fi compass
EAFRD

Financial needs in the agriculture and agri-food sectors in Croatia

June 2020

European Commission

European Investment Bank
The EU bank

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This document has been prepared with the support of a consortium of Ecorys and Frankfurt School of Finance & Management gGmbH.

This document is to be referred as: *fi-compass*, 2020, Financial needs in the agriculture and agri-food sectors in Croatia, Study report, 76 pages. Available at: https://www.fi-compass.eu/sites/default/files/publications/financial_needs_agriculture_agrifood_sectors_Croatia.pdf.

Glossary and definitions

Expression	Explanation
Agri-food survey	Survey of the financial needs of EU agri-food processing enterprises carried out in mid-2019 in the framework of study 'EU and Country level market analysis for Agriculture' and based on respondents' financial data from 2018.
AWU	Annual Working Unit
CAP	Common Agricultural Policy
EAA	Economic Accounts for Agriculture
EAFRD	European Agricultural Fund for Rural Development
EC	European Commission
EIB	European Investment Bank
EIF	European Investment Fund
EU 24	The 24 EU Member States covered by the *fi-compass* 'EU and Country level market analysis for Agriculture': Austria, Belgium, Bulgaria, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, The Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden.
EU 28	All EU Member States: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, The Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, The United Kingdom.
EUR	Euro
FADN	Farm Accountancy Data Network
fi-compass survey[1]	Survey on financial needs and access to finance of 7600 EU agricultural enterprises carried out by *fi-compass* in the period April - June 2018 and based on respondents' financial data from 2017.
GFCF	Gross Fixed Capital Formation
GVA	Gross Value Added
ha	Hectare
MASS	Ministry of Agriculture
RDP	Rural Development Programme
SMEs	Small and medium-sized enterprises
SO	Standard Output
UAA	Utilised Agricultural Area

1 *fi-compass*, 2019, Survey on financial needs and access to finance of EU agricultural enterprises, Study report, https://www.fi-compass.eu/publication/brochures/survey-financial-needs-and-access-finance-eu-agricultural-enterprises.

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EXECUTIVE SUMMARY

This study gives an insight into agriculture and agri-food financing in Croatia by providing an understanding of investment drivers, financing supply and financing difficulties as well as on the existing financing gap.

The analysis draws on the results from two comprehensive and representative EU-level surveys carried out in 2018 and 2019. These were the *fi-compass* survey on financial needs and access to finance of EU agricultural enterprises and a survey of the financial needs of EU agri-food processing enterprises. The report does not take into account the impact of the ongoing COVID-19 health crisis and/or the effect of any new support scheme being set-up by the Member State and/or changes in legal basis and/or policies at European level to mitigate the crisis, as surveys and data available covered a period prior to its outbreak. This would need to be subject to further analyses by interested stakeholders, administrations and/or researchers.

Financing gap for the agriculture sector in Croatia

Agricultural investments are recovering after a long decline. Since 2009, the Croatian agriculture sector experienced a significant reduction in its production value, which continued following EU accession in 2013. Investments decreased by more than 50% in the period 2009-2016 but investments slowly started to pick up again in 2017 and 2018.

Croatian farmers need to invest in new machinery and equipment. After several years of decreasing investments, the sector has a high levels of old equipment and infrastructure. Investments in new and modern equipment are necessary to offset the productivity gap with the rest of the EU. Automation and modern facilities are a solution to the labour shortage affecting the Croatian agriculture sector. Overall, investment trends are driven by three main factors: (i) the need to modernise outdated equipment and facilities; (ii) process automation to cope with a shortage of qualified labour force; and (iii) capacity expansion to achieve economies of scale. In addition, developments on the land market also affect farmers' demand for finance.

Working capital needs also drive the demand for finance. According to the *fi*-compass survey, in 2017, 46% of loan applications were made to meet farmers' working capital needs. Working capital in the Croatian agriculture sector is financed mostly through short-term loans and credit lines. The differences between the payment cycles for the production and sales of agricultural products create cash flow problems for farmers. Long payment deadlines from their buyers affect their financial capacity as they need to cover the costs of production. Working capital needs are a problem, particularly for young farmers, who have not yet been able to establish financial reserves.

The Common Agricultural Policy (CAP) is an important source of funding for farmers and catalyses investment support. The European Agriculture Fund for Rural Development (EAFRD) supports investments through various investment and business start-up measures. The demand for public support for agricultural investments is significant, amounting to more than EUR 1 billion by the end of 2019. Start-up aid for young farmers is also in high demand.

There are eight banks that offer specialised credit to the agriculture sector. In 2018, the value of outstanding loans to the agriculture sector was EUR 535.5 million. Agricultural, forestry and fishing activities represented 4.9% of lending to non-financial corporations. The share of non-performing loans in agriculture consistently remains below the average for other economic sectors, but commercial banks are still reluctant to lend to the agriculture sector.

Three financial instruments co-funded by the EAFRD have been implemented since 2018:

(i) Micro and small-sized loans for Rural Development, which co-fund micro (up to EUR 25 000) and small-sized loans (up to EUR 50 000) at favourable conditions;

(ii) Individual Guarantees for Rural Development, with a guarantee of up to EUR 1.3 million covering up to 70% of the investment value; and

(iii) Investment Loans for Rural Development, with preferential interest rates for investments in long-term assets and working capital.

The condition for the micro-loans and small-sized loans for rural development include a grace period (up to 12 months) and offer interest rates between 0.15% - 0.25%. They finance fixed capital and working capital.

The financing gap for the Croatian agriculture sector is estimated to be between EUR 820 million and EUR 1.4 billion. Small-sized farms are affected the most, and the most constrained type of financing is long-term lending. The financing gap for young farmers is estimated to be between EUR 413 million and EUR 514 million.

The first component of the gap comprises the estimated value of loan applications submitted in the preceding year by viable enterprises, which were rejected by the banks, or which translated into loan offers refused by the applicants due to non-acceptable lending conditions. The second component of the gap relates to the estimated value of loan applications that are not submitted by farmers considered viable, due to their fear of possible rejection.

The study identifies several reasons why loan applications by viable farmers are rejected, refused or where the farmer is discouraged from applying:

- **A perception of high lending risk levels and banks' policies on agricultural lending**. Agriculture is not considered an attractive lending market segment due to the high risk associated with its historically weak financial performance. There is also a lack of financing products tailored specifically to the agriculture sector.
- **Inadequate collateral and high collateral requirements**. Access to long-term loans is constrained by the high level of concession farming; approximately 30% of the land is owned by the State and leased to farmers via long-term leases. In addition, values for private agricultural land are low and/or decreasing. Nearly 70% of Croatian farmers were requested by banks to provide collateral, which frequently is set above 100% of the investment value. This contributes to the financing gap, particularly for small-sized farms and new entrants.
- **Insufficient financial literacy**. A high proportion of farmers do not possess sufficient knowledge of bank products and application procedures, which often causes farmers' applications to be of low quality. This contributes to the financing gap among small-sized farms.
- **Lack of credit history and reliable accountancy records**. This is a common problem for new entrants, and for farms that enter the financing market for the first time.

RECOMMENDATIONS

Based on the findings of the analysis, the following observations and recommendations may be considered:

- A variety of EAFRD financial instruments has already been implemented in Croatia. These instruments seem to adequately address the main market constraints identified in this report. However, given the magnitude of the identified gap, it is unlikely that these instruments will fully close the financing gap by the end of the current programming period. Accordingly, the current instruments should be continued for the 2021-2027 programming period, subject to an appropriate 'health check' of their performance after a few years of operation. In this context, the following observations can be made:
    - The micro and small-loan instrument seems to be a useful tool to promote financial inclusion of small-sized enterprises. These enterprises currently face significant obstacles in accessing finance or are self-excluded due to lack of knowledge and familiarity with the banking system. There has been a swift and high take-up of the instrument, which appears to confirm that there was substantial previously unmet investment needs among small-sized enterprises.
    - The guarantee instrument for SMEs is a useful tool to address the lack of collateral of small-sized enterprises and new entrants, which is one of the main constraints identified in the analysis.

  - The risk-sharing loan instrument can be very effective in facilitating access to finance for larger projects, as it combines risk coverage with reduced interest rates, which are currently high in Croatia compared to the rest of the EU.
  - In view of the continued use of financial instruments in the 2021-2027 programming period, the performance of existing instruments must be assessed, as well as their size and achieved targets.
- The possibilities offered by the new legal framework (e.g. easier combination of financial instruments and grant support and use of interest rate subsidies, or the possibility to finance the purchase of land for young farmers, stand-alone working capital finance) should be considered to identify potential opportunities that could improve the overall effectiveness of financial instruments.
- Technical support should be provided to farmers to strengthen their financial literacy and business planning capacity. This should increase the chances of approval of their applications for finance. Providing training to bank staff might also positively affect the uptake of bank loans in agriculture.

Financing gap for the agri-food sector in Croatia

Between 2009 and 2017 the investment level in the Croatian agri-food sector decreased by 10%. This was largely due to a decrease in investment in the beverages sub-sector, which fell by 27.7% over the period. However, there was a **partial recovery in recent years, with investment increase from EUR 383 million in 2014 to EUR 502 million in 2017**.

Demand for finance is driven mainly by capacity expansion and renewal of obsolete equipment. The study finds that 69% of Croatian agri-food companies invested in modern equipment, building material and infrastructures. In addition, investing in capacity expansion is required to tackle high production costs which challenge Croatian agri-food enterprises.

The need of working capital is another driver of the demand for finance, with the study results indicating that more than half of agri-food companies which sought finance in 2018 having requested a loan to meet their working capital needs. Other drivers of the demand for finance include the development of new products and the need to refinance previous loans.

The EAFRD supports the investments of agri-food processing companies through a specific sub-measure in the RDP. The level of available funds seems to be balanced with the demand for grants, as most of the available budget has been taken up.

Despite a large number of banks, the Croatian banking sector is concentrated among a few foreign banks. In 2018, there were 26 credit institutions operating in Croatia, but five foreign banks held 80% of the total assets in the banking sector. In addition to commercial banks, there are two public financial institutions providing financial instruments, of which three are under EAFRD. These cover growth and long-term investments loans, short and long-term subsidised loans, micro and small-loans, as well as guarantees. Some additional financial instruments under ERDF and national funds are also potentially accessible to agri-food enterprises.

Despite the offer of preferential loans and guarantees, many small-sized firms cannot access finance. Commercial banks are reluctant to lend to the agri-food sector and set strict collateral and cash flow requirements, which micro and small-sized companies find difficult to meet. The lack of collateral is an issue, especially for micro and small-sized enterprises. Additionally, SMEs generally have low financial literacy which leads to unrealistic business plans and weak cash flows.

The study estimates **a financing gap of EUR 116 million**, with unmet financing needs concentrated in small-sized enterprises. The most constrained segments are long-term loans and credit lines/bank overdrafts.

RECOMMENDATIONS

Based on the findings of this study, the following recommendations to improve the offer of EAFRD supported financial instruments targeting small-sized enterprises within the agri-food sector can be made:

- As already observed for the agriculture sector, Croatia has implemented a diverse set EAFRD financial instruments that seem to adequately address the main market constraints identified in this report. The continuity of all the instruments should be ensured for the 2021-2027 programming period, subject to an appropriate ‘health check’ of their performance, capital adequacy and achieved targets after a few years of operation. In this context, the following observations can be made:
    - The micro and small-loan instrument seems to be a useful tool to promote financial inclusion of small-sized enterprises. These enterprises currently face significant obstacles in accessing finance or are self-excluded due to lack of knowledge and familiarity with the banking system. There has been a swift and high take up of the instrument, which appears to confirm that there was substantial previously unmet investment need among small-sized enterprises.
    - The guarantee instrument for SMEs is a useful tool to address the lack of collateral of small-sized enterprises and new entrants, which represents one of the main constraints identified in the analysis.
    - The risk-sharing loan instrument can potentially be very effective in facilitating access to finance for larger projects, as it combines risk coverage with reduced interest rates, which are relatively high in Croatia.
- In the future, the opportunities offered by the new legal framework (e.g. easier combination of financial instruments and grant support and interest rate subsidies), might allow for the development of interesting tools that can improve the overall effectiveness of financial instruments.
- Technical support should be provided to micro and small-sized enterprises, with the goal of strengthening their financial literacy and business planning capacity. This will increase the chances of approval of their applications for finance.

1. INTRODUCTION

Objective

This report belongs to a series of 24 country reports and presents an assessment of the potential financing gap for the agriculture and agri-food sectors in Croatia. The assessment is based on the identification and evaluation of the supply of and demand for financing, on the one hand, and on the quantification of the currently unmet demand for financing for the two sectors, on the other hand. This report aims to contribute to a better understanding of the potential need for continuing currently operating financial instruments or for the creation of new or additional ones, supported by the European Agricultural Fund for Rural Development (EAFRD).

Approach

To conduct an analysis of the potential financing gap in the agriculture and agri-food sectors, the study under which this report is prepared adopts the following three-step approach:

1. Assessment of the number of farms/firms participating in the credit market and analysis of the dynamics of their demand.
2. Mapping of the sources of finance and examination of the dynamics of supply of credit.
3. Assessment of the potential existence of a financing gap, whereby parts of the demand cannot be satisfied by the existing supply but could benefit from financial instruments.

Per definition, a financing gap (for a specific sector) arises from unmet financing demand from economically viable enterprises (operating in the same sector). This unmet demand includes two major elements:

(i) lending applied for (by the viable enterprises), but not obtained, as well as

(ii) lending not applied for (by the viable enterprises) due to expected (by the same enterprises) rejection of the application (by a financial institution).

The analysis draws on the results from two comprehensive and representative EU level surveys carried out in 2018 and 2019, namely the *fi-compass* survey on financial needs and access to finance of EU agricultural enterprises and a survey of the financial needs of EU agri-food processing enterprises. The latter survey was undertaken as part of this study. The analysis is further elaborated by desk research and enriched with secondary data obtained from EU and national data sources.

The financing gaps for the two sectors are calculated using data from the above-mentioned surveys and additional data and statistical indicators from Eurostat. The calculated financing gaps for the two sectors are independent from each other. The report also outlines the drivers of unmet demand for finance as identified from desk research, and from interviews with key stakeholders from the agriculture and agri-food sectors, Government representatives, and financial institutions, and as identified by two focus groups, one for each sector. Information on the supply side of finance was obtained from interviews with nationally or regionally operating financial institutions.

The report does not take into account the impact of the ongoing COVID-19 health crisis and/or the effect of any new support scheme being set-up by the Member State and/or changes in legal basis and/or policies at European level to mitigate the crisis, as surveys and data available covered a period prior to its outbreak. This would need to be subject to further analyses by interested stakeholders, administrations and/or researchers.

Report structure

This report is structured in two parts, each focused on one of the sectors of interest: Part I covers financing for the agriculture sector; and Part II covers financing for the agri-food sector. Each part is structured in five sections: an overview of the market, an analysis of the demand for financing, an analysis of the supply of finance, an assessment of the financing gap, and conclusions and recommendations.

2. PART I: AGRICULTURE SECTOR

2.1. Market analysis

Key elements on the Croatian agriculture sector
• In 2018, agriculture in Croatia generated 3.6% of the Gross Value Added (GVA) and accounted for 13.8% of the total value of exported goods. • After a GVA decline at an average decrease of 6.3% per year, observed between 2008 and 2015, Croatian agriculture is on a rise with an average annual GVA increase of 2.8% since 2016. • In 2017, the agriculture sector in Croatia employed 6.4% of the total workforce[2]. • Out of 134,460 farms, more than 90% are small-sized family farms below 20 hectares (ha)[3]. • Young farmers, (those below the age of 40), account for 11.4% of the Croatian farming population, which is below the EU 28 figure at 14%[4]. • In 2018, crop production accounted for 60.3% of the total agricultural output, whilst livestock production for 35.1%[5].

The agriculture sector is vital for the Croatian economy. Primary agricultural production has a large spatial footprint, taking up 63% of Croatian territory, of which two-thirds are utilised for arable crops[6]. The sector also has a large social footprint, with 134 460 farms actively operating and providing incomes to many rural households. Whilst Croatia is confronted with high rate of unemployment at 9.1%, the agriculture sector contributes to a high share of employment at 6.4% in 2017. The primary sector also has major macroeconomic importance and it generated 3.6% GVA in 2018[7]. Agriculture accounts for 13.8% of the total value of all exported goods.

Despite of its significant contribution to the economy, the Croatian agriculture sector has been underperforming up to the end of 2015, after which a slight recovery materialised. The later positive turnaround can largely be attributed to the end of the economic crisis and the introduction of the CAP as well as the easier access to the EU agricultural market. Between 2008 and 2015, the sector has recorded constant negative growth in terms of both GVA, with an average decrease of 6.3% p.a., and gross output, with an average decrease of 5.6% p.a. Low labour costs were offset by low labour productivity, and agricultural yields were lagging behind EU averages, pointing to a sub-optimal use of production factors[8]. The impacts of adverse climate events, such as droughts in recent years or floods in Sava river region, further contribute towards the rather low agricultural productivity levels. Low agriculture factor productivity has mainly been driven by the low level of capital investments. A weak and fragmented agricultural knowledge and innovation system (AKIS) is not much successful in supporting farmers with modernization and the provision of knowledge in both

2 European Commission, DG AGRI, June 2019, Statistical Factsheet for Croatia.
3 Eurostat, Farm Structure Survey 2016, https://ec.europa.eu/eurostat/documents/2995521/9028470/5-28062018-AP-EN.pdf/8d97f49b-81c0-4f87-bdde-03fe8c3b8ec2.
4 European Commission, 2015, Needs of young farmers, https://ec.europa.eu/agriculture/sites/agriculture/files/external-studies/2015/young-farmers/final-report-1_en.pdf.
5 European Commission, DG AGRI, June 2019, Statistical Factsheet for Croatia.
6 European Commission, DG AGRI, June 2019, Statistical Factsheet for Croatia.
7 Includes forestry and fisheries.
8 World Bank, July 2019, National Development Strategy Croatia 2030 Policy Note: Agriculture, Fisheries, and Food Processing in Croatia’s Food & Bio-Economy.

management and farming. For a variety of reasons, historical and practical, farmers in Croatia remain reluctant to work together through cooperatives or other alliances of producers.

Since 2016, a more positive turnaround in agricultural performance has been recorded with GDP growth averaging 2.8% p.a. In 2018, there was also a noticeable increase in agricultural output of 5.9% mostly related to cereals and industrial plants, but the livestock sub-sector decreased further by 3%.

Farm structures in Croatia are highly polarised with a 'missing middle'. Whilst more than 69% of the farms cover less than 5 ha, less than 1% of the farms have access to more than 100 ha of agricultural land[9]. These larger commercial farms use 43% of the utilised agricultural area (UAA), whilst nearly 70% of all holdings occupy slightly more than one-tenth of the available land. These numbers indicate big challenges, as uneven distribution of agricultural land clearly splits all beneficiaries of public support into two major blocks; few very large-sized farms and a large number of smallholders, some of which concentrate around urban clusters.

Croatia's rural areas are suffering demographic pressures. Inequalities between urban and rural areas have risen, leading to substantial outmigration and leaving behind a population of less-skilled individuals. Ageing adds to the challenge. Young farmers below the age of 40 years account for just 11.4% of the total number of farmers, 41.3% are aged between 40 and 60, and nearly half of the farmers (47.3%) are older than 60. Clearly, these demographic challenges constitute a set of limitations in the rural areas that impact planning perspective of the rural population.

The Croatian agricultural land market is affected by various institutional factors. Whilst Croatian land prices belong to the lowest in the EU[10], effective land governance and mobilization of agricultural land for investments is constrained by institutional fragmentation, outdated land management systems, and ownership restrictions. Nearly 30% of the utilised agriculture area (UAA) is still state-owned[11]. While this land is typically assigned long-term leases, the allocation suffers from inefficient and lengthy administrative procedure, based on inconsistencies between state cadastre and land registration information. The adoption of a new Law on Agricultural Land in 2018, which abolished the Agency for Agricultural Land and transfers the authority of state-owned land to the local level, still awaits to see if farmers' planning perspective is improved, in order to carry out investments.

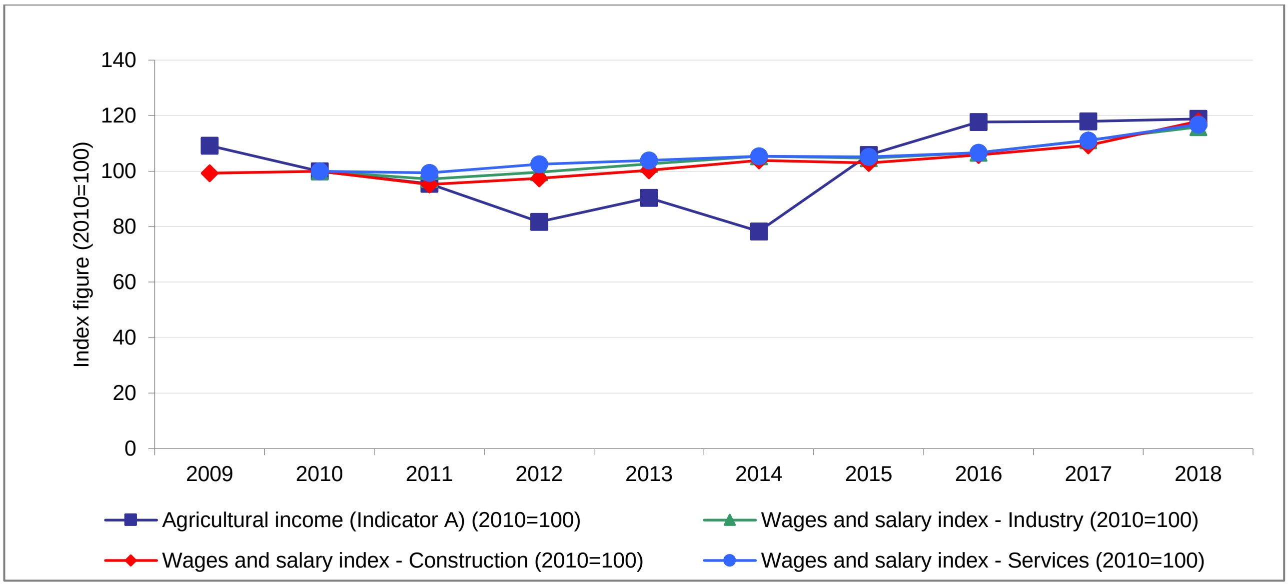
Agricultural incomes decreased between 2009 and 2014 and increased between 2015 and 2018. The annual variation of the income is higher in the agriculture sector than in other sectors (Figure 1).

9 European Commission, DG AGRI, Jun 2019, Statistical Factsheet for Croatia.

10 Eurostat, 2018, Agriculture, Forestry and Fishery Statistics, p30.

11 Rioc, M., 2016, Implementation of the Land Governance Assessment Framework in the Republic of Croatia, University of Zagreb.

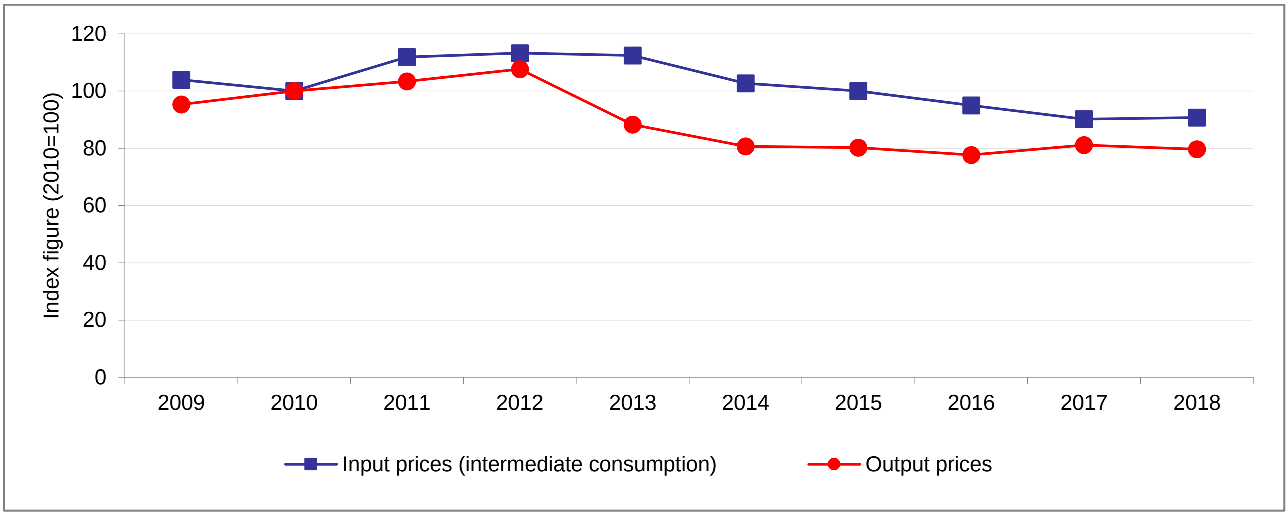
Figure 1: Evolution of agricultural income compared to wages and salaries in other sectors of the Croatian economy, 2009 - 2018



Source: European Commission, DG AGRI, June 2019, Statistical Factsheet for Croatia.

