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

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DISCLAIMER

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

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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.
AJAP	Young Farmers Association
AWU	Annual Work Unit
BPI	Banco Português de Investimento
CA	Caixa de Crédito Agrícola
CAP	Common Agricultural Policy
CEB	*Council of Europe Development Bank*
CGD	*Caixa Geral de Depósitos*
EAA	Economic Accounts for Agriculture
EAFRD	European Agricultural Fund for Rural Development
EBITDA	Earnings Before Interest, Taxes, Depreciation and Amortization
EC	European Commission
EIB	European Investment Bank
EIF	European Investment Fund
ERDF	European Rural Development Fund
EU	European Union
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.
FADN	Farm Accountancy Data Network
FDCGM	Counter-guarantee from a public fund
fi-compass survey[1]	Survey on financial needs and access to finance of 7 600 EU agricultural enterprises carried out by *fi-compass* in the period April - June 2018 and based on respondent's financial data from 2017.

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.

FIPA	*Federação das Indústria*s Portuguesas Agro-Alimentares
GFCF	Gross Fixed Capital Formation
GVA	Gross Value Added
ha	Hectare
IAPMEI	Institute to Support Small and Medium-sized enterprises and Innovation
IFAP	Instituto de Financiamento da Agricultura e Pescas
MGS	Mutual Guarantee Societies
NPL	Non-Performing Loans
PDO	Protected Designation of Origin
PGI	Protected Geographical Indication
PPI	Purchasing Power Parity Index
RDP	Rural Development Programme (As there are 3 programmes in Portugal - Mainland, Azores and Madeira - distinction is made between them whenever necessary)
SME	Small and medium-sized enterprise
SPGM	Portuguese Society of Mutual Guarantees
SO	Standard Output
UAA	Utilised Agricultural Area

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EXECUTIVE SUMMARY

This report gives an insight into the agriculture and agri-food financing in Portugal 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 Portugal

The agriculture sector in Portugal shows a positive attitude towards investments. Between 2008-2018, the overall level of investment increased by 31%. The total investment volume was over EUR 1 billion in 2018.

The analysis highlights four main investment drivers of the Portuguese agriculture sector:

(i) Expansion of production to capture new market shares, made possible by increased access to water through public irrigation investments;
(ii) Investments in order to adapt products to new markets;
(iii) Investments in improved competitiveness and cost efficiency of production; and
(iv) Investments in land, particularly land associated with increased water availability.

Farmers' access to finance from financial institutions is facilitated by support received under the Common Agricultural Policy (CAP). Direct payments strengthen the cash flow of Portuguese farmers, allowing them to undertake investments and create the financial headroom that enables access to financing from banks, for which cash flow is an important component of their credit assessments. In addition, investment supporting grants from the European Agriculture Fund for Rural Development (EAFRD) provide farmers with the possibility to make investments in their businesses that they would otherwise be unable to make. For many farmers, obtaining financing under the three Rural Development Programmes (RDPs; Mainland, Azores, and Madeira) is of material help for also obtaining a bank loan. According to the EAFRD managing authority of Mainland Portugal, an insufficient RDP budget means that they cannot support all eligible applications for investment support. At the end of 2019, the demand for EAFRD on-farm investment grants was more than twice the available budgets, especially under the Mainland RDP. Consequently, projects with a total financing value of EUR 2.2 billion could not be realised in agriculture.

Commercial banks are active in the supply of finance to agriculture, with three banks offering loans specifically targeted to the agriculture sector. Three types of bank loan are available to the agriculture sector in Portugal: medium and long-term investment loans, short-term working capital loans, and loans linked to the direct payment support, which advance the support level to facilitate farmers' cash flow. The available loan types cover different purposes, such as maintenance and repair, working capital, on-farm investments, and land acquisition.

According to banks interviewed for this study, young farmers receive approximately 5% of overall bank finance provided to the sector.

The mutual credit guarantee fund Agrogarante manages guarantees to reduce the risk of loans to the agriculture sector. Further, a capped portfolio guarantee instrument funded by EAFRD funded is being implemented, with the first products offered by four financial intermediaries available on the market from March 2020. Loan products linked to this guarantee instrument will be available to agriculture producers (with a focus on young farmers), agriculture cooperatives, producer organisations, and small and medium-sized enterprises (SMEs) involved in processing and marketing of agricultural products.

Despite the wide offer of products, the study has identified a financing gap of between EUR 95 million and EUR 383 million for the Portuguese agriculture sector. Approximately three-quarters of the funding gap relates to small-sized farms[2], among which young farmers constitute an important part. In terms of financial products, almost two-thirds of the gap relates to long-term financing[3].

The principle reasons for viable farms to be unable to access finance are:

- the high investment risk associated with the agriculture sector;
- a lack of adequate collateral;
- a lack of adequate credit history;
- a low level of financial literacy among agricultural producers; and,
- the reduced risk-taking capacity of Portuguese banks after the financial crisis.

Banks perceive agriculture as a rather volatile sector of the economy. This perception, combined with criteria for the assessment of operations that are the same as those used for SMEs from other economic sectors, can limit farmers' access to finance. Often, banks do not consider young farmers, new entrants and small-sized farms as interesting clients, while banks in Portugal do not typically provide credit to business start-ups in the agriculture sector.

RECOMMENDATIONS

Based on the findings of this report, the following recommendations could be considered to further improve the access to finance for the agriculture sector:

- Implementation of the EAFRD guarantee fund, which has just started, can be expected to contribute to the reduction of the financing gap for SMEs. The fund should reduce the risk for credit institutions lending for agriculture-related activities and, thereby, improve financing conditions for SMEs in the agriculture and agri-food sectors. At a later stage, the operation of the guarantee instrument should be evaluated in terms of addressing the needs of young farmers and small-sized enterprises.
- A pilot risk-sharing loan instrument to provide targeted support to young farmers and small-sized enterprises could be considered. As banks tend to apply higher interest rates to these segments, such an instrument should combine risk coverage for banks with the possibility for reduced interest rates and longer loan maturities.
- Opportunities offered by the new legal framework – such as greater ease of combining grants and financial instruments, and the possibility to finance land purchases of young farmers – should be investigated with the aim of increasing the impact of future interventions affecting the availability and supply of financial instruments.
- The sector could benefit from additional synergies with the activity of Agrogarante. Making the guarantees provided by Agrogarante more attractive to farmers could be achieved by reducing the red tape associated with the loan applications, as well as reducing the length of application processes
- The introduction of financial instruments should be accompanied by the provision of technical support to small-sized farms and young farmers to increase their awareness and understanding of available financial products and to improve their capacity to prepare loan applications.

Financing gap for the agri-food sector in Portugal

Since 2012, gross investment in the Portuguese agri-food sector has been increasing. In 2017**,** the investment level reached EUR 2.1 billion. The highest investment levels were registered in the bakery and farinaceous sub-sectors,

2 The *fi-compass* survey divided farms in three size categories: small (<20 hectares), medium-sized (20-100 hectares), large (>100 hectares).

3 The *fi-compass* survey defined short-term loans: <18 months, medium-term loans: 18 months – 5 years, long-term loans: >5 years maturity.

followed by the dairy sub-sector. According to Federação das Indústrias Portuguesas Agro-Alimentares (FIPA), companies must invest regularly if they are to remain in business in the highly competitive Portugese agri-food sector. Thus, the modernisation of factories, as well as investments in marketing strategies, market research and equipment, are essential for all companies. The analysis highlights some of the main **drivers for the demand for finance by the Portuguese agri-food sector:**

(i) modernisation in order to improve cost efficiency and expand production;
(ii) internationalisation;
(iii) investments in training and the development of new products; and
(iv) investments in working capital.

Although Portuguese agri-food enterprises have high equity ratios, there is still a sizeable demand for finance. Support from the EAFRD for processing, marketing, and development of agricultural products plays a vital role in stimulating investments undertaken by the agri-food sector, which is demonstrated by the high application levels for EAFRD support.

Since 2014, the total amount of credit provided to the agri-food sector has been stable, at approximately EUR 3 billion. Based on the agri-food survey, in 2018 only 28% of Portuguese agri-food enterprises applied for finance, compared to an average of 46% for the EU 24. The report also reveals that fewer Portuguese companies report difficulties in meeting their financing needs than their counterparts in the rest of the EU. Rather, in 2018, the main challenges reported by Portuguese agri-food companies were access to qualified labour (33% of companies) and high production costs (31% of companies).

The financial landscape for the agri-food sector is comparable to that of the agriculture sector, and the main actors include the same commercial banks. Four mutual guarantee societies play an important role providing credit guarantees to the sector. Further, as of March 2020, the EAFRD capped portfolio guarantee instrument (referred to above for the agriculture sector) is also available to agri-food sector in Mainland Portugal[4].

Based on the analysis, the financing gap for the agri-food sector is estimated to be EUR 734 million. Within this estimate, 83% (EUR 612 million) is attributed to smaller enterprises (<50 employees). In terms of financial products, almost half of the financing gap relates to long-term loans with a maturity of more than five years.

The main drivers of the gap include:

- a limited risk-taking capacity by Portuguese banks after the financial crisis 2009-2012;
- a lack of adequate collateral;
- a lack of credit history and personal relations with the banks of agri-food companies; and
- a relatively low level of financial literacy amongst micro businesses and small-sized enterprises.

Usually company assets are used as guarantees, rather than personal collateral. According to agri-food sector representatives, it is not uncommon for the bank to request the company itself as the guarantee for a loan. SMEs and micro-enterprises in the agri-food sector are particularly challenged when it comes to meeting banks' collateral requirements. In addition, loan conditions are less favourable for micro-businesses and SMEs, particularly for start-ups, who are associated with higher risks. Young entrepreneurs and small-sized companies are also subject to more stringent assessment criteria, causing particularly complicated access to finance for these segments. Furthermore, according to the Agri-food survey, 14% of the agri-food companies in Portugal did not apply for bank loans, and 15% did not apply for credit lines, because of their fear of rejection. These values are almost twice as high as the EU 24 average. Another important reason for Portuguese agri-food companies to not apply for finance is that they find the application processes lengthier and more complicated than their European counterparts.

4 Press statements: https://www.portugal.gov.pt/pt/gc22/comunicacao/noticia?i=linha-de-credito-superior-a-300-milhoes-para-impulsionar-agricultura.

RECOMMENDATIONS

Based on the findings of this report, the following recommendations could be considered to further improve access to finance for the agri-food sector:

- The EAFRD guarantee fund currently being implemented could reduce the financing gap for SMEs in the agri-food sector. At a later stage, an evaluation should be made of the capital adequacy of the fund and of its concrete ability to address the needs of start-ups and small-sized enterprises.
- A pilot risk-sharing loan instrument to provide targeted support to start-ups, micro and small-sized enterprises could be considered. As banks tend to apply higher interest rates to these segments, such an instrument should combine risk coverage for banks with the possibility for reduced interest rates.
- The opportunities offered by the new legal framework, particularly in terms of easier combinations of financial instruments and grants, should be explored with the aim of increasing the impact of future interventions.
- Considering the lack of finance for start-ups, which is linked to their lack of own equity, the potential of introducing a targeted equity instrument should be investigated.
- The introduction of financial instruments should be accompanied by the provision of technical support to start-ups and small-sized enterprises to increase their awareness and understanding of available financial products and to improve their capacity to prepare loan applications.

1. INTRODUCTION

Objective

This document 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 Sweden. 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 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 report. The analysis is further elaborated by desk research and enriched with secondary data 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 the financing for the agriculture sector; and Part II discusses 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 Portuguese agriculture sector
• In 2018, Gross Value Added for the entire primary sector, including forestry and fishery, amounted to EUR 2.7 billion, representing 2.3% of total GVA in Portugal. • In the period 2013 - 2018, Portugal's GVA in agriculture increased by almost 4% per year. • In 2018, Portuguese agricultural output was approximately EUR 7.1 billion, of which crop production accounts for 60% and the animal output contributes to 38% of total production value. • 38% of Portuguese farms specialise in fruits and vegetables, followed by 10% on wine, 9.6% on dairy, 7.8% on cattle, and 7.1% on the pig and poultry sub-sectors. • Out of 259 000 farms, more than 90% are below 20 hectares (ha), and 71.5% below 5 ha5. In 2016, the average farm size was 14 ha. • The agriculture sector represents 4% of the total employment in the country. • Generational renewal is a challenge for the agriculture sector, since 52% of the farming population is beyond retirement age (65 years old), and less than 8% are considered as young farmers (under 40 years of age)[6]. • Since 2010, agriculture incomes have increased by over 30%, building on the decline of the annual working unit (AWU) by over 20%.

Portugal is predominantly a rural economy. Agriculture has a large spatial footprint, capitalising 79% of the territory and utilising over 3.6 million ha. The rural part of the country also has a strong social footprint with 31.1% of the total population and providing livelihood to 259 000 farms[7]. The share of total employment engaged in the Portuguese agriculture sector is 4%[8]. In 2016, the labour force in the primary sector was 313 830 annual working unit (AWU)[9].

The Portuguese agriculture sector is heavily dominated by small-sized family farms, and the farming population is ageing[10]. Portugal is characterised by a dual farm structure stemming from both historical and climatic reasons. Small-sized family farms are mainly concentrated in the North of the country, whereas large-sized farms relying on wage labour dominates the South regions[11]. Approximately 8% of the farms employ more than ten people on a permanent basis. Between 2013 and 2016, the number of farms declined by approximately 2%, but the utilised agricultural area (UAA) remained almost unchanged. In 2016, 71.5% of the farms managed less than 5 ha[12]. Over 90%

5 European Commission, DG AGRI, June 2019, Statistical Factsheet for Portugal.
6 ibid.
7 ibid.
8 Eurostat, 2019, Economic Accounts for Agriculture.
9 European Commission, DG AGRI, June 2019, Statistical Factsheet for Portugal.
10 Defined as farms with an UAA less than 5 ha.
11 Dinis, Isabel, 2019, The Concept of Family Farming in the Portuguese Political Discourse; dos Santos, Maria José; Carvalho, Luísa, 2014, Semi subsistence farms in Portugal: Key Concepts.
12 European Commission, DG AGRI, June 2019, Statistical Factsheet for Portugal.

of the farms were below 20 ha.[13] Only 180 000 farms had sufficient size to obtain CAP support[14], out of which between 5 000 and 15 000 farms are considered professional farms, invoicing over EUR 100 000 per year[15]. According to the main farm organisation, Confederação dos Agricultores de Portugal, in order to live off the farm income, a farm size of between 30 to 60 ha is usually required.

In 2016, the average farm size was 14 ha[16]. Almost 52% of the UAA represents High Nature Value farming, also known as low-intensity farming systems valuable for wildlife and the natural environment - this is mostly extensive pasture lands. The Rural Development Programme 2014-2020 (RDP) has reported that 84% of the UAA is considered low intensity farming with almost 58% dedicated to grazing[17]. Less than 8% of the agricultural holdings in the country are owned by farmers who are younger than 40 years. 52% of the farming population are over the retirement age of 65, and approximately 10% are over the age of 80.

In 2018, the agriculture sector generated EUR 7.1 billion of agricultural output[18]. Between 2019 and 2020, there has not been a significant change in the value of agricultural output, showing a fluctuation in value between EUR 6 billion and EUR 8 billion. This was despite the increase in agricultural income experienced in the period 2013 and 2018, whereby the income in the sector was approximately 30% higher than the 2010 level (Figure 1).

13 The farm structure of Portugal is important in the analysis of the *fi-compass* survey results. The analysis of the survey divided farms into small-sized farms (below 20 hectares), medium-sized farms (20-100 hectares), and large-sized farms (>100 hectares). Hence, in the case of Portugal, 90% of the farms fall in the category of small-sized farms as defined on a European level. However, in the understanding of the national context, a small-sized farm is considered to be smaller than 5 hectares rather than below 20 hectares.

14 In Portugal, CAP support is not granted where the claimed eligible area is less than 0.5 ha. In the case of farmers implementing animal related investments with less than the threshold area, support is not granted where for payments under EUR 100. Source: https://ec.europa.eu/info/sites/info/files/food-farming-fisheries/key_policies/documents/direct-payments-eligibility-conditions_en.pdf.

