – especially regarding short food supply chains for fruits and vegetables.
- Czech HoReCa sector undermined by containment measures, reducing demand of high value added goods at restaurants or bars.

Economic Factors From Negative to Positive

Source: Deloitte analysis



Policy and investment implications

Opportunities and growth areas

Low levels of income inequality have led to the development of a large middle class accounting for 48% of the country's total households in 2017, one of the largest in the world. While this share is expected to remain significant during 2018-2030, a moderate rise in income inequality will also support growth of top and bottom income classes. This trend will generate opportunities for premium goods and services including recreation, leisure, hotels, and restaurants.

A trend toward healthy eating is also on the rise in Czechia; shoppers are paying more attention to added-value health benefits, place of origin, and free-from indicators. Health trends lead to popularity of high protein and high fibre products with less

sugar. Both producers and consumers focus on low sugar products, mainly in snack bars, biscuits, spreads, and breakfast cereals. However, despite rising purchasing power, Czech consumers (and particularly the older generations and in rural areas) remain quite price-sensitive, with many actively seeking out discounts and special offers when shopping for food.

Although still limited to major urban areas, online shopping for food has created a much more competitive market, challenging stationary retailers to expand or to enhance consumers' shopping experience. Online grocery shopping reached around EUR 117 million sales value in 2018 and are expected to double in four years.

The reduction in tourism associated with containment measures has an undoubtedly damaging effect on the Czechia HoReCa sector, with large short term financial losses. This poses an interesting opportunity, however, for Prague to re-position and restructure itself towards a more sustainable tourist model that serves local communities better. Recent years have seen publicity and campaigns in the theme of tackling the burdens of "over-tourism", drawing attention to the

unfavourable way it was reshaping Prague. It was alleged that restaurants deteriorated in quality, and temporary accommodation priced out nationals¹⁵. Measures are being implemented to incentivise Czech citizens from beyond the capital to visit. While the short term will see revenues fall, this dip may be an opportunity to strengthen the value proposition of the HoReCa sector, increasing its quality, sustainability, and equity.

Key Opportunities for a Sustainable Recovery

Farmers and input providers

Opportunity	Source
Potential new consumer base	More individuals seeking local products
Innovations in the production process towards better resource efficiency and lower environmental impact	Changing demand and social preferences requiring alterations to the production process
More direct contact with consumers and higher margins	Shortened distance between farmers and consumers as a result of changing consumer preferences
Economies of scale through increased national and regional cooperation	Disruption of larger international supply chains but continued investments in transport infrastructure in CEE

Food processing, storage, and transport

Opportunity	Source
Opportunities for local suppliers to showcase their own products	Growing consumer interest in local goods as well as products with lower environmental footprint
Opportunity to "green" the food production process	Changing demand requiring alterations to the production process
New and effective transport and storage solutions	Transport disruptions
Need for higher self-sufficiency within the country or region	Trade and supply chain disruptions

Retailers, restaurants, and consumers

Opportunity	Source
More informed consumer choices and new fields of competition	Growing tendency to prepare food at home and sustainability-awareness
Higher interest in local food retailers and markets and resulting positive effect on margins	Growing consumer interest in local products
Growing interest in specialized stores and resulting positive effect on margins	More demanding consumers due to continued socio-economic development or health & dietary needs
Digitalization – rise of online ordering and home delivery of food	Necessity or desire to remain home

Supportive measures

- 1** Policy changes – both containment measures and support schemes – should be set in a balance between the need for protection, stability and need for sustainable recovery. Moreover, policymakers should communicate any plans for implementing or lifting restrictions well in advance and include also as eligibility and other conditions regarding financial aid.
- 2** Each of the major policy changes intended to prevent pandemic or alleviate its impact should be backed by a transparent and comprehensive economic impact assessment. Since March, many governments and other stakeholders gained necessary and valuable knowledge regarding adequacy, costs and effects of different programs and instruments. Particularly there is a large body of evidence and data regarding impact of COVID-19 crisis on retail trade, including foodstuffs.
- 3** Policymakers must ensure proper monitoring and reacting to risks that might disturb local markets and international trade. Crisis management, including containment measures, border controls and other administrative decisions that might affect agri-food industry should be a subject for more intense and effective intergovernmental cooperation.
- 4** CEE governments and regional agri-food industry should consider European Green Deal rather as an opportunity than solely a challenge. At the same time, proper structural policies are required to improve CEE agri-food industry position in the global value chain as well as to address pressing sustainability issues and social expectations.
- 5** Further improvement of transport infrastructure and development of clusters in CEE is required to gain new markets, boost growth of SMEs and thus reach satisfactory economies of scale in agri-food industry. CEE governments should continue to invest in road and rail networks, improving accessibility of major cities, ports as well as rural areas.
- 6** Branding and promoting products of agri-food industry as reaction to changing consumer preferences. Local and regional governments should cooperate with industry representatives and work together to improve business environment for sustainable recovery.

Annex: Methodology of the study

Countries covered

This project covers 12 countries with Central and Eastern Europe:

Bulgaria	Croatia	Czechia	Estonia
Hungary	Latvia	Lithuania	Poland
Romania	Serbia	Slovenia	Slovakia

Methodological approach

The project methodology combines both quantitative analysis of sector-level data and qualitative analysis of insights gathered from literature and discussions with expert. Upon finalizing the research on historical data and the current situation within each country, foresight analysis to analyse how impact across sectors will develop under multiple COVID-19 scenarios. Based on this, specific short and long-term consequences of the pandemic on specific areas of the industry are mapped. This, in turn, will allow for the drafting of to draft short and medium-term actions that various stakeholders including public officials can take to ensure a sustainable recovery in the agri-food industry.

More details on the methodology is available in the:

Food Foresight: Impact of COVID-19 on the food sector in Central and Eastern Europe

Download: eitfood.eu/foodforesight

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About EIT Food

EIT Food is Europe's leading food innovation initiative, working to make the food system more sustainable, healthy and trusted.

The initiative is made up of an innovation community of key industry players across Europe, consisting of over 90 partner organisations and over 50 startups from 16 EU member states. It is one of the Knowledge and Innovation Communities (KIC) established by the European Institute for Innovation & Technology (EIT), an independent EU body set up in 2008 to promote innovation and entrepreneurship across Europe.

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