Between 2009-2018, the price dynamics remained fairly constant (Figure 2). Agricultural prices were trending upwards until 2012, followed by price decreases until 2018[12]. On the input side, higher energy prices and maintenance costs were compensated by lower seeds and fertiliser prices. Output price index remained stable after 2014, at 80% from its 2009 – 2012 level.

Figure 2: Evolution of agricultural input and output prices in Croatia, 2009-2018

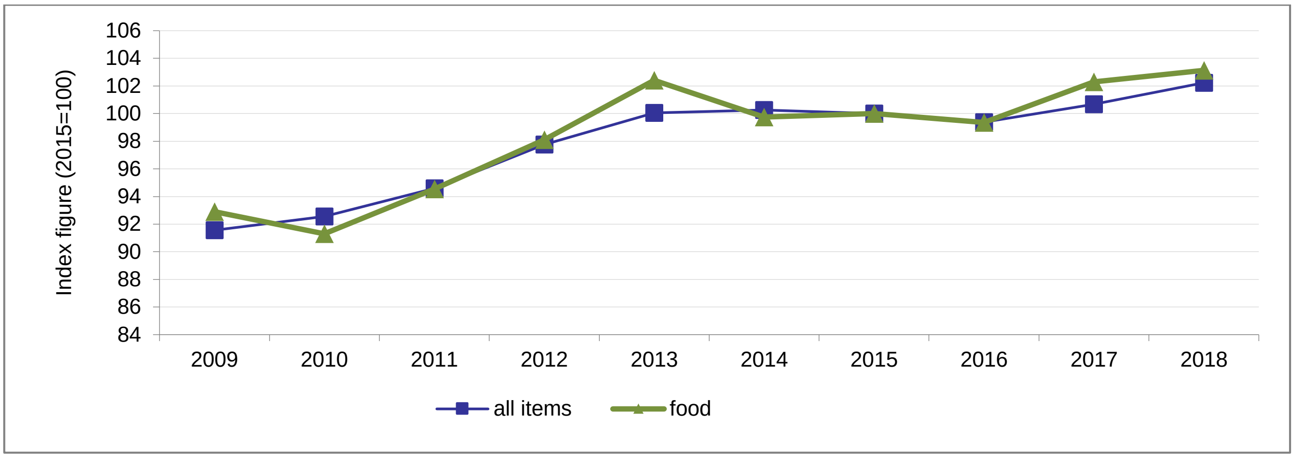


Source: European Commission, DG AGRI, June 2019, Statistical Factsheet for Croatia.

As output prices have stagnated since 2014 and the consumer price index for food products has been permanently increasing and running in parallel to the consumer price index for all goods (Figure 3), farmers' profits have been significantly squeezed.

12 European Commission, DG AGRI, June 2019, Statistical Factsheet for Croatia.

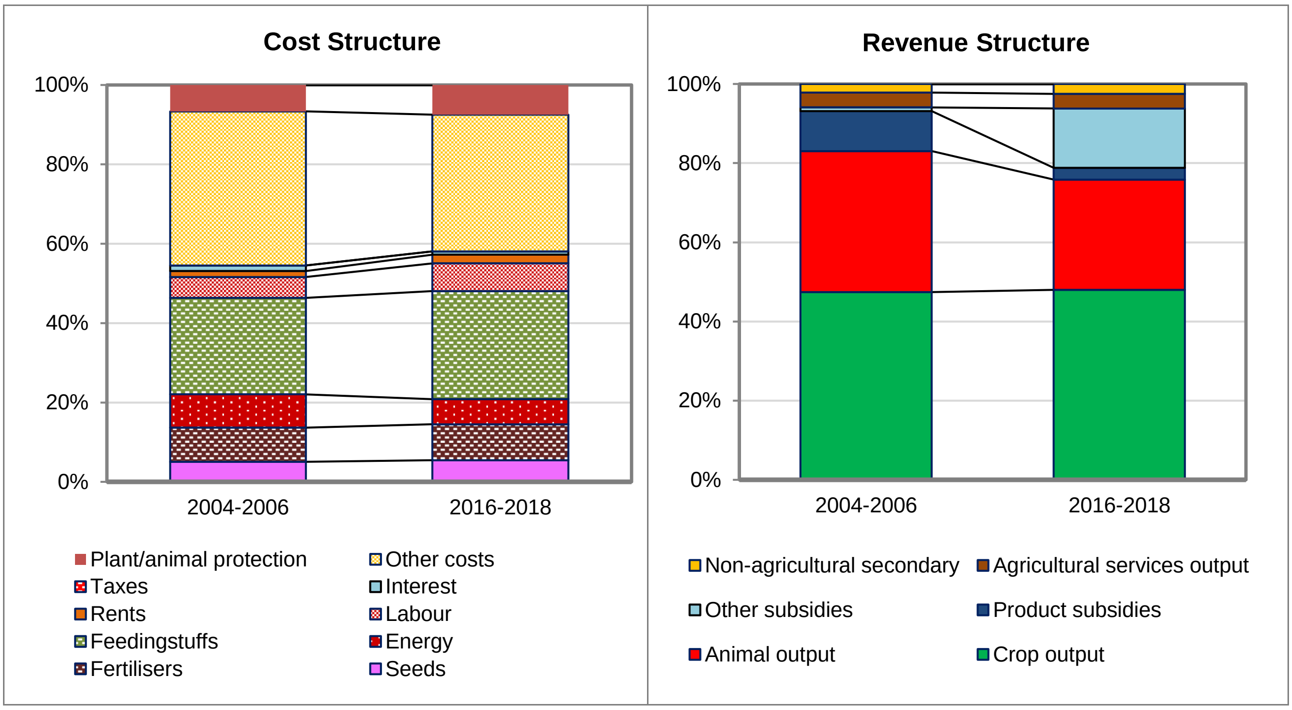
Figure 3: Evolution of harmonised indexes of consumer prices in Croatia, 2009-2018



Source: European Commission, DG AGRI, June 2019, Statistical Factsheet for Croatia.

When comparing **the cost and revenue structure for the agriculture sector between** 2004-2006 and 2016-2018 (Figure 4), costs for labour and feed have decreased, whilst the cost of energy and rent increased. On the revenue side, the share of revenues stemming from the more labour-intensive animal production have decreased, whilst the share from crop output have increased. The overall level of subsidies has increased following also the EU accession of the country in 2013.

Figure 4: Agriculture income – cost and revenue structure in Croatia, 2004-2018



Source: European Commission, DG AGRI, June 2019, Statistical Factsheet for Croatia.

Statistical factsheet Croatia, 2019
More data on agriculture indicators from Croatia can be found in the Statistical Factsheet for Croatia 2019 of the Directorate-General Agriculture and Rural Development, Farm Economics Unit.

2.2. Analysis on the demand side of finance to the agriculture sector

This section describes the drivers of demand for finance in the agriculture sector and analyses the met and unmet demand. It seeks to identify the main reasons for farms to request financing and the agriculture sub-sectors showing the largest need for finance. The section also provides an analysis of the type of producers that face the greatest constraints to accessing credit. The examination of the demand for agricultural finance is based on the findings from the *fi-compass* survey results of 300 Croatian farms, as well as interviews with key stakeholders in the agriculture sector, combined with information obtained from the Farm Accountancy Data Network (FADN).

Key elements on finance demand from the Croatian agriculture sector

- Since 2009, investments in agriculture are on a decline. Between 2009 and 2016, investment levels in physical assets, such as machinery and buildings, dropped by 70% and 61%, respectively.
- The main economic challenges for Croatian farmers are the costs of production, purchasing prices, and the access to land and markets.
- In 2017, the main drivers of the demand for finance in the sector were: (i) the modernisation of often outdated equipment and facilities; (ii) process automation to cope with a shortage of qualified labour force; (iii) capacity expansion to achieve economies of scale; and (iv) working capital needs.
- Poultry producers and wine growers are investing more in capacity expansion.
- The Ministry of Agriculture (MASS) provides subsidies from EU and national budgets in the form of various grants, which correspond to 1.3% of total GDP of Croatia, much more than the EU 28 average which stands at 0.38%.
- Short-term loans and credit lines/bank overdrafts were the most requested financing products by farmers.
- The unmet demand for finance from the Croatian agriculture has been estimated to EUR 2.1 billion.
- Long-term loans are the type of bank lending product that registered the highest rejection rate in 2017 (20% of all farm applications).
- In addition, 15% of Croatian farmers did not apply for loans because of fear of possible rejection.
- The main obstacles in accessing banks finance relate to: (i) high risk perception and strict lending policies; (ii) lack of collateral (iii) lack of knowledge and financial literacy amongst farmers; (iv) lack of accounting records and credit history; (v) low economic viability.

2.2.1. Drivers of total demand for finance

Since 2017, investments in capital formation are slowly picking up after a long decline. In 2018, the Gross Fixed Capital Formation (GFCF)[13] stood at EUR 232.7 million, which is 50% lower than in 2009. After a multi-year downward trend that bottomed in 2016, when GFCF dropped to EUR 194.7 million from the EUR 457.5 million recorded in 2009, the annual GFCF levels grew again in 2017/2018 (Table 1). In 2018, the GFCF as a share of Croatian agriculture GVA is more than a third lower as compared to the EU 28 average[14].

13 GFCF measures the value of acquisitions of new or existing fixed assets. GFCF/GVA is used as a measure for how much of the new value added in the economy is invested rather than consumed. Increase of the GFCF is a measure of business confidence, a belief in that investments will be profitable in the future. In times of economic uncertainty or recession, typically business investment in fixed assets will be reduced, since it ties up additional capital for a longer interval of time, with a risk that it will not pay itself off.

14 European Commission, DG AGRI, June 2019, Statistical Factsheet for Croatia.

The GFCF in Croatian agriculture in relation to the total agricultural GVA, implies that just 21% of GVA was used for capital investments in physical assets.

The main determinant of the current weak investment capacity is the low total production value, which grew negatively until 2015[15] and is now only just recovering. The investment trend is also correlated with global and domestic agricultural commodity price movements. Investments peaked between 2009 and 2010 when global food market prices rallied. Since then, as global prices gradually retreated[16] and domestic output prices also went down[17], so did Croatian investments in agriculture. In 2018 and despite the positive glimpse of hope in economic revival, investment levels were still barely above 50% of their 2009-2010 peak years, suggesting an important remaining need for additional and significant support for investments.

Between 2009/2016, most of the investments in physical assets decreased, especially those in machinery at -70% and buildings at -60%. Since 2017, investments in machinery are picking up, increasing by 86% from EUR 44.2 million in 2016 to EUR 82.4 million in 2018. However, investment levels associated with buildings did not recover, decreasing from EUR 59.7 million in 2016 to EUR 57.9 million in 2018 (Table 1).

Table 1: Gross Fixed Capital Formation in the Croatian agriculture sector, 2009-2018, EUR million

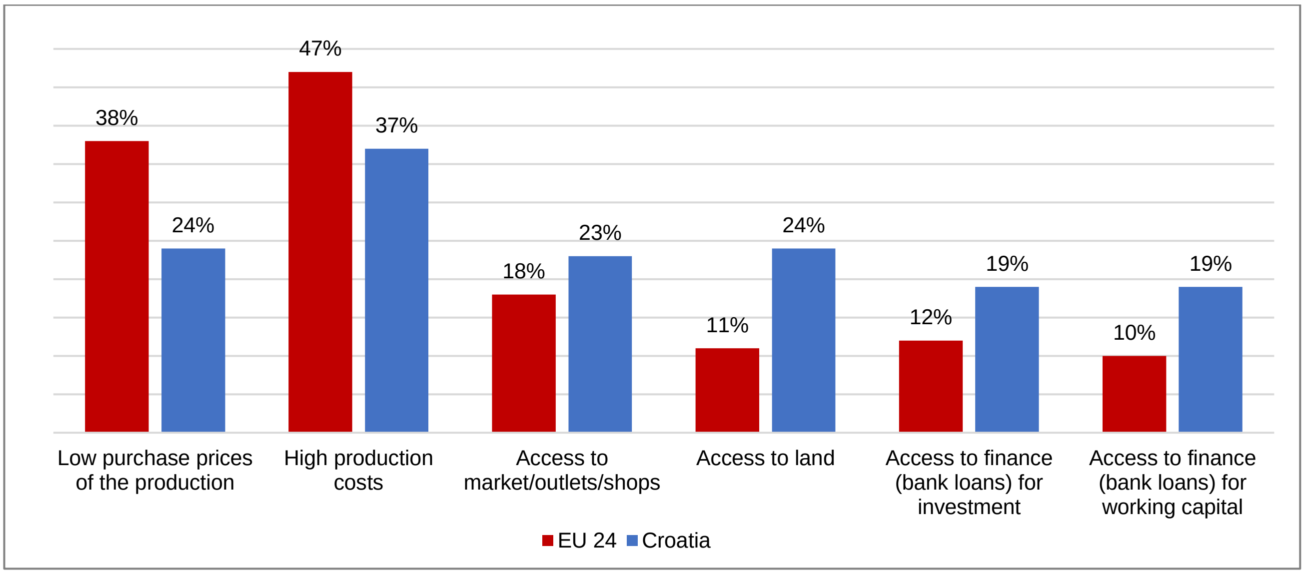
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Agricultural Products	**147.6**	**133.9**	**92.7**	**89.7**	**54.5**	**86.6**	**86.9**	**86.3**	**86.9**	**87.9**
Animals	67.2	68.6	47.9	50.3	19.7	36.9	37.4	36.6	36.2	36.6
Perennials	80.4	65.3	44.8	39.4	34.8	49.7	49.6	49.7	50.7	51.2
Non-Agricultural Products	**310.0**	**214.8**	**177.2**	**140.0**	**137.8**	**140.0**	**112.9**	**108.4**	**135.3**	**144.8**
Machinery	149.0	97.5	90.3	66.3	71.4	74.7	46.0	44.2	73.6	82.4
Buildings	151.8	109.9	80.9	70.8	63.1	61.9	62.2	59.7	57.3	57.9
Other	9.2	7.4	6.0	3.0	3.4	3.4	4.7	4.5	4.5	4.5
Total GFCF	457.5	348.7	269.9	229.7	192.4	226.6	199.8	194.7	222.2	232.7
GFCF (% of GVA)	31.8	25.5	20.8	19.6	19.1	28.0	22.6	20.1	22.8	21.5

Source: Eurostat, 2019, Economic Accounts for Agriculture.

High costs of production and low selling prices were the two major difficulties experienced by Croatian farms. As shown in Figure 5**,** 37% of Croatian farmers responded in the *fi-compass* survey that they were constrained by the high production costs in 2017, and 24% reported being challenged with low purchase prices for their production.[18] However, both results are below the EU 24 average.

15 Eurostat, 2019, Economic accounts for agriculture.
16 Food and Agriculture Organization of the United Nations, 2020, World Food Situation, http://www.fao.org/worldfoodsituation/foodpricesindex/en/.
17 European Commission, DG AGRI, June 2019, Statistical Factsheet for Croatia.
18 To be noted that the survey allowed each respondent few answers to this question, which means that some farmers listed more than one obstacle for their business.

Figure 5: Difficulties experienced by farmers in 2017



Source: fi-compass survey.

In 2017, approximately 24% of the farmers experienced difficulties related to access to land (Figure 5)**.** Access to land is a unique issue for Croatia since there is still 1.2 million ha state-owned land not rented to farmers, as well as mine suspicious areas[19]. This is likely to affect demand for finance in the future as farm sizes are expected to grow, contributing to an increased demand for further investments. The main factor constraining the Croatian land market concerns the re-allocation process of state-owned land. Approximately 30% of the land is owned by the State and leased to farmers via long-term leases[20]. Originally, the decisions on the lease contracts were taken at the local level, and some farmers were privileged. To solve this problem, the Government decided to shift the decisional process at the national level. However, in 2018, the competence was brought back under the local jurisdiction.

The resulting jurisdictional fragmentation constitutes a constraint for investments in the sector. For instance, several municipalities apply a restriction on the maximum size of land per farm, for example, two municipalities have so far limited it to 25 ha and 35 ha. This will have a significant impact on farms that are currently farming a larger area than these set thresholds. Their current production capacities, such as equipment and workforce, and financing agreements, such as for bank loans, are based on the current conditions. When current leasing contracts will come to an end, the new adjustment will play an important role in shaping farmers' financing needs.

Investments in the Croatian agriculture sector are driven by the following dynamics:

(i) The modernisation of outdated equipment and facilities;

(ii) Process automation to cope with a shortage of qualified labour force;

(iii) Capacity expansion to achieve economies of scale in a context of high input costs and low selling prices, and

19 The agricultural land suffered lot of damages in the war in Croatia (1991-1995), leaving big surface under land mines. The de-mining of the agricultural land started only in 2015/2016 and to date not all surface has been fully cleared of left-over land mines.

20 World Bank Report, May 2019, Sector Diagnostic and Analysis of Public Spending in Agriculture and Rural Development.

(iv) Working capital needs.

According to the *fi-compass* survey (Figure 6)**, 58% of Croatian farmers applied for finance to invest in new machinery and equipment**, against an EU 24 average of 63%. After half a decade of decreasing investments, the Croatian agriculture sector suffers from a high rate of obsolete equipment and infrastructure[21]. The low productivity levels characterising Croatia's primary sector weaken its competitive position in the international market. Despite the improvements obtained since EU accession, the productivity gap between Croatia and the other Member States is still significant[22]. Investments in capacity expansion are also driven by the necessity to increase the overall productivity of the sector[23]. Capacity expansion leading to economies of scale allows to cope with high input costs and low selling prices.

Digitization and new modern facilities are also seen as a solution to the labour shortage affecting the Croatian agriculture sector[24]. The availability of a seasonal workforce is becoming a more pressing issue in Croatia. Slavonia, the main agricultural region in the country, is the most affected by this challenge. The increasing lack of an adequate labour force has a two-sided impact on investments. Firstly, it limits the growth potential of the sector, and thus drives down investments and respectively the demand for finance. Secondly, several farms seek to address this issue through investing in more efficient automated processes by the purchase of modern machinery, equipment and technologies to supplement or replace manual labour.

Working capital needs also drive the demand for finance. According to the *fi-compass* survey, in 2017, 46% of loan applications were made to meet farmers' working capital needs (Figure 6). Working capital in the Croatian agriculture sector is mostly financed through short-term loans and credit lines/bank overdrafts. The differences between the payment cycles for the production and sales of the agricultural products create cash flow problems for farmers. Long payment deadlines from their buyers affect the farmers' financial capabilities when they need to cover the costs of production. According to *fi-compass* survey results, working capital needs are particularly relevant for young farmers whilst interviews with Farm Organisations, banks and MASS stressed especially 'sensitive' areas such as farmers who have not yet been able to establish financial reserves, especially young farmers and new entrants. More competitive and financially more viable sub-sectors are fruits, such as raspberries, cherries, hazelnuts, green peppers amongst vegetables, and when it comes to livestock production, the best results are for pigs and lamb.

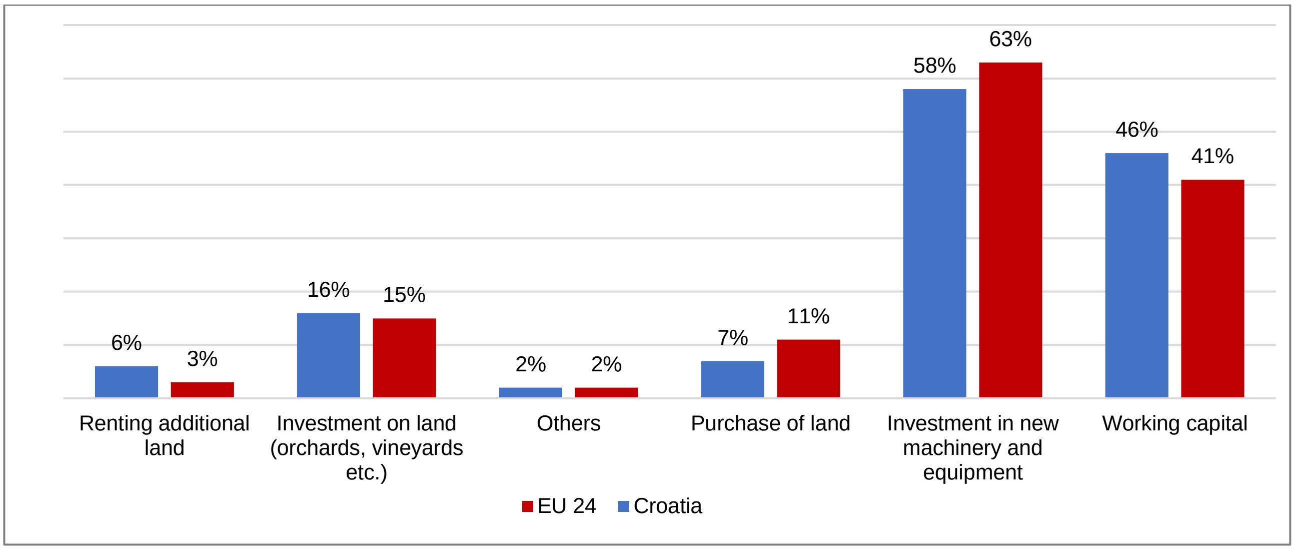
21 Interviews with state institutions, banks and farmer organisations.

22 Eurostat, 2019.

23 World Bank Report, May 2019, Sector Diagnostic and Analysis of Public Spending in Agriculture and Rural Development.

24 Interview with Farmer Organization.

Figure 6: Purpose of bank loans in the agriculture sector in 2017



Source: fi-compass survey.

Poultry and wine grape growing were the sub-sectors where most investments in capacity expansion and modernisation took place[25]**.** Poultry producers are shifting away from battery-cage to free-range production to address consumer demands and regulatory requirements, through investing in larger infrastructures, larger outdoor surface areas, and higher welfare and quality standards. The main development in the Croatian grape growing and wine making is the increased focus on higher quality wines and, therefore, a reduced production volume in favour of a better quality. This approach requires modernisation of production processes' and equipment. As a result, farmers invest in production and processing machinery such as automated pruning/grape picking equipment, presses, filtering equipment, etc.

At sub-sector level, mixed crop farms followed by intensive livestock farms, such as pigs and poultry, show the highest share of liabilities (Table 2)**.** According to FADN, mixed livestock farms show the highest demand for short-term loans at 86% of their liabilities. These farms account for 3% of the Croatian farms. Holdings specialised in the production of cereals, oilseeds and protein crops, orchards-fruits, olives, and sheep and goats showed the highest use of medium and long-term investment loans, which account for more than 90% of their total liabilities (Table 2). This corresponds to 57 530 farms, which is 71% of the total number of farms in Croatia.