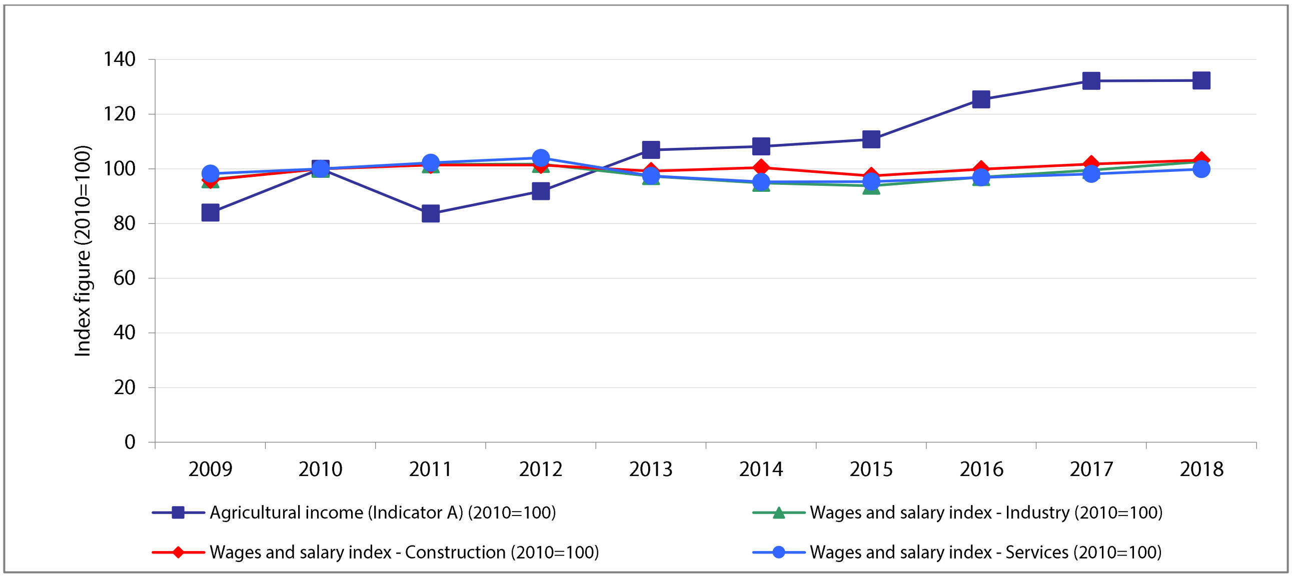
15 Interview farm organisation.

16 Eurostat, 2019, Economic Accounts for Agriculture.

17 European Commission, DG AGRI, June 2019, Statistical Factsheet for Portugal.

18 European Commission, DG AGRI, June 2019, Statistical Factsheet for Portugal.

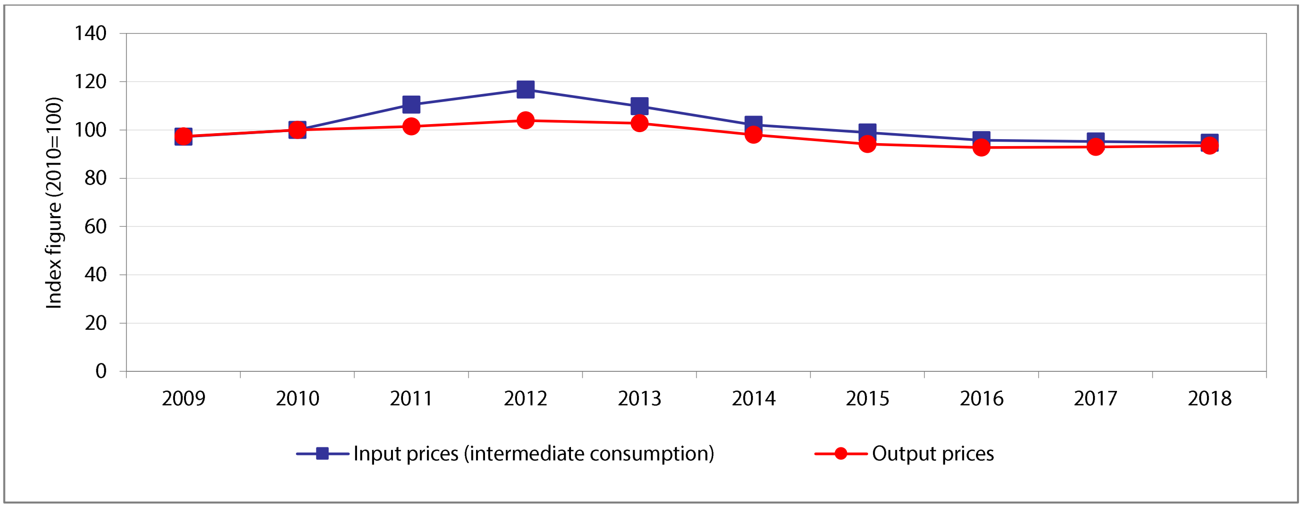
Figure 1: Evolution of agricultural income compared to wages and salaries in other sectors of the economy, 2009-2018



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

It is notable that output and input prices of the agriculture sector have been evolving in the same direction - showing a very close pattern over the same period, with input prices being only slightly above output prices between 2011 and 2013 (Figure 2).

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



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

In 2018, Gross Value Added (GVA) at basic prices was estimated to be 2.3%, at EUR 2.7 billion, of the total GVA in the country[19], for the entire primary sector including forestry and fishing. From 2013 to 2018, Portugal's GVA in agriculture increased by almost 4% per year. The average income of farms increased by 5.3% and by 0.2% in 2017 and

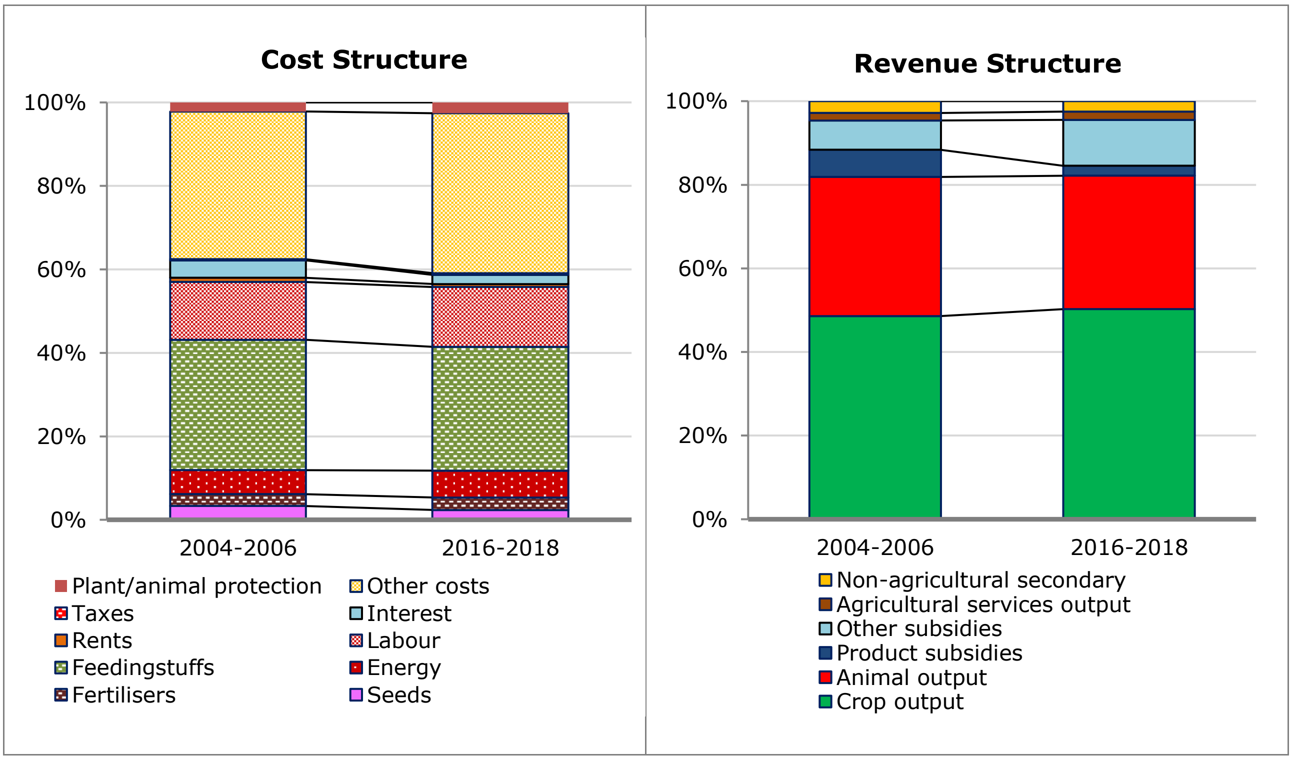
19 European Commission, DG AGRI, June 2019, Statistical Factsheet for Portugal.

2018, respectively[20]. The trade balance is negative, with imports amounting to approximately EUR 8.5 billion in 2018, whereas exports amounted to EUR 5.5 billion.

Portugal has a diverse agriculture production arising from varying soil and climate conditions across the country. Both continental production such as dairy, beef, and cereals, and Mediterranean production take place in the country. Crop output accounted for 59.5% of total production value in the sector (relating predominantly to permanent crops), whilst animal output represented 38%[21]. With regards to crop production, almost 18% of the farms are involved in the production of vegetables and horticulture, 20% in the production of fruits, and 10% in the production of wine. With regards to animal production, the main sub-sectors in relation to total farm population are milk at 9.6%, cattle at 7.8%, pigs at 7.1% and poultry at 7.1%[22].

Between 2004 and 2018, the cost and the revenue structure of the sector has remained almost unchanged. Between 2004 and 2006, animal feed was one of the main cost categories. In the period 2016-2018, the share of costs attributable to this category decreased slightly. Interest costs almost halved over the same time span, due to the low interest policy in the eurozone (Figure 3). Crop output represents the main source of revenue, accounting for almost 50% of the revenue structure of the sector. The impact of the CAP reform is also mirrored in the revenue structure, as the product coupled support has decreased, whilst the overall share of subsidies remained the same.

Figure 3: Agricultural income – cost and revenue structures in Portugal, 2004-2018



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

Producer organisations are common, but their market power is often limited. Portugal relies more on producer organisations than on cooperatives in order to group producers. There are 20 producer organisations in the North region, focusing on wine, meat and fruits production. There are twelve such organisations in the Centre, where there are various products being handled by the producer organisations, such as milk, fruits, vegetable, beekeeping

20 ibid.

21 ibid.

22 ibid.

products and cereals. The largest region is Lisboa and Vale do Tejo, with 47 producer organisations, focused on fruits and vegetables. The Alentejo has 33 producer organisations producing mostly olive oil, cereals and wine. Algarve has two organisations focusing on fruits and vegetables and the Açores has five producer organisations focusing on fruits and vegetables. Cooperatives are most prominent for the dairy sub-sector, followed by olive and wine. Almost 100% of the dairy producers belong to an agricultural cooperative, and almost 50% of the olive and wine producers[23].

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

23 Interview with farmer's representative, 2020.

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 elaborate the main reasons for farm enterprises to request financing and identify the agriculture sub-sectors displaying 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 analysis of the demand for agriculture finance is based on the findings from the *fi-compass* survey of 349 Portuguese 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 Portuguese agriculture sector

- In 2018, the Gross Fixed Capital Formation (GFCF)[24] in the Portuguese agriculture sector was approximately EUR 1 billion, representing more than 30% of the GVA.
- Between 2008 and 2018, the overall level of investment in the Portuguese primary sector increased by 31%.
- In 2017, the main drivers of demand for finance in the sector included: (i) expansion of production to capture new market shares, made possible by increased access to water through public irrigation investments; (ii) investments in order to adapt products to new markets; (iii) investments in improved competitiveness and cost efficiency of the production; (iv) investments in land, particularly associated with increased water availability.
- In 2017, high production costs and low selling prices represented the main challenges for 63% and 44% of the farms, respectively. Access to market channels was an important challenge to 27% of the farmers surveyed.
- The share of farmers experiencing difficulties in accessing finance was more than twice as high for Portugal as for the EU 24.
- In the period 2015-2019, there was a high demand for EAFRD investment support, as well as for start-up support for young farmers.
- In 2017, 35% of all farmers applied for finance. Credit lines/bank overdrafts and medium-term bank loans were the most demanded financing products.
- According to the *fi-compass* survey, 44% of Portuguese farmers applied for bank loans for investment in new machinery, equipment or facilities, 40% applied for working capital and 39% applied for loans to finance investment on land.
- The unmet demand for finance in the agriculture sector was estimated at EUR 590.5 million.
- Data from banks suggest that the loan rejection rate in the first six months of 2019 was around 4%.
- The main reasons for banks to reject farmers' loan applications include: (i) high investment risk; (ii) lack of credit history; and (iii) lack of adequate collateral. Others are (iv) the high variation of profit margins, (v) non-compliance with debt ratio, (vi) the lack of a well-established relationship between farmers and banks, and (vii) the availability of accountancy data to conduct the creditworthiness assessment.
- In total, 6% of the farmers who did not apply for bank finance did not do so due to the fear of being rejected.
- According to the survey data, the demand for financing in the agriculture sector is expected to increase in the near future.

24 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. An increase of the GFCF is a measure of business confidence, representing a belief that investments will be profitable in the future. In times of economic uncertainty or recession, business investment in fixed assets will typically be reduced, since it ties up additional capital for a longer interval of time with a risk that it will not be profitable.

2.2.1. Drivers of total demand for finance

Between 2009 and 2018, Gross Fixed Capital Formation (GFCF) in the sector experienced a positive trend, increasing by 31%. In 2018, the GFCF in agriculture was approximately EUR 1 billion, representing more than 30% of the GVA. Investments in buildings registered the highest increase of 96%, followed by investments in animals with a 76% increase over the same period (Table 1). In 2018, GFCF in non-agricultural products such as machinery, equipment and buildings accounted for 58% of the overall level of investment in the sector[25].

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

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Agricultural Products	**369.5**	**369.3**	**382.0**	**372.2**	**366.2**	**388.7**	**423.7**	**442.0**	**456.3**	**434.4**
Animals	74.1	86.6	105.7	115.0	113.8	138.1	167.1	161.3	169.3	130.7
Plantations	160.7	175.1	146.4	131.0	138.3	135.3	139.4	148.0	133.8	133.8
Non-Agricultural Products	**413.9**	**468.1**	**451.6**	**418.0**	**444.7**	**485.4**	**544.6**	**502.5**	**586.5**	**588.6**
Materials	326.6	373.4	358.1	293.3	316.6	350.0	404.4	379.7	419.8	419.8
Buildings	77.2	83.8	84.9	109.0	113.6	121.5	127.7	109.6	149.6	151.5
Other	10.1	10.9	8.6	15.7	14.5	13.9	12.5	13.3	17.2	17.2
Total GFCF	**783.4**	**837.4**	**833.6**	**790.2**	**810.9**	**874.2**	**968.3**	**944.5**	**1 042.8**	**1 023**

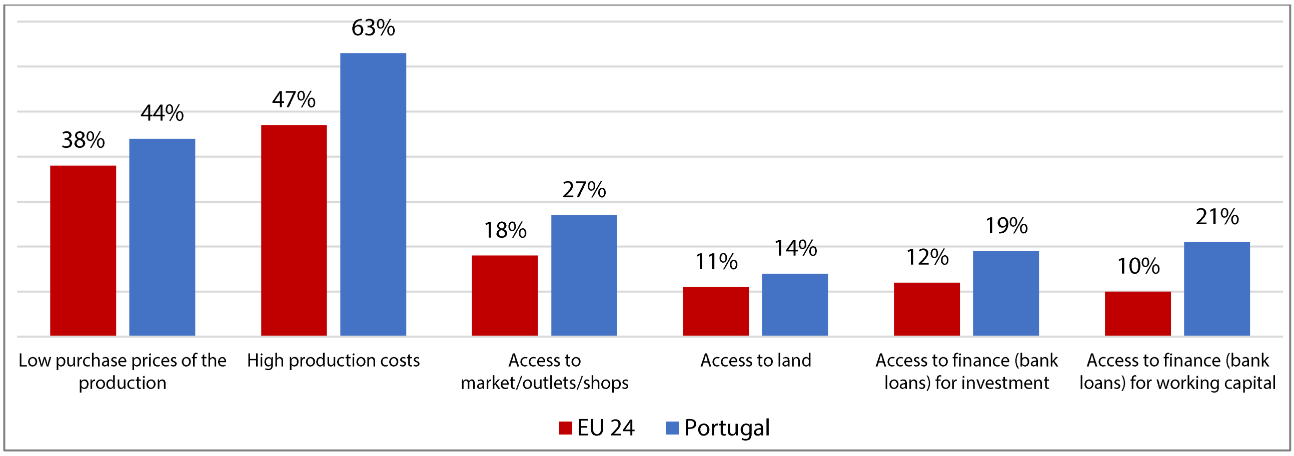
Source: Eurostat - Economic Accounts for Agriculture, 2019.

Access to finance is considered problematic by the Portuguese farmers. According to the *fi-compass* survey, in 2017, 21% of the farmers considered access to working capital finance a problem, while 19% identified access to investment loans (Figure 4). This is significantly higher than for other EU 24 countries.