25 Interviews with Farmers' Organisations.

Table 2: Characteristics of liabilities across sub-sectors, 2017, farm level average values

Type of Farming (TF14)[27]	Short-term loans		Long and medium-term loans		Total liabilities		Farms*	Share of small-sized farms (%)[26]
	EUR amount	% of total liability	EUR amount	% of total liability	EUR amount	% of assets		
Specialist COP	70 000	4	1 676 000	96	1 746 000	1.9	11 210	39
Specialist other field crops	1 607 000	26	4 504 000	74	6 111 000	5.1	4 970	39
Specialist horticulture	21 000	5	393 000	95	414 000	0.3	1 720	38
Specialist wine	107 000	1	10 797 000	99	10 904 000	5.3	2 570	50
Specialist orchards - fruits	-	0	8 696 000	100	8 696 000	4.8	2 090	53
Specialist olives	-	0	731 000	100	731 000	0.1	4 300	60
Permanent crops combined	-	0	512 000	100	512 000	0.1	1 510	54
Specialist milk	348 000	13	2 230 000	86	2 579 000	2.0	10 220	18
Specialist sheep and goats	-	0	1 025 000	100	1 025 000	0.6	4 570	30
Specialist cattle	80 000	5	1 654 000	95	1 733 000	1.2	2 850	25
Specialist granivores	2 619 000	9	25 946 000	91	28 566 000	16.7	1 300	29
Mixed crops	5 057 000	15	27 617 000	85	32 674 000	26.8	5 330	47
Mixed livestock	492 000	86	77 000	14	569 000	0.9	3 160	35
Mixed crops and livestock	128 000	10	1 213 000	91	1 340 000	1.6	25 410	51
All Types of Farming	591 000	13	4 135 000	87	4 726 000	3.1	81 210	41

*Source: FADN, 2019. *Farms represented.*

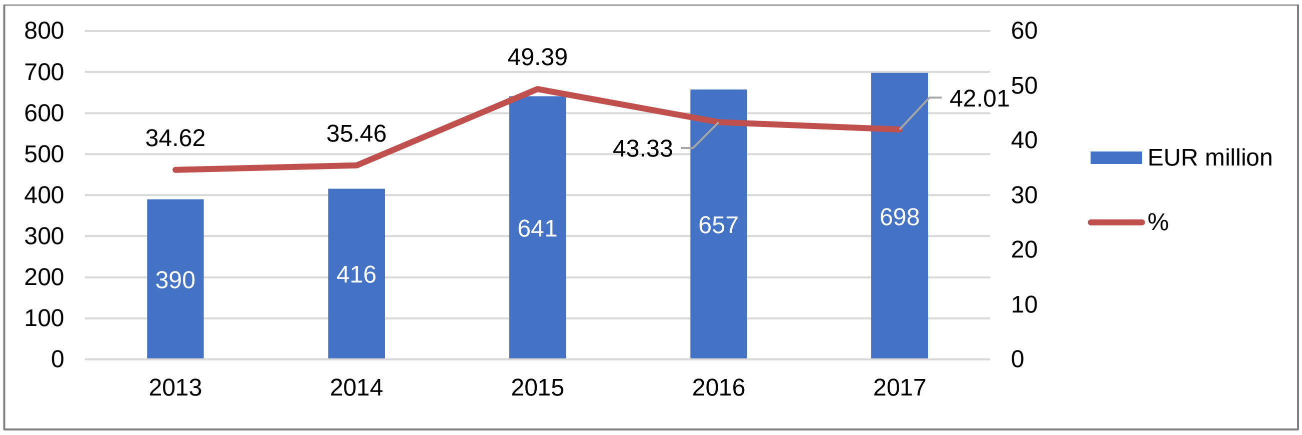
The CAP is a vehicle for investment support. Taking the CAP into consideration is essential to this analysis, as direct payments (Pillar I) and the rural development grants (Pillar II) play an important role in stimulating demand for finance. Besides contributing to the beneficiaries' income, they also help in guaranteeing the repayment capacity of farmers.

26 Ratio of farms with a standard output from EUR 2 000 to 8 000 within farms represented in FADN. Around 30% of all Croatian farms are not represented in FADN because below the EUR 2 000 standard output threshold. Small-sized farms are those with less than two ha of land.

27 For details on farming types, see https://ec.europa.eu/agriculture/rica/detailtf_en.cfm?TF=TF14&Version=13185.

The MASS provides various subsidies for the agriculture sector, from a combination of EU and national funds. According to data provided by the Ministry of Finance, in 2017, EUR 698 million was granted to the agriculture sector. This corresponds to 42% of the total subsidies in Croatia as presented in Figure 7. Although the share of agricultural subsidies in total value of subsidies has been decreasing since 2015, the total financial value of the subsidies has been increasing annually.

Figure 7: Total value and share[28] of supports in agriculture sector in total state supports, 2013-2017



Source: Annual Report on State Supports, 2013-2017, Ministry of Finance.

Public spending in Croatian agriculture is higher compared to the EU 28 average. 1.3% of GDP, which is more than three times the EU 28 average, is paid in subsidies to support the Croatian agriculture sector. Consequently, more than 40% of agricultural factor income is based on public support[29]. Croatian agriculture is still going through a transitional phase towards a more market-oriented farming. The transition implies the need to develop sound investment planning and financial management skills in the sector. This means developing the ability to combine public support with the use of finance from commercial banks and other private financial providers.

Funds from the Rural Development Programme (RDP) is an important source of investment funding for farmers. The structure of the Croatian RDP and its priorities for the period of 2014-2020 (EUR 2 billion from the EU budget and EUR 0.4 billion of national funding) provide a good overview on the financing needs and demand in the agriculture sector.[30] These include:

- restructuring and modernising the agriculture and food sectors;
- promoting environmentally sound farming systems;
- improved resource efficiency and climate resilience in agriculture, food processing and forestry;
- combating rural depopulation and increasing the quality of life for economic revival via farming or non-farming economic activities.

As a part of rural development, the EAFRD managing authority decided to open for the Croatian agriculture sector sub-measures 4.1 'Support for investments in agricultural holdings' and 6.1 'Business start-up aid for young farmers' for financing farmers' investments and young farmers' start-ups. Whilst both sub-measures

28 The share of agriculture in total support includes state support without EU funds.

29 World Bank report, 2019, State of the sector and analysis of public expenditures for agriculture and rural development (Stanje sektora i analiza javnih izdataka za poljoprivredu i ruralni razvoj), https://poljoprivreda2020.hr/wp-content/uploads/2019/08/Dijagnosti%C4%8Dka-analiza-Poljoprivreda.pdf

30 World Bank report, 2019, State of the sector and analysis of public expenditures for agriculture and rural development (Stanje sektora i analiza javnih izdataka za poljoprivredu i ruralni razvo), https://poljoprivreda2020.hr/wp-content/uploads/2019/08/Dijagnosti%C4%8Dka-analiza-Poljoprivreda.pdf.

have a maximum duration of 36 months to implement the investment, their main characteristics are outlined in the box below.

Main characteristics of RDP sub-measures 4.1 'Support for investments in agricultural holdings' and 6.1 'Business start-up aid for young farmers'
Sub-measure 4.1: Applicants must have minimum Standard Output (SO)[31] of EUR 60 000 for fruits, vegetables and flowers or EUR 80 000 for other sectors[32]. Investments supported by this sub-measure include: • investments in construction and equipment of facilities for animals, annual or multiannual crops, seeds and related material, mushrooms, storage, cooling facilities, cleaning and drying facilities, classifying and packing facilities; • equipment for collecting crops, sorting and packing own agricultural products; • agricultural mechanisation, such as equipment, tractors or other vehicles, establishing new or reconstructing old plantations, irrigation systems, farm waste management, using renewable energy sources. **Sub-measure 6.1**: Applicants are young farmers with minimum Standard Output of farm between EUR 8 000 and EUR 49 999[33]. Investments supported by this sub-measure include: • buying farm animals, annual or multiannual plants, seeds and related material; • purchasing, building or equipping facilities for the purpose of food production and processing; • establishing new or reconstructing and plantations; • upgrading of agricultural land for agricultural production; • building and equipping facilities for retail or presentation of products; • marketing costs; and • purchasing mechanisation and other equipment.

31 The standard output (SO) of an agricultural product (crop or livestock) is the average monetary value of the agriculture output at farm-gate price in Euro.

32 FADN data.

33 FADN data.

Table 3: Data on the implementation of sub-measures 4.1 and 6.1 in Croatian RDP 2014-2020, at the end of 2019

Sub-measure	Total number of received applications	Total budget requested by all submitted applications for all calls (EUR)	Total number of approved and supported applications from all calls	Total committed budget (EUR)	Number of non-approved applications	Total requested budget not being supported by all calls (EUR)
4.1 'Support for investments in agricultural holdings'	4 182	1 008 185 333	1 530	473 920 000	2 652	534 265 333
6.1 'Business start-up aid for young farmers' for financing farmers'	2 212	103 442 012	1 508	78 312 029	704	25 129 982

Source: Ministry of Agriculture, 2019.

Note: The 'total budget requested' and the 'total requested budget not being supported by all calls' is calculated based on all received applications before any administrative check regarding eligibility or selection criteria to have taken place. Applications that have not been approved could have been non-eligible, and/or with insufficient or missing information not allowing their evaluation, and/or with insufficient value-added, and/or ranked at a place for which budget under the call has not been anymore available. Some applications could have also been withdrawn at a later stage.

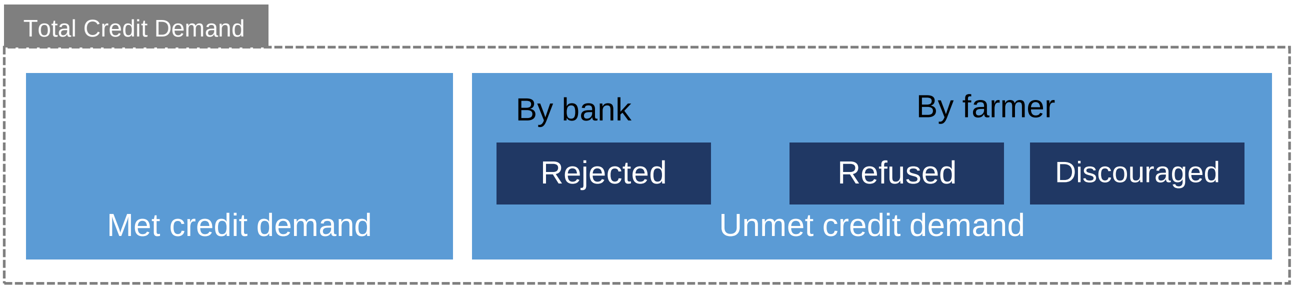
Until the end of 2019, 4 182 applications were submitted under sub-measure 4.1, for a total value of EUR 1 billion. The value of all applications for support (before the administrative checks) almost doubled the available budget. For sub-measure 6.1, until the end of 2019, in total 2 212 applications were submitted, for a total value of over EUR 100 million. Also, in this case, the total amount initially requested exceeded the available budget.

Financial instruments are also being implemented under the Croatian RDP 2014-2020. They are described in section 2.3.1.1.

2.2.2. Analysis of demand for finance

The potential total demand for finance combines both, met and unmet demand. The met demand consists of the value of all applications for finance which were accepted by the financial institutions in the relevant year. The unmet demand consists of the assumed value of applications rejected by a financial institutions, offers of credit refused by farmers, alongside cases when farmers are discouraged from applying for credit due to an expectations of rejection or refusal (Figure 8).

Figure 8: Schematic overview of the demand side of agriculture sector



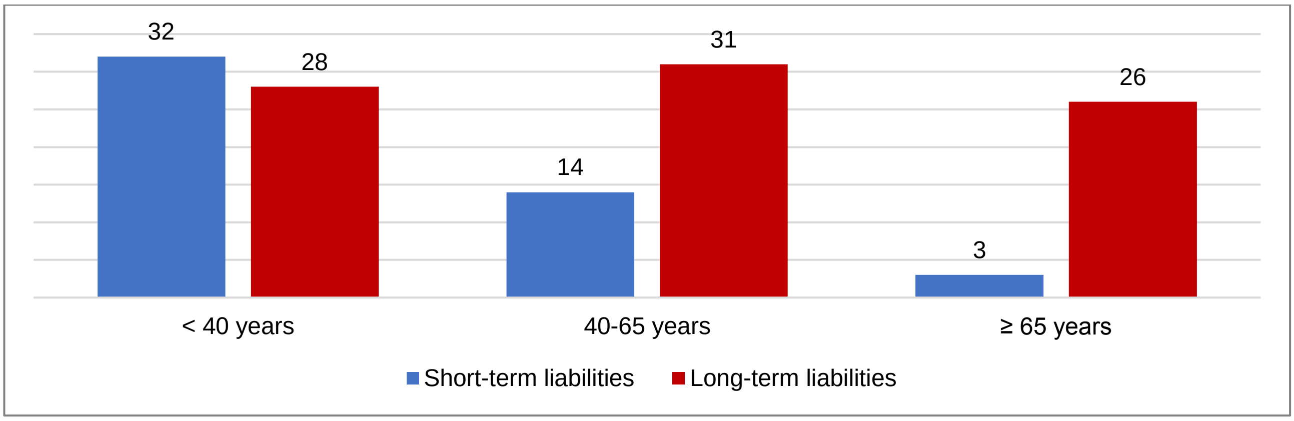
Source: Ecorys, 2019.

Based on the results of the *fi-compass* survey, the unmet demand for finance in the agriculture sector in Croatia is estimated to be at EUR 2.1 billion.

In 2017, 39.7% of Croatian farmers responded that they applied for finance from financial institutions, which is significantly higher compared to the EU 24 average of 29.6%. In terms of finance products, short-term loans and credit lines/overdrafts recorded the highest percentage of applications, 15.6% and 14.5% respectively, a higher share that the EU 24 average. Medium and long-term loans applications are overall in line with the EU 24 average, at approximately 7%.

Young farmers seek mainly short-term financing. The FADN data presented in Figure 9 show that young farmers have much higher short-term liabilities than other age groups. This can be explained by their higher need for working capital finance when creating or modernising their farm.

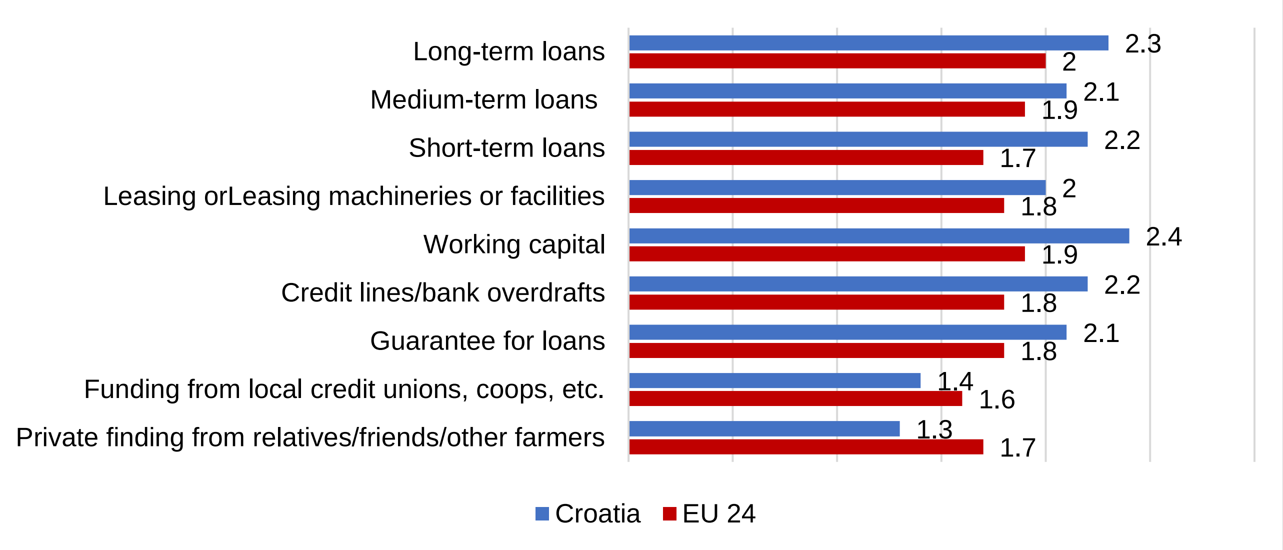
Figure 9: Liabilities of Croatian agriculture sector, by age, EUR thousand



Source: Farm Accountancy Data Network, Croatian office, 2017.

Despite the fact that they are requested less often than short-term products, **long-term investment loans are very important for Croatian farmers to meet their expectations on future financing needs**, as shown in Figure 10. Interviews with both banks and farmers associations confirmed that there is a significant need for long-term loans in the sector. However, access to this type of products is significantly constrained as explained further down.

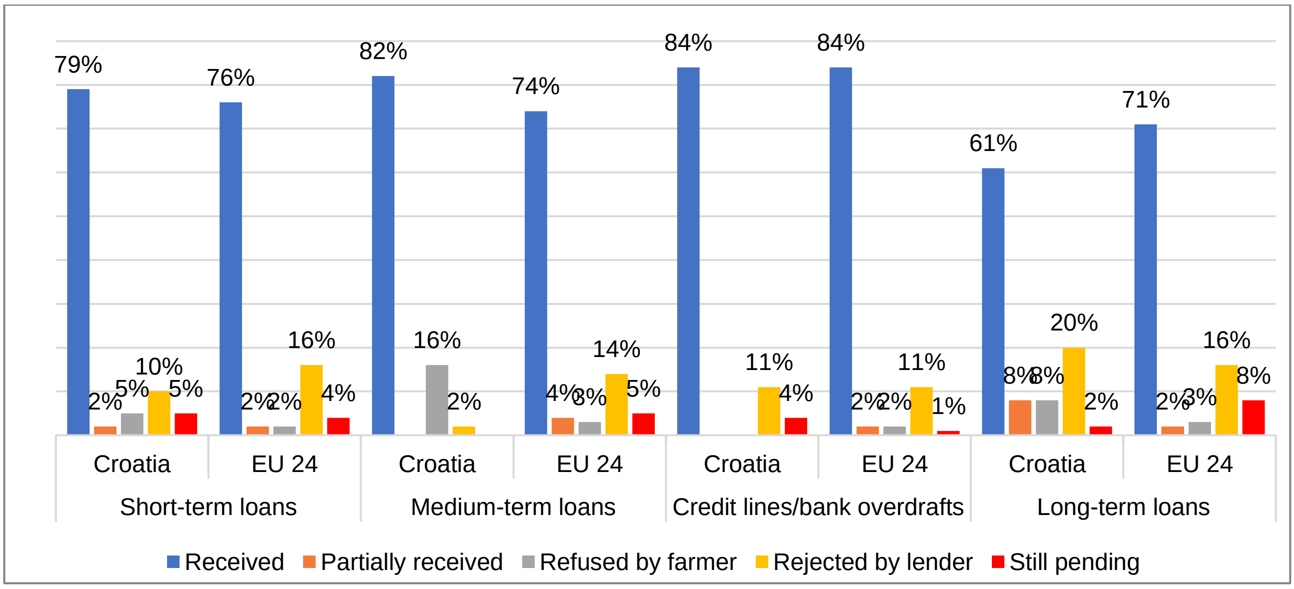
Figure 10: Most important financing instruments to farmers' future financing (1-low to 4-high), 2017



Source: fi-compass survey.

Long-term loans were the financing product with the highest rejection rate. According to the *fi-compass* survey, there is no significant difference in the approval rate observed in Croatia and at EU 24 level when considering short-term loans and credit lines. However, the situation changes in case of medium and long-term loans. Whilst the approval rate is higher in Croatia for medium-term loans, it is lower than the EU 24 average for long-term loans. In 2017, approximately 20% of the Croatian farmers' applications for long-term investment loans were rejected (Figure 11). Farm refusals to accept the conditions offered by banks are higher than EU 24 average share, and accounting for 16% from all medium-term financial requests and 8% for long-term loans.

Figure 11: Results from applications for finance in the agriculture sector in 2017



Source: fi-compass survey.

Reasons for loan application rejections include:

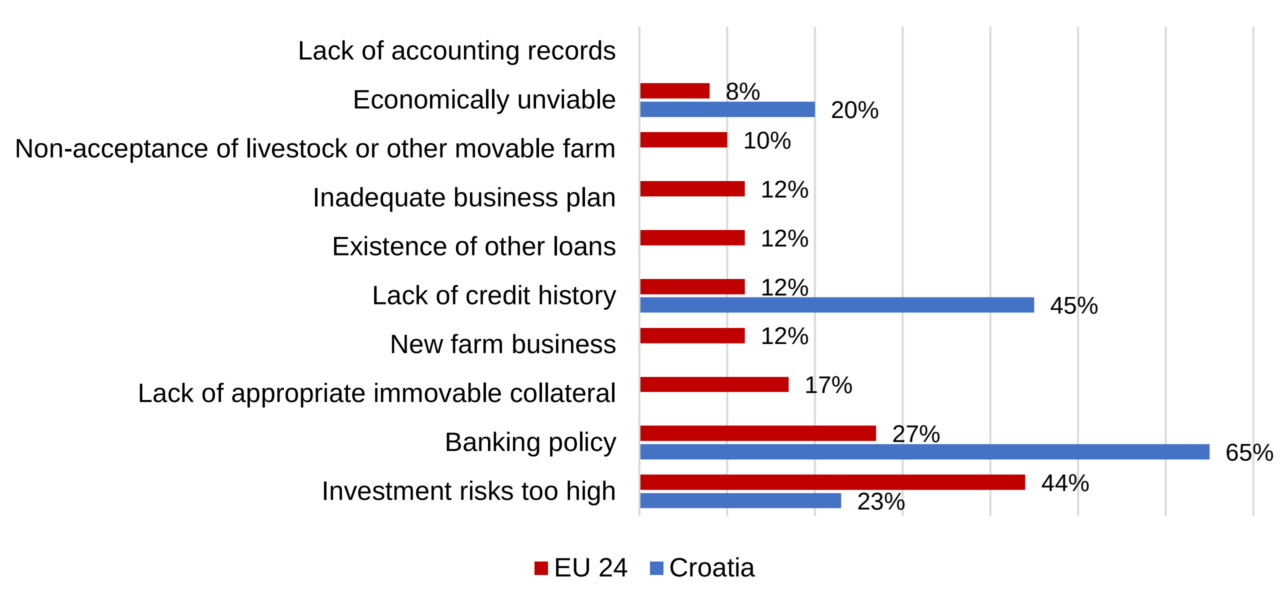
- **Banking policy was the main reasons for loan rejection**. In 2017, approximately 65% of the applications made by Croatian farmers were rejected because of the type of policy implemented by Croatian banks, and 23% were rejected because banks considered the proposals as too risky (Figure 12). Most banks do not find agriculture as an interesting investment area[34]. Financial intermediaries consider the agriculture sector as a high-risk one due to its historical and weak financial performance. This is especially true for the dairy sector.[35] Additionally, banks do not take sufficiently into consideration the specific financing needs and the cash flow dynamics of the sector. Farmers approaching commercial and national banks are treated in their majority as any other entrepreneur.[36].
- **In 2017, the lack of credit history and accountancy records represented the second most important reason for rejection.** According to the *fi-compass* survey, 45% of farmers' applications for bank loans were rejected because of a lack of credit history (Figure 12), which clearly indicates difficulties for new entrants, but also for established farmers which approach banks for the first time**.** According to interviews, the answer to the survey question might also refer to the lack of a satisfactory credit history or to the availability of reliable accountancy records to demonstrate the farm's viability. The Croatian legislation recognises two types of business entities; natural/physical entities and legal entities. The first group comprises the largest part of family farms and crafts. They account for the majority of business units in the sector and submit their business books in line with the income tax legislation, which is considered insufficient by the majority of banks (i.e. reporting only income, expenditures and their balance). On the contrary, legal entities are submitting their business books in line with the profit tax legislation, which includes more than 100 different financial indicators from which banks can get much better picture related to potential risks, and as a result, are keener on financing large-sized enterprises than smaller ones.

34 Interviews with banks.

35 Interviews with Farmer Organisations. In the past, the state was heavily promoting this sub-sector by investing a large amount of public funds. When the public support ended, many farmers faced the negative effects of the highly volatile prices. Milk prices more than halved, making the production unsustainable. As a result, many dairy farms bankrupted and were not able to repay their loans.

36 This is also visible from the lack of specific data for agriculture from the banks in Croatia.

Figure 12: Reasons for applications' rejection in the agriculture sector in 2017



Source: fi-compass survey.