Furthermore, production costs and sales prices represented the main challenges for the Portuguese primary sector. According to the *fi-compass* survey, in 2017 63% of Portuguese farms considered high production costs to be an issue, and 44% considered low selling prices problematic. Interviews with farmers' organisations suggested that Portuguese farmers face also significant public utilities costs, among which are the cost of gas and water, as Portugal's public utilities are amongst the most expensive in Europe (Figure 4).

25 Eurostat, 2019, Economic Accounts for Agriculture,.

Figure 4: Difficulties experienced by farmers in 2017



Source: fi-compass survey.

Small-sized farms in Portugal face challenges in improving their competitiveness and commercialising their products. According to the *fi-compass* survey, 27% of the agricultural holdings in Portugal had difficulties in accessing the market (Figure 4). As indicated in section 2.1, the Portuguese agriculture sector mainly consists of small-sized family farms and is somewhat "shorthanded" in its ability to reach the market directly. As an outcome, for some sub-sectors, such as dairy, olive and wine producers, many small-sized farms sell their entire production to the agricultural cooperative with which they are affiliated. Being part of such large structure allows them to secure a reasonable income and at the same time the cooperatives have a higher market power, and can reach the retail chains and/or reach out internationally. However, for other sectors cooperatives are less common, whereas there are more producers' associations[26].

Short supply chains are an option for small-scale farms in Portugal to gain direct access to the market, mostly within their location's proximity. Generally, in mainland Portugal, the more farmers resort to their proximity markets the further they are from the sea. In the Algarve and Alentejo regions (in the South), the land structure and infrastructure is more favourable and allows for better access to market channels further away from the farm. Farmers on the Azores and Madeira are, however, faced with high transportation costs. As these islands are far from mainland Europe, and so the majority of the marketing opportunities, the famers struggle to meet the suppliers' needs and sustain themselves in terms of quantity and quality of the agricultural production.

The Portuguese Government has taken steps to increase the access to markets for small-sized farms. In this respect, the Portuguese Government adopted a law in May 2019[27] to define the criteria for the selection and acquisition of food products, and for the promotion of a sustainable consumption of local products in public canteens[28]. The law states that when purchasing products for public consumption, proximity criteria and lower logistical and distribution costs must be taken into account and products that originates at, or adjacent to, the place of consumption and seasonal foods should be given priority. The purchase 'must take into consideration the products with certification', whether produced organically, or as a protected designation of origin (PDO) or protected geographical indication (PGI). Another selection criterion gives priority to products from farms with the status of family farming. With this law, the Portuguese Government aimed at improving the access of farms to market channels, as well as the value-addition of the primary produce.

26 Interview with farmers' representatives, 2020.

27 Law nº 34/2019. The law defines the criteria for the selection and acquisition of food products, promoting the sustainable consumption of local production in canteens and public cafeterias.
https://dre.pt/web/guest/home/-/dre/122373681/details/maximized.

28 Commission Implementing Decision of 21.06.2018.

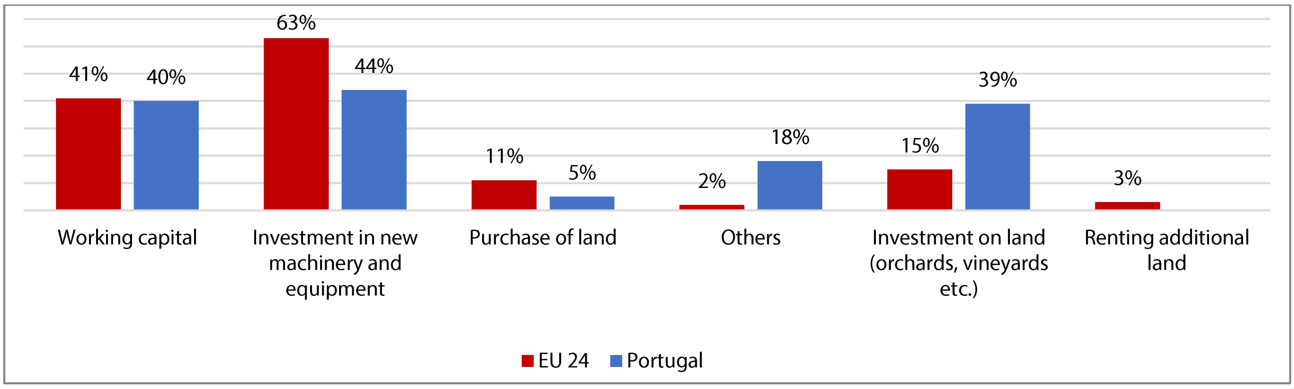
Lack of seasonal and qualified workers is another important challenge for the sector. The population in rural areas is declining and ageing. The combination of these two trends results in many problematic issues, among which is also the reduction of available workforce in the sector. Seasonal jobs are usually unattractive for the local population due to very low wages in comparison with other sectors. Furthermore, available training programmes are not able to address the specific needs of the agriculture sector, resulting in a lack of qualified workforce[29]. This is a problem particularly for the large-sized farms in the South of the country, who rely on a hired workforce. Most of the seasonal labour comes from outside Portugal and even outside the EU. According to bank representatives we interviewed, migration policies and constraints in labour legislation influence investments in the sector and their financing.

The farm structure strongly influences the demand for finance and the investments undertaken. Differences between financial needs amongst small, medium and large-sized farms are significant, as can also be seen for several other European countries. According to agricultural stakeholders interviewed, in Portugal, a minority of the farms register a turnover of more than EUR 100 000 per year. Their investments are related to upgrading technology, machinery, inventory, and facilities. These farms are coping very well with the economic situation and drive forward the economic development of the agriculture sector.

At the same time, the majority of the farms are small-sized, family run and often part-time businesses, where the family obtains a large part of the income from non-agricultural activities. The majority of these farms are managed by farmers that are already beyond the retirement age of 65. Generally, these farms have limited investment behaviour. When they are associated with agricultural cooperatives, it is usually the cooperative undertaking the investment and thereby taking on the external debt, not the individual member.

In 2017, 44% of Portuguese farmers receiving a bank loan invested in new machinery, equipment or facilities, 40% used the loan for working capital and 39% for investment in land (Figure 5). Only 5% of the Portuguese farms borrowed money for the purpose of buying land, which is less than half of the EU 24 average.

Figure 5: Purpose of bank loans in the agriculture sector in 2017



Source: fi-compass survey.

Overall, the investment drivers in the Portuguese agriculture sector include:

- expansion of production to capture new market shares outside Portugal;
- adaptation of products to new markets and to add value to the product;
- improved competitiveness and cost efficiency of the production, including investments in technology and new machinery;
- improvements in irrigation systems;
- structural change in Northern Portugal expressed in farms' increase in size.

29 European Commission, 2015, Young Farmers' needs in Portugal.

Investments for improvement of land productivity is an important driver, spearheaded by the grape, olive, and the fruit and vegetable sub-sectors. According to the *fi-compass* survey, the share of farms investing in improving the quality of land was the highest for the EU 24 (Figure 5). In Portugal, where both continental and Mediterranean agricultural production takes place, the prominent sectors are those of Mediterranean production lines such as grape growing, olives, fruits and vegetables. The investment motivation for the farmers in these sub-sectors is manifold.

Expansion of production and entering new markets are the leading ones**.** For example, the olive oil sub-sector experiences rapidly growing exports. The fruit and vegetable sub-sectors, with expanding fresh, processed, and dried fruits and nuts production, grew both on the domestic and the exports markets. Examples of products that have triggered investments include the increasing production of berries (exported to Northern European countries foremost), and the production of lettuce, which is mainly exported to the UK. Bank interviewees noted that the production of walnuts, pistachios and almonds, and small fruits such as strawberries, raspberries and blueberries, are particularly dynamic.

The above-mentioned sub-sectors also invest in technology, such as precision agriculture, in order to improve the cost efficiency of the production. They also invest to adapt the final products to the market. The large agri-food processors usually own the farming facility, hence they have an incentive to invest in both - farm and processing facilities - in order to keep high and constant quality of the primary products, add value to the final output and also capture market shares[30] (see section 3.2.1 for further information). Furthermore, conversion to organic farming has been a motivation for investments undertaken over the last decade. In 2015, this agricultural sub-sector cultivated 239 900 ha, which is approximately 23% of the total cultivated land area and 25 600 ha more than in 2006[31].

Investments in irrigation systems have been fundamental to the growth of the permanent crop sub-sectors. Interviews with financial institutions and farmers' organisations suggested that the demand for finance in the sector is mainly driven by the positive expectations on the sector's performance, related to the increased access to water in the most productive areas of the country, which is making agriculture in Portugal a more appealing area of investment.

The irrigation policy in Portugal has been one of the most important drivers for agriculture development. Since the 1950s, the Portuguese Government has built many large dams in the country, with the objective of producing electricity (mostly in the Northern mountains) and of irrigating (mostly in the South and Centre). The majority of the 'large' irrigation schemes - those with more than 5 000 ha of land with infrastructure to irrigate - are concentrated in the Alentejo Region, the Tejo valley and the Centre of Portugal.

Over the past few years, and with the benefit of support from the European Regional Development Fund (ERDF), additional major public investments have been undertaken in irrigation systems (see section 2.3.1.2 for more details on the financing of these projects). In the Alentejo Region, a very large investment in hydro-agriculture was undertaken in Alqueva[32]. With this project, Alentejo has become the largest irrigation region in the country. This has impacted activities in vast agricultural areas, as water availability was the main limitation to the expansion of production. The water supply in this area now comes from several reservoirs that are connected to each other and to the Alqueva Reservoir, which is the primary water source. The Alqueva Reservoir has opened a door for the expansion of viable agricultural landscape that was not previously considered irrigable land. The area now has 120 000 ha of irrigated land, amounting to 3.3% of the total UAA in the country, with access to more sun days than the European average, making it very attractive and fertile land. This major undertaking has, in turn, succeeded in attracting considerable investment opportunities in the Alentejo Region in particular for the olive and vine grapes sub-sectors.

On-farm investments in irrigation are supported through the European Agricultural Fund for Rural Development (EAFRD). The major public works linked to agriculture have also contributed to increasing the desire of individual

30 Interviews with farmers' representatives and farmers' organisations, 2019.

31 CaixaBank Research, 2019, 'Portugal's agriculture sector: still dual, but promising': https://www.caixabankresearch.com/en/portugals-agriculture-sector-still-dual-promising.

32 Interview with farmers' representative, 2019.

farmers to invest in their farms. This potential for investment is usually associated to irrigated crops and irrigated land. In order to facilitate the access to the irrigation systems by individual farmers, the Portugal National Irrigation Programme 2020 aims at fostering economic development in rural areas and increasing their resilience to climate change. It contains a subset of investment operations funded under the Portuguese Mainland rural development programme (RDP Mainland). The investment operations target either projects aiming at the rehabilitation or modernisation of existing irrigation system or at their expansion[33]. The Programme mainly targets four regions of continental Portugal, for a total of up to 60 000 ha irrigated areas. Furthermore, it aims at supporting the modernisation of off-farm irrigation infrastructure and equipment, impacting on additional 52 000 ha. It is clear that investments in irrigation systems have been an important driver of the investments undertaken on land and are vital for the growth and development of the thriving sectors[34].

Land purchase triggers demand for finance by the Portuguese agriculture sector. In the South of the country, agricultural plots are larger than in the North, thereby making it attractive for larger investors looking to benefit from their economies of scale. As discussed above, in the South is also where most of the irrigated agriculture land is located, and where there are more sun hours, leading the land to be highly fertile and therefore attracting larger investments. One example of this is the olive oil production in Alentejo. Due to the positive prospects of the sub-sector, the amount of investments being directed to land purchase and plantation of new olive trees has increased significantly over the past few years.[35] However, as increasing parts of the territory are irrigated land, the land becomes more expensive.

Some interviewees from the banks and the agriculture sector noted that constrained access to land is linked to problems in accessing finance. Young farmers face a challenge in buying land in the productive areas, where the prices are too high for them. As a consequence of this, new entrants, including young farmers, end up establishing land leasing contracts with the owners of the land. The difficulties in buying land in turn creates a difficulty for the farmer in obtaining bank credit for other investments, since rental contracts cannot be used as a guarantee that would be acceptable for the banks (examples of young producers of almonds in Alentejo were identified by stakeholders as where problems had arised).

The North is characterised by a fragmented land market. The plots there are in general small, and it is difficult to increase the agricultural production land for individual farmers as land is either not on sale, often for sentimental reasons, or the plots on sale are too small to be economically significant and are not connected to other productive land for sale. According to interviewees with the public administration, government policies have been implemented in order to increase the incomes of small-sized farms by consolidating them into large-sized farmlands through the application of legal limits on fragmentation, as well as regulations on credits for the purchase of land, which can be provided only for mergers. The notion of the consolidation of farmland is backed by the aim to increase production (efficiency) and lower the costs. According to CaixaBank research[36], farms over 50 ha, are on the rise. In 2016, there were 10 395 of these farms in Portugal, 910 more than in 2007. In 2016, whilst they only represented 4% of all farms, they accounted for around 70% of the UAA and had much higher productivity levels than the small-sized farms. In farms over 50 ha, production per worker was EUR 46 800, compared to EUR 31 100 per worker in farms of between 20 and 50 ha.

Investments to improve production facilities in order to maintain a high and constant quality of the products, to add value to final output, and to meet EU and national regulatory requirements and standards, are other drivers of the demand for finance, especially for the pig and poultry sub-sectors. In 2017, pig and poultry farms held the highest amount of liabilities in the agriculture sector. Pig and poultry production units are usually large in terms of economic

33 The Portugal National Irrigation Programme 2020 benefits also from an EIB loan: https://www.eib.org/en/projects/pipelines/all/20170339.

34 Interviews with farmers' representatives and farmers' organisations, 2019.

35 Interviews with farm organisation and farmers' representatives, 2019.

36 CaixaBank Research, 2019, 'Portugal's agriculture sector: still dual, but promising': https://www.caixabankresearch.com/en/portugals-agriculture-sector-still-dual-promising.

size, compared to other production sub-sectors. According to FADN data, granivores (pigs, poultry and others) held 35.6% of the liabilities in the sector, followed by 20.8% for milk and 18.4% for wine (Table 2).

In Portugal, the poultry and pig sectors are continuously undertaking investments, whereas the dairy sector is lagging behind. The pig and poultry producers have a high degree of vertical integration of the production chain, implying that the processors often own the farm facility. Quality labels have an increasingly prominent role for the pork sub-sector, and hence investments are undertaken in order to add value to the final product and adapt products to the market. The pork and poultry producers also undertake investments in order to meet EU regulatory standards, such as adaptation to environmental standards related to manure spread, investments in cages to meet animal welfare requirements, and purchase of land in order to locate production units away from urban areas.[37]

Table 2: Average farm assets and liabilities, by agriculture sub-sectors in Portugal, 2017, EUR

Type of Farming	Total liabilities	Long & medium-term loans	Short-term loans	Total assets	Liabilities to Assets ratio
Specialist COP	1 670	0	1 670	138 796	1.20%
Specialist other field crops	1 590	7	1 584	75 669	2.10%
Specialist horticulture	2 733	855	1 878	95 369	2.87%
Specialist wine	7 297	400	6 897	170 739	4.27%
Specialist orchards - fruits	2 885	269	2 616	85 689	3.37%
Specialist olives	3 677	0	3 677	114 580	3.21%
Permanent crops combined	886	101	785	54 489	1.63%
Specialist milk	8 257	5 477	2 780	169 532	4.87%
Specialist sheep and goats	1 552	45	1 506	82 429	1.88%
Specialist cattle	1 891	722	1 169	106 597	1.77%
Specialist granivores	14 132	8 619	5 514	235 840	5.99%
Mixed crops	2 659	459	2 200	74 239	3.58%
Mixed livestock	-	-	-	-	-
Mixed crops and livestock	1 174	165	1 010	82 479	1.42%
Total (Type of Farming (14))	3 005	762	2 242	101 789	2.95%

Source, FADN, 2018. Note: The Total category represents the average for all types of farming.

Working capital needs. 40% of the farmers in the *fi-compass* survey confirmed that the purpose of the loan they took in 2017 was to finance working capital needs (Figure 5). As already highlighted, the high costs of public utilities in Portugal is one reason for the relatively high demand. Another explanation is the squeezed profit margins of the farms, leaving them with low cash flow to finance their running costs related to feed, seeds, fertilisers, etc. One way in which farmers solve their working capital needs is through input suppliers' credits. Often, a supplier of fertilisers, plant protection products or other inputs, will supply the material without asking for an immediate payment. The payment can then be provided with a (30-60 days) delay, or even after support from the CAP (e.g. direct payments)

37 Interview with farm organisation and farmers' representatives, 2019.

has been paid out, giving the farmers some leeway. In addition, several banks offer specific short-term working capital loans, aimed at financing costs for seeds, feed and fertilisers (see section 2.3.1.2).[38]

Support from the CAP facilitates farmers' access to credit. Portugal's direct payment allocation for 2014-2020 programming period amounts to EUR 3.5 billion. Direct payments provide farmers with a guaranteed level of income, thereby facilitating farmers to undertake investments and increasing their repayment capacity of loans, whereby the bank assessment of the client is more favourable. The direct payments therefore catalyses farmers access to finance. There is a specific loan, offered by banks, directly related to the direct payment. The bank lends money to farmers on the basis of the payment entitlements they hold early in the season, when usually the farmer's investment needs are the greatest. The farmer repays the loan at the end of the year, when they have obtained the direct payment subsidy. A specific protocol exists between the major farm organisation and two of the major banks for this loan scheme.[39]

Investment support from the EAFRD through the RDP is a major driver of investments undertaken in the country. According to farmers' representatives and the Ministry of Agriculture, provision of investment loans by the banks is directly linked to the availability of investment support from the RDP investment-related measures. Representatives from banks interviewed stated that a farmer that has a project approved by national and/or EU programmes considerably boosts the chance of being financed. The reason for this is that the farmer receives confirmation that part of his/her project will be paid back by the EAFRD grant, which banks consider as a guarantee for the re-payment and a form of 'guarantee' for the viability of the project. However, this does not prevent the banks for asking farmers for an additional guarantee to compensate for the remaining part of the loan not covered by the EAFRD grant. The investment support from the RDP has targeted the restructuring of farms, the reconversion of production methods and adaptation to new technologies, including investments in irrigation systems as illustrated above. Investment support is also provided to add value to products and to adapt products to new markets. Additional investments supported include; soil conservation and the efficient use of water; definition of protocols to take advantage of genetic resources; or integration of production, to create an agroforestry mosaic that elevates the strengths and mitigates the weaknesses of different fractions[40].

More than half of the eligible applications for investment support from the RDP Mainland were not supported, pointing to a large unmet demand for financing from the agriculture sector.[41] In the 2014-2020 programming period, the planned total public expenditure of EUR 4.2 billion for the Mainland RDP, comprised contributions from the EAFRD at EUR 3.6 billion, and from national contributions.

The following two sub-measures are of particular relevance for stimulating the investments by farmers:

- **Sub-measure 4.1 Support for investment in agricultural holdings**: In the period 2014-2019, the total number of applications received under this sub-measure amounted to 25 217 under 51 grant calls launched by the three EAFRD managing authorities. The total amount of public support requested by these applications was EUR 2.0 billion (private co-financing is excluded), more than twice as high as the available budget (EUR 926 million). As a result, EUR 1.1 billion from the requested public grant support was not supported, mostly due to lack of resources. Adding to this the private contribution that every farmer needs to add, we receive a proxy of **EUR 2.2 billion unmet total financing needs in agriculture linked to the EAFRD.**
- **Sub-measure 6.1 Business start-up aid for young farmers**: For the same period, the total number of grant applications submitted for this sub-measure was 11 427 for a total requested volume of support of EUR 302.8 million. These grants facilitate the start-up of young farmers. However, 7 881 young farmers were not supported for various reasons, or withdrew their applications.

38 Interview with farm organisation and farmers' representatives, 2019.

39 Interview with farm organisation, 2019.

40 Rural Development Program 2020 Annual Report, 2017.

41 Annual Execution Report, 2017, RDP Monitoring Indicators 2019.

Table 3: Portugal: 2014-2020 RDPs (Mainland, Azores, Madeira) implementation data for sub-measures 4.1 and 6.1, total public finance, by the end of 2019

RDP sub-measures	Number of applications	Total support requested by all submitted applications (EUR million)	Budget made available under all grant calls (EUR million)	Number of approved applications for support	Amount requested not being supported (EUR million)
4.1 Support for investments in agricultural holdings	25 217	2 010	926	10 926	1 083
6.1 Business start-up aid for young farmers	11 427	302.8	229.9	3 546	72.9

Source: Ministry of Agriculture, 2019. Preliminary data. To be noted that the data for Mainland Portugal for the 'Total support requested by all submitted applications', which is 88% of the value, is based on the average support rate of the approved projects (and not potential projects waiting for approval).

Note: The total amount 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.

While implementation varies between the three RDPs appear, it is clear that the demand for finance and support is much higher than what is available, at least under the RDP Mainland, as implementation under the three programmes vary.

An EAFRD funded guarantee instrument was launched at the time of finalising this report. Portugal was the first country to use financial instruments in the rural development programme for the 2000-2006 programming period. However, in 2007-2013 the managing authority opted against continuing the instrument. In the current period, the demand for EAFRD investment grants under sub-measure 4.1, requested from viable and eligible beneficiaries, has been so high that the managing authority reverted its initial decision and opted to add financial instruments to the grant support, under RDP (Mainland). This decision has been based on the findings of the ex-ante assessment[42] for the use of EAFRD financial instruments conducted in 2015. The EAFRD managing authority joined the EAFRD – EFSI Initiative, launched by DG AGRI and the EIB Group in November 2016[43]. The specific Guarantee fund, which the managing authority established, foresees a combination of EAFRD resources with EFSI budget, to achieve a higher leverage (i.e. attraction of additional money) and thus responds to the lack of available EAFRD resources in the RDP to finance all viable enterprises' demand for investment projects.

A funding agreement was signed between the Government and the European Investment Fund (EIF) in May 2019 for the implementation of the EAFRD financial instrument. The selection process of the financial intermediaries to offer the financial product was finalised in the first quarter of 2020[44] and as of March 2020 the targeted final recipients

42 AD&C – Agência para o Desenvolvimento e Coesão, 2015, I.P, Avaliação ex ante dos Instrumentos Financeiros de Programas do Portugal 2020: Lote 1 - Instrumentos Financeiros para o apoio direto às empresas. https://lisboa.portugal2020.pt/np4/46.html.

43 Second EU *fi-compass* conference on EAFRD financial instruments for agriculture and rural development in 2014-2020, Brussels, 25 November 2016, https://www.fi-compass.eu/event/2290/second-eu-fi-compass-conference-eafrd-financial-instruments-agriculture-and-rural.

44 The Banks selected by the EIF on behalf of the Managing Authority of the RDP of Mainland Portugal are: Caixa Geral de Depósitos (CGD), Banco Português de Investimento (BPI), Caixa de Crédito Agrícola Mútuo and Banco Santander, which are now offering loans with lower interest rates and reduced collateral for longer maturities. The product is expected to be available until 31 December 2023. Additional information are provided in section 2.3.1.2.

could benefit from the instrument. The instrument is a capped portfolio guarantee for the continental Portugal (thus not available for the Azores and Madeira at the time of writing). The instrument is available for farmers, agricultural cooperatives, and SMEs engaged in the processing and marketing of agricultural products. According to Government representatives, large investments in the sector that have not been approved to receive EAFRD funds have been put on hold, awaiting the implementation of the financial instrument. The implementation of this financial instrument may influence any future decision of the managing authority in relation to the CAP Strategic Plan 2021-2027 and the use of financial instruments under it.

The below box summarises the main findings of the ex-ante assessment undertaken before the implementation of the financial instrument - see section 2.3.1.2 for more information.

Main findings of the ex-ante assessment for use of Financial Instruments in Portugal for the agriculture and agri-food sector[45]

- Conclusions related to difficulties in accessing finance for the agriculture and agri-food sector:
  - Financing costs are disproportionate to the profitability and risk of operations. In 2012, the cost of financing for the primary sector was estimated to be 200 basis points higher than the average for the euro zone.
  - Insufficient volume of credit granted to companies to face investment needs, due to lack of collateral of the farms and firms, and due to asymmetric information (i.e. banks have difficulties in assessing creditworthiness of businesses due to lack of information on their business activities).
  - Insufficient capitalisation of companies, i.e. low access to collateral.
  - Insufficient venture capital to support entrepreneurship.
- Groups identified with particular difficulties in accessing finance: young farmers and entrepreneurs.
- The financing gap identified for debt instruments (loans and equivalents) was between EUR 3 billion and EUR 5.5 billion (for all fundable enterprises in Portugal).
- Recommendation: For enterprises supported under the EAFRD, the disadvantage identified relating to financing costs and availability of financing justify the concentration of instruments in mechanisms guaranteeing and subsidising financing costs. Thus guarantee instruments and interest subsidy were recommended, combined with technical support.
- This was expected to contribute to the reduction of the deficit in financing for Small and Medium-sized Enterprises (SME) from conventional financial markets, diminishing the risk traditionally associated with agricultural and forestry activity and improving the financing conditions for the SMEs in these sectors. The mutual guarantee system, is regarded as a good solution for financing companies since it allows public resources to be leveraged in the most efficient fashion.
- Under the EAFRD, the mobilisation of financial instruments was recommended for Measure 4 Investments in physical assets, Measure 6 Development of farm holdings and companies, and Measure 8 - Investments in the development of forest areas and improvement of the viability of forests, with debt instruments mobilised in the RDPs of mainland Portugal and the Autonomous Regions (Madeira and Azores).

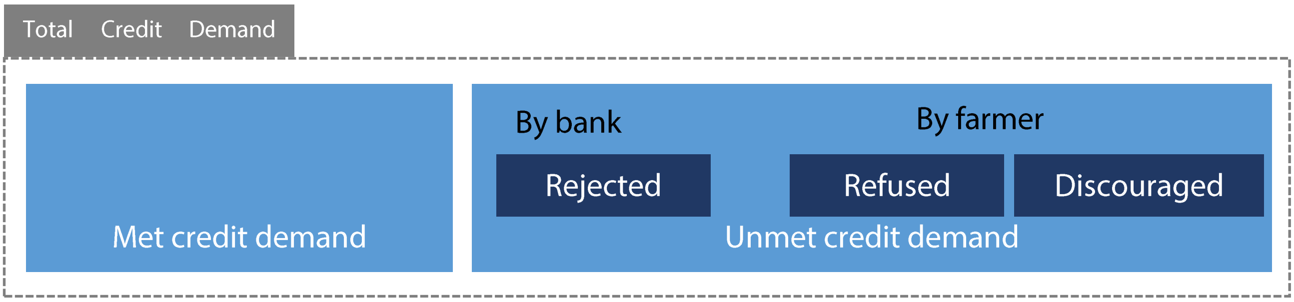
2.2.2. Analysis of the demand for finance

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

45 Based on: AD&C – Agência para o Desenvolvimento e Coesão, 2015, I.P, Avaliação ex ante dos Instrumentos Financeiros de Programas do Portugal 2020: Lote 1 - Instrumentos Financeiros para o apoio direto às empresas, https://lisboa.portugal2020.pt/np4/46.html.

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 expectations of rejection or refusal (Figure 6).

Figure 6: Schematic overview of the demand side of agriculture sector



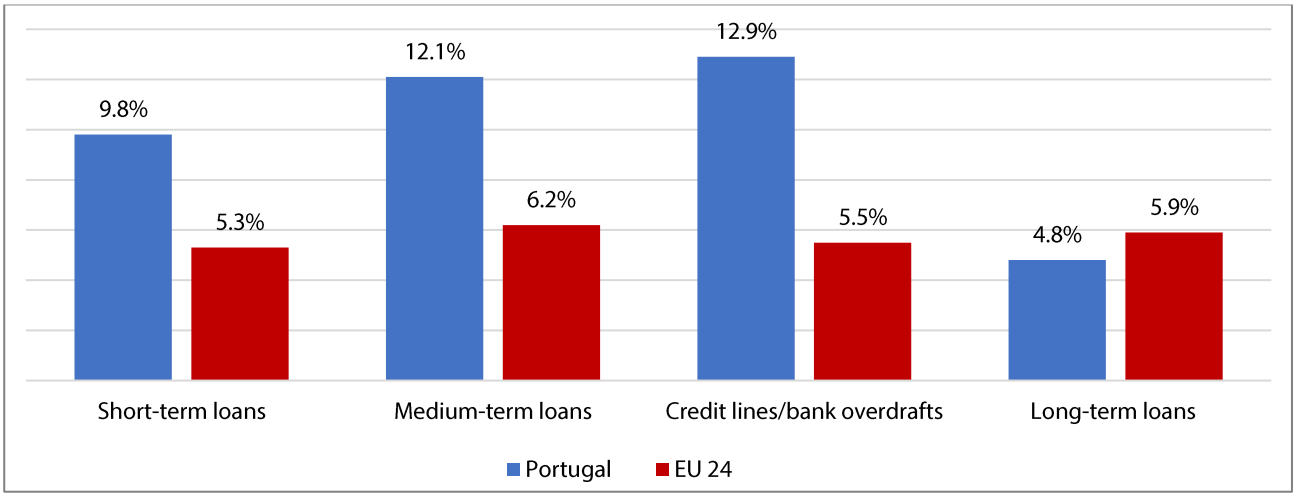
Source: Ecorys, 2019.

Based on the results of the *fi-compass* survey, the unmet demand for the agriculture sector in Portugal is estimated at EUR 590.5 million.

In 2017, one third of the Portuguese farmers requested financing. The vast majority requested bank loans, 27.7% of all Portuguese farmers, and approximately 2% asked friends or family members for a private loan. Overall, the demand for financing in Portugal is much higher than average for EU 24.

Credit lines/bank overdrafts and medium-term loans were the most requested financing products. Credit lines/bank overdrafts registered the highest application rate at 12.9%, followed by medium-term loans of between 18 months to five years maturity at 12.1%. Respectively 9.8% and 4.8% of the farmers applied for short and long-term investment loans (short-term loans: below 18 months, long-term loans: above 5 years) (Figure 7).

Figure 7: Farms applying for finance in 2017, by financing product

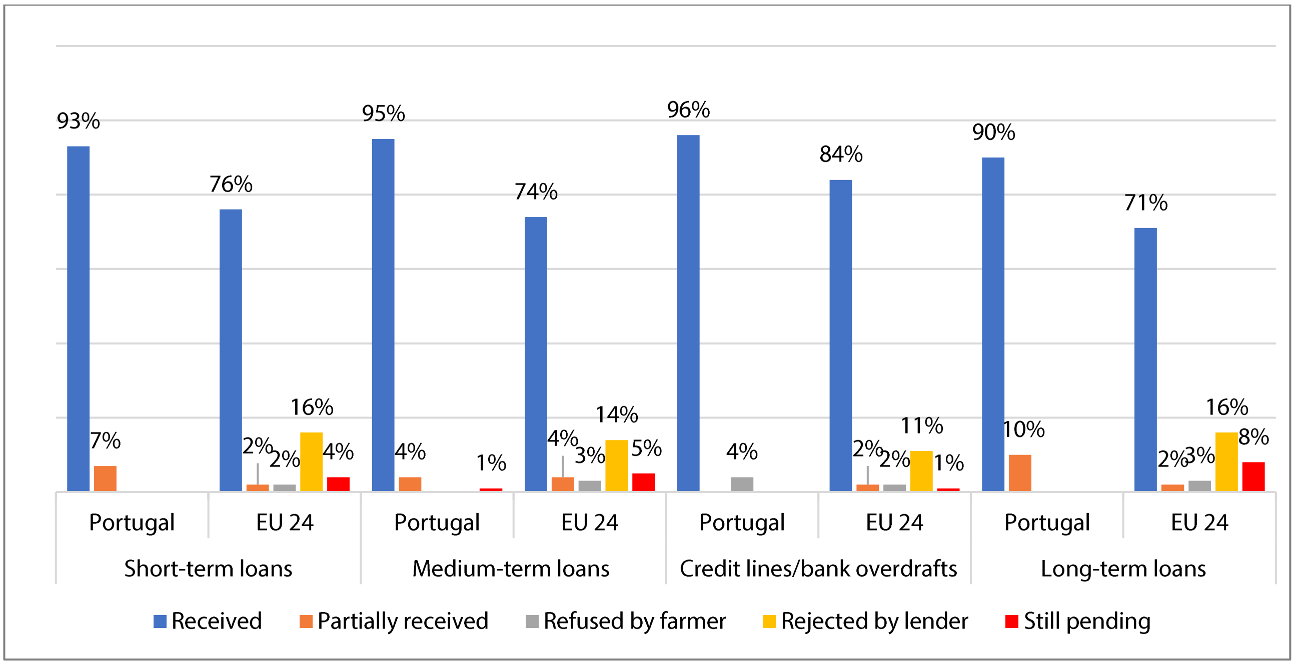


Source: fi-compass survey.