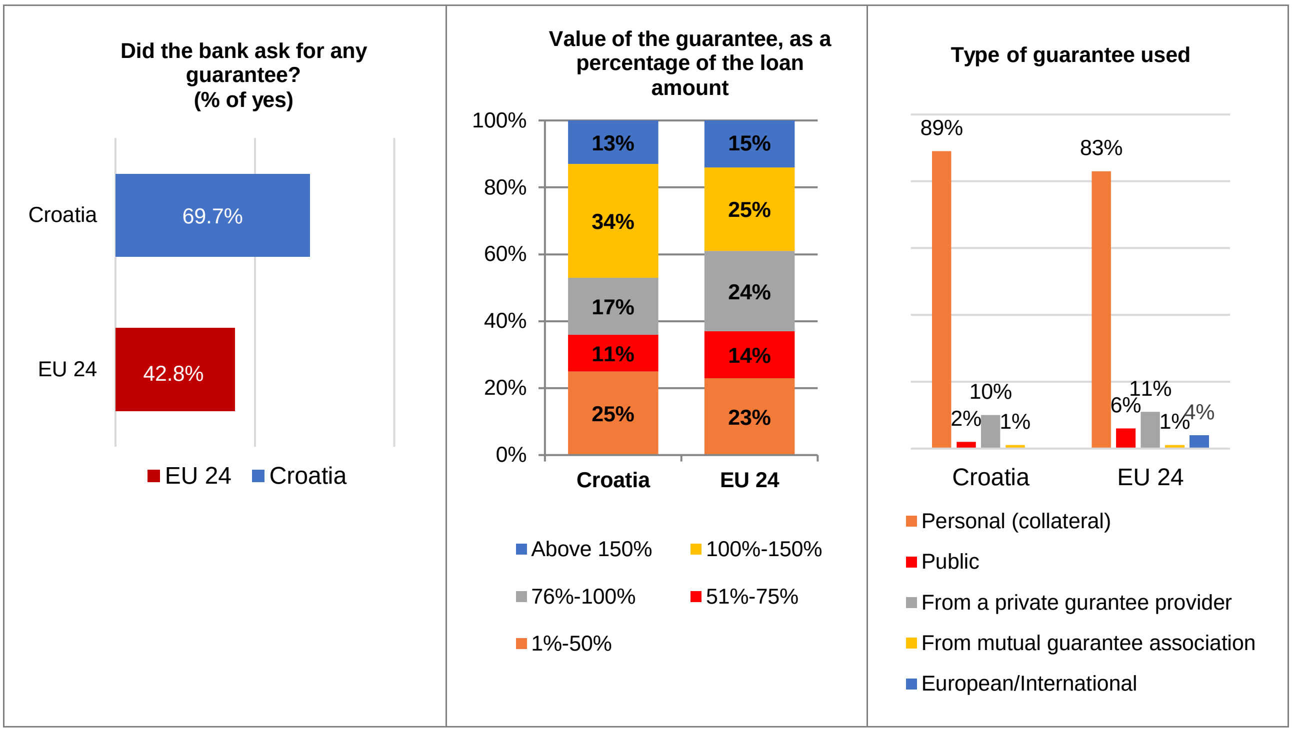
Although lack of collateral was not identified as a constraint in the *fi-compass* survey, the Croatian ex-ante assessment for EAFRD financial instruments reported that one of the key issues in access to finance is that commercial banks require a large range of collateral and guarantees from farmers in order to provide them with financing.

The request for guarantees land valuation as collateral have a significant impact on Croatian farmers. Banks' requirements in terms of collateral are very demanding and difficult to meet. 69.7% of Croatian farmers were requested by banks to submit a collateral compared to 42.8% in the EU 24 (Figure 13). Additionally, the value of collateral they must provide is significantly higher and is frequently above 100% of the investment value. Interviews with farm organisations have shown that there are cases where it is even three times the investment value.

The difficulty to meet banks' collateral requirements is largely due to the nominal devaluation of land and properties[37], which stems from a Croatian National Bank regulation which prevents banks operating in Croatia to accept more than 30% of the estimated agricultural land value as collateral. Although this regulation is meant to reduce lending risk, it causes the value of the properties to lower, with clear effect on the quality of the collateral farmers can provide when applying for bank finance. For this reason, banks consider young farmers or entrepreneurs with very small-sized farms cultivating less than five ha of land, as high risk, and as a result, a significant percentage of their loan applications get rejected.

37 Interviews with Farmers' Organisations.

Figure 13: Information related to guarantees requested by agricultural producers, 2017



Source: fi-compass survey.

The pig and poultry sub-sectors are those experiencing less difficulties in accessing finance. The liquidity supplied to the primary sector in Croatia through short-term loans is mainly concentrated in the poultry and field crop sub-sectors[38]. This figure corresponds with the data provided by the FADN Database, according to which field crop and granivores (i.e. pigs and poultry) sub-sectors account for approximately 70% of the total liabilities in the agriculture sector in Croatia. It should be noted that liabilities also include leasing of equipment, loans from owners of the farms, mortgages as insurance instruments, taxes owed, etc.

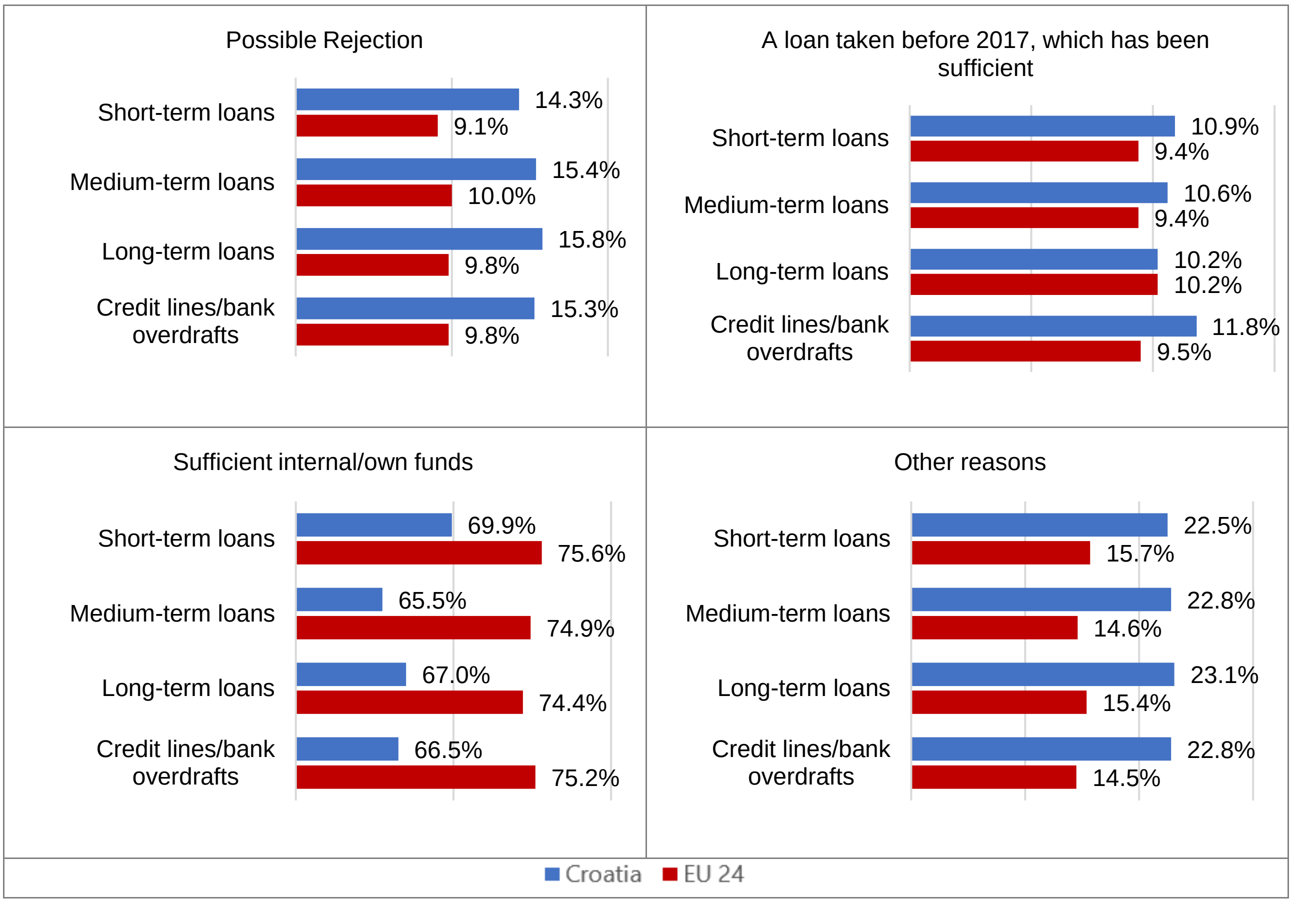
Another important component of the unmet credit demand is the share of discouraged farmers (Figure 14)**.** According to the *fi-compass* survey, the share of farmers not applying for finance because of the fear of possible rejection is higher in Croatia than in the EU 24. Overall, the percentage of discouraged farmers is approximately 15% for all financing products considered in the survey.

The most common reasons for not applying for bank products, according to the interviewed stakeholders (MASS, banks and farmers' association) are**:**

- Administrative burden;
- Fear of not being able to repay loans due to limited economic margins and market volatility;
- Lack of adequate financial literacy for small-sized family farms.

38 World Bank Report, May 2019, Sector Diagnostic and Analysis of Public Spending in Agriculture and Rural Development.

Figure 14: Reasons for not applying for loans in the agriculture sector in 2017



Source: fi-compass survey.

The administrative burden refers not only to complicated application procedures, but also to the duration of the application process. For instance, farmers applying for short-term loans are likely to receive the funds with a significant delay from the date of application, which can sometimes make the loan no longer useful.

Market volatility is obviously a general issue in agriculture, but according to interviews it is further exacerbated in Croatia by an insufficient supply chain organisation and the lack of storage facilities. This situation seriously affects producers by limiting their possibilities of temporal price arbitrage (storing when prices are low and selling when prices are high). There are cases where farmers have to sell at prices which do not even cover production prices, for example when there is a strong pressure on price from retailers/supermarkets linked to the availability of imported cheaper products.

Micro and small-sized farmers may be more discouraged than other large-sized enterprises Young farmers are the group mostly affected by this type of problems (57% of them were discouraged from applying for finance). The ex-ante assessment for the use of EAFRD financial instruments in agriculture reported that most of these producers indicated that they faced a lack of support from commercial banks and perceive interest rates offered by banks as too high. Furthermore, farmers' assets are often already mortgaged for loans granted in previous periods or are considered by banks as non-liquid.

Family farm owners usually have insufficient financial knowledge. This often discourages them to apply for finance. In addition, when they apply, their loan applications are usually of low quality causing a rejection of the application. Many farmers, especially owners of very small-sized farms, have to outsource this work to external consultants, bearing a significant cost without any certainty of a positive outcome. Family farms are often owned by individuals close to retirement age. All interviews indicated that these in particular show limited financial knowledge.

The difficulties of small-sized farms and young farmers in accessing finance is also reflected in the high share of enterprises relying on informal financial sources. According to the *fi-compass* survey, the percentage of farms requesting finance from private individuals (friends and family) was 18.7% in 2017. Based on this percentage, the total amount of private finance can be estimated EUR 80.3 million and EUR 160.7 million. [39]

Main findings of the ex-ante assessments for the use of EAFRD supported financial instruments in Croatia for the agriculture sector in the 2014-2020 programming period [40]:

- **The total unmet credit demand per year for the sector is estimated to be higher than EUR 464 million;**
- The financing needs are short-term for working capital, such as seasonal works, medium and long-term needs relating to the financing of investment plans (including working capital needs) mainly for equipment and machinery purchases and other investments in fixed assets, such as land purchases, plant extensions, new technology, renewable energy sources investments, etc.;
- There are no banks dedicated to the agriculture sector but based on the publicly available information, eight commercial banks offer loans to the agriculture sector. However, commercial banks consider the agriculture sector as being highly risky, hence adopting a very selective approach to financing.
- In addition to banks, financial products are offered to agricultural producers by the state-owned development bank HBOR, for both investment and working capital financing. In addition, the state-owned Croatian Agency for SMEs, Innovations and Investments (HAMAG –BICRO) offers a recently established individual guarantee product for farmers.
- The key issue to access to finance is that commercial banks require a large range of collateral and guarantees from farmers to provide them with financing. Other hindering circumstances are deriving from unresolved property issues and the low value of the real estate and land and lack of historical records.
- Banks generally request an equity participation from 15% to 30%. Many of the farmers stated that they cannot commit their own capital for investments, since they need it to cover short-term needs.
- Croatian micro and small-sized producers feel discouraged when seeking finance. Many of them state that they faced a lack of support from commercial banks and perceive interest rates offered by banks as being too high. Furthermore, farmers' assets are often already mortgaged for loans granted in previous periods.
- Three financial instruments have been identified as options to support the financing of agricultural primary production: an individual guarantee instrument; a microfinance and small-sized loan instrument and a co-investment loan instrument.
- In addition, to assist the implementation of the financial instruments, it is recommended that the Managing Authority considers utilising technical assistance to implement the financial instruments and to support the operations.

39 The lower and upper bound are computed by considering a standard volume of private finance lending of EUR 5 000 and EUR 10 000, respectively, adjusted by the country specific PPI.

40 EIB, March 2018, 'Potential future use of financial instruments (FIs) in Croatia's agriculture sector in the 2014-2020 programming period', Final Report.

2.3. Analysis on the supply side of finance to the agriculture sector

This section provides an overview of the financial environment in which the agriculture sector in Croatia operates. It describes the main financial products offered, including any currently operating financial instrument targeting agriculture, with national and/or EAFRD resources. The section draws its information from interviews with financial institutions, as well as from national statistics.

An attempt is made to give a description of the general conditions for accessing finance, such as interest rates and requirements for collateral, and the availability of funding for agricultural producers. Potential differences in the availability of financial products across different types of agricultural producers are reviewed and analysed.

Key elements on the supply of finance to the Croatian agriculture sector

- There are 26 banks and credit institutions operating in Croatia, eight of which offer loans products specifically aimed to farmers, but with limited tailoring the specificities of the sector.
- The five largest banks jointly account for almost two-thirds of the market.
- Foreign owned banks hold approximately 80% of the total banking sector assets.
- Agricultural, forestry and fishing activities represented 4.9% of lending to non-financial corporations.
- The share of non-performing loans in agriculture is consistently below the other economic sectors average, but commercial banks are still reluctant to lend to the sector.
- Commercial banks still perceive the agriculture sector as too risky. For this reason, they keep very strict lending policies and tight collateral requirements. The risk perception explains also a limited interest to invest in agriculture and the lack of financial products adapted to the specific needs of the sector.
- The main constraint identified for lending to the agriculture sector is the difficulty for banks to secure collateral.
- The lack of specialisation in banks' staff and high transaction cost for loans with limited amounts also contribute to the limited bank financing of the sector.

2.3.1. Description of finance environment and funding availability

This section describes the current financing environment in the agriculture sector. Findings are based mostly on desk research and data provided by the MASS and HAMAG BICRO[41].

2.3.1.1. Finance providers

Finance providers for the agriculture sector are commercial banks, the Croatian Bank for Reconstruction and Development (HBOR), the Croatian Agency for SMEs, Innovation and Investments (HAMAG BICRO), as well as the Government.

Commercial banks

In 2018, the consolidation process of the banking system that had started in the previous years accelerated. The number of credit institutions decreased from 31 to 26, 21 of which were commercial banks and five household saving banks. In 2018, the banking system is dominated by foreign owned banks that hold

41 The Croatian Agency for SMEs, Innovations and Investments.

approximately 90% of the total banking assets. Those commercial banks, which are mainly Italian and Austrian, accounted for 49% and 30% respectively of total bank assets[42].

The five largest banks[43] jointly account for almost two-thirds of the market. Whilst there are 26 finance providers in Croatia, with the exception of the mentioned five largest banks, individual shares of other finance providers are below 6% each.[44] Out of 26 banks, there are only eight banks that offer specific finance to the agriculture sector[45]: Information on the respective market shares of these banks were not available at the time of writing.

Table 4: List of Croatian banks in agriculture and their geographical area of work

Name of the bank	Regional coverage
Erste Bank	Croatia-wide, but their biggest agricultural portfolio comes from Bjelovar-Bilogora County and Osijek-Baranja County
OTP Banka	Croatia-wide
Privredna banka	Croatia-wide
Zagrebačka banka	Croatia-wide, especially relevant for Central and Northwest Croatia
Hrvatska poštanska banka	Croatia-wide
Podravska banka	Croatia-wide but mostly focused on Western Slavonia and Central Croatia
Slatinska banka	Croatia-wide but mostly focused on Western Slavonia and Central Croatia
Croatia banka	Continental Croatia with focus on Eastern Slavonia

Source: Banks websites and interviews.

HBOR and HAMAG BICRO, two public financial institution also offer credit to the agriculture sectors.

HBOR

Within the Croatian banking system, the Croatian Bank for Reconstruction and Development (HBOR) acts as a development bank, established with the objective of financing the economic development in Croatia. In relation to the agriculture sector, HBOR has participated in IPARD and SAPARD implementation. It is currently involved in the provision of large investment loans above EUR 100 000 for agriculture. It is also involved in the implementation of the EAFRD co-funded financial instrument; Investment Loans for rural development, providing long-term loans to farms in the amount of EUR 50 000 to EUR 1 million.

42 Croatian National Bank, September 2019, Banks bulletin.

43 Zagrebačka, Privredna, Erste & Steiermärkische, Raiffeisenbank Austria Zagreb, and HBOR.

44 Deloitte, 2018, https://www2.deloitte.com/content/dam/Deloitte/cz/Documents/financial-services/cz-cee-banking-mergers-and-acquisitions-study-2018.pdf.

45 More details on the list of banks and their specific financing products can be found in document EIB, March 2018, Potential future use of financial instruments (FIs) in Croatia's agriculture sector in the 2014-2020 programming period, Final Report.

HAMAG BICRO

HAMAG-BICRO stands for ‘Croatian Agency for SMEs, Innovations and Investments’. It aims is to support the growth and development of SMEs and crafts by facilitating their access to finance. It is an independent body under the Ministry of Entrepreneurship and Crafts. Whilst mainly oriented towards SME’s, they have recently started different programmes for agriculture for micro and small-sized loans and guarantees.

The Agency is in charge of the implementation of two financial instruments, the individual guarantees for rural development and micro and small-sized loans for Rural Development (see following section).[46] Interviews with HAMAG BICRO and farmer organisations are showing that their products of micro and small-sized loans and guarantees are strongly advertised by national television, and farmers consider collateral requirements, interest rates and other conditions associated to this type of financial instrument much favourable in comparison with those requested by commercial banks.

2.3.1.2. Financial products

The range of financial products offered by commercial banks to the agriculture sector is limited. It consists mostly of different types of loans, such as different tenor and eligible activities. Short and long-term loans are the most widely used. As already discussed in Section 2.2.2, banks do not have lending policies sufficiently adapted to the specificities of agricultural production, which is also reflected in the financial products offered.

Commercial bank products

Short and medium-term loans

Usually, these loans cover any type of expenditure, have a maturity of up to one year, for short-term loans, and up to five years for medium-term loans. Interest rates and loan sizes depend on the borrower’s creditworthiness. According to the websites of various banks, along with the information received during interviews, the interest rates for loans to the sector may vary between 2% and 11%[47] and then the conditions in the offers are tailored to the borrower’s situation. For short and medium-term loans, the volume may go up to EUR 30 000, which is a rather low amount for medium-term loans, especially if used for an investment purpose. Collaterals usually consist of fiduciary transfers of real estate or movable property, bills of exchange, promissory notes, co-debtors, guarantors, insurance policies and other insurance instruments.

Long-term loans

These loans are mostly eligible for investments in assets in agriculture, including for example, the purchase of agricultural land, equipment and machinery, or the construction or adaptation of commercial facilities for agricultural purposes. The most common maturity is up to ten years. A notable exception is Zagrebačka bank, which offers agricultural loans for up to 15 years[48]. Interest rate varies from 5% to 9%. The lowest fixed interest rate according to the bank’s webpages in 2019 is 5.45%. Nevertheless, during interviews

46 MASS, Ivančić, Krešimir, , 2019, EAFRD financial instruments: Croatian Experience Loan and Guarantee Fund in Croatia, Presentation during *fi-compass* Fifth annual EU conference on EAFRD financial instruments for agriculture and rural development in 2014-2020, 4-5 June, Romania, available at https://www.fi-compass.eu/sites/default/files/publications/Kre%C5%A1imir_Ivan%C4%8Di%C4%87_EAFRD%20financial%20instruments.pdf.

47 Feedback received during the interviews with Croatian Banks’ representatives point out that the lower bound of 2% is offered in limited number of cases and could not be considered as representative for the sector. For example, OTP bank also offers two other loans with a maturity of 1.5 years and three years. Interest rates vary from 6% (variable interest rate) to 7%. The lowest fixed interest rate according to banks web pages is 7%, i.e. interviews with banks confirmed that 2% lower bound is not typical loan but rather interest rates offered on case to case basis to their long-term customers.

48 Zagrebacka Banka, 2019, Investment Loans for Rural Development, https://www.zaba.hr/home/en/small-business/investment-loans-for-rural-development .

the banks indicated that they often assess the clients individually and as a consequence, the interest rates for individual investments can go as low as 1.5% if the investment project is adequate in terms of projected income and high-quality insurance instruments. The lower interest rates are also a consequence of the 'competition' on the market by available financial instruments supported by EU-funds.

The volume of loans may go up to EUR 150 000 for SMEs. Collateral for long-term loans are similar to collateral for short and medium-term loans and encompass declarations on the seizure of revenues, 10% of the deposit money pledged in favour of the bank, guarantee deposits, guarantors, mortgage, bills of exchange and debentures, insurance policy, etc.

The above considerations are also discussed in the Croatian ex-ante assessment for the use of EAFRD financial instruments[49] carried out in 2018 indicating that interest rates for agricultural loans vary from 4.95% to 9% for long-term loans for capital investments with a maturity of up to 15 years. Interest rates depend upon the borrower's creditworthiness, and in some cases, the interest rate may be as low as 1.5%. The interest rates for financing working capital can amount to 11%, with loan limits up to EUR 30 000 for small-sized enterprises and maturity up to one and a half years or three years. Banks generally request an own funding participation from the loan applicant of between 15% and 30%, depending on the project.

EAFRD financial instruments

In the beginning of the programming period 2014-2020 and after a consistent set of conferences on financial instruments organised by DG Agriculture and *fi-compass*, the Croatian managing authority decided to explore the possibility for using financial instruments. In 2018, targeted coaching was provided to the managing authority, which aimed at explaining the major specificities of this type of support and how it functions under the EAFRD. This was followed by a decision of the managing authority to launch an ex-ante assessment and the EIB was entrusted with its implementation, also due to lack of local experience in evaluating specific sectorial financial needs. Croatia continued to take part in the EAFRD *fi-compass* events and soon managed to prepare its programming and implementation files allowing it to launch a financial instrument supported by the EAFRD dedicated to agriculture and rural development.

In total three financial instruments[50] co-funded by the EAFRD are implemented in Croatia:

- Micro and Small-loans for Rural Development;
- Individual Guarantees for Rural Development;
- Investment Loans for Rural Development.

The three financial instruments finance investments and working capital, in accordance with the EAFRD rules. The eligibility rules for applying to such loans also mirror the eligibility criteria under EAFRD.

Micro and Small-loans for Rural Development

HAMAG BICRO is the implementing body of the micro and small-loans financial instrument. It offers EAFRD co-funded micro and small-loans for micro and small-sized enterprises in agriculture at favourable conditions (see table below).

49 EIB, March 2018, Potential future use of financial instruments (FIs) in Croatia's agriculture sector in the 2014-2020 programming period, Final Report.

50 A single stand-alone financial instrument is considered when a separate funding agreement is signed between a Fund manager and the Managing Authority.

Table 5: EAFRD financed micro and small loans for Rural Development - terms and conditions

	Micro-loans for Rural Development	Small-loans for Rural Development
Beneficiary	Micro and small-sized enterprises (micro and small enterprises for the projects under Measure 6) eligible under the RDP 2014-2020	Micro and small-sized enterprises (micro and small enterprises for the projects under Measure 6) eligible under the RDP 2014-2020
Amount	From EUR 1 000 to EUR 25 000	From EUR 25 001 to EUR 50 000
Interest rate	0.15% - 0.25% interest rates (depending on applicants' area level of development) and 0.5% for standalone working capital micro-loans	0.15% - 0.25% interest rates (depending on applicants' area level of development)
Grace period	Up to 12 months	Up to 12 months
Repayment	Up to 5 years, including the grace period, up to 3 years for standalone working capital micro-loans	Up to 10 years, including the grace period
Guarantee	Debentures and other instrument in line with the risk assessment	Debentures and other instrument in line with the risk assessment
Purpose	Fixed capital and working capital, up to 100% of the total amount of the loan	Fixed capital and working capital, up to 30% of the total amount of the loan

Source: HAMAG BICRO website[51].

The scheme was launched in 2018 and until mid-2019, after four tranches it was fully exhausted. The demand appeared to be beyond the initial expectations.

According to HAMAG BICRO data, out of 241 loans approved[52], 29 were micro and 211 were small-loans. 194 of the loans were approved to family farms. The data also shows that applicants tend to ask for longer repayment periods. However, in practice, the maturity is defined by the type of investment. For example, in the case of loans for equipment, the longest repayment period was not fixed at ten years, but rather it corresponded to the amortisation period of the same investment (in Croatia up to seven years for equipment/machinery). Only in the case of investments in buildings the repayment period was up to ten years long. The average value of micro-loans amounted to EUR 17 117, and EUR 42 990 in the case of small-sized loans. In most instances, loans were used for buying equipment or machinery.