Figure 7 shows a higher frequency of the requests for short-term financial products. One bank noted that 70% of its operations for agriculture fall under this category. At the same time, every bank has a different policy towards the agriculture sector. For example, Crédito Agrícola, one of the main banks lending to the agriculture sector in Portugal, declared that almost 85% of its current outstanding loan volume was devoted to medium and long-term loans (loans above 18 months), 14% of the outstanding loan volume was related to short-term loans, and 1% to leasing. However, this refers to the value of the total outstanding loans, and not to the number of operations. As the loan value for medium and long-term loans is usually significantly higher than the value of the short-term loans, the number of operations are significantly different than the breakdown by outstanding loan volume. According to Crédito Agrícola, the average loan amount supplied to the agriculture sector is EUR 138 700 with an average maturity of 11 years.

Overall, the sector registers a loan approval rate higher than the EU 24 average for all financing products. In 2017, the approval rate in Portugal ranged between 90% and 96% depending upon the financing product. Credit lines/bank overdrafts and medium-term bank loans registered the highest approval rate at 96% and 95%, respectively (Figure 8). Both farmers organisations and the Government representatives interviewed underlined that farmers who present well-balanced and structured projects, which have reasonable profit margins, a credit history, and with access to market channels will not, in general, have problems in accessing finance.

Figure 8: Results from application for finance in the agriculture sector in 2017



Source: fi-compass survey.

In the first six months of 2019, the rejection rate of bank loan applications for the agriculture and agri-food sector was approximately 4% according to data provided by banks[46]. Although the *fi-compass* survey does not capture any loan rejections, according to interviewees, both from banks and the agriculture sector, there are constraints to access credit, especially for young farmers and new entrants.

The main reasons of loans' rejection include:

- **High investment risk.** The nature of the agriculture sector, i.e. production associated with weather and climatic risks, as well as by animal diseases, leads it to being considered risky by the banks. Increasing risk of activities not covered by insurance, such as fire risk associated with eucalyptus cultivation and risk of uncontrolled pests in chestnut, means banks often hesitate to provide finance in the sector.
- **Difficulties in accessing insurance, particularly for young farmers.** According to a European Commission study on young farmers' needs [47], over 30% of young farmers in Portugal perceive access to insurance as a problematic

46 Interviews with financial institutions, 2019.

47 European Commission, 2015, Young Farmers' needs in Portugal.

aspect. One bank mentioned the uptake of crop insurance by the borrower as an important criterion for a positive evaluation of the application.

- **Lack of established marketing channels** (e.g. in sub-sectors like beekeeping, grape production, etc.), **as well as volatile selling prices**[48]. Banks prefer situations in which the farmer has already established valuable partnerships (or contracts) with downstream agents. In the agriculture and agri-food sectors, this is considered even more important than for other economic sectors, because fruit and vegetable products are, for example, very perishable, which increases the importance of an efficient market outflow.
- **Agriculture investments are considered risky by banks because of the long repayment maturities, in particular for land investments**, which is not currently favoured by the banks.
- **Difficulties of banks to assess farmers' creditworthiness.** The ex-ante assessment for the use of EAFRD financial instruments carried out in 2015[49] identified that banks have difficulties in assessing creditworthiness of farm businesses due to the lack of information on their professional activities. Small-sized farms often have problems in presenting business data, as bookkeeping is not common for farms of their type and/or with low income levels. Farms with an annual revenue level below EUR 200 000 gross income do not need to keep balance sheets and financial statements separate from the household economy[50]. In addition, many of the small-sized farms do not work with invoices and have a legal exemption from the invoice requirement.

Information from stakeholders indicates that the combination of the agriculture sector being perceived as a risky sector, in addition to the fact that the banks have difficulties in assessing the economic viability of the projects to be undertaken and that banks are risk-averse in their selection of agricultural clients, has a very negative impact on the access to finance by farmers.

According to interviewed bank representatives, the debt ratio or economic non-viability are other important reasons for rejection. Non-compliance with debt ratio (net debt/EBITDA) and / or lack of economic and financial viability of project submitted for financing are common reasons for turning loan applications down, both from the agriculture and agri-food sector.

Lack of credit history or poor credit history also limit access to finance. There are many farmers who do not have a sufficient or acceptable record of credit history. This is an important element of the overall assessment carried out by credit institutions, and its absence makes it harder to obtain access to credit. This, in combination with a weak, or no proper, business plan, means potentially viable candidates can be excluded from funding. This appears to be an issue particularly for young farmers and new entrants.

A well-established bank relationship, along with previous experience in farm management, are two crucial elements in access to finance. Several interviewees representing farmers underlined the importance of having a pre-established relationship with the bank in order to access finance. Credit history and personal relationships were considered to be very relevant for a successful application. If previous specific experience is assessed as insufficient, the bank may need to assess evidence for any management skills obtained in other business areas. Furthermore, close relations with agricultural cooperatives are seen favourably, as real-time information provided by these institutions is important for project monitoring.

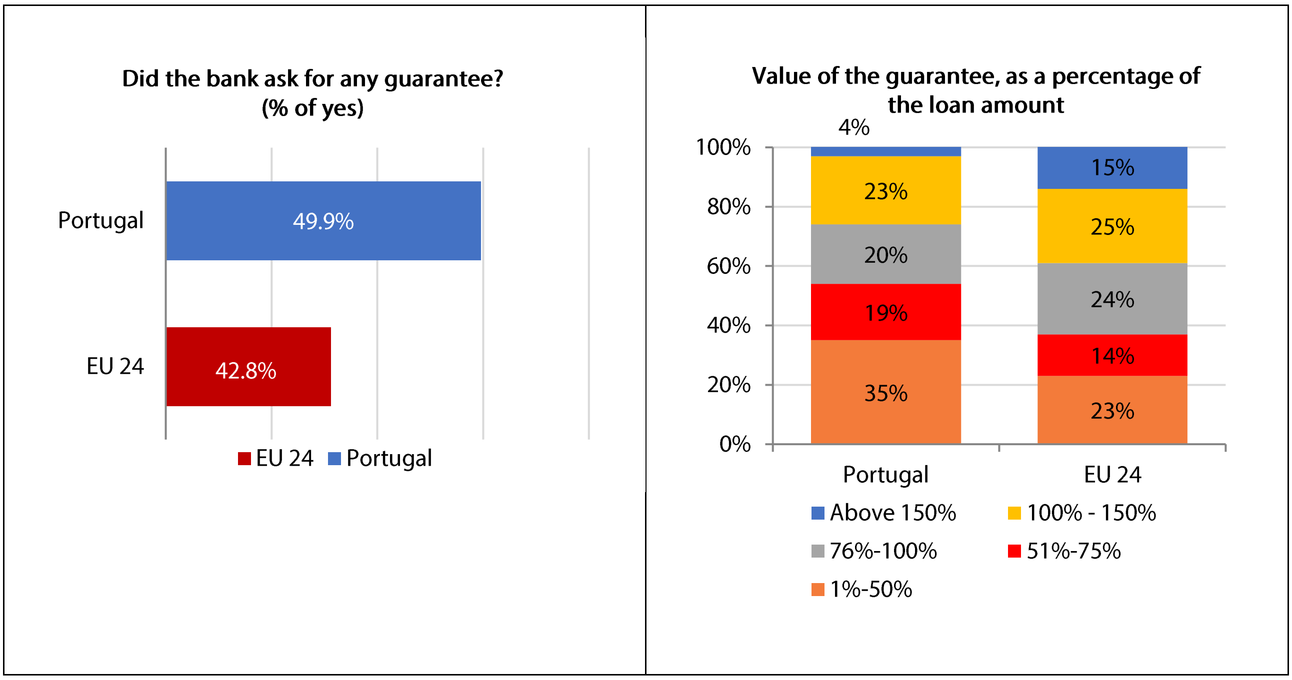
48 Interviews with banks and young farmers' representatives, 2019.

49 Based on: AD&C – Agência para o Desenvolvimento e Coesão, 2015, I.P , Avaliação ex ante dos Instrumentos Financeiros de Programas do Portugal 2020: Lote 1 - Instrumentos Financeiros para o apoio direto às empresas.

50 All Portuguese enterprises are required to hire an accredited accountant and certify their books. There is only one exception to the rule: the Simplified regime. This is an option for taxable persons who are self-employed, professionals or sole proprietors who, in the exercise of their activity, have a net annual income less than or equal to EUR 200 000. The Simplified regime ceases when, for two consecutive years, the value of gross income exceeds EUR 200 000 or, in one year, exceeds EUR 250 000. In both cases, the change to an Organized Accounting regime becomes mandatory. However, if there is a preference for the Organized Accounting regime and the amounts referred to above are not exceeded, taxpayers can communicate the change of regime as long as it is made by the end of March.

The ex-ante assessment for the use of EAFRD financial instruments[51] found that minimal access to collateral is one of the main constraints of access to finance in the Portuguese agriculture and agri-food sectors. According to Government representatives this is still the case, and the typical long maturities (on average 10-12 years) for these sectors, as well as the higher risks associated with lending to these sectors, lead the banks to ask for higher levels of collateral. Figures from one bank show that the level of the collateral requested for long-term investment loans can be equivalent to 130% of the loan amount. According to the *fi-compass* survey, 50% of the Portuguese farmers were requested to provide collateral the level of which is higher than the EU 24 average (Figure 9). A quarter (23%) were requested to provide a guarantee with a value of more than 100% of the loan value, and 4% were requested to provide guarantees worth over 150% of the loan value. In terms of collateral, banks accept personal endorsement, mortgage, pledge, or a guarantee from a mutual company. According to the *fi-compass* survey, 88% provide a personal guarantee, 9% provide a private one and 2% provide a public guarantee.

Figure 9: Information related to guarantees requested by agricultural producers, 2017



Source: fi-compass survey.

Young farmers and new entrants face more difficulties in accessing finance. The ex-ante assessment for EAFRD Financial instruments indicated that young farmers had more difficulties in accessing finance than their older peers.[52] Young farmers struggle also in providing collateral. Often, young farmers do not own the land they work on, as it is leased, and therefore it cannot be provided as a collateral. According to one of the interviewed banks, young farmers/companies are more likely to have reduced levels of solvency and their projects are often less resilient in terms of targets achievement compared to operations of the farmers that have been in the business longer. In general, in Portugal, for new entrants without the initial financial / assets support from a family member or close relative/partner, and without land ownership, it is almost impossible to access bank credit.

51 AD&C – Agência para o Desenvolvimento e Coesão, 2015, I.P, Avaliação ex-ante dos Instrumentos Financeiros de Programas do Portugal 2020: Lote 1 - Instrumentos Financeiros para o apoio direto às empresas.

52 Ibid.

Discouraged loan applications because of expected rejection also plays a role in determining the sector's unmet credit demand. According to the *fi-compass* survey, 5-6% of farmers did not apply for bank loans due to the fear of rejection (Figure 10). The main reasons of such discouragement include:

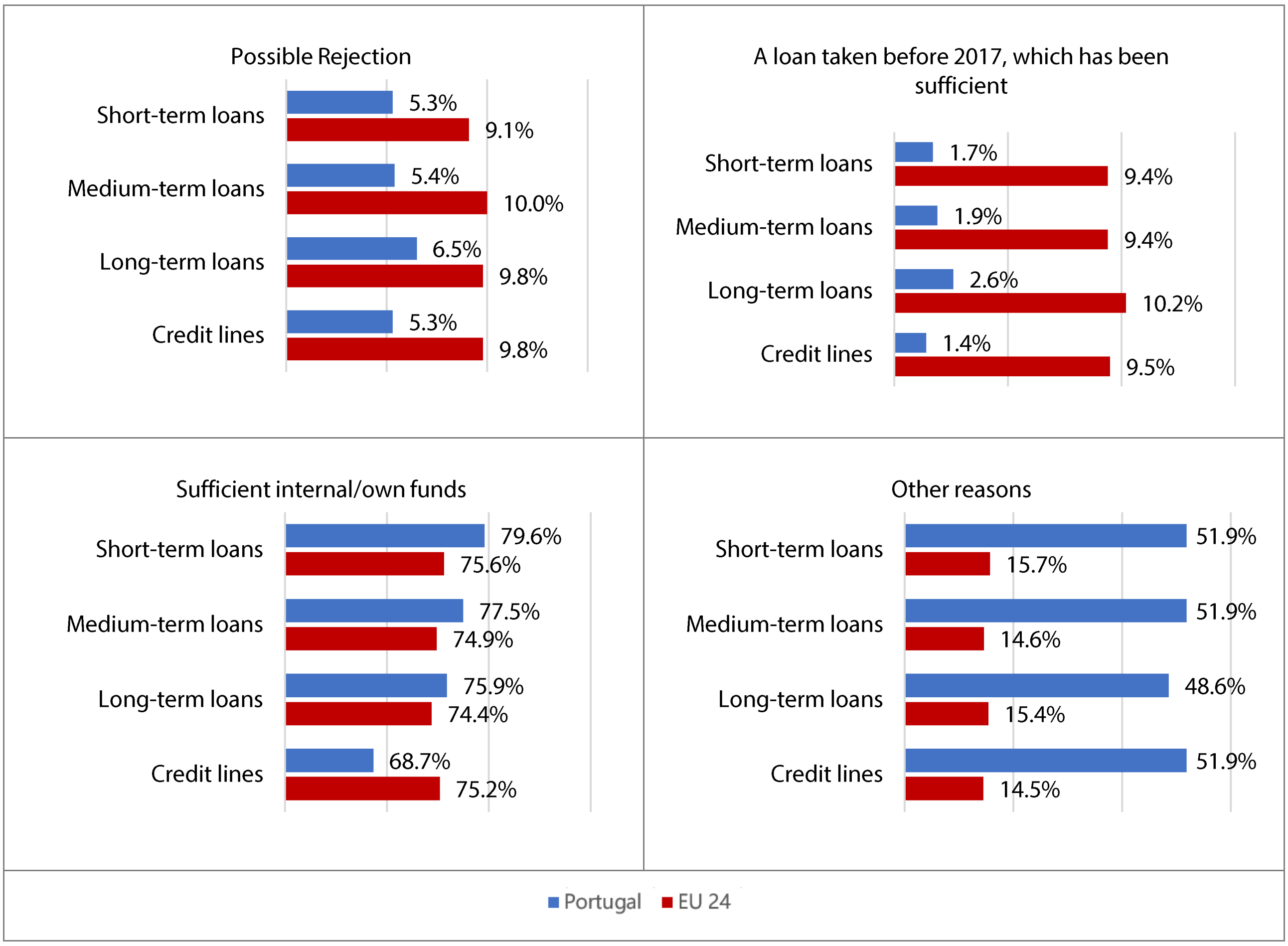
- **Cultural reasons.** A land reform took place after the revolution in Portugal in 1974, and land was distributed amongst small-holding farms. In the 1980's, interest rates on agricultural loans were around 20-30%. As a result, a number of 'old generation' farmers still have negative feelings in connection with a loan request and they view doing business with a bank as risky[53].
- **Poor financial literacy.** The lack of financial skills makes it difficult for farmers to estimate whether they possess the adequate cash flow required for debt servicing, which discourages them from applying. According to a bank interview, the lack of knowledge on basic financial concepts amongst farmers is also a reason for rejecting loan applications. This leads to applications being rejected or to farmers refraining from approaching banks. Furthermore, farmers are often not aware of the type of financial products provided, and do not have a clear understanding of the conditions and the requirements imposed by banks[54].

According to bank and farm representatives, this problem does not exist for large-sized farms, as it is common for these farms to be supported by specialised consulting firms (which provide such a service for applications for RDP support and bank loans). The overall rejection rate for loan applications is thus not considered very high.

53 Based on interview with farm organisation, 2019.

54 Interviews with farmers' organisations and banks, 2019.

Figure 10: Reasons for not applying for loans in the agriculture sector in 2017



Source: fi-compass survey.

Further technical support could improve the commercialisation of the sector and improve farmers' access to finance. Confederação dos Agricultores de Portugal, The Young Farmers Association (AJAP) and the producer associations often carry out trainings[55]. There is a compulsory training for agricultural activities such as the application of phyto pharmaceuticals, but in principle, there is a vast demand and need for additional training amongst the agricultural producers. Since the majority of farmers in Portugal do not work on a regular or full-time basis, and most of the farms are family owned or sole holders, 82% of the farmers' education and technical training is mostly limited to practical experience through working on the farmlands[56]. Courses in production techniques and production management could be beneficial. In addition, technical advice for new entrants and stimulus for additional cooperation between farmers could generate benefits by mitigating the lack of scale of the individual farms.

55 There are several tertiary and semi-formal education providers that contribute to the overall technical development of Portuguese farmers. The sources with regards to the provision of training and technical assistance for farmers in the agriculture sector include: (i) Confederação de Agricultores de Portugal: training centres that offer agricultural counselling services and networking opportunities with international representatives; (ii) The Worldwide Opportunities on Organic Farms Programme under the Confederação Portuguesa do Voluntariado provides exchange opportunities in organic farms for farmers and visitors to participate in work and training activities; and (iii) Guia de Apoio provides technical support overseen by the Ministry of Agriculture to assist farmers in integrated protection, integrated production and organic production.