The approval rate for HAMAG BICRO micro and small-sized loans is 80% and 60% respectively. The main reason for the higher approval rate for micro-loans is the rather simpler, non-complex type of projects submitted for support. It is also easier for the final recipient, including farmers, to provide the collateral asked by HAMAG BICRO due to their smaller value. At the same time, the quality of the loan applications submitted to HAMAG BICRO is reported to be a good one, thanks to the advisory support of consultants with experience from the SAPARD and IPARD[53] programmes.

51 For further information please see: https://hamagbicro.hr/financijski-instrumenti/kako-do-zajma/investicije/mikro-zajam-za-ruralni-razvoj/; https://hamagbicro.hr/financijski-instrumenti/kako-do-zajma/investicije/mali-zajam-za-ruralni-razvoj/; https://hamagbicro.hr/financijski-instrumenti/kako-do-zajma/obrtna-sredstva/mikro-zajam-za-obrtna-sredstva-za-ruralni-razvoj/.

52 Until June 2019.

53 They are respectively the pre-accession assistance for rural development and the Special Accession Programme for Agriculture and Rural Development. SAPARD was an instrument supporting structural adjustment in agriculture sectors and rural areas in pre-accession countries. In 2007, it was replaced by IPARD.

Individual Guarantees for Rural Development

HAMAG BICRO also offers individual guarantees to SMEs eligible for support under the RDP 2014-2020, especially sub-measures 4.1 and 4.2 but also, for sub-measures 6.4 and 8.6. The maximum amount of the guarantee is set at EUR 1.3 million, which covers up to 70% of the investment value, with exceptions for young farmers and the dairy sector, whereby the maximum guarantee rate is up to 80% of the investment value. The guarantee period varies from one year to 15 years. The financial instrument was launched in February 2019 and by the end of June 2019, one individual guarantee was issued to a micro-enterprise at the amount of EUR 1.3 million.

Investment Loans for Rural Development[54]

From September 2019 onwards, HBOR cooperates with the banks OTP, Privredna and Zagrebačka Bank as intermediaries for the implementation of the RDP Investment Loans for rural development, for sub-measures 4.1, 4.2, 6.4 and 8.6.

The product is based on a shared risk model whereby the institution provides the EAFRD part for 50% of the loan at 0% interest rate and the commercial intermediary bank adds the remaining 50% of the loan at an interest rate previously agreed between the loan applicant and the bank, which depends mostly on risk factors and collateral offered. The minimum loan amount is fixed at EUR 50 001 and each credit could be disbursed within a period of 18 months after its approval. Grace periods are also foreseen, up to three years (five years for investments in orchards/vineyards) for eligible costs as indicated in specific sub-measures of the RDP. Receiving of applications for funding started in September 2019 and it is yet early for providing data.

Table 6: Investment Loans for Rural Development loan terms and conditions

Instrument	Investment loans for rural development
Beneficiary	Enterprises eligible under the RDP 2014-2020
Amount	From EUR 50 001 to EUR 1 000 000
Grace period	Up to 3 years (5 years for investments in permanent crops)
Disbursement	Up to 18 months
Repayment	Up to 15 years, including the grace period
Guarantee	Debentures and other instrument in line with the risk assessment
Purpose	Investments in long-term tangible and intangible assets, eligible under relevant sub-measures of RDP 2014-2020 and working capital (up to 30% of investment eligible cost)

Source: HBOR website: https://www.hbor.hr/en/kreditni_program/investment-loans-for-rural-development/.

<u>Other products offered by public credit institutions</u>

In addition to the EAFRD financial instruments, HBOR offers similar loans whereby farms are eligible applicants, covering up to 75% of the investment at a starting value of approximately EUR 25 000 and with no upper limit. Interest rates are at 1.5%, 2% or 3% and maturities are up to 15 years, with a three- or five-year grace period.[55]

54 Ibid.

55 In the past 26 years, as part of IPARD/SAPARD and with commercial banks as intermediaries, HBOR has awarded about 9 400 loans, totalling ca. EUR 1 billion. Of this, approx. 20% was allocated to agriculture.

Leasing

Leasing is another relevant financial product for agriculture, apart from loans and guarantees. The Croatian Financial Services Supervisory Agency reports that in 2018, there were 4 848 active contracts in total between leasing companies and businesses operating in the agriculture, forestry and fishing sectors, corresponding to the outstanding contractual value of EUR 3.8 million and EUR 85.8 million for operational and financial leasing respectively. The same year 1 579 new leasing contracts were signed with a total amount of EUR 46.3 million.

2.3.1.3. Description of financing market

After a continuous drop between 2011 and 2017 (-30%), the total volume of loans in Croatia recovered in 2018[56]. However, the 2018 exceptional credit growth was driven mainly by household lending. This has triggered a number of control mechanisms by the National Bank. Following its intervention, new regulations for the approval of loans were introduced. However, their direct impact on the agriculture sector is unclear, as there are only few dedicated loans to agriculture amongst all these.

The Croatian financing environment is characterised by a high cost of capital, and a significant number of non-performing loans, compared to other EU countries. According to The Financial Stability Review (2018) Croatian banks recovered after the economic crisis, and, in 2018, they had a good level of capital and liquidity.

In 2018, the share of non-performing loans (NPL) decreased to 20.4% for non-financial corporations and 7% for household loans. However, the share of NPLs is still high for lending to non-financial corporations due to the bankruptcy of the Agrokor company in 2017[57]. This also affected other companies operating in the agricultural and agri-food sectors.

Furthermore, **between 2012-2017, the average interest rates decreased by 41%** for short-term loans and by 12% for long-term loans. Despite this rather remarkable drop, it is still considered very high compared to the normal rates for such loans in other EU countries.

Table 6: Average interest rate on loans to non-financial corporations by maturity, 2012-2017, %

Type of loan	2012	2013	2014	2015	2016	2017
Total	6.23	5.83	5.64	5.35	4.89	4.33
Short-term	7.57	7.32	7.11	6.54	5.55	4.44
Long-term	5.98	5.61	5.45	5.18	4.81	4.31

Source: CNB statistics.

56 Croatian National Bank data.

57 Agrokor Group was the largest private company in Croatia specialised in the production and distribution of food and beverages.

2.3.2. Analysis of the supply of finance

According to CNB data, in 2018, the value of outstanding loans to the agriculture sector was EUR 535.5 million. This figure should be considered as a lower boundary, since the data only refer to legal entities, such as limited liabilities and stock companies. Family farms and crafts in agriculture are mostly considered natural entities and obtain finance through personal loans. In total, at the end of 2018, agricultural[58] loans represented 4.9% of lending to non-financial corporations[59]. Between 2011 and 2018, the outstanding volume of finance to the agriculture sector declined by EUR 50 million.

The main constraint identified for lending to agriculture is the bank's risk perception and the difficulty for farmers to secure sufficient collateral[60]. Commercial banks are still reluctant to lend to farms, as they perceive the agriculture sector as too risky. For this reason, they keep very strict and tight collateral requirements that farmers cannot usually meet as often they do not possess sufficient land (see section 2.2.2). Indeed, the State has a significant control on agricultural land, being the biggest individual owner of such land, and gives concessions to farmers. Additionally, farmers do not often possess the right knowledge to properly forecast the cash flow required.

Banks' risk consideration of the sector remains negative, despite a better risk performance of the agriculture loan portfolio as compared to other sectors. As shown in Table 7, the share of NPLs in agriculture has been substantially below the level of other sectors since 2011.

Table 7: Loan quality, share of non-performing loan within the sector, 2011-2018, %

	2011	2012	2013	2014	2015	2016	2017	2018
Agriculture, forestry and fishing	11.84	9.55	11.94	17.29	16.94	12.89	11.38	15.34
Manufacturing	16.00	23.02	27.58	32.24	34.52	25.02	19.01	18.62
Other sectors (average rate)	25.93	30.48	32.93	34.27	33.65	29.30	22.90	20.03

Source: Based on CNB data (2019) on loan quality[61]. Percentage of B and C risk category loans within all loans in the sector.

Two additional factors may play a role in the supply of finance to the sector:

- **Banks' limited understanding of agriculture specifics**. Bank employees mainly have a general economic or financial background and cover a wide spectrum of firms, but as a result, they do not understand the specificities of agriculture.
- **High transaction costs for the financing required**. Most farms are of small-size and would seek small-sized loans. Education, know-how, procedures, and systems are required to streamline agriculture lending to draw financiers into agriculture. Understanding agriculture lending and digital solutions are likely to facilitate access to data required to speed credit decision making.

58 Loans to NACE 01 sector (Crop and animal production, hunting and related service activities).
59 Croatian National Bank.
60 *fi-compass*, 2019, Survey on financial needs and access to finance of EU agricultural enterprises, Study report. Survey on financial needs and access to finance of 7600 EU agricultural enterprises carried out by *fi-compass* in the period April – June 2018 and based on respondents' financial data from 2017.
61 Hrvatska Narodna Banka, 2019, Prudential data on credit institutions, https://www.hnb.hr/en/statistics/statistical-data/financial-sector/other-monetary-financial-institutions/credit-institutions/indicators-of-credit-institution-operations.

2.4. Financing gap in the agriculture sector

This section presents an assessment of the financing gap in the Croatian agriculture sector, broken down by farm-size and financial product.

Key elements of the financing gap in the Croatian agriculture sector
• The financing gap is estimated to be between EUR 820 million and EUR 1.4 billion. • The most constrained segments are small-sized farms and long-term loans. • Gap estimate for young farmers amounts to between EUR 413.6 million and EUR 513.5 million. • The main constraints identified are: (i) risk aversion and strict bank policies, which lead to a lack of financing products tailored to the agriculture sector, (ii) lack of knowledge from the banks, (iii) lack of collateral, (iv) lack of financial literacy, and (vi) lack of credit history and accountancy records. • Considering that Croatia can potentially almost double the area under production in the near future, as more than 1.2 million ha is currently state owned and/or mine suspicious areas that may be cleaned, it is expected that the need for financing will rise in the near future.

This section presents an estimate of the total value of unmet financing needs of financially viable agricultural enterprises, defined as financing gap, for 2017. The estimate is calculated by multiplying the total number of farms in the financing market by the proportion of financially viable farms reporting unmet demand for finance multiplied, in turn, by the average obtained loan value to farms.

Financing gap = Number of farms X percentage of firms that are both financially viable and have unmet demand X average loan volume

All the calculations are based on the results of the *fi-compass* survey for Croatian farms and statistics from Eurostat (see Annex A.4). The methodology used for calculating the gap is described in Annex A.3.

The financing gap arises from unmet financing demand from economically viable farms[62]. The unmet demand for finance includes:

(i) lending applied for but not obtained; or

(ii) a lending offer refused by the potential borrower; as well as

(iii) lending not applied for due to expected rejection.

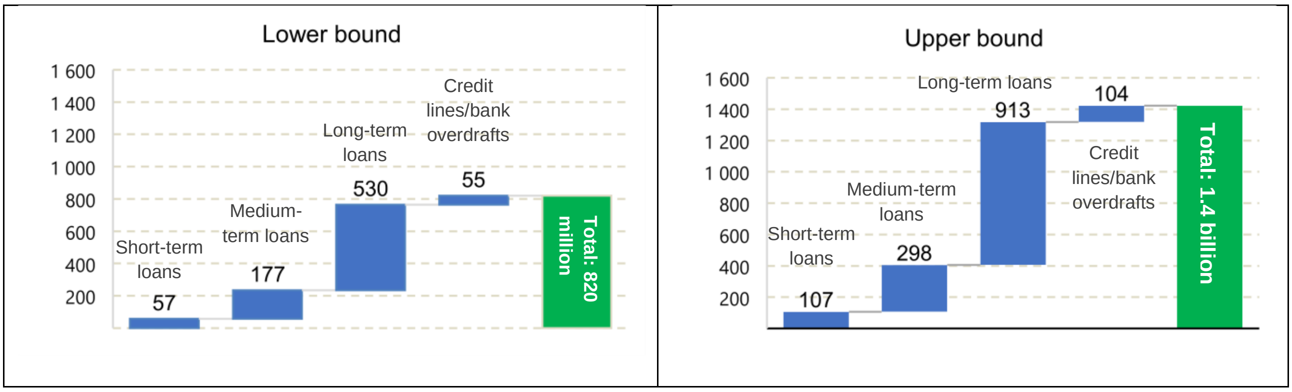
For the purpose of this study, ‘turnover growth’ is used as a proxy of farm viability. In particular, two different criteria for viability are used, which lead to the calculation of a range for the financing gap between an upper and a lower bound:

- The **lower bound** gap is calculated under the hypothesis that only enterprises which reported a stable (non-negative) turnover and no cost increase in the previous year can be considering as viable;
- The **upper bound** gap is calculated under the hypothesis that all enterprises which reported a stable (non-negative) turnover can be considered as viable.

62 The financing gap presented in this section is different from the total unmet demand presented in section 2.2.2. In the quantification of the total unmet demand, all the enterprises in the population applying for finance are considered independent from their economic viability.

The financing gap for the Croatian agriculture sector is estimated to be between EUR 820 million and EUR 1.4 billion (Figure 15). The financing gap concerns mainly small-sized farms at between EUR 708 million and EUR 1.2 billion. With regards to the maturity of the financial product, it is the highest for long-term loans estimated to be between EUR 530 million and EUR 913 million.

Figure 15: Financing gap by product in the agriculture sector, 2017, EUR million



Source: Calculations based on results from fi-compass survey.

Table 8: Financing gap by farm size and product, 2017, EUR million

		Total	Short-term Loans	Medium-term Loans	Long-term Loans	Credit lines/bank overdrafts
Upper bound	Small-sized farms	**1 230.5**	89.5	260.8	795.0	85.3
	Medium-sized farms	**139.4**	12.0	26.2	91.2	10.0
	Large-sized farms	**52.6**	5.8	11.0	27.1	8.8
	Total	**1 422.6**	**107.3**	**298.0**	**913.2**	**104.1**
Lower bound	Small-sized farms	**708**	47.9	155.1	461.6	45.2
	Medium-sized farms	**80.2**	6.4	15.5	52.9	5.3
	Large-sized farms	**30**	3.1	6.5	15.7	4.6
	Total	**820.2**	**57.4**	**177.2**	**530.2**	**55.2**

Source: Calculations based on results from fi-compass survey.

In the *fi-compass* survey, between 5.8% and 8.3% of rejected and viable loan applications came from applicants below the age of 40. In addition to this, 56.9% to 43% of discouraged applications came from young farmers. Using this information to provide a different breakdown of farms with constrained access to finance, we obtain a **financing gap for young farmers of between EUR 413 million and EUR 514 million**.

General drivers of the financing gap include[63]:

- **A perception of high lending risk levels, and bank policies on agricultural lending.** Agriculture is not considered an attractive lending market segment**.** Additionally, banks lack knowledge on the agriculture sector. Compounded to a lack of financing products tailored to the agriculture sector, this translates mainly into a gap in the supply of medium and long-term loans to the sector.
- **Inadequate collateral and high collateral requirement.** Another factor affecting the access to long-term loans is the high level of concession farming and the low and/or decreasing land value for those owners in depopulating regions, which reduces the available collateral for farmers. This contributes to the financing gap, particularly small-sized farms.
- **Inadequate financial literacy.** A significant share of farmers do not possess sufficient knowledge on bank products and application procedures. This often causes farmers' applications to be of low quality, and the associated business plan to be unrealistic. This contributes to the financing gap amongst small-sized farms.
- **Lack of credit history and accountancy records.** A common problem for new entrants, and the farms that enter the financing market for the first time, is their lack of credit history, which drives loan application rejections and interest rate premiums in the absence of an established tailored credit risk assessment tools for the agriculture sector. In addition, small-sized farms often lack adequate accountancy records to prove their financial viability.

63 For further discussion of each of these drivers, see the relevant demand or supply sections.

2.5. Conclusions

Capital investment gaps persist in the Croatian agriculture sector. According to the Croatian National Bank, the outstanding loan volume to the agriculture sector reached EUR 535 million. However, finance to the sector has been on a decline, dropping by 9% since 2011. This development coincides with the level of investments, as the annual capital formation in the agriculture sector decreased by almost 50% compared to 2009. As a consequence, the capital intensity of Croatia's agriculture sector remains low compared to the EU average. Independent of the declining trend, investments are mainly driven by efforts of the modernisation of outdated equipment and technical facilities and the expansion for improved economies of scale. Additionally, producers are turning to process automation to cope with a shortage of qualified labour force.

A financing gap in the Croatian agriculture sector is estimated between EUR 820 million and EUR 1.4 billion. The financing gap concerns mainly small-sized farms, with an unmet need between EUR 708 million and EUR 1.2 billion. With regards to the maturity of financial product, the gap is the highest for long-term loans, estimated to be between EUR 530 million and EUR 913 million.

Access to finance is particularly critical for young farmers, with a financing gap estimated between EUR 413 million and EUR 514 million. In fact, between 5.8% and 8.3% of rejected and viable loan applications came from applicants below the age of 40. In addition, 56.9% to 43% of discouraged applications came from young farmers.

The gap stems from lack of collateral, credit history and accountancy records, as well as limited financial literacy for many farmers. At the same time, banks do not consider agriculture as an attractive sector for investment and often lack knowledge of the specificities of agricultural enterprises, which lead them to apply a strict lending policy with regards to collateral requirements.

EAFRD financial instruments are already accessible to the agriculture sector, some of which have been in high demand since their introduction. The provision of micro and small-sized loans in particular has proven to be very successful, and a sufficient budget should be made available to the instrument to ensure continuity.

Based on the results of the analysis, the following recommendations might be considered:

- A variety of EAFRD financial instruments has already been implemented in Croatia. These instruments seem to adequately address the main market constraints identified in this report. However, given the magnitude of the identified gap, it is unlikely that these instruments will fully close the financing gap by the end of the current programming period. Accordingly, the current instruments should be continued for the 2021-2027 programming period, subject to an appropriate 'health check' of their performance after a few years of operation. In this context, the following observations can be made:
    - The micro and small-loan instrument seems to be a useful tool to promote financial inclusion of small-sized enterprises. These enterprises currently face significant obstacles in accessing finance or are self-excluded due to lack of knowledge and familiarity with the banking system. There has been a swift and high take-up of the instrument, which appears to confirm that there was substantial previously unmet investment needs among small-sized enterprises.
    - The guarantee instrument for SMEs is a useful tool to address the lack of collateral of small-sized enterprises and new entrants, which is one of the main constraints identified in the analysis.
    - The risk-sharing loan instrument can be very effective in facilitating access to finance for larger projects, as it combines risk coverage with reduced interest rates, which are currently high in Croatia compared to the rest of the EU.
    - In view of the continued use of financial instruments in the 2021-2027 programming period, the performance of existing instruments must be assessed, as well as their size and achieved targets.
- The possibilities offered by the new legal framework (e.g. easier combination of financial instruments and grant support and use of interest rate subsidies, or the possibility to finance the purchase of land for young farmers, stand-alone working capital finance) should be considered to identify potential opportunities that could improve the overall effectiveness of financial instruments.

Technical support should be provided to farmers to strengthen their financial literacy and business planning capacity. This should increase the chances of approval of their applications for finance. Providing training to bank staff might also positively affect the uptake of bank loans in agriculture.

3. PART II: AGRI-FOOD SECTOR

3.1. Market analysis

Key elements on the Croatian agri-food sector
• The agri-food sector in Croatia accounts for 4% of the total GDP, compared to 1.8% in the EU 28. • However, since 2011, the value added generated in the Croatian agri-food sector declined by 1.3% p.a., while it increased by 0.4% in the EU 28[64]. • Between 2012 and 2015, the total revenues of the food and beverage sector increased by 1.2%. • In 2017, the food and beverage sector comprised 3 248 enterprises, approximately 84% of which were operating in the manufacture of food products segment. • 75% of the Croatian agri-food enterprises have less than nine employees, equating to 2 443 micro enterprises. • The agri-food industry is very concentrated, as 62% of the sectors' total turnover is generated by large-sized companies, which represent 1.3% of the agri-food enterprises[65]. • The sector strongly depends on foreign markets for their supply, due to limited domestic agriculture production, which is insufficient to cover all needs of the sector for raw materials. • While agri-food exports have doubled in the last 15 years, imports are outpacing exports, leading to a growing agri-food trade deficit.

The agri-food sector[66] generates 4%[67] of the Croatian GDP. In 2017, the agri-food sector consisted of 3 248 enterprises, 2 726, (84%), of which were operating in the manufacturing of food products. 75.2% micro-sized companies operate in the sector, equating to 2 443 micro-sized companies. The sector employs 60 593 people, with the majority in manufacture of food products, which employs over 54 010 staff, and constitutes 24% of the total manufacturing sector's workforce.[68] Between 2008 and 2017, the number of enterprises, as well as the proportions across firm sizes, remained constant[69].

In 2017, the agri-food enterprises generated 30% of the total turnover in the manufacturing sector (EUR 5.5 billion for the agri-food sector, EUR 18.3 billion for the manufacturing sector). The food sector represents 84% of the agri-food turnover (EUR 4.6 billion). In 2017, the sector's value added at factor cost amounted to EUR 1.3 billion, out of which 62% (EUR 805.4) million came from large-sized companies (1.3% of total agri-food enterprises).

64 Eurostat, 2019.
65 World Bank, 2018, National Development Strategy Croatia 2030 Policy Note: Agriculture, Fisheries, and Food Processing in Croatia's Food and Bio-Economy.
66 Companies in NACE activities C10 (Manufacture of food products) and C11 (Manufacture of beverages). Data is based on publicly available sources which only include data for the entire Food and Beverage industry.
67 Ministry of Agriculture, Draft of Strategic Guidelines for Agriculture and Food Processing Industry for the Period 2017-2027.
68 Eurostat, 2019, Structural Business Statistics, last data available for 2017.
69 Eurostat, 2019, Structural Business Statistics.

The bankruptcy of the Agrokor Group[70] in 2017, whose primary activity was the production and distribution of food and beverages, had a significant impact on both agriculture and agri-food sector[71]. There were many agri-food suppliers left unpaid or forced into renegotiating new terms after the suspension of the Agrokor accounts and smaller enterprises were left without a market after orders from Agrokor production and trade companies were significantly reduced. Crisis started already in 2012 when the Croatian National Bank assessed that inland banks are too exposed to Agrokor and the dominant agri-food enterprise began obtaining loans outside Croatia under much less favourable conditions. The crisis reached its peak in January 2017 when Moody's reduced Agrokors' rating. In mid-January 2017, Agrokor cancelled its loans in BNP Paribas, Credit Suisse, Goldman Sachs and JP Morgan and its bonds started to lose their value. In March 2017, the Minister of Finances published data on HRK 6 billion Agrokor's tax debt which represents 3% of the country's GDP. At the beginning of April 2017, the Government finally legally regulated the situation in Agrokor, voting the so called 'Lex Agrokor'. The management was removed, and the Government directly appointed a special commissioner who would stabilise Agrokor's business. Suppliers were signing 'standstill agreement' with a new commissioner and normalisation of the company slowly began. Since then, the Government established the Fortenova group to take over the remaining assets and continue the economic activity.

Between 2012 and 2015, the total revenues of the food & beverage sector increased by 1.2%, whilst the total manufacturing industry experienced a decrease of 4.9% in the same period. In 2015, the food and beverage sector accounted for almost 25% of the total manufacturing industry revenues.

The micro and small-sized segments of the sector depend significantly on tourism. Croatia is a tourism country and has a good geographical position in combination with a good road infrastructure. The tourism sector was the main driver of Croatian economy recovery after the Homeland war and world economy crisis. This suggests that a majority of these companies are dependent upon foreign economic contexts, as tourists make up an important share of the demand for products produced in this sector.

Agri-food trade deficits have persisted after EU accession. Whilst the value of agri-food exports from Croatia have doubled over the past 15 years, imports of primary and high-value processed products have generally outpaced exports. Overall, the Croatian economy is characterised by large trade deficits in goods, rising from self-sufficiency rates of 43% in 2003 to their highest level of 64% in 2017. Over the same period, the self-sufficiency rate for agri-food products was somewhat higher. The agri-food trade deficit of almost EUR 1 billion in 2017 is driven by the accelerating imports of agricultural primary products from the EU member states, above all, from neighbouring countries, such as Italy, Slovenia, Hungary. Agri-food trade flows with non-EU member states, on the other hand, remain heavily biased towards economies in the Western Balkan region[72].