56 Eurostat, 2017, Agriculture, forestry and fishery statistics, https://ec.europa.eu/eurostat/documents/3217494/8538823/KS-FK-17-001-EN-N.pdf/c7957b31-be5c-4260-8f61-988b9c7f2316.

Cooperation allows for bigger investments, for example in machines and infrastructures that can be used by many, through which production costs can decrease.

Young farmers could especially benefit from additional advisory support. The 2015 report on the Exchange schemes for young farmers highlighted that more than 60% of Portuguese young farmers showed a greater need for technological knowledge, farming skills, financial skills, managerial skills, foreign languages, and networking skills than the EU 28 average. Less than 25% of the young farmers claimed to have easy access to knowledge and training. The Young Farmers Association highlighted the lack of technical advisory support available for young farmers today.

According to several stakeholders, it would be beneficial if trainings on how to prepare an admissible application for the various RDP support measures, as well as bank loan applications, are provided. Only the larger farms have access to consultancy services to prepare applications for funding, as they can afford the costs.

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 Portugal 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 Portuguese agriculture sector
• The main commercial banks offering loan products to the agriculture sector are Crédito Agrícola, Banco BPI and Santander Totta. • Three categories of loans are available to farmers: short-term loans, which are used mainly to acquire fertilisers and seeds, or as an advance of the direct payments, and medium and long-term loans, used for investment purposes. • Agrogarante is a mutual guarantee society operating for the agriculture sector. At the end of 2019, Agrogarante had a portfolio of EUR 431 million, and it had guaranteed EUR 1.2 billion (17 216 guarantees) since it first became active in 2007. • A capped portfolio guarantee instrument, funded from the EAFRD, is available as of March 2020. • Between 2015 and 2019, the conditions of the Portuguese financial system consistently improved, and the credit supply towards the primary sector is expanding. • In 2019, the total outstanding loan volume amounted to approximately EUR 2.5 billion, an increase by 17% compared to 2015. • The main constraints to the supply for finance that can be identified include: (i) balance sheet position of banks which prevents risk taking, (ii) limited interest in funding new entrants and small-sized farms, (iii) banks' sometimes limited capacity in providing adequate risk assessments to the agriculture sector.

2.3.1. Description of finance environment and funding availability

2.3.1.1. Finance Providers

All major commercial banks offer financing to the agriculture sector, but those with the highest market shares are Caixa de Crédito Agrícola Mútuo and Banco Português de Investimento (BPI), followed by Banco Santander. However, often farmers' contact with banks is restricted to the uptake of a personal account, to which, for example, the CAP support is deposited. These accounts are usually held with small, local cooperative-run banks that are close to farmers and their operations. Caixa Geral de Depósitos (CGD), is one example of a cooperative, publicly owned, rural bank with which farmers commonly hold accounts.

Table 4: List of banks and their geographical presence in Portugal, 2019

Name of Financial Institutions	Geographical Area of Work
Comercial Português Bank	Mainland and Azores and Madeira islands
BIC Português Bank	Mainland and Madeira islands
BPI Bank	Mainland and Azores and Madeira islands
Popular Portugal Bank	Mainland
Santander Totta Bank	Mainland and Azores and Madeira islands
Caixa de Crédito Agrícola	Mainland and Azores and Madeira islands
Caixa Económica Montepio Geral	Mainland and Azores and Madeira islands
Caixa Geral de Depósitos	Mainland and Azores and Madeira islands
Novo Bank	Mainland and Azores and Madeira islands
Novo Banco dos Açores	Azores Islands

Source: Protocol between IFAP and the Banks.

In the past, **Caixa de Crédito Agrícola** (CA**,** often referred to as simply Crédito Agrícola amongst stakeholders) was a cooperative bank, ran by the agricultural cooperatives. Today, it is a commercial bank, even if its Management Board still consists of representatives from agricultural cooperatives. The dairy sector is said to have a strong role in that board, according to the interviewed farm representatives.

The bank has a long history of providing financial products to small-sized farms. Caixa de Crédito Agrícola was founded in 1911. It was later integrated by Caixa Central, a cooperative which consists of more than 80 associated local banks amongst other organisations. Having more than 350 000 associates and 1 million clients, Crédito Agrícola Group is present both on the mainland and the islands, connecting to 656 banking agencies. This bank used to be known as the farmers' bank, and was the farmers' first choice, but agricultural stakeholders imply that the bank has changed a lot over the last years, and is now operating in the market like all other banks, although it has a comparative advantage in serving the agriculture community as it has a big presence in rural areas. In this context, CA has not only first-mover advantage, but also many years of building up trust.

CA presents the following distribution of credit to the agricultural and agri-food sectors[57]: micro-enterprises up to EUR 2 million (and non-segmented) representing 72.77% of the turnover; small-sized companies between EUR 2 million and EUR 10 million, representing 15.41%, medium-sized companies between EUR 10 million and EUR 50 million representing 9.6%, and large-sized companies above EUR 50 million representing 2.22%.

The exact market share of the various banks on the agricultural financial market is not known, but Caixa de Crédito Agrícola is understood to have financed approximately 30% of the loans on the market according to statistics on outstanding loan volume (see section 2.3.2). The interviews indicated that by 31 May 2019, the outstanding loan volume to the agriculture sector of Crédito Agrícola Group amounted to EUR 866 million, compared to EUR 2.55 billion in total outstanding loans to the agriculture sector for the year 2019. In addition, the group indicated having issued EUR 213 million of new loans in 2018[58]. However, the bank faces competition from BPI bank and the Santander Group.

Banco BPI was founded in 1981. According to its own estimates, it is currently the main banking institution providing finance to the agriculture sector in Portugal. Amongst other indicators, it has a share of 55% of the loans provided as

57 Interview with Caixa de Crédito Agrícola, May 2019.
58 Crédito Agrícola Group, July 2019, https://www.creditoagricola.pt/-/media/0615b5a19023494c8e779d4cd6b77467.pdf.

advance of CAP payments, notably direct payments (see section 2.3.1.2 for more details). According to agricultural stakeholders, BPI seems to attract more of the financing for the large and professional farms.

Banco Santander Totta is a subsidiary of the Spanish bank Santander Group. It was created in 2000 as a result of the merge of Banco Santander and Banco Totta. In 2015, Banco Santander Totta also acquired Banco Internacional do Funchal. The bank provides short, medium and long-term products tailored for the agriculture and agri-food sectors to finance working capital and investments needs.

IFAP is a public entity controlled by the Ministry of Agriculture, Forestry and Rural Development (the paying agency) that provides support and financing to the Agriculture, Forestry and Fishery sectors. IFAP has set-up several credit lines offering loans and interest rate subsidies to farmers[59].

Agrogarante - Portugal counts on a number of Mutual Guarantee Societies (MGS) serving different sectors of the economy. One such is Agrogarante Sociedade de Garantia Mútua S.A., established in 2006[60] which focuses on the agriculture and agri-food sector. Agrogarante offers guarantees to agriculture companies and is backed by a counter-guarantee from a public fund (FDCGM), who itself benefits from a 3rd level guarantee from the EIF[61]. Agrogarante services are targeted to micro, small and medium-sized enterprises. Risk sharing with other financial entities facilitates the access of the targeted companies to credit and allows loans for higher amounts, often with better terms and reduced collateral, compared to the loans provided without the guarantee from Agrogarante. The mutual characteristic results from the fact that the beneficiaries of guarantees are required to become members of the Mutual Guarantee. The guarantee was set-up with the support of IFAP as a major shareholder but today the agency has no direct involvement.[62]

2.3.1.2. Financial Products

Three categories of loans for farmers exist. These are rather general categories, available also in other EU countries as financial products, namely:

- Short-term loans, which includes:
    - Bank loans to advance direct payments and RDP grants;
    - Working capital loans.
- Medium and long-term investment loans.

The three banks, CA, BPI and Santander, described above offer these products, and two of the banks, CA and BPI, offer the same range of products for the agri-food sector as for the agriculture sector.

Short-term loans

The offer of short-term products is quite limited compared to medium and long-term products. The main purpose of this type of loan is to fund working capital and finance the acquisition of production factors such as fertilisers and seeds. According to an interview with the farmers' organisation, interest rates for these loans vary between 2.0 - 3.5%.

Crédito Agrícola offers a sector specific short-term loan of up to one year, with a grace period of up to six months.

The short-term loans provided by BPI aim at financing costs for the preparation, planting, irrigation, harvesting, and forage for animals. The amount of loans is defined on a case by case basis, the duration is up to one year and,

59 Schemes funded by the national budget.

60 Agrogarante - Sociedade de Garantia Mútua S.A., January 2015, Presentation, https://www.fi- compass.eu/sites/default/files/publications/presentation_20160118_Lisbon_esif_Carlos_Oliveira.pdf.

61 Oliveira, Carlos, Agrogarante, EAFRD financial instruments for agriculture and rural development in 2014-2020,Presentation during *fi-compass* event EAFRD financial instruments for agriculture and rural development in 2014-2020, Madrid, 31 May 2016, https://www.fi- compass.eu/sites/default/files/publications/Presentation_20160531_Madrid_EAFRD_Carlos_Oliveira.pdf.

62 Information from interviews with Government representatives, 2019.

according to the risk assessment, the interest rate is defined by BPI. BPI also provides loans to farmers in the animal production sector who are experiencing difficulties due to drought, when the prices of fodder increase or the grass land used for pasture is not available. The minimum loan amount is EUR 10 000 and the maximum amount is defined according to the number of livestock registered. The duration of operations is up to two years.

Santander Totta provides short-term loans to farmers to cover cash needs. The bank also provides specific loans to support working capital and cash needs of companies affected by natural disaster.

In addition, several commercial banks offer credit against re-payments backed up by the CAP direct payments as well as EAFRD / RDP grants. Usually these loans cover up to 90% of the value of the direct payment for the farm or the grant, with a minimum amount of EUR 10 000 and a duration of up to 12 months.

Commercial banks also provide short-term credit to the agriculture sector advancing the payment of public support through a protocol signed with the main agricultural organisation, (Confederação dos Agricultores de Portugal / Portuguese Farmers Confederation). Confederação dos Agricultores de Portugal helps the banks in estimating the amount of support a farmer will obtain, thereby facilitating the banks provision of financing to the sector.[63] These loans improve farms cash flow. According to bank interviews, Banco BPI holds a market share of approximately 55% of these loans.

According to the farmers' organisations, interest rates for the loans aimed at advancing the payment of public support are approximately 2%, which is lower than those for working capital loans, as the CAP support is a guarantee of the farmer's ability to repay the loan. In Caixa de Crédito Agrícola, credit lines have an interest rate that is calculated in accordance to the formula: EURIBOR 12 months, plus a spread starting at 2.25%, depending on the risk analysis, or starting at 1.75%, if the loan is linked to a CAP subsidy. It also has a 0.5% bonus for customers who are receiving the direct payment support in their Caixa de Crédito Agrícola account, for a period of two years.

Medium and long-term loans

Commercial banks offer a wide range of medium and long-term products. They focus on investment for the purchase of land, machineries and equipment or facilities (capital investment).

63 Interviews information from banks and farmers representatives, 2019.

Table 5: Summary of loan products for agricultural holdings and their general condition

Loan type	Loan period	Purpose
Maintenance and repair loan	Up to 3 years	Finance the maintenance and repair of agricultural equipment
Investment loan	Over 1 year and up to 8 years	Finance investment projects such as construction of buildings, acquisition of equipment and machineries used in the production process.
Acquisition loan	Up to 15 years	Acquisition of land

Source: Caixa Central de Crédito Agrícola Mútuo, BPI, Santander Totta.

The terms of each loan agreement are based on the specific risk level of the client, the maturity of the loan, and the availability of guarantees. According to agricultural organisations interviewed, the interest rate for long-term loans are understood to be in the range of 2.5-3.5% for the main commercial banks. However, small-sized farms, and young farmers, which are segments presenting more risky attributes, are frequently faced with a somewhat higher interest rate.

Examples of medium and long-term loans offered on the financial market for agriculture include:

- A specific loan product to finance the acquisition of machines, tractors, and other agri-industrial equipment (by Caixa de Crédito Agrícola). These are medium to long-term loans of up to eight years.
- Long-term loans to companies to strengthen the permanent capital structure and finance investment projects (by Banco BPI). The amount, duration and interest rates are defined case by case according to the risk assessment of the company. In addition, BPI offers a loan for agriculture SMEs & Mid-caps.
- Loans with the purpose of supporting the strengthening of business training or new investment in tangible or intangible assets, of up to eight years (by Santander Totta).

Provision of investment loans is closely linked to the EAFRD support. According to interviews, in periods in which there are calls for grants applications under the three RDPs, respectively there is a high number of accepted project proposals for investment support, the number of available bank loans increases. Farmers use this financing not only to start their investment projects, but also to provide their co-financing part as they have to match the RDP grant support with the same amount (specific circumstances reducing the co-financing part are excluded). If farmers lack of own resources, however, banks can be sceptical about their level of motivation if all resources mobilised to finance a project stem either from public or bank funds.

In addition to the products described above, banks also offer medium-term loans to farmers exporting their produce. The amount of these loans is between EUR 3 000 and up to EUR 50 000 for a maximum duration of 24 months. The main purpose of these products is to finance the farmers' participation to international fairs and events, and support them if they want to expand internationally.

Commercial banks also provide real estate and equipment leasing to farmers. **Real estate leasing** is a form of finance that gives farmers the possibility of using a real estate property such as agricultural holdings, installation of agro-industries, warehouses, offices and commercial spaces, for a fixed amount of time. At the end of the contract there is the option to buy the property. The minimum amount of this type of leasing contracts is EUR 7 500 for a period of time from six months and up to 30 years. The interest rate and guarantees are set by commercial banks according to the risk level. **Equipment leasing** allows to transfer the use of a certain asset to farmers for a certain period of time. There is not a minimum and maximum amount for this product and the minimum term is often between six and 12 months, with the maximum legal term of 30 years. However, most leasing companies provide operations with terms up to four or five years.[64]

Short-term credit lines and guarantees from IFAP are set up to provide credits to businesses operating in the agriculture sector. According to interviews with the EAFRD managing authority for the Mainland RDP and with farm organisations, the credit lines are usually offered when a sector is in crisis and are available on a temporary basis. The short-term credit lines are provided with subsidised interest rates; the degree of subsidy varies depending on the credit line and the circumstances.

Between 2015 and 2016, the crisis in the milk and pork sub-sectors led IFAP to create particular credit lines for these sub-sectors. Specific credit lines related to sub-sectors affected by drought is another common example of available credit lines, for example subsidising the provision of animal feed to compensate for the increased costs of forage due to drought. Loans are accompanied by 100% interest subsidy, up to a maximum of EUR 7 500. The credit amount is defined case by case according to the conditions of the loan and the maximum is set according to the number of animals/ hives owned by farms. The maximum duration of loans is 12 months and operations are reimbursed in one payment. When activated, banks sign protocol with IFAP in order to provide the product. All major commercial banks are allowed and invited to make use of the product. Farmers then apply for the product directly through the banks.[65]

In addition to short-term credit lines, and under certain occasions, IFAP provide guarantees of minor value to support the collateral needs of farmers operating in the potato, bovine, caprine, ovine, and swine farming sectors and beekeeping. The amount of the guarantee is set at EUR 60 per tonne of stored potato and according to the number of animals owned.[66]

In the past, IFAP has experimented with other types of funding for the agriculture sector. For example, a fund for investment in real estate for the agriculture sector was established, as well as a risk capital fund, to try to provide alternative ways of funding farming. The role of IFAP was to be a major stockholder for the two funds, without the objective to intervene directly on the market. However, neither of these were successful and they have been closed down.[67].

The main source of public guarantees for the sector is Agrogarante. Its' guarantees cover up to 50%, or 75% for medium and long-term operations, of the financing, and up to EUR 1.5 million per enterprise. Special guarantee products have been designed to respond to specific sectorial events[68], for example, following the losses caused by meteorological events of different orders (ex: losses caused by the storm Leslie, or the 2017 drought).

At the end of 2019, the Agrogarante had a portfolio of EUR 431 million, and it had guaranteed EUR 1.2 billion (17 216 guarantees) since its first became active in 2007[69]. Guarantees can be used to secure loans taken by individual farmers, as well as by agricultural cooperatives and producers' organisations.