70 The group owned 50+ companies, employing 40 000 people in Croatia. Their companies were farming 30,000 ha of state-owned land (in addition to the land privately held by the group). Agrokor contributed with 40% to the Croatian total agriculture production.

71 Tportal.hr, 2019, https://www.tportal.hr/biznis/clanak/sto-ce-biti-s-najboljom-hrvatskom-zemljom-ako-agrokor-promijeni-vlasnika-20170327.

72 UN Comtrade, 2018, indicates that in 2017 the key non-EU export markets for Croatian agri-food products include Bosnia and Herzegovina (14.4%), Serbia (9.6%), Macedonia (2.5%).

3.2. Analysis on the demand side of finance to the agri-food sector

This section describes the drivers of demand for finance in the agri-food sector and analyses the met and unmet demand. It seeks to identify the main reasons for agri-food enterprises to request financing and the agri-food sub-sectors showing the largest need for finance. The section also provides an assessment of the type of agri-food enterprises which face more constraints in accessing credit. The examination of the demand for agri-food finance is based on the findings from the Agri-food survey results of 45 Croatian firms, as well as interviews with key stakeholders in the agri-food sector and on the Structural Business Statistics.

Key elements on the finance demand from the Croatian agri-food sector

- Between 2009 and 2017, investment levels in Croatian agri-food sector declined by 10.3%. In 2017[73], the manufacture of food products accounted for approximately 65% of the total gross investment in the sector.
- Demand for finance in the sector is mainly driven by investment in modern equipment, working capital needs, the development of new products, and the need of refinancing previous loans.
- In 2018, 50% of the enterprises operating in the sector applied for bank finance. Short-term loans and credit lines/ bank overdrafts were the most requested financing products.
- The unmet credit demand of the Croatian agri-food sector is estimated to be at EUR 192 million.
- According to the *Agri-food* survey, the main difficulties experienced by Croatian agri-food firms are related to access to the market, high costs of production, low purchase prices and lack of qualified labour.
- Rejection rate of agri-food processors' applications for bank loans was 15% in 2018.
- The main reason for loans rejection is the high business risk associated to the sector. This is mainly due to: (a) low level of competitiveness of the companies; (b) low business skills and lack of financial literacy; (c) high level of indebtedness.
- The high-risk perception leads banks to establish restrictive lending policies for the sector, including requirements that small-sized enterprises often cannot respect and even discouraging many enterprises from applying for finance
- In 2018, 13% of Croatian agri-food firms did not apply for bank loans because of fear of possible rejection.
- All banks' representatives have confirmed that their risk assessments are 'case-to-case' based and they do not have any agri-food specific approach, when assessing the risk.
- 53% of the companies expect their financial needs to increase over the next 2-3 years.

3.2.1. Drivers of total demand for finance

Between 2009 and 2017, investment levels in the Croatian agri-food sector decreased by 10.3%[74]. However, this reduction stems from a decline in the period 2009-2014, followed by a steady recovery until 2017, although the previous peak of 2009 has not been reached yet. The decline was mainly due to problems in the manufacture of beverages where the level of investment dropped by 27.7% (Table 9). Following EU accession, the beverage sub-sector experienced losses in market shares based on growing competition on the EU single market.

In 2017, the manufacture of food products accounted for almost 65% of the total gross investment in the sector, with EUR 325.2 million, whilst gross investment in the manufacture of beverages stood at

73 Eurostat, 2019, Structural Business Statistics, last data available for 2017.
74 Eurostat, 2019, Structural Business statistics.

EUR 177.2 million. The 2008 global financial crisis affected Croatian companies much harder and longer than most countries.

Table 9: Gross investments in the Croatian agri-food sector, 2009-2017, EUR million

	2009	2010	2011	2012	2013	2014	2015	2016	2017
Man. of food products	315.4	341.5	366.5	295.3	298.5	248.6	275.7	387.2	325.2
of which:									
Man. of bakery and farinaceous products	37.6	54.6	110.2	68.8	36	46.5	52.6	54.8	67.4
Man. of dairy products	65.1	100.6	66	41.4	27.4	25.8	29.1	26.4	30.3
Man. of grain mill products, starches and starch products	3.4	9	4.9	7.6	9.6	4.1	7.4	19.9	4.7
Man. of other food products	99.8	102.9	86.3	74	79.8	72.4	88.8	106	93.5
Man. of prepared animal feeds	15.1	8	7.4	7.1	13	5.8	9	12.4	12.2
Man. of vegetable and animal oils and fats	0	0	5.8	0	2.8	3.6	30	27.7	3.2
Proc. and preserving of fish, crustaceans and molluscs	18.3	5.1	6.2	0	57.3	12.4	8.2	12.1	26.2
Proc. and preserving of fruit and vegetables	0	0	10.5	9.1	3.4	22.8	17.8	6.6	29.3
Proc. and preserving of meat and production of meat products	76.1	61	69.2	87.3	69.2	56.1	59.8	121.3	58.4
Man. of beverages	245.2	205.8	167.6	140.4	156	134.4	132.6	139.4	177.2
Total	**560.6**	**547.3**	**534.1**	**435.7**	**454.5**	**383**	**408.3**	**526.6**	**502.4**

Source: Eurostat, 2019, Structural Business Statistics.

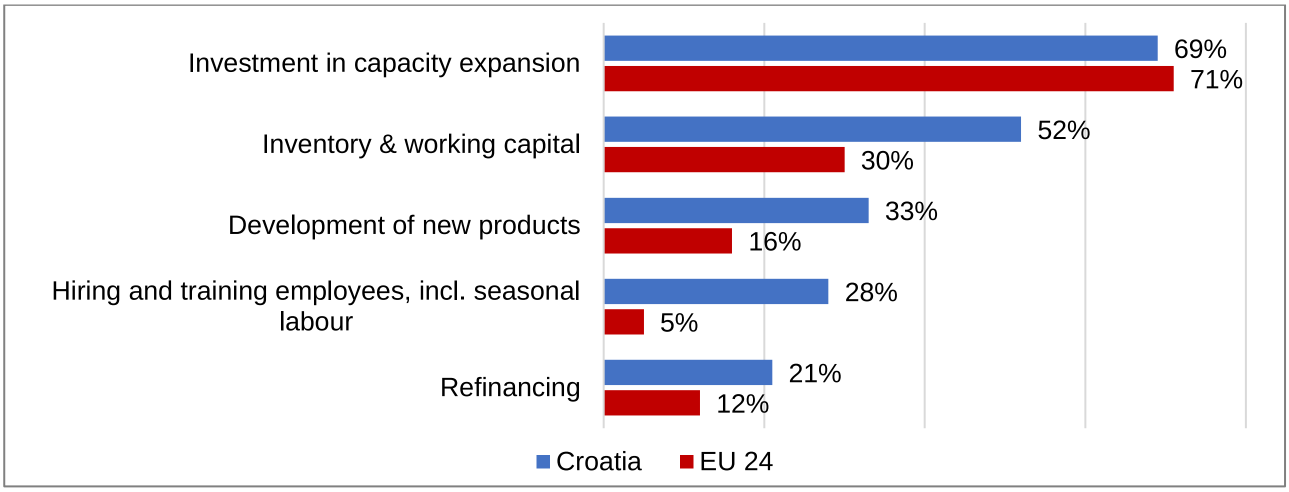
Despite a decrease of 6.3% experienced between 2009-2017, the level of investment in the manufacture of other food products accounted for 28.7% of total gross investment in the manufacture of food products in 2017, at EUR 93.5 million, followed by investment in bakery and farinaceous products, which accounted for 20.7%, and experienced an increase of 79.2% between 2009-2017, reaching EUR 67.4 million in 2017 (Table 9).

The dairy sub-sector registered the highest drop in investment during the same period, followed by the meat processing sub-sector. In 2017, gross investments in the dairy sub-sector amounted to EUR 30.3 million, a value approximately 53.4% lower than the one observed in 2009. Additionally, enterprises operating in the process of meat product industry experienced a reduction in the level of investment which reduced from EUR 76.1 million in 2009 to EUR 58.4 million in 2017, a drop of 23.2%[75].

According to the Agri-food survey conducted for this report, investments in the Croatian agri-food sector is driven mainly by capacity expansion purposes and technology modernisation. Namely, in 2018, 69% of Croatian agri-food firms invested in modern equipment, building material and infrastructures (Figure 16), as well as the renewal of obsolete equipment/machinery and production facilities.

75 Eurostat.

Figure 16: Purpose of bank loans in the agri-food sector in 2018

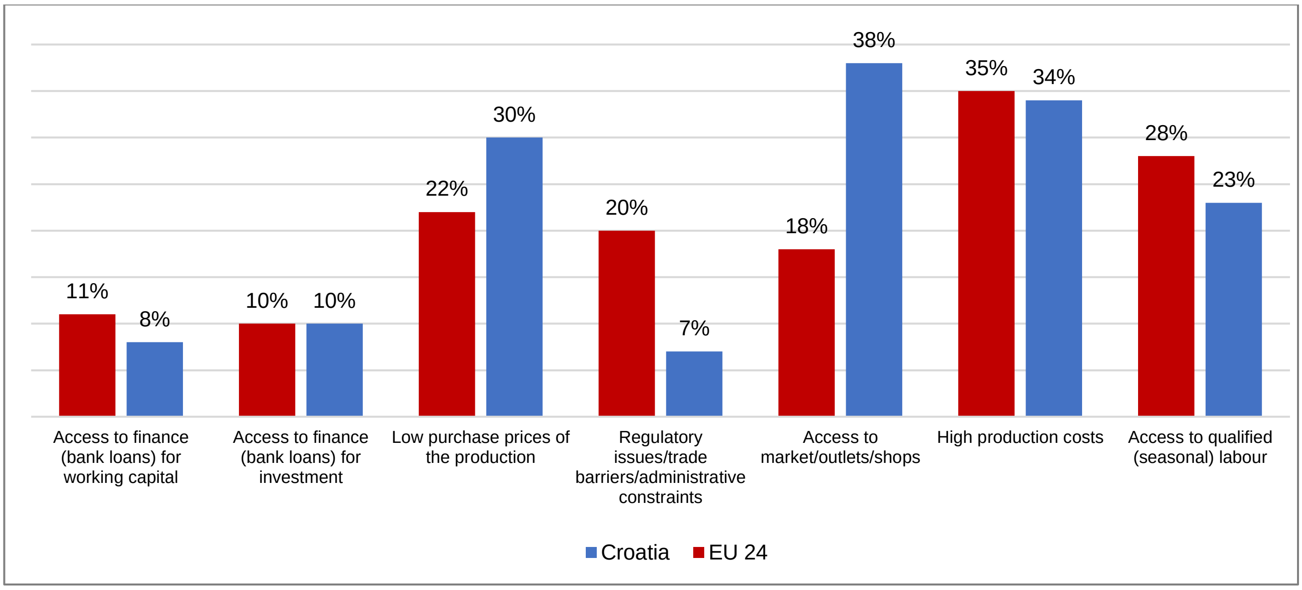


Source: Agri-food survey.

According to the Agri-food survey, in 2018, approximately 38% of the firms in the sector experienced difficulties to access the market, whilst 34% reported high production costs (Figure 17). Labour shortage is another main problem as approximately 23% of Croatian agri-food firms do not have access to qualified labour. All interviews confirmed the survey results findings illustrated by Figure 16 and Figure 17.

Agri-food enterprises invest in capacity expansion in order to: i) access larger markets with increased production volumes, ii) benefit from economies of scale to reduce production costs per unit, and iii) improve bargaining power thanks to larger production volumes in combination with higher manufacturing efficiency.

Figure 17: Difficulties experienced by agri-food enterprises in 2018



Source: Agri-food survey.

Another important driver of the demand for finance in Croatian agri-food sector is working capital. According to the Agri-food survey, in 2018, approximately 52% of agri-food companies in Croatia requested a loan to meet their working capital needs (Figure 16).

Approximately 33% of the enterprises used the loans requested in 2018 for the development of new products (Figure 16). Whilst agri-food companies in the majority of EU countries are well established and mostly investing in modernisation, a significant number of Croatian companies are just starting their business, accessing the market and developing new products (mostly new to the company/Croatian market), 28% are expanding their businesses and therefore hiring/training new employees.

Furthermore, refinancing needs also constitute an important driver of the demand of finance in the sector. The financing conditions in the Croatian economy have been difficult for many years. Until 2019[76] Standard and Poors classified Croatia as non-investment category[77], which significantly affected foreign investments and increased the price of loans for Croatian SMEs. As a result, 21% of Croatian enterprises requested financing resources to refinance previous loans (Figure 16) acquired earlier with much higher interest rates.

As an important part of the manufacturing sector, companies in food and beverage production have access to a **versatile offer of different EU co-financed, state or privately financed as well as regional/local financed instruments**[78]. The Croatian agri-food sector can also rely on grants from the EAFRD for the RDP sub-measure 4.2 'Support for investments in processing/marketing and/or development of agricultural products'. Applicants must come from the agri-food sector, i.e. processing agricultural products, and the RDP supports investments in:

- facilities for milk production, and animal slaughter;
- equipment for processing fruits, vegetables, grapes, aromatic or seasoning plants, flowers, mushrooms, olives, crops, industrial plants, products from bees, etc.;
- other equipment and mechanisation necessary for project realisation;
- purchasing buildings;
- equipment for packaging and presentation of products;
- facilities for renewable energy sources for food processing.

The maximum period for implementation of an investment supported under the above RDP sub-measure is 36 months.

Until the end of 2019, the EAFRD managing authority has launched six grant calls for applications for sub-measure 4.2, with a budget allocation of EUR 135.5 million. In total 264 applications have been received (of which 134 were supported) and the total budget initially requested by all submitted applications (before administrative checks) amounted to EUR 130.9 million.

76 In March 2019, S&P raised Croatia's sovereign rating to BBB-/A-3 from BB+/B, putting the country's rating after six years back in the investment category due to an improved situation in the budget and economy recovery.

77 Web page poslovni.hr, https://www.poslovni.hr/hrvatska/standard-poors-proglasio-je-kreditni-rejting-hrvatske-smecem-224637.

78 Ministry of Regional Development and EU Funds, 2019, Impact assessment of Priority axis 3 Business competitiveness of the Operational program 'Competitiveness and Cohesion' 2014-2020 (Vrednovanje učinka Prioritetne osi 3 Poslovna konkurentnost Operativnog programa 'Konkurentnost i kohezija 2014-2020').

Table 10: Data on the implementation of sub-measure 4.2 in Croatian RDP 2014-2020, at the end of 2019

Sub-measure	Total budget under all calls for applications (EUR)	Total number of received applications	Total budget requested by all submitted applications for all calls (EUR)	Total number of approved and supported application from all calls
4.2 'Support for investments in processing/marketing and/or development of agricultural products'	135 466 666.67	264	130 881 756.38	134

Source: Ministry of Agriculture, 2019.

Note: The 'total budget requested by all submitted applications' is calculated based on all received applications before any administrative check regarding eligibility or selection criteria to have taken place. Applications that have not been approved could have been non-eligible, and/or with insufficient or missing information not allowing their evaluation, and/or with insufficient value-added, and/or ranked at a place for which budget under the call has not been anymore available. Some applications may also be withdrawn.

The EAFRD financial instruments described in the agriculture section are also available to agri-food enterprises (see section 2.3.1.2 for more details).

3.2.2. Analysis of demand for finance

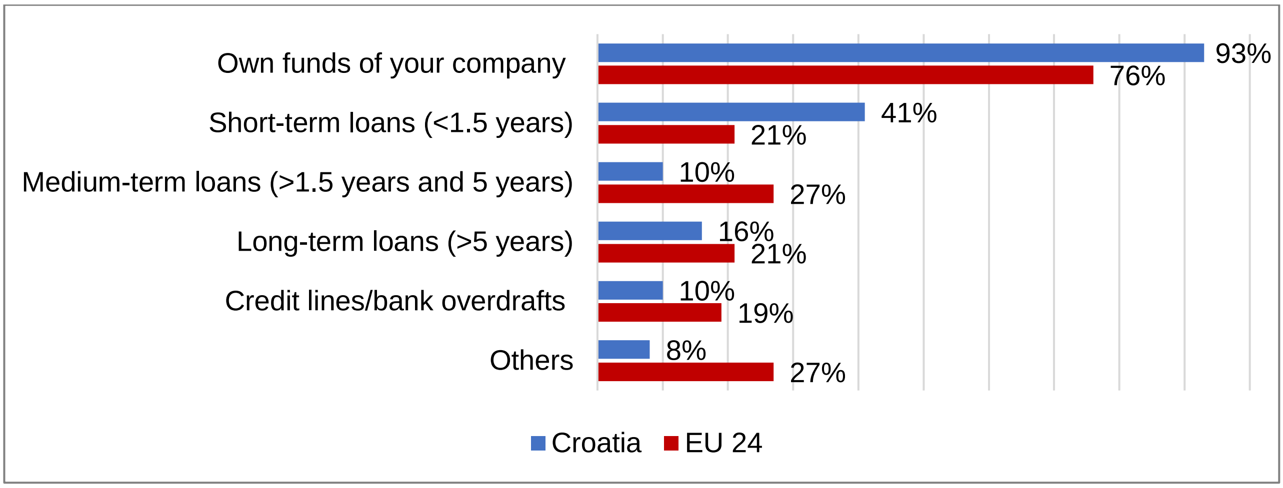
The potential total demand for finance combines both met and unmet demand. The met demand consists of the value of all applications for finance which were accepted by the financial institutions in the relevant year. The unmet demand consists of the assumed value of applications rejected by a financial institution, offers of credit refused by agri-food enterprises, alongside cases where companies are discouraged from applying for credit due to an expectation of rejection or refusal

Based on the Agri-food survey, the unmet demand for the agri-food sector in Croatia is estimated at EUR 192 million.

In 2018, half of the enterprises operating in the Croatian agri-food sector applied for finance. Although internal funds are indicated as the most important source of finance for 93% of those who applied (Figure 18), in 2018, approximately 50% of the companies in the sector sought access to bank finance[79].

79 Agri-food survey.

Figure 18: Most important financing instruments to agri-food enterprises in 2018

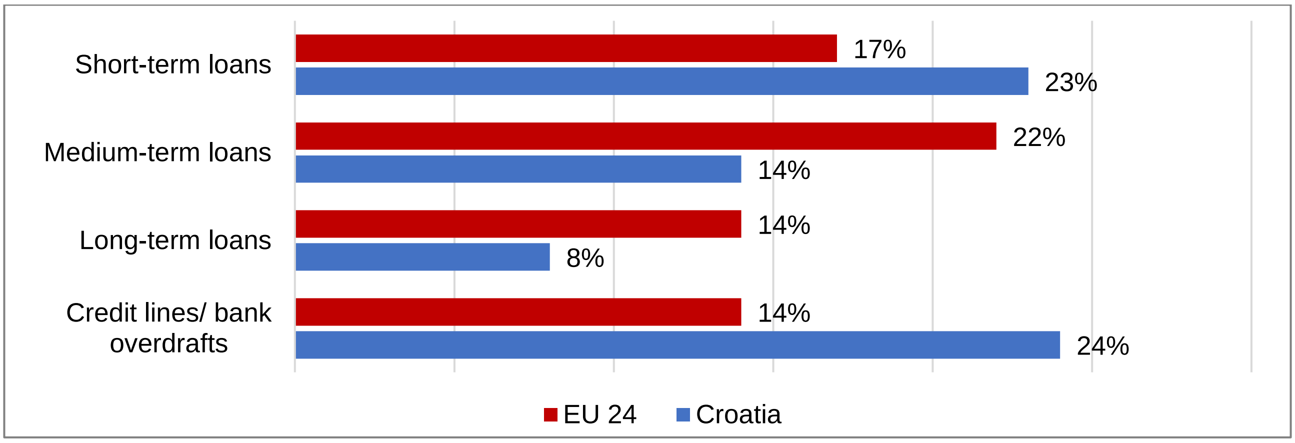


Source: Agri-food survey.

In 2018, short-term loans and credit lines/bank overdrafts were the most requested financing products. Results from the Agri-food survey reveal that these type of bank products were requested by 23% and 24% of the enterprises, respectively, against an EU 24 average of 17% and 14% (Figure 19). According to stakeholders, the higher frequency of short-term loans doesn't necessarily reflect the preference of the enterprises but might be due to the fact that access to long-term loans is more difficult, due to a less favourable banks policy and a stricter risk assessment (see also further down in this section). Interview results also suggest that part of the demand for short-term loans might be linked to investment. Short-term loans are often used to pre-finance EU grants, as well as related ineligible costs, such as VAT[80], in case of subsidised investments.

Applications for medium and long-term bank loans were lower in Croatia than in other EU countries. 8% of Croatian agri-food firms requested long-term investment loans in 2018 and 14% of the companies applied for medium-term loans.

Figure 19: Croatian agri-food enterprises applying for finance, by financing product in 2018



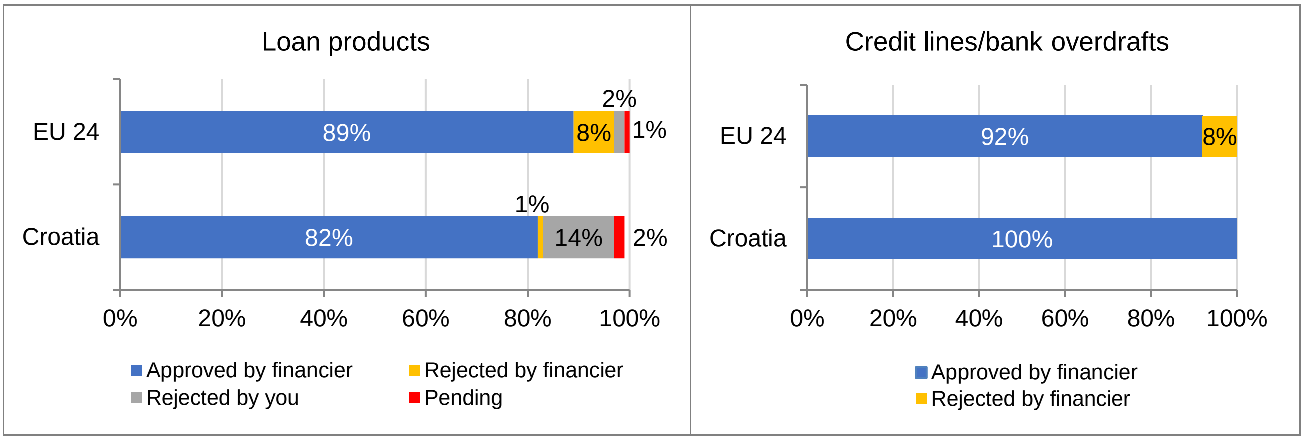
Source: Agri-food survey.

80 EU grants support intensity varies between 50 and 90% of investment for micro companies, and VAT is not eligible for financing from grant.

In 2018, credit lines/bank overdrafts registered the highest acceptance rate. According to the Agri-food survey, 100% of the applications for credit lines/bank overdrafts were approved. However, the overall rejection rate of all other finance products amounted to 15%, which is much higher than compared to the EU 24 average (Figure 20). Interestingly, approximately 14% of the applications were rejected by the applicants, suggesting that the difficulties to access finance largely relate to the unfavourable financing conditions for the enterprises operating in the sector. Indeed, 32% of agri-food firms in Croatia declared that more affordable loans would help to reduce the difficulties experienced in accessing finance[81].

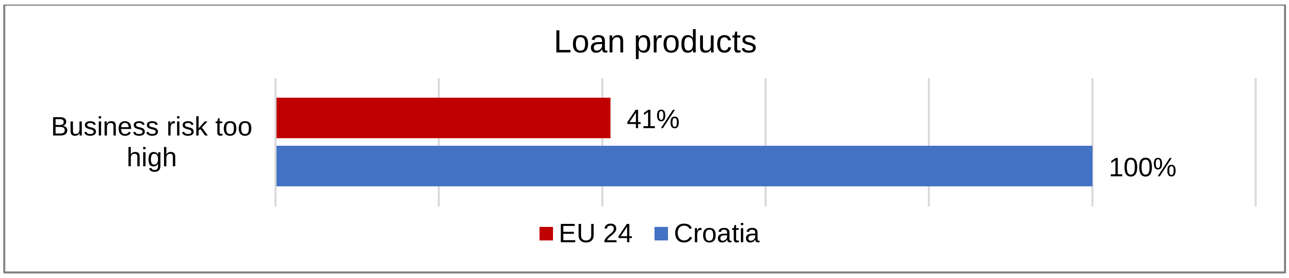
Commercial banks, however, see the situation a bit differently. Banks, due to historically record liquidity, are actively contacting their long-term clients and offering them loans with favourable, according to them, conditions. Isolated cases of loans with a 1.5% interest rate has been mentioned.[82] The explanation for this apparent contradiction might be that banks are open to finance long-term clients with sound track records (mainly large-sized processors), while their policies became very restrictive in terms of collateral requirements or financing cost when dealing with small-sized agri-food enterprises (see also further down in this section).

Figure 20: Results from loans' applications in the agri-food sector in 2018



Source: Agri-food survey.

Figure 21: Reasons for loans' rejection in the agri-food sector in 2018



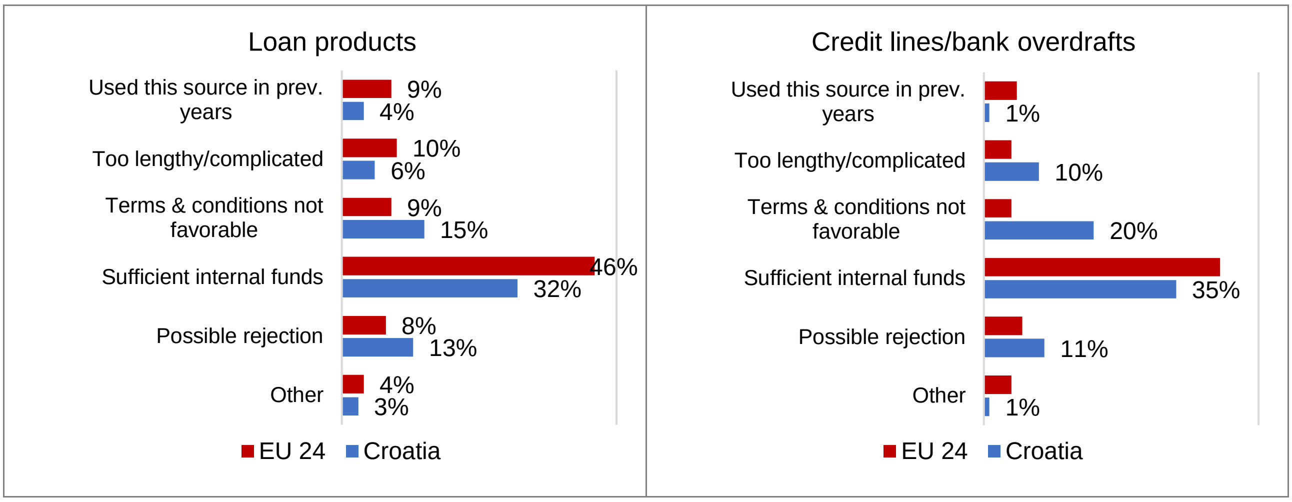
Source: Agri-food survey.

According to the Agri-food survey, all applications rejected by the financier were refused because of a business risk that was assessed as too high (Figure 21). Interviews with financial institutions suggest that lending risk assessments are not usually tailored to the sector. However, key drivers of the risk perception might be summarised as follows:

81 Agri-food survey.
82 E.g. Bjelovar city, 2019, purchase of cooling facilities.

- **A low level of competitiveness, especially of small-sized agri-food enterprises.** Overall, the sector is still structurally adjusting, and lagging behind in terms of productivity, in particular with reference to small-sized enterprises. As already mentioned, small-sized agri-food enterprises often suffer from lack of modern equipment. This translates into low economic margins, making them a less appealing area of investment for banks.
- **Restrictive banks' policies**. Due to the high-risk perception, commercial banks set very strict requirements on cash flow, guarantees and collateral, which might be difficult to be met by small-sized companies. This is compounded by the absence of tailor-made products for agri-food companies.
- **Low business skills and financial illiteracy.** Many Croatian micro and small-sized agri-food enterprises generally do not possess sound entrepreneurial experience. Interviews with relevant stakeholders revealed that risk is often assessed as too high due to an optimistic business plan and inadequate financial literacy of applicants.
- **There is still relatively high level of indebtedness of companies operating in the sector**, although it is declining. The European Commission report in 2016[83], as well as the IMF report in 2015[84] indicated this high debt of Croatian companies and its adverse effect on their businesses. Both institutions have indicated that the level of indebtedness of companies is one of the major obstacles to investments and economic growth in Croatia. Approximately 33% of the total debt is classified as unsustainable, given the company productivity level and cash flow[85]. This problem mostly affects large-sized enterprises, but the consequences are important for the whole sector. In fact, while large-sized enterprises contribute mainly to the performance of the sector, micro and small-sized companies depend on investments, in order to strengthen their role within the value chain. As already indicated, the crisis of Agrokor Group had important consequences for the entire sector, as it also negatively affected agri-food suppliers, whose payments were significantly delayed.

Figure 22: Reasons for not applying for loans in the agri-food sector in 2018



Source: Agri-food survey.

83 European Commission, March 2016, Country Report Croatia 2016.
84 IMF, 2015, Republic of Croatia: Concluding Statement of the 2015 Article IV Mission, https://www.imf.org/en/News/Articles/2015/09/28/04/52/mcs050615.
85 HNB, 2017, Prekomjerni dug poduzeća u Hrvatskoj: mikroprocjena imakroimplikacije, https://www.hnb.hr/documents/20182/1993349/i-052.pdf/fcf44c9e-1921-4693-8b94-69b3e257cc7d.

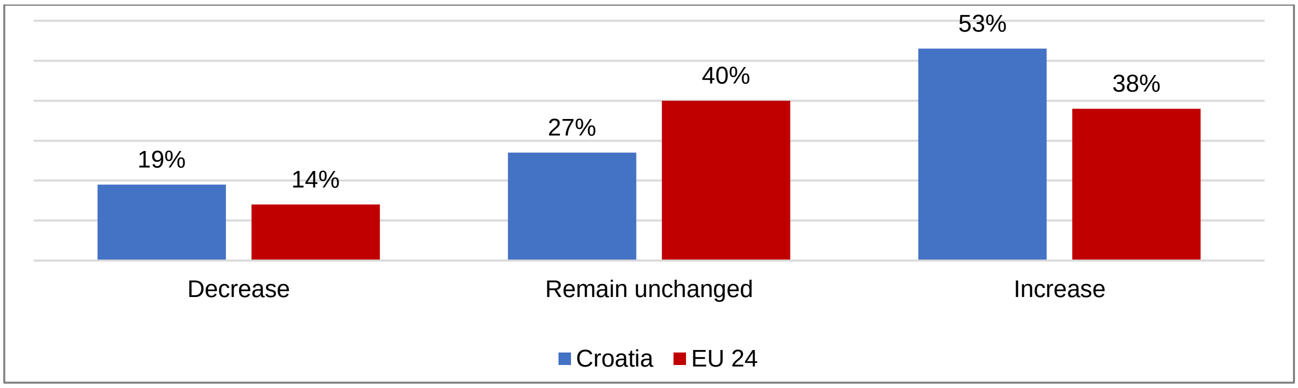
Discouraged to apply for bank loans processors were many in 2018 and accounting for 13%, almost twice higher than in the EU 24 share of 8%. The discourage rate for credit lines stood at 11% against an EU 24 average of 7%.

One of the main reasons why agri-food enterprises do not apply for finance are the unfavourable conditions offered by banks. In 2018, the share of agri-food firms not applying for bank finance and credit lines because of tight financing requirements and unfavourable financing terms were 15% and 20%, respectively (Figure 22). According to the Bank Lending Survey (BLS)[86], in 2018, credit standards applied to loans and credit lines to SMEs were eased overall, mainly due to competition among banks, regulatory changes, and a reduction of non-performing loans. However, the overall financial conditions in Croatia are not as favourable as in other EU countries. Commercial banks still require large collaterals, cash flows and a strong credit history to lend to agri-food companies.

In addition, a large productivity/technology gap diminishes the potential return on small investments where structural changes are required. Low expected returns reduce the ability to service higher debt levels.

Most enterprises in the agri-food sector in Croatia expect their financing needs to increase in the future. Approximately 53% of Croatian agri-food enterprises expect their need for financing resources to increase over the next two-three years (Figure 23). This evidence is not surprising given the still ongoing transition phase towards a free market economy characterising the country. This is also confirmed by all interviewed commercial banks which suggested that the availability of EU co-funded grants would continue to be a driver of demand for finance. The latter, however, shall not be the curtain behind which banks should hide taking a risk-averse position.

Figure 23: Agri-food companies' expectation on future financing needs, 2018



Source: Agri-food survey.

86 CESE, 2018, Bank Lending Survey, https://www.eib.org/en/publications/cesee-bls-2018-h2 and https://www.hnb.hr/en/statistics/statistical-data/financial-sector/other-monetary-financial-institutions/credit-institutions/the-results-of-the-bank-lending-survey

3.3. Analysis on the supply side of finance to the agri-food sector

This section provides an overview of the financial environment in which the agri-food sector in Croatia operates. It describes the main available financial products including any currently operating financial instrument targeting the agri-food sector, with national and/or EAFRD resources. This section draws its information from interviews with financial institutions, as well as from national statistics.

An attempt is made to give a description of the general conditions for accessing finance, such as interest rates and requirements for collateral, and the availability of funding for agri-food enterprises. Potential differences in availability of financial products across different types of agri-food enterprises are reviewed and analysed.

Key elements on the supply of finance to the Croatian agri-food sector
• As a part of the manufacturing sector, companies in the food and beverage production have a versatile offer of different state financed, EU co-financed, privately financed instruments. • Commercial banks offer short, medium and long-term loans to enterprises. However, there are no products specifically designed for agri-food companies. • In 2018, the total outstanding loan volume to the agri-food sector was EUR 582 million. • Banks perceive the sector as risky and lack specialised knowledge in agri-food processing. This reduces their propensity to lend to agri-food enterprises, and therefore leads lenders to set strict collateral and cash flow requirements. • The lack of collateral is a constraint, especially for micro and small-sized enterprises.

3.3.1. Description of finance environment and funding availability

This section describes the financing environment of the agri-food sector. It is based on desk research and data provided by Ministry of Regional Development and EU Funds and HAMAG BICRO.

3.3.1.1. Finance providers

According to the Bank bulletin of CNB[87], in 2018 there were 26 credit institutions operating in Croatia, of which 21 were commercial banks and four were housing saving banks. Despite the high number of banks, the Croatian banking sector is highly concentrated, with a strong role of foreign owned banks. In 2018, five banks that are branches of foreign banks, held 80% of the market: Zagrebačka banka d.d. held 27%, Privredna banka Zagreb d.d. held 20%, Erste & Steiermärkische Bank d.d. held 15%, OTP banka d.d. held 10% and Raiffeisenbank Austria d.d. held 8%. All other banks have market shares of below 6%. All commercial banks provide credit products to enterprises, including those operating in the agri-food sector.

In addition to commercial banks, there are two public financial institutions provide credit to the agri-food sector: HBOR, and HAMAG BICRO:

<u>HBOR</u>

In addition to the management of the EAFRD financial instrument and the other instruments available for agriculture (see description in section 3.3.2), HBOR implements an ERDF financial instrument, providing growth and development loans to small and medium-sized enterprises for long-term investments, which is potentially relevant also for agri-food enterprises.

87 Hrvatska Narodna Banka, the Croatia National Bank.

HAMAG BICRO

The agency focuses on support for SMEs. In addition to the management of two EAFRD financial instruments (see section 2.3.1.3), HAMAG BICRO is in charge of the implementation of four financial instruments co-funded by the ERDF. Those instruments provide micro and small-sized loans as well as guarantees to enterprises at favourable conditions[88], which are potentially relevant also for agri-food enterprises.

Leasing providers

Enterprises can use leasing to buy equipment, machines, commercial vehicles, etc. HBOR cooperates with leasing companies that set the amount, interest rate, fees, and security of the leasing[89].

3.3.1.2. Financial products

Several financial products are available for enterprises operating in the agri-food sector. They include financial products provided by commercial banks, as well as some financial instruments providing loans and guarantees from EAFRD and, to a minor extent under the ERDF.

Commercial bank products

Several commercial banks have specific products targeting SMEs. Although there is no product specifically created for the food and beverages sector, companies doing business in these areas are eligible applicants. These financial products are much more favourable than the usual bank products for general purposes.

The aforementioned offer of EAFRD and ERDF loans led commercial banks to adjust their financial products for SMEs with reduced interest rates. HAMAG started implementing ESIF loans in 2017.

Short and medium-term products

The main short and medium-term products are presented in Table 11 below.

88 *fi-compass*, EAFRD financial instruments: Croatian Experience Loan and Guarantee Fund in Croatia, https://www.fi-compass.eu/sites/default/files/publications/Kre%C5%A1imir_Ivan%C4%8Di%C4%87_EAFRD%20financial%20instruments.pdf.

89 Leasing providers are: UniCredit Leasing Croatia d.o.o., Erste & Steiermärkische s-leasing d.o.o., PBZ Leasing d.o.o., Raiffeisen Leasing d.o.o., OTP Leasing d.o.o.., Porsche Leasing d.o.o.

Table 11: Commercial banks products terms and conditions offered to Croatian agri-food sector, 2019

	Amount	Repayment	Interest rate	Purpose	Security
Working capital loan	Depending on beneficiary's creditworthiness of beneficiary	Up to 24 months	Depending on the borrower's status	Short-term working capital needs such as procurement of raw materials, and other inputs to be invested in production	
Revolving loan	From EUR 5 000 to EUR 200 000	Up to 12 months	Depending on the borrower's status	Finance working capital needs, liquidity maintenance and export transaction and preparation	
Micro-loans	Up to EUR 20 000	Up to 36 months	Depending on the borrower's status	Not restricted	Negotiable security instruments: bill of exchange and debit note of the company and owner)
Transition account overdraft	Depending on the borrower's creditworthiness	Up to 12 months		Finance working capital and liquidity maintenance	
Liquidity loan	Depending on the creditworthiness of borrowers	Up to 90 days	Depending on the borrower's status	Short-term liquidity needs, such as salaries	
Short-term loan	Depending on the creditworthiness of borrowers	Up to 12 months			

Source: Commercial banks websites, 2019.

Long-term loan products

Long-term products offered by commercial banks focus mainly on the tangible and intangible investment for the modernisation of businesses. They present the following characteristics:

Table 12: Commercial banks long-term products terms and conditions offered to Croatian agri-food companies, 2019

	Amount	Repayment	Purpose
Permanent working capital loan	Depending on the creditworthiness of borrowers	up to 7 years, including 1-year grace period	Long-term working capital needs to ensure quality operations.
Investment loan	Up to 80% of the investment value, from EUR 5 000 to EUR 200 000	Up to 10 years	Expansion and modernization of businesses, introduction of products and/or process innovation, purchase of machinery, equipment and tools purchase, building, conversion or expansion of business premises purchase of land, etc.

Source: commercial banks websites, 2019.

Guarantees

Commercial banks also issue guarantees to companies. These are payment guarantees, for payments of obligations arising from imported goods, repayments of international loans, etc., and performance guarantees, such as tenders, lease deals, etc.

Leasing

Commercial banks and leasing companies further offer operating and financial leasing to companies to finance the acquisition of equipment, machinery and vehicles[90]. In addition to loans, HBOR set-up an instrument to finance small and medium-sized enterprises providing leasing.

<u>EAFRD financial instruments</u>

Three financial instruments co-funded by the EAFRD are implemented in Croatia:

- Micro and Small-loans for Rural Development;
- Individual Guarantees for Rural Development;
- Investment Loans for Rural Development.

All these instruments specifically address agricultural and food processing companies. **A detailed presentation of the instruments can be found in section 2.3.1.2.**

<u>ERDF financial instruments</u>

Other financial instruments[91] are co-funded with ERDF and national resources, and are dedicated to SMEs financing. Their funding is not targeted specifically to agri-food, but agri-food enterprises are potentially eligible applicants. Unfortunately, it is not possible to assess the impact of these instruments on the agri-food side as only aggregated data referring to the overall manufacturing sector is available.

90 Majority of banks is not publishing concrete data but rather general contracts and conditions whilst all other conditions are case to case based. As an example, PBZ bank data are publicly available: they are offering leasing in value from EUR 5 000 up to EUR 35 000, maturity is 36-72 months, beneficiary must participate with 20-70% of total value, interest rate is 4.4%.

91 Ministry of Regional Development and EU Funds, 2019, Impact assessment of Priority axis 3 Business competitiveness of the Operational program ‘Competitiveness and Cohesion’ 2014-2020 (Vrednovanje učinka Prioritetne osi 3 Poslovna konkurentnost Operativnog programa ‘Konkurentnost i kohezija’ 2014.-2020), data cut-off date 30/06/2018.

Micro-loans – investments and working capital (ERDF). This financial instrument is managed by HAMAG BICRO. It was implemented since the second half of 2016. Overall, EUR 12.5 million have been allocated to the instrument at a 50% co-financing rate. In 2017, approximately EUR 3.6 million (total amount committed EUR 3.8 million) had been already paid out to recipients of all sectors. Out of 277 approved loans, 101 of the loans were in the manufacturing sector.

ERDF Small-loans. ERDF small-loans are similar to the micro-loans and have been in place since 2016. The key difference to the micro-loans described above is the loan value, which varies from EUR 25 000 to EUR 50 000 and the re-payment period which goes up to ten years and includes grace periods. Also, this instrument is managed by HAMAG BICRO. Initially, the resources allocated to the financial instrument amounted to EUR 12.5 million, but due to an unexpected high demand, the volume was increased by two additional allocations of EUR 20 million and EUR 10 million, respectively. Out of 644 loans approved, 213 were in the manufacturing sector.

ERDF Growth and Development loans. In total, EUR 215 million has been allocated to the Growth and Development Loan instrument which provides long-term investment loans to SMEs at low interest rates. Loans are co-financed at 50% by ERDF with no 0% interest rate. The other 50% are contributed by commercial banks at market rates. The instrument is implemented by HBOR, which selected three commercial banks through public tender procedure as financial intermediaries, Zagrebačka banka, Erste & Steirmärkische Bank, Privredna Banka Zagreb. Also, for this instrument data is not disaggregated

ERDF Guarantees with interest rate subsidy. This financial instrument, implemented by HAMAG BICRO, provides guarantees with interest rate subsidy covering up to 80% of secured loans for investments. Guarantees cover an amount from EUR 150 000 to EUR 2 million. The minimum repayment period is one year, and the maximum is ten years. The share of working capital in investment loan can be up to 30% of the loan value and guarantee covers only principle. Risk premium amounts to 0.25% to 0.5% of the approved guarantee.

ERDF Guarantees without interest rate subsidy. Guarantees without interest rate subsidies can take amounts from EUR 150 000 to EUR 1 million, covering up to 65% of the secured loans value. The minimum period is one year, and the maximum period is five years. The share of working capital in investment can be 100% of the secured loan value. Risk premium amount to 0.5% to 1.0% of the approved guarantee.

<u>Other products offered by public credit institutions</u>

In addition to EAFRD and ERDF financial instruments, HBOR set-up three additional instruments[92] to provide loans to business entities:

- **Working capital loan**: From EUR 13 5000. To finance business operation (purchase of raw materials pay suppliers, labour costs, etc.) and settlement of short-term obligations toward financial institutions.
- **Private sector investment loan**: From EUR 27 000 up to 75% of investment value. For investments in fixed assets for business modernisation, introduction of new technologies, project and process innovation, etc. Working capital, up to 30% of the loan amount.
- **EU project loan**: From EUR 27 500 up to 75% of investment value (for private businesses). For eligible and non-eligible expenses presented in the tender for EU grants.

92 HBOR, https://www.hbor.hr/en/kreditni_program/working-capital/.

3.3.2. Analysis of the supply of finance

According to CNB data, in 2018, the lending volume in the food and beverage sector was EUR 582 million. This figure may be considered a lower boundary of the lending to the sector as balance sheet statistics from the Croatian Chamber of Economy (CCE)[93] report approximately EUR 3.2 billion of liabilities for the sector in 2018. The CCE data includes bonds and other forms of non-bank loan financing. Additionally, the CCE data may include more small crafts operators than what is reported by the national bank.

Between 2001 and 2018, the total outstanding loan volume to the sector decreased by 30%, from EUR 839 million to EUR 582.3 million. This is probably linked to the low economic performance and the declining investment trend, with a recovery starting only in 2016. The reduced volume of outstanding loans in 2018 also stems from the aftermath of the Agrokor's bankruptcy protection episode in 2017, which affected the sector's performance and banks' risk perception.

Table 13: Supply of loans to the agri-food sector, 2011-2018, EUR million

	2011	2012	2013	2014	2015	2016	2017	2018
Outstanding loans	839.1	750.3	714.3	699.4	692.3	701.9	673.3	582.3

Source: own elaboration based on CNB data, 2019 and Eurostat annual exchange rates, 2019.

Banks in Croatia charge higher interest rates compared to other EU countries, making the cost of borrowing discouraging for the firms operating in the sector (see section 2.3.1.3 for a discussion on interest rates in Croatia).

Constraints exist in the supply of finance to the agri-food sector, even if the banking sector is developing fast and commercial banks rely on good levels of capital and liquidity.

Findings from interviews with banks and agri-food companies indicate that the commercial banks, which are lending to the agri-food companies, do not usually have the right knowledge to assess the businesses and lack capacity and tools to develop tailored credit risk assessments. In this context the most penalised category are SMEs and start-ups at early developmental stage that are considered too risky since they generally do not have an extensive credit history and lack collaterals.

Banks tend to be reluctant to take high risks and provide credit to agri-food businesses that are considered too risky (e.g. innovative start-ups), because they are strongly dependent on price fluctuations and natural events. For this reason, commercial banks have set very strict and specific requirements on cash flow, guarantees and collateral. The latter prevents the free flow of financing to the sector.

There are no tailor-made products for agri-food companies. The entire manufacturing sector is eligible for the same loan products. As a result, loan conditions depend on the quality of the investments project itself, regardless of the sector.

93 Digitalna Komora, 2019, https://digitalnakomora.hr/home .

3.4. Financing gap in the agri-food sector

This section presents an assessment of the financing gap in the Croatian agri-food sector, broken down by firm-size and financial product.

Key elements of the financing gap in the Croatian agri-food sector

- The financing gap for agri-food sector is estimated to be at EUR 116 million.
- The most constrained segment are small-sized enterprises, and long-term loans.
- A key driver of the financing gap in the agri-food sector is the high lending risk perceived by banks
- This assessment stems from the difficulty due to limited competitiveness, weak business plan and inadequate financial literacy of applicants, and pre-existing high debt levels.
- In addition, part of the sector is discouraged to apply for loans under current market conditions, which are the least favourable in the EU and due to the low expected return on investments.

This section presents an estimate of the total volume of unmet financing needs of financially viable agri-food enterprises, defined as financing gap, for 2018. The estimate is calculated by multiplying the total number of firms by the proportion of financially viable firms reporting unmet demand for finance multiplied, in turn, by the average obtained loan value to firms.

Financing gap = Number of firms X percentage of firms that are both financially viable and have unmet demand X average loan volume

All the calculations are based on the results of the Agri-food survey for Croatian firms (see Annex A.5 for more information). The methodology used for calculating the gap is the same as the methodology used for the agriculture sector (see Annex A.3).

The financing gap arises from unmet financing demand from economically viable firms[94]. As explained in section 2.2, the unmet demand for finance includes

(i) lending applied for but not obtained, or

(ii) a lending offer refused by the potential borrower, as well as

(iii) lending not applied for due to expected rejection.

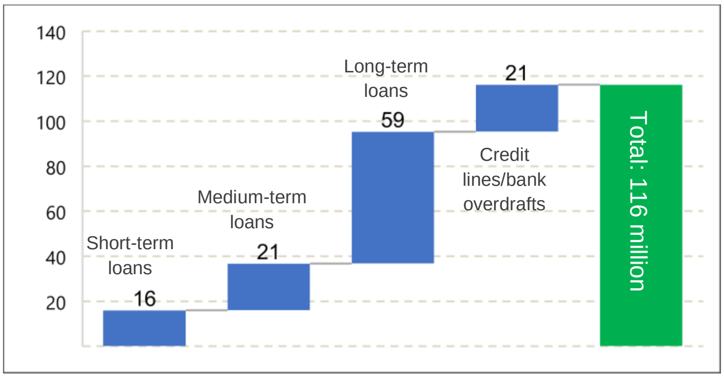
For the purpose of this study, 'turnover growth' is used as a proxy of firm viability. In particular, we make the hypothesis that all enterprises which reported a stable (non-negative) turnover growth can be considered as viable.