Most guarantee applications are filed by financial institutions on behalf of the SMEs, although some companies fulfil the application on their own. In the former, the financial institution may conduct a preliminary screening before actually submitting the application to Agrogarante. Then, Agrogarante assess the application and makes a credit

64 As examples, for Crédito Agrícola financing is available for terms starting from 12 months, the maximum term being variable depending on the asset to be acquired. For BPI, the terms must be adjusted to the useful life of the equipment, and the maximum legal term is 30 years, with no minimum term. For Santander Totta, operations with terms between 12 and 84 months. And for Novo Banco, equipment leasing varies depending on the type of equipment and can be between six and 60 months (five years).

65 Interviews with Government representatives, 2019.

66 Interviews with the banks, 2019.

67 Information provided through Government representatives.

68 Agrogarante was not available for an interview. Therefore, no further information could have been obtained.

69 Agrogarante, Sociedade de Garantia Mùtua, https://www.agrogarante.pt/pt/.

decision on the basis of: the track record of the company and its shareholders; the conditions for growth; the market in which it operates; its financial and economic situation; and its direct or indirect relationships with other firms.

According to farmers' representatives, banks occasionally require farmers to demand a guarantee from Agrogarante in order to reduce its risk when approving a loan application. However, as the bank loan application and the guarantee application are two separate applications, the system is not very popular with farmers, who consider it too complicated. The application procedure is bureaucratic, and adds another layer of paperwork. In addition, the application process is considered to be too slow. Even so, the benefits with the system, in reducing the risk for banks and thereby allowing for more farmers to obtain finance, are recognised. However, according to the farmers' organisation, the guarantee system only really works for short and medium-term loans, whilst long-term loans are often rejected due to risk considerations.

On the other side, the guarantee instrument is popular with banks who consider it useful to facilitate their lending to the agriculture sector by reducing its risk. According to them, since many agriculture projects will only attain a full payback after 10-12 years, banks tend to prefer establishing shared guarantee contracts, where there is a mutualistic mechanism in place that generates an equilibrium of efforts and responsibilities between entities. Banks and the public administration still believe that the mutual guarantee approach plays an important role in Portugal in assuring the supply of financing to farmers. The ex-ante assessment for the use of EAFRD financial instruments (2015) supports this view as it found the mutual guarantee system a good solution for financing companies in Portugal since it allows public resources to be leveraged efficiently.

EAFRD funded capped portfolio guarantee instrument. At the time of writing this report, a guarantee instrument funded from the EAFRD had been launched by the managing authority with the EIF operating as a Fund manager. The EIF has signed portfolio guarantee agreements with four major nationally operating banks. In 2017, technical work was initiated between the EAFRD managing authority and the European Investment Fund, in the context of the EAFRD - EFSI Initiative launched by the European Commission and the EIB Group in November 2016[70], which resulted in a successful agreement signed between the Portuguese Government and the EIF in May 2019, for implementation of the financial instrument. As of March 2020, the product is available on the market. EUR 20.07 million has been foreseen for financial instruments in the RDP Mainland 2014-2020, and in addition the European Commission will contribute EUR 15 million from the Juncker plan (EFSI), thus expected to generate a portfolio of new loans of approximately EUR 300 million[71]. The goal with the current portfolio guarantee instrument is to increase the financial resources available to the sector, particularly in the area of investments towards marketing of agricultural products.

The instrument to be implemented is a capped portfolio guarantee. The beneficiaries include agricultural producers, young farmers, agricultural cooperatives and producer organisations, and SMEs involved in processing and marketing agricultural products. Loans under the instruments are aimed as supporting:

- Investments aimed at improving the production performance and sustainability of the agricultural entity;
- Investments related to the processing and marketing of agricultural products;
- Investments in innovative projects;
- Investments in second-hand equipment and in substitution equipment; and
- Leasing.

70 Second EU *fi-compass* conference on EAFRD financial instruments for agriculture and rural development in 2014-2020, Brussels, 25 November 2016: https://www.fi-compass.eu/event/2290/second-eu-fi-compass-conference-eafrd-financial-instruments-agriculture-and-rural

71 Interviews with the managing authority and Boletim Informativo No 10. Programa de Desenvolvimiento Rural 2014-2020, Portuguese Ministry of Agriculture, January 2020.

Young farmers can also obtain loans for the purpose of buying land[72], and for buying animals of Portuguese origin. Refinancing of loans is not supported.

The characteristics of the EAFRD guarantee instrument are noted in the table below.

Table 6: Portugal: EAFRD guarantee instrument characteristics, 2020

Characteristics	
Loan amount	Minimum lending is EUR 25 000, maximum lending EUR 5 million for agricultural companies, and EUR 10 million for agri-food companies
Guarantee rate	70%, including subsidised guarantee fees
Availability	From 24 to 36 months
Maturity	Maximum 15 years
Grace period	3 years

Source: Boletim Informativo No 10. Programa de Desenvolvimiento Rural 2014-2020, dated to January 31, 2020; Portuguese Ministry of Agriculture.

The banks selected by the EIF on behalf of the Managing Authority of the RDP of Mainland Portugal are: Caixa Geral de Depósitos (CGD), BPI, Caixa de Crédito Agrícola Mútuo and Banco Santander, which are now offering loans with lower interest rates and reduced collateral for longer maturities. The product is expected to be available until 31 of December 2023[73]. With it come also hopes for greater impact of the instrument and believe that it will contribute to more farmers accessing finance, due in particular to the improved guarantee product facility. Banks interviewed expressed interest in the financial instrument, which is not perceived as competition to their own products, but rather complementary to their final offer to the client. In relation to knowledge on financial products, financing and future options for agriculture, banks consider that farmers' associations should work closer with producers to raise awareness on the different financial products available.

Lending for large scale public investment projects in irrigation. The EIB and the Council of Europe Development Bank (CEB) provided support to the financing of the National Irrigation Programme of Portugal, supporting investments in mainland regions of the country[74]. Approximately 59% of the sub-projects proposed to be undertaken are located in the Alentejo Region, which is served by the Alqueva water system. The project is structured as a framework loan to the Government of Portugal and includes a series of sub-projects selected based on a public call for proposal procedure. The latter will mainly mirror the procedures already established for the distribution of the EAFRD funds under the RDP 2014-2020 for Portugal. The EIB finances EUR 200 million of the total project cost of EUR 536 million, and the CEB provides EUR 80 million.

Other EU Funds. Finally, partially guaranteed loans are available under the InnovFin – EU Finance for Innovators programme for innovative small and medium-sized enterprises with up to 499 employees. InnovFin provides various financing tools, including debt and equity products, focusing on research and innovation investment. In Portugal, as

72 Ibid. The bulletin published by the Ministry of Agriculture states that up to 10% of the total budget for the measure may be used for young farmers investing in land.

73 Interviews with the managing authority and Boletim Informativo No 10. Programa de Desenvolvimiento Rural 2014-2020, Portuguese Ministry of Agriculture, January 2020. If the Portuguese RDP gets extended with one transitional year until 31/12/2024 then the financial instrument could also be applied until the new end date.

74 European Investment Bank, October 2017, Portugal Irrigation Plan, https://www.eib.org/en/projects/pipelines/all/20170339; Council of Europe Development Bank, April 2018, https://coebank.org/en/news-and-publications/news/ceb-and-eib-provide-280-million-finance-modernisation-and-expansion-irrigation-infrastructure-portugal/.

of the end of 2018, InnovFin had provided access to finance for 168 SMEs in the agriculture, forestry and fishing sector for a total of EUR 106.3 million, which is 7% of the total portfolio. A more detailed description of InnovFin can be found in section 3.3.1.2.

2.3.1.3. Description of the financing market

Overall, between 2015 and 2019, the Portuguese financial system has consistently improved, as the indebtedness of private sector decreased, and the banking sector stabilised. This was mainly due to improving liquidity and strengthened solvency of major commercial banks, associated to a reduction of non-performing loans (NPL).

In 2017, the NPL ratio decreased by 1.8% and in 2016, to 13.3%, reflecting the effort made by banks to improve their solvency[75]. At the end of 2017, the amount of NPLs was approximately EUR 37 billion. **However, the share of NPLs is still higher than the EU 28 average[76] and several vulnerabilities persist in the financial system**.

The main issue of the Portuguese banking system is the high level of private indebtedness, even though it has been declining since 2012. The high level of indebtedness of firms is driven by the low interest environment that incentivises firms to increase their financial leverage. Interest rates on loans to non-financial corporation has significantly declined since 2013, reaching low levels in 2017 and 2018.

Table 7: Average interest rate for lending to non-financial corporation in Portugal, by loan amount, 2010-2018

	2010	2011	2012	2013	2014	2015	2016	2017	2018
up to EUR 1 million	5.44%	6.90%	7.08%	6.39%	5.53%	4.21%	3.48%	3.10%	2.78%
over EUR 1 million	3.77%	5.34%	5.45%	4.98%	4.29%	3.27%	2.68%	2.21%	1.90%

Source: Banco de Portugal statistics, 2019.

Easing credit standards represented an incentive for the slower deleveraging of the private sector. According to the Bank Lending Survey, credit standards eased in 2016 and then remained stable in 2017. A few banks reported a slight easing of credit standards to SMEs and short-term loans. This was due to competitive pressure and a more favourable risk assessment related to the economic context and firm specific situations.

Between 2018 and 2019, the amount of loans granted by Portuguese banks to non-financial corporations increased slightly, after several years with a downward trend.[77] This is a sign of the Portuguese banking sector recuperating its lending activities after having digested the effects from the economic crisis 2009-2012.

75 Financial Stability Review, December 2017, www.bportugal.pt/sites/default/files/anexos/26- estabilidade_financeira_en.pdf.

76 Portuguese Banking System, December 2017.

77 Banco de Portugal, www.bportugal.pt/sites/default/files/anexos/pdf- boletim/bedez16_1.pdf; www.bportugal.pt/sites/default/files/anexos/pdf-boletim/bejan18.pdf; www.bportugal.pt/sites/default/files/anexos/pdf-boletim/bemar20.pdf .

2.3.2. Analysis of the supply of finance

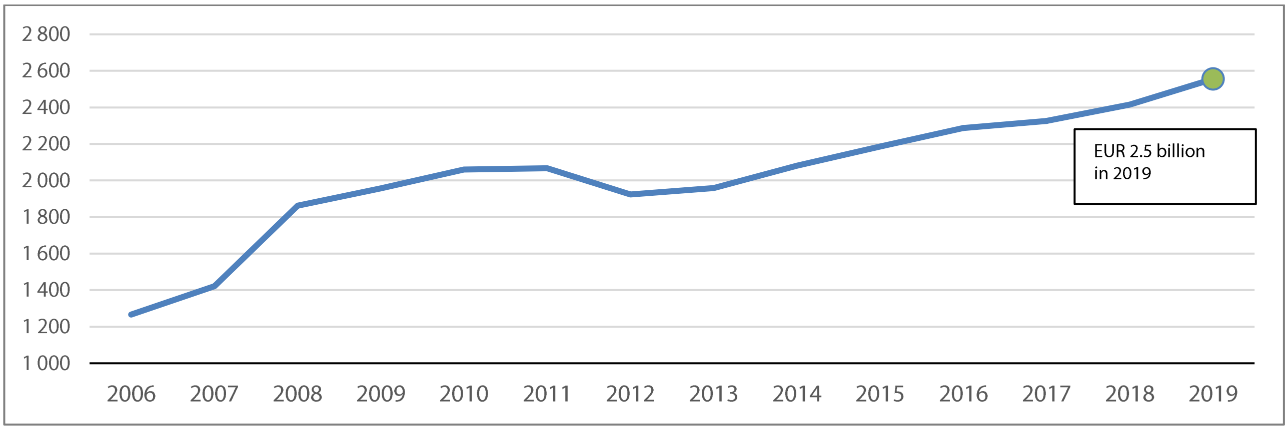
The total supply of finance to agriculture is expanding. The outstanding loan balance doubled between 2006 and 2019, and since 2013 the trend has been continuously increasing (Table 8; Figure 11). In December 2019, the total outstanding loan volume to the agriculture sector stood at EUR 2.6 billion.

Table 8: Supply of loans to the agriculture sector, 2010-2019, EUR million

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Total outstanding loan volume (in December)	2 060	2 068	1 923	1 959	2 080	2 187	2 287	2 326	2 415	2 556

Source: Banco do Portugal, 2019. Note: Outstanding loan volume in December, except for 2019 (November).

Figure 11: Outstanding loan volume to the agriculture sector, 2006-2019, EUR million



Source: Banca Portugal, 2019 for outstanding loans, own calculations for new loans.

According to both banks and agricultural stakeholders interviewed, banks interest in the agriculture sector is growing. The agriculture and agri-food sector in Portugal went through the financial crisis exhibiting resilience. This has increased the banks interest in the sector, which before the crisis, was said to be limited. Innovation and agri-tech are the strategic targets for banking services (industry 4.0, processes, etc.). According to both farm and bank interviewees, farmers with a viable project proposal, who have access to collateral, and have previous relations with a bank (credit history) will not face problems in access to finance. However, several constraints still exist in the supply of finance for Portuguese farmers. In general, even if the agriculture sector is more attractive today than seven to eight years ago, agricultural stakeholders are of the opinion that the banks still consider the sector to be riskier than other economic sectors such as housing, tourism, and industry.

The credit volume provided to the agriculture sector is still insufficient. According to the EAFRD ex-ante assessment[78], at the time, an insufficient volume of credit was granted to the agriculture and agri-food sectors to face investment needs, due to the lack of collateral in the farms and due to asymmetric information, i.e. banks have difficulties in assessing creditworthiness of businesses due to lack of recorded information on their business activities. Agricultural stakeholders pointed out that, currently, the agriculture sector in Portugal is much more in need of financing than the agri-food sector. It is a fact that the financing to the agri-food sector has decreased since the crisis

78 AD&C – Agência para o Desenvolvimento e Coesão, I.P, 2015, Avaliação ex ante dos Instrumentos Financeiros de Programas do Portugal 2020: Lote 1 - Instrumentos Financeiros para o apoio direto às empresas.

(see section 2.3.1.3), which is mainly due to entrepreneurial fabric of the agri-food sector undergoing a significant transformation, whereas the agriculture sector still faces significant challenges.

Even if the crisis increased banks' interest in the agriculture sector, access to finance after the crisis is overall more difficult. According to Caixa de Crédito Agrícola, after the financial crisis, banks' appraisals became more stringent, and, as such, credit provision became more difficult. Risk analysis is now more demanding towards smaller holdings, coupled with their own difficulty in obtaining collateral.

Bank loans consistently represent approximately one quarter of all farms' liabilities in Portugal. This suggests that self-financing remains a common practice amongst the Portuguese farmers (Table 9). As already highlighted in section 2.2.1, credit suppliers play an important role when it comes to working capital finance, and represents more than 27% of the total liabilities.

Table 9: Liability structure in the Portuguese agriculture sector, 2013-2017, % by types of financial support

Liability per source of finance (%)	2013	2014	2015	2016	2017
Debit securities	7.3	7.6	6.6	6.8	3.4
Bank loans	26.3	26.0	26.6	25.2	25.5
Companies from the same Group	10.9	11.6	11.7	12.1	12.4
Other financing sources	4.7	4.5	4.3	4.6	5.1
Suppliers obligations	25.0	24.9	25.6	26.4	27.5
Others[79]	25.7	25.5	25.2	24.9	26.1

Source: Banco de Portugal, 2019[80].

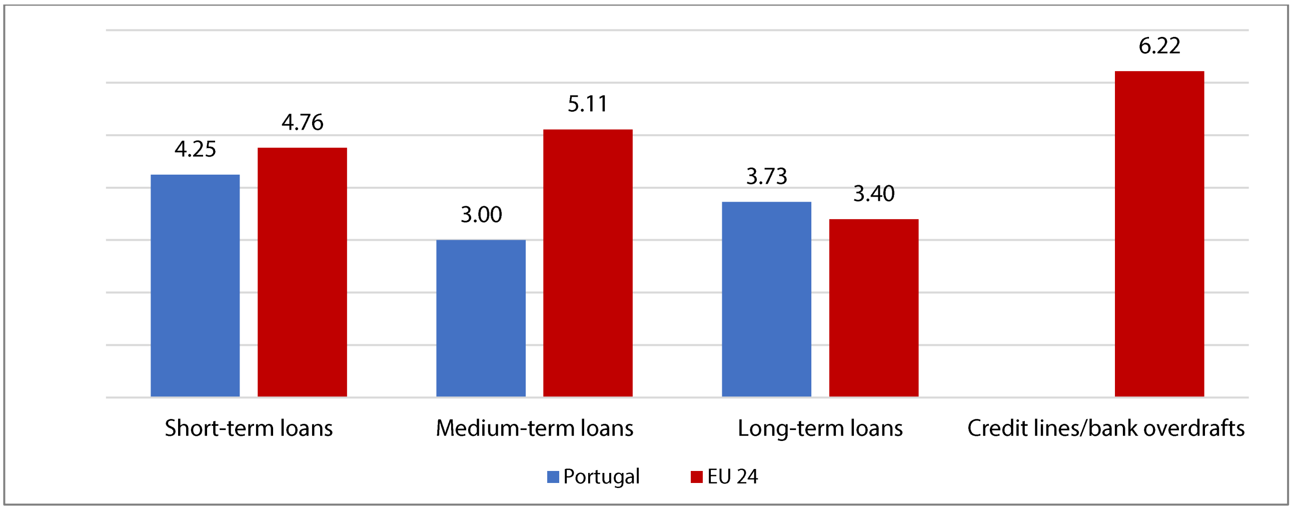
A key constraint likely to play a role in limiting the credit supply concerns banks' balance sheet position, which prevents risk taking. As highlighted in section 2.3.1.3, interviewees have underlined that after the 2009-2012 financial crisis, Portugal's banking system suffered from a high rate of NPL and insufficient capitalisation that affected the supply of credit.