The financing gap for the Croatian agri-food sector is estimated to be at EUR 116 million. Approximately half of the gap is related to the access to long-term loans (Figure 24). Small-sized enterprises are the most affected by the gap. **During interviews, stakeholders indicated that the financing gap in the agri-food sector may be significantly higher but they could not provide supporting evidence**.

94 The financing gap presented in this section is different from the total unmet demand presented in section 3.2.2. In the quantification of the total unmet demand, all the enterprises in the population applying for finance are considered independent from their economic viability.

Based on the results of the Agri-food survey, the financing gap in the Croatian agri-food sector might be broken down by financial product types. Loan rejection rates and firms reporting being discouraged to apply for finance suggest a gap of EUR 16 million and EUR 21 million for short-term loans and credit lines, respectively. The financing gap is estimated to by EUR 21 million for medium-term loans and EUR 59 million for long-term loans.

Figure 24: Financing gap by product in the agri-food sector, 2018, EUR million



Source: Calculations based on results from the Agri-food survey.

The distribution across firm sizes suggest that the largest need arises from small-sized firms, with a financing gap of EUR 88 million, while the gap for medium- and large-sized firms is estimated at EUR 17.4 million and EUR 116 million, respectively.

Table 14: Financing gap by firm size and product, 2018, EUR million

	Total	Short-term Loans	Medium-term Loans	Long-term Loans	Credit lines/bank overdrafts
Small-sized firms	**88.0**	11.6	15.8	44.9	15.7
Medium-sized firms	**17.4**	3.2	3.0	8.3	2.9
Large-sized firms	**10.6**	1.1	1.9	5.4	2.2
Total	**115.9**	**15.9**	**20.7**	**58.6**	**20.8**

Source: Calculations based on results from the Agri-food survey.

A key driver of the financing gap in the agri-food sector is the high lending risk perceived by banks, which is at the core of the banks' assessment of individual loan applications as well as their general view of the sector. This leads banks to set very strict requirements for lending in terms of cash flow and collateral. This assessment stems from:

- The limited competitiveness of the sector, due to insufficient investment in the modernisation of equipment. This constraint is more likely to affect small and medium-sized firms.
- Inadequate financial literacy of applicants, which often leads to inadequate business and investment plans submitted for loan applications. This constraint particularly affects small-sized enterprises.
- High debt levels of large actors, although decreasing in recent years, and the recent bankruptcy of a key player in the sector. This weakness of large players affects the risk of the overall sector, influencing also access to credit for small-sized enterprises.

Another significant part of the financing gap arises from discouraged loan applications. These are enterprises refraining from putting forward a loan application, driven by factors such as:

- **Unfavourable financial conditions.** Banks in Croatia charge higher interest rates compared to other EU countries, making the cost of borrowing discouraging also for the firms operating in the agri-food sector.
- **Low expected return on single investments** due to the technological and productivity gap affecting the agri-food sector in Croatia.

3.5. Conclusions

The Croatian agri-food sector is very concentrated. Nearly two thirds (62%) of the sectors' turnover is generated by only 1.3% of the agri-food enterprises. Increased investments are needed by agri-food enterprises, especially for small- and medium-sized operations to address regulatory compliance and improve the competitive position, in order to benefit from unrestricted access to high value domestic and EU markets.

Investment levels in the agri-food sector decreased by almost 30% between 2011 and 2016 but recovered in 2017 and 2018 to reach just above 85% of their 2011 levels. Investments in the Croatian agri-food sector are driven mainly by capacity expansion purposes and the renewal of obsolete equipment. Additionally, a significant share of the lending is used to maintain the required working capital working capital levels.

Lending to the Croatian agri-food sector has been decreasing in the period 2011-2018. The total volume of outstanding loans to the sector dropped by 30% during that period and stood at EUR 582.3 million in 2018. The contraction was exceptional in 2018, with EUR 91 million less outstanding loans than the 2017 balance of EUR 673.3 million.

In 2018, a financing gap in the Croatian agri-food sector is estimated at EUR 116 million. It stems from a high lending risk perception from banks, unfavourable lending conditions in terms of cost and collateral requirements and uncertain expected returns on investments in comparison to the cost of capital, given the limited economic margins and the volatility of sales prices. The risks also originate from insufficient capacity for business planning and maximising the resource use of the companies themselves.

Beyond the grant support within the RDP for the agri-food sector, the food and beverage companies can benefit from three operational EAFRD financial instruments. In addition, they ca access other financial instruments based on national financing or other ESI funds, although the exact impact of these additional instruments on the sector could not be assessed due to the unavailability of sector-specific data on their performance indicators.

With more than half of the Croatian agri-food enterprises seeing an increased need for finance within the next two-three years, several **recommendations** for public interventions could be made:

- As already observed for the agriculture sector, Croatia has implemented a diverse set EAFRD financial instruments that seem to adequately address the main market constraints identified in this report. The continuity of all the instruments should be ensured for the 2021-2027 programming period, subject to an appropriate 'health check' of their performance, capital adequacy and achieved targets after a few years of operation. In this context, the following observations can be made:
    - The micro and small-loan instrument seems to be a useful tool to promote financial inclusion of small-sized enterprises. These enterprises currently face significant obstacles in accessing finance or are self-excluded due to lack of knowledge and familiarity with the banking system. There has been a swift and high take up of the instrument, which appears to confirm that there was substantial previously unmet investment need among small-sized enterprises.
    - The guarantee instrument for SMEs is a useful tool to address the lack of collateral of small-sized enterprises and new entrants, which represents one of the main constraints identified in the analysis.
    - The risk-sharing loan instrument can potentially be very effective in facilitating access to finance for larger projects, as it combines risk coverage with reduced interest rates, which are relatively high in Croatia.
- In the future, the opportunities offered by the new legal framework (e.g. easier combination of financial instruments and grant support and interest rate subsidies), might allow for the development of interesting tools that can improve the overall effectiveness of financial instruments.
- Technical support should be provided to micro and small-sized enterprises, with the goal of strengthening their financial literacy and business planning capacity. This will increase the chances of approval of their applications for finance.

ANNEX

A.1. References

1. Agency for Payments in Agriculture, Fisheries and Rural Development, 2020, Direct Support to Farmers and Pre-Payment Control 2015-2020.
2. Agri-food survey, 2019.
3. CESE, 2018, Bank Lending Survey, https://www.eib.org/en/publications/cesee-bls-2018-h2 and https://www.hnb.hr/en/statistics/statistical-data/financial-sector/other-monetary-financial-institutions/credit-institutions/the-results-of-the-bank-lending-survey.
4. Croatian Bureau of Statistics database.
5. Croatian Chamber of Economy, Digital database.
6. Croatian National Bank database.
7. Deloitte, 2019, CEE Banking M&A Study 2018.
8. Djuric and Jovanic, 2019, 'Too big to fail'? The Agrokor case and its impact on West Balkan economies, International Insolvency Review.
9. EBRD, 2017, Strategy for Croatia.
10. European Commission, DG AGRI, June 2019, Statistical Factsheet for Croatia, https://ec.europa.eu/info/sites/info/files/food-farming-fisheries/farming/documents/agri-statistical-factsheet-hr_en.pdf.
11. European Investment Bank, March 2018, Potential future use of financial instruments (FIs) in Croatia's agriculture sector in the 2014-2020 programming period, Final Report.
12. Eurostat database.
13. FADN database.
14. FAO, 2019, The FAO Food Price Index.
15. *fi-compass*, 2016, Methodological handbook for implementing an ex-ante assessment of agriculture financial instruments under the EAFRD, https://www.fi-compass.eu/sites/default/files/publications/209775_EAFRD_EXANTE_ASSESSMENT_HANDBOOK_0.pdf.
16. *fi-compass*, 2019, Survey on financial needs and access to finance, Study report, https://www.fi-compass.eu/publication/brochures/survey-financial-needs-and-access-finance-eu-agricultural-enterprises.
17. Martinis and Ljubaj, 2017, Excessive corporate debt in Croatia: micro-assessment and macro-implications, CNB.
18. Ministry of Agriculture of Croatia, database.
19. Ministry of Agriculture of Croatia, 2018, Annual report on situation in agriculture in 2017 – 'Green report'.
20. Ministry of Agriculture of Croatia, 2017, Draft of Strategic Guidelines for Agriculture and Food Processing Industry for the Period 2017-2027.
21. Ministry of Agriculture of Croatia, 2015, Directorate for Rural Development, Rural Development Programme of the Republic of Croatia for the Period 2014-2020, Implementation Report.
22. Ministry of Agriculture of Croatia, 2016, Directorate for Rural Development, Rural Development Programme of the Republic of Croatia for the Period 2014-2020, Implementation Report.
23. Ministry of Agriculture of Croatia, 2017, Directorate for Rural Development, Rural Development Programme of the Republic of Croatia for the Period 2014-2020, Implementation Report.
24. Ministry of Agriculture of Croatia, 2017, Final report on the implementation of the IPARD programme 2007-2013 in the Republic of Croatia including annual report for 2016 (with annexes 1, 2, 3, 4a and 4b).
25. Ministry of Agriculture of Croatia, Directorate for Rural Development, Rural Development Programme of the Republic of Croatia for the Period 2014-2020.
26. Ministry of Agriculture of Croatia, Krešimir Ivančić, 2019, EAFRD financial instruments: Croatian Experience Loan and Guarantee Fund in Croatia, Presentation during fi-compass Fifth annual EU conference on EAFRD financial instruments for agriculture and rural development in 2014-2020, 4-5 June,

Romania, available at: https://www.fi-compass.eu/sites/default/files/publications/Kre%C5%A1imir_Ivan%C4%8Di%C4%87_EAFRD%20financial%20instruments.pdf.
27. Ministry of Finance of Croatia, 2017, Annual Report on State Supports.
28. Ministry of Regional Development and EU Funds of Croatia, 2019, Impact assessment of Priority axis 3 Business competitiveness of the Operational program 'Competitiveness and Cohesion' 2014-2020.
29. Republic of Croatia Government, 2019, Proposal of Decision on modification and amendment of the Decision on modification of the conditions of loans approved by the Ministry of Agriculture of Croatia.
30. The Croatian Agency for SMEs, Innovations and Investments (HAMAG BICRO) database.
31. World Bank report, 2019, State of the sector and analysis of public expenditures for agriculture and rural development.
32. World Bank Report, 2019, Sector Diagnostic and Analysis of Public Spending in Agriculture and Rural Development.

A.2. Stakeholders interviewed

Type of Organization	Name of Institution	Address and Website
Government	MASS	Alexandera von Humboldta 4b, 10000 Zagreb https://poljoprivreda.gov.hr/
Government	Croatian Bank for Reconstruction and Development	Strossmayerov trg 9, 10000 Zagreb https://www.hbor.hr/
Government	HAMAG BICRO	Ksaver 208, 10000 Zagreb https://hamagbicro.hr/
Professional Organisation	Faculty of Agriculture/Agricultural Chamber	Svetošimunska cesta 25, 10000 Zagreb http://www.agr.unizg.hr/hr
Professional Organisation	Croatian Chamber of Economy	Rooseveltov trg 2, 10000 Zagreb https://www.hgk.hr/
Professional Organisation	Croatian Association of Young Farmers	Alagovićeva 34/a, 10000 Zagreb http://www.hump.hr/
Professional Organisation	ERSTE Bank	Jadranski Trg 3/a, 51000 Rijeka https://www.erstebank.hr/
Professional Organisation	Privredna bank	Radnička cesta 42, 10000, Zagreb https://www.pbz.hr/
Professional Organisation	Zagrebačka bank	Savska cesta 60, 10000 Zagreb https://www.zaba.hr/home/
Company	Podravka d.d.	Ante Starčevića 32, 48000 Koprivnica https://www.podravka.hr/
Company	Patent Co.	Ivana Šibla 11, 10000 Zagreb http://www.patent-co.com/
Company	Žito d.o.o.	Đakovština 3, 31000 Osijek https://www.zito.hr/hr

A.3. Methodology for financing gap calculation

This section of the report clarifies the terminology and proposes a method for estimating the financial gap formula for Target Group I and Target Group II. This version of the formula aligns with the *fi-compass* Factsheet on the financial gap in agriculture and the 2013 EC working paper on the Ex-ante assessment of the EU SME initiative. It is based on the data from the *fi-compass* survey of 7 600 farms carried out in mid-2018.

Financing gap definition. We define the financing gap to be the *unmet credit demand due to constrained or missing access to financing*. This definition includes market failures as well as other types of constraints.

Operationalisation of the financing gap formula. Each component of the formula can be obtained in the survey data under the following **assumptions**:

- ***Rejected credit applications*** *include applications that are rejected by banks (or other credit organisations) and offered from banks but turned down by the farmers/firms.*
- ***The share of $\boldsymbol{Viable}$ firms is measured by*** *the share of total firms that have a non-negative turnover growth[95] or a non-negative turnover and that are not in a situation of cost increase (these two criteria might be used to obtain an upper and lower boundary for the calculations).*
- ***Discouraged application is proxied by the average size*** *(financial value) of loan applications made by firms that applied for a similar type of financial product. This allows for grouping firms which did not apply for fear of rejection with rejected firms (see step 2 and 4 below).*

To calculate the financial gap, we define the following four steps. Each step refers to the latest surveyed year for both the surveys.

Step1: Ratio of viable farms with unmet demand for finance

$\boldsymbol{Rejection\ Rate^{Viable}}$ **:** This refers to the share of viable enterprises whose application was unsuccessful. It is measured by the ratio of enterprises with unsuccessful applications over the total population. It includes rejected applications by the lending institution and offers turned down by the applicant itself.

$$Rejection\ Rate_j^{Viable} = \frac{Number\ of\ Rejected\ Viable\ Firms}{Total\ survey\ population_j}$$

with and $j = Short\ Term\ , Medium\ term, Long\ Term\ Loans, Credit\ lines$.

$Discouraged\ Rate^{\ Viable}$**: It represents the share of viable enterprise** that were self-discouraged because of fear of rejection. It is computed as follows:

$$Discouraged\ Rate_j^{Viable} = \frac{Number\ of Discouraged\ Viable\ Firms}{Total\ survey\ population_j}$$

with and $j = Short\ Term\ , Medium\ term, Long\ Term\ Loans, Credit\ lines$.

95 A turnover that has been stable or growing in the last year.

$Unmet\ demand\ Rate\ ^{Viable}$: The total share of survey respondents with unmet demand for finance is obtained by summing the two rates:

$$Unmet\ demand\ Rate_j^{Viable} = Rejection\ Rate_j + Discouraged\ Rate_j$$

Step 2: Number of farms rejected or discouraged

$\boldsymbol{N.of\ Farms\ in\ unmet\ demand_{ij}^{Viable}}$: In order to get the number of farms constrained in accessing financing, we multiply total share of viable respondents with unmet demand from the survey sample (Step 1) by the total farm population from Eurostat by farm size.

For TGI, this total population is adjusted by removing farms having a Standard Output (SO) below EUR 8 000 EUR 4 000 or EUR 2 000, depending on the Purchasing Power Parity Index (PPI) of the country. The EUR 8 000 EUR 4 000 or EUR 2 000 SO thresholds are used for countries with their 2017 PPI respectively above the 66th percentile, between the 33rd and 66th percentile, or below the 33rd percentile of the PPI index in the EU. We assume equal rates of rejections amongst small, medium and large-sized farms, and disentangle the share of farms with constrained in obtaining credit by financing product.

$$N.of\ Farms\ rejected_{ij}^{Viable} = Eurostat\ Farm\ population_i * Rejection\ Rate_j^{Viable}$$

$$N.of\ Farms\ discouraged_{ij}^{Viable} = Eurostat\ Farm\ population_i * Discouraged\ Rate_j\ ^{Viable}$$

$$N.of\ Farms\ in\ unmet\ demand_{ij}^{Viable} = N.of\ Farms\ rejected_{ij} + \ N.of\ Farms\ discouraged_{ij}$$

for $i = Small, Medium, Large$

and $j = Short\ Term\ , Medium\ term, Long\ Term\ Loans, Credit\ lines.$

Step 3: Standard Loan Application Size

$\boldsymbol{Application\ Size_{ij}}$: For each type of financial product and each firm/farm size category, a standard size of application is constructed. A starting point for Country experts might be the EU wide geometric mean, adjusted at country level with the purchasing power parity index. This value might be further adjusted based on the results of the analysis.

Step 4: Financial gap across farm size and product type

The financing gap is obtained by multiplying the amount of loans (Step 3) by the total number of farms facing constrained access to credit as calculated in Step 2.

Note: when the survey sample size allows, an indicative breakdown of the gap will be provided for young farmers per member state. The breakdown is obtained from the age ratio within rejected loan applications.

$$\boldsymbol{Financial\ Gap_{ij} = \ Application\ Size_{ij}} \times \mathbf{N.\ of\ Farms\ in\ unmet\ demand_{ij}^{\mathit{Viable}}}$$

for $i = Small, Medium, Large$

and $j = Short\ Term\ , Medium\ term, Long\ Term\ Loans, Credit\ lines.$

Finally, the total gap is the sum of figures across size classes (*i*) and products (j).

Private financing (obtained from family or friends) will be included in a separate quantification for countries with a high share of private lending.

The methodology for the gap calculation for TG II is the same as for TG I, but no lower limit on the size of enterprises is applied in step 2 (all enterprises in the population are included in the calculation). For Target Group II, we obtain each component of the financing gap formula from the following questions in the Agri-food survey of Target Group II carried out in mid-2019:

- ***Lending/funding applied to***: For what kind of finance did you apply in 2018 and with what amount?
- ***Lending not applied to***: For what reasons did you not apply for some kind of finance?
- ***Rejected*:** What was the result of your application?
- **Viability**: Has the following company indicator changed in the last year: Turnover?

It has to be noted that the surveys to be used by the Study for the calculations, the *fi-compass* farm survey and the Agri-food survey, are designed to be statistically representative at national level. Therefore, regionalised figures and calculations could be applied with a limited dimension and for only few countries. Information from interviews may complement such regionalised descriptions.

For Croatia, Table 15 and Table 16 report the elements used in the calculation of the financing gap for the agricultural and agri-food sector, respectively.

Table 15: Elements used for the calculation of the financing gap in the agriculture sector in 2017

		Short-term Loans	Medium-term Loans	Long-term Loans	Credit lines/bank overdrafts
Lower bound: farms with a non-negative turnover growth and no cost increase	Share of respondents rejected by creditor or farmer	0.66%	0.57%	0.66%	0.00%
	Share of respondents that have not applied because of possible rejection	3.70%	5.25%	5.62%	4.57%
	Total (sum of rejected an discouraged)	***4.37%***	***5.83%***	***6.29%***	***4.57%***
Upper bound: farms with a non-negative turnover growth	Share of respondents rejected by creditor or farmer	2.10%	1.26%	1.92%	1.23%
	Share of respondents that have not applied because of possible rejection	6.05%	8.54%	8.91%	7.38%
	Total (sum of rejected an discouraged)	***8.15%***	***9.80%***	***10.83%***	***8.61%***
Total unmet demand: all farms	Share of respondents rejected by creditor or farmer	2.10%	1.26%	1.92%	1.81%
	Share of respondents that have not applied because of possible rejection	11.38%	13.41%	13.78%	11.10%
	Total (sum of rejected an discouraged)	***13.48%***	***14.66%***	***15.69%***	***12.91%***
Farms with constrained access to finance, **lower bound**	Small-sized farms	4064	5421	5849	4253
	Medium-sized farms	429	573	618	449
	Large-sized farms	71	94	102	74
Farms with constrained access to finance, **upper bound**	Small-sized farms	7586	9113	10073	8012
	Medium-sized farms	801	963	1064	847
	Large-sized farms	132	159	175	140
Standard loan application size	Small-sized farms	EUR 11 482	EUR 27 852	EUR 76 813	EUR 10 366
	Medium-sized farms	EUR 14 548	EUR 26 473	EUR 83 407	EUR 11 498
	Large-sized farms	EUR 42 906	EUR 67 368	EUR 150 182	EUR 61 238

Source: fi-compass survey.

Table 16: Elements used for the calculation of the financing gap in the agri-food sector in 2018

		Short-term Loans	Medium-term Loans	Long-term Loans	Credit lines/bank overdrafts
Firms with a non-negative turnover growth	Share of respondents rejected by creditor or firmer	0.00%	0.00%	0.00%	0.00%
	Share of respondents that have not applied because of possible rejection	6.81%	6.81%	6.81%	8.20%
	Total (sum of rejected an discouraged)	***6.81%***	***6.81%***	***6.81%***	***8.20%***
Total unmet demand: all firms	Share of respondents rejected by creditor or firmer	0.00%	0.37%	0.00%	0.00%
	Share of respondents that have not applied because of possible rejection	6.81%	13.26%	13.26%	8.20%
	Total (sum of rejected an discouraged)	***6.81%***	***13.26%***	***13.26%***	***8.20%***
Firms with constrained access to finance, lower bound	Small-sized firms	-	-	-	34
	Medium-sized firms	-	-	-	1
	Large-sized firms	-	-	-	0
Firms with constrained access to finance, upper bound	Small-sized firms	211	211	211	254
	Medium-sized firms	7	7	7	9
	Large-sized firms	3	3	3	3
Standard loan application size	Small-sized firms	EUR 89 561	EUR 113 072	EUR 329 976	EUR 121 228
	Medium-sized firms	EUR 1 115 285	EUR 582 822	EUR 1 412 652	EUR 495 149
	Large-sized firms	EUR 4 727 284	EUR 2 663 122	EUR 17 746 861	EUR 11 942 892

Source: Agri-food survey.

A.4. TG I: *fi-compass* survey

The analysis for the agriculture sector in the report relies on the *fi-compass* survey on financial needs of EU agricultural enterprises, conducted from April to June 2018 across 24 EU Member States (EU 24): Austria, Belgium, Bulgaria, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden.

The survey was carried out targeting the completion of 300 questionnaires for each Member State. The target was reached in all countries except Lithuania (for few interviews) and Ireland, where the farmers were less confident in sharing information.

Overall, the survey consists of 7 659 respondents, of which 73% own the agricultural enterprise, 8% are member owners, 8% are owner's relatives, 7% administrative managers, 3% other employees, and 1% human resource managers. Table 17 reports the number of respondents by Member State.

Table 17: *fi-compass* survey sample size per Member State

Country	No. of Respondents	Country	No. of Respondents
Belgium	350	Latvia	315
Bulgaria	351	Lithuania	296
Czech republic	309	Hungary	315
Denmark	302	The Netherlands	301
Germany	376	Austria	320
Estonia	310	Poland	320
Ireland	151	Portugal	349
Greece	350	Romania	350
Spain	354	Slovenia	300
France	350	Slovakia	312
Croatia	300	Finland	327
Italy	351	Sweden	300

Source: fi-compass survey.

Additionally, the sample covers 198 (94.7%) of the 209 NUTS2 regions in the 24 Member States. These regions have nearly 99% of EU 24 farms.

Almost 85% of questions were completely answered and 98% of all questions were answered on average. The most problematic questions were on confidential, financial aspects. Only 50% of interviewees replied concerning their turnover, 67% gave the specific amount of their loan and 56% the exact interest rate of their loan.

For additional information, please refer to link.

A.5. TG II: Agri-food survey

To mirror the *fi-compass* survey on the needs of EU agricultural enterprises, a computer assisted telephone interviewing (CATI) survey was conducted for the agri-food processing sector in mid-2019.

For the purpose of this survey, a commercial global register was used in each country. A commercial global register provides data in a single source, harmonises the information collected on businesses (e.g. Industrial classification, employee size, turnover, contact names etc.) and offers software platforms that allow users to easily access a sample of businesses for commercial purposes.

The survey was conducted targeting the completion of a minimum of 45 questionnaire for each Member State. The minimum sample size obtained varied per country mirroring the differences in the size of the sector. Table 18 reports the sample size per country.

Table 18: Agri-food survey sample size per Member State

Country	No. of Respondents	Country	No. of Respondents
Belgium	100	Latvia	50
Bulgaria	100	Lithuania	50
Czech Republic	66	Hungary	46
Denmark	50	The Netherlands	80
Germany	186	Austria	50
Estonia	50	Poland	130
Ireland	50	Portugal	100
Greece	70	Romania	150
Spain	197	Slovenia	50
France	180	Slovakia	50
Croatia	45	Finland	50
Italy	200	Sweden	48

Source: Agri-food survey.

The survey consists of 2 148 respondents, of which 85% were enterprises operating in the manufacturing food sector, and 15% in the manufacturing of beverages.

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