Interest rates in Portugal are low. According to the *fi-compass* survey, the average interest rate for short and medium-term loans is lower than the European average (Figure 12). Therefore, the cost of debit is not considered as a barrier to farmers seeking financial support. The interest rates reported from the surveyed farmers are in line with the interest rates reported by banks and farmers' organisations, except for short-term loans, where the survey indicates that higher interest rates are generally applied. Short-term loan interest rates range between 2% and 3.5%, including for loans anticipating direct payments, which is not far from the interest rates for medium and long-term loans. However, as the interests may vary with the client, depending on the bank's assessment of the level of risk associated with the future borrower and his/her collateral possibilities, often, small-sized farms and young farmers face somewhat higher interest rates.

79 'others' includes debts to the State and other public entities, debts to shareholders and other current liabilities.

80 Banco De Portugal, February 2019, Nota de Informação Estatística - Análise do setor agrícola 2017, https ://www.bportugal.pt/comunicado/nota-de-informacao-estatistica-analise-do-setor-agricola-2017.

Figure 12: Interest rate, average value applied by Portuguese banks on agriculture loans in 2017, %



Source: fi-compass survey.

The three leading banks in the sector all offer financial products which they consider as being tailored to the needs of agriculture. There is an established base-knowledge and lending infrastructure to serve agriculture, at least the professional farms and those of large scale, in collaboration with public institutions. However, according to interviews with banks, credit institutions still have an imperfect understanding of the nature and needs of the whole agricultural sector. Apart from the three leading finance providers, the majority of the terms and conditions applied to farmers by the other banks do not differ from those applied to other sectors and, therefore, are not tailored to farmer's needs. This is particularly true for the banks with limited exposure to the agriculture sub-sectors. Those banks often assess collateral provided by the applicants without considering the specificities of the primary sector and consider requests for financing based mainly on potential customer's turnover[81].

It is relatively difficult to estimate the exact volumes of financing provided to small, medium and large-sized farms. However, it is possible to provide an estimation of the share of loans based on farms' turnover: Table 10 shows that 72.8% of the loans of Caixa de Crédito Agrícola are held by agriculture and agri-food companies with a turnover below EUR 2 million.

Table 10: Share of agricultural loans in the portfolio of Crédito Agrícola, by farm turnover

Farm Turnover	% Total Loans
Up to EUR 2 million	72.8%
From EUR 2 million to 10 million	15.4%
From EUR 10 million to 50 million	9.6%
Over EUR 50 million	2.2%

Source: Interview with Crédito Agrícola, 2019.

81 Interviews with Crédito Agrícola representatives, 2019.

Young farmers, new entrants and small-sized farms are not an interesting clientele for the credit institutions. CA estimates that the share of the overall credit portfolio granted to young farmers is approximately 5%. According to bank interviewees, young farmers and small-sized farms have less capital for their debt, and less solvability compared with their older peers. The young farmers' organisation pointed out that young farmers and small-sized farms perceive their chance of getting credit as very slim and they endeavour to secure funds by their own means. Many young / small-sized farms tend to buy equipment and materials, but do not register those as an enterprise-related debt, rather as a personal debt, which further complicates their financing.

Typically, banks in Portugal do not provide credit to start-ups. Banks are reluctant to provide credit to support farmers in the initial phases of their business, except for cases where the borrower can prove to have already undertaken sound investment operations in the sector or that are able to provide sufficient equity[82]. This represents a major constraint especially for young farmers and new entrants who are likely to have insufficient initial capital and do not have any previous credit history.

Interestingly, banks and agricultural stakeholders have different views on how to improve the insufficient supply of credit to the agriculture sector. Banks underlined that farmers need to prepare better loan applications and increase their level of know-how on the financial markets generally, in order for the banks to improve the assessment of farms creditworthiness. Farmers' representatives, on their side, underlined that banks themselves could take actions to improve farmers' access to finance. Several expressed a feeling that banks tend to finance only large and profitable enterprises and do not finance smaller projects, as the profit from small loans is much lower.

In order to improve access to finance for young farmers, a targeted financial instrument was envisaged by young farmers. The young farmers association pointed out that there is a need for a financial instrument that should be offered specifically to young farmers. The product should be conceived with a view to de-risk the portfolio of loans to young farmers, as well as with the possibility to introduce grace periods, longer maturities and lower interest rates. To a great extent this is already covered by the current EAFRD guarantee financial instrument, in a similar manner to others (e.g. in Estonia).

82 Interviews with financial institutions' representatives, 2019.

2.4. Financing gap in the agriculture sector

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

Key elements of the financing gap in the Portuguese agriculture sector

- The financing gap in the Portuguese agriculture sector was estimated between EUR 95 million and EUR 383 million.
- More than 70% of the gap is for small-sized farms.
- Access to long-term loans represents the largest difficulty for the agriculture sector.
- The financing gap for young farmers is estimated to be approximately EUR 56 million.
- The main drivers of the gap include: (i) high investment risk associated with the agriculture sector; (ii) lack of adequate collateral; (iii) lack of adequate credit history; (iv) low level of financial literacy amongst agricultural producers; and (v) lower risk taking capacity by Portuguese banks after the financial crisis.

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 Portuguese farms and statistics from Eurostat (see Annex A.4 for more information). 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[83]**.** The unmet demand for finance includes:

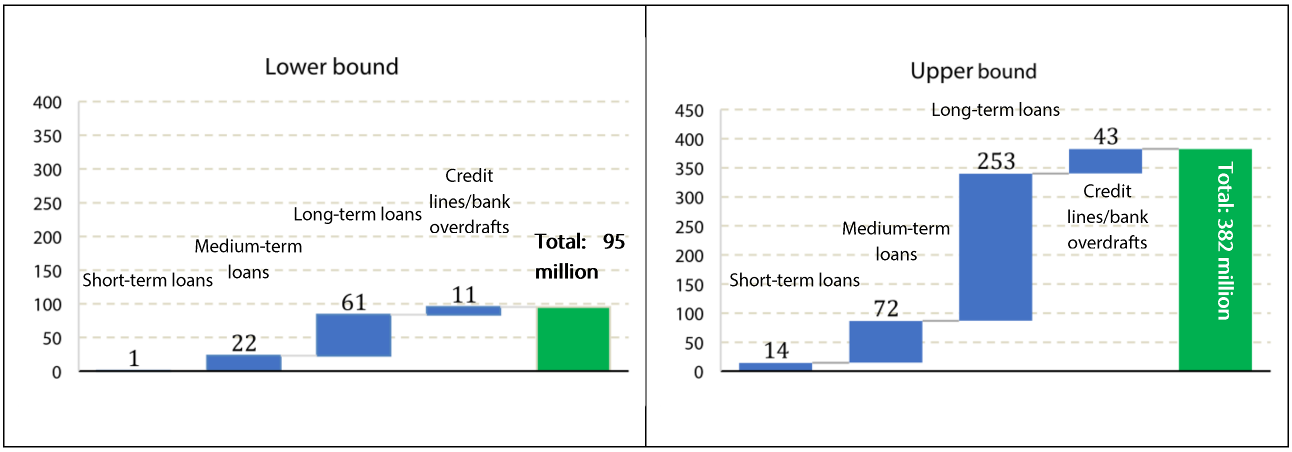
(i) lending applied for but not obtained, or
(ii) a lending offer refused by the potential borrower, as well as
(iii) lending not applied for due to expected rejection.

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 boundary:

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

83 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.

Figure 13: Financing gap by product in the agriculture sector in 2017, EUR million



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

The financing gap in the Portuguese agriculture sector is estimated to be between EUR 95 million and EUR 383 million (Figure 13). The gap is larger for small-sized farms, ranging from between EUR 69.5 million and EUR 278.7 million. Whilst for medium and large-sized farms[84], it is estimated to be between EUR 13.9 million and EUR 56.2 million, and EUR 11.8 million and EUR 47.6 million, respectively (Table 11). In terms of loan maturity, the unmet demand for long-term loans accounted for the largest share of the gap in the sector. The financing gap for long-term bank loans is estimated to be between EUR 60.9 million and EUR 253.4 million (Table 11).[85]

84 Medium-sized farm: 20-100 ha; Large-sized farm: >100 ha.

85 The ex-ante assessment published in 2015 found a financing gap for debt instruments (loans and equivalents) of between EUR 3 and 5.5 billion for all enterprises in Portugal; AD&C – Agência para o Desenvolvimento e Coesão, I.P, Avaliação ex ante dos Instrumentos Financeiros de Programas do Portugal 2020: Lote 1 - Instrumentos Financeiros para o apoio direto às empresas, 2015.

Table 11: Financing gap by farm size and product in 2017, EUR million

		Total	Short-term Loans	Medium-term Loans	Long-term Loans	Credit lines/bank overdrafts
Upper bound	Small-sized farms	**278.7**	9.6	53.5	189.2	26.4
	Medium-sized farms	**56.2**	2.3	9.6	38.8	5.5
	Large-sized farms	**47.6**	2.5	8.9	25.5	10.7
	Total	**382.5**	**14.4**	**72.0**	**253.4**	**42.6**
Lower bound	Small-sized farms	**69.5**	0.6	16.5	45.4	7.0
	Medium-sized farms	**14.0**	0.1	3.0	9.3	1.5
	Large-sized farms	**11.7**	0.1	2.7	6.1	2.8
	Total	**95.2**	**0.8**	**22.2**	**60.8**	**11.3**

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

The agriculture sector in Portugal is expanding and becoming more attractive to investors. Its financial needs are growing as a result, also due to the expansion of production linked to companies aiming at capturing increasing market shares on export markets, and companies investing in order to improve production efficiencies. However, not all farmers have access to finance to the extent they would have liked.

The general drivers of the gap in the Portuguese agriculture sector include[86] the lack of collateral, the lack of credit history, high risk perception by banks, and farmers' low financial literacy:

- **Banks perceive many agricultural projects to be associated with high investment risks**, mainly due to the increase in activities not covered by insurance, such as fire risk associated with eucalyptus cultivation and risk of uncontrolled pests in chestnut. Additionally, the volatility typically affecting the agricultural production makes the sector a high-risk area of investment.
- **Lack of credit history, or poor credit history** is a problem for part of the farming community, but especially for young farmers and new entrants who have just started their businesses and are not able to provide sound credit records. In addition, small-sized farms often lack accountancy records, making difficult for banks to evaluate their creditworthiness also in case of established and viable farms.
- **Farmers' low financial literacy.** Farmers typically lack an adequate financial knowledge on banks' requirements as well as on the financing products available. As a result, they are not able to clearly understand banks' offers and are discouraged to apply for loans, or are unable to present a valid loan application.
- The **recent financial crisis** continues to affect the risk taking abilities of financial institutions due to the lingering effect of these events on banks' balance sheet position. **This leads banks to ask for higher guarantees**, particularly for loans with long repayment periods, which is often the case for agricultural loans. **Risk aversion form banks affects in particular young farmers and small-sized farms, which are not considered attractive market segments.**

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

The financing gap for young farmers is estimated to be EUR 56 million. Most of the rejected requests are from young farmers that lack collateral, often linked to the lack of ownership of land, and credit history. Young farmers who do not own land tend to be start-ups, which fall under the small-scale farm category and, thus, face the largest gap in financing. Additionally, results from the *fi-compass* survey suggest that the bulk of the unmet demand and related gap for young farmers stems from discouraged applications. Approximately 85% of the young farmers in Portugal do not apply for loans, due to the fear of rejection, which may imply even larger non-satisfied demand for finance.

The need for financing is stable or increasing. At the time of the *fi-compass* survey, 60% of Portuguese farmers expected their financial needs to either remain stable or increase in the coming two-three years, whereas only 6% expected their financial needs to decrease, and 34% did not know what to expect with regard to financial needs. Agricultural stakeholders have pointed out that the strong export focus of some of the most competitive sectors, including olive oil, wine, and fruits and vegetables, particularly berries, almonds and nuts, is expected to lead to increased investments over the coming years, triggering a higher demand for finance. In addition, the high demand for investment support from the RDP points to a strong interest in obtaining investment financing. Therefore, unless the causes of the financing gap are addressed, the gap is expected to remain or increase in the near future.

The EAFRD funded financial instrument set up by the Government in the form of a capped portfolio guarantee has been made available as of March 2020, following the selection of the financial intermediaries, to farmers, agricultural cooperatives, and SMEs actively engaged in the processing and marketing of agricultural products and with a business established in continental Portugal.

2.5. Conclusions

Investments are growing and the agricultural market is expanding. Investments are driven by a good performance of the sector, increased export activities, investments to improve production efficiencies, and the need to adjust to climate change (irrigation infrastructure). Between 2006 and 2019, the outstanding loan balance doubled, and the need for finance continues to grow amongst farmers. The finance sector was severely affected during the financial crisis but has since recovered. Several financial products exist which are particularly tailored to the sector, provided by the three leading financial suppliers, but the sector has a potential for improvements for specific financial products, especially from the non-leading banks in agriculture. A mutual guarantee society, Agrogarante, provides guarantees to the agriculture sector, and an EAFRD capped portfolio guarantee instrument is currently being implemented to provide additional guarantees to the agriculture and agri-food sectors.

The financing gap in the Portuguese agriculture sector is estimated to be between EUR 95 million and EUR 383 million. The gap is larger for small-sized farms (ranging from between EUR 69.5 million and EUR 278.7 million) and for young farmers. Access to finance, for these categories in particular, is constrained by the lack of credit history, limited management skills and low financial literacy. In addition, banks perceive agricultural investments as high risk investments whereby the lack of collateral to secure loans is an issue for farmers, particularly for young farmers and new entrants. Overall, young farmers, new entrants and small-sized farms are not an interesting clientele for the financial institutions. Typically, banks in Portugal do not provide credit to start-ups. Compared to the EU 24 average, twice as many Portuguese farmers considered access to finance a problem, 21% considered access to working capital problematic and 19% considered access to investment financing a problem, compared to 10% and 12% respectively for the EU 24.

Based on the findings of this report, the following recommendations could be considered to further improve the access to finance for the agriculture sector:

- Implementation of the EAFRD guarantee fund, which has just started, can be expected to contribute to the reduction of the financing gap for SMEs. The fund should reduce the risk for credit institutions lending for agriculture-related activities and, thereby, improve financing conditions for SMEs in the agriculture and agri-food sectors. At a later stage, the operation of the guarantee instrument should be evaluated in terms of addressing the needs of young farmers and small-sized enterprises.
- A pilot risk-sharing loan instrument to provide targeted support to young farmers and small-sized enterprises could be considered. As banks tend to apply higher interest rates to these segments, such an instrument should combine risk coverage for banks with the possibility for reduced interest rates and longer loan maturities.
- Opportunities offered by the new legal framework – such as greater ease of combining grants and financial instruments, and the possibility to finance land purchases of young farmers – should be investigated with the aim of increasing the impact of future interventions affecting the availability and supply of financial instruments.
- The sector could benefit from additional synergies with the activity of Agrogarante. Making the guarantees provided by Agrogarante more attractive to farmers could be achieved by reducing the red tape associated with the loan applications, as well as reducing the length of application processes.
- The introduction of financial instruments should be accompanied by the provision of technical support to small-sized farms and young farmers to increase their awareness and understanding of available financial products and to improve their capacity to prepare loan applications.

3. PART II: AGRI-FOOD SECTOR

3.1. Market analysis

Key elements on the Portuguese agri-food sector
• Between 2008 and 2017, the output volumes of the Portuguese agri-food sector increased by 12%. • In the period 2008-2017, the value added at factor cost increased by 15%. • The Portuguese agri-food sector comprises 11 212 enterprises, 97% of which are micro and small-sized enterprises with less than 50 employees, employing 107 503 workers. • Between 2008 and 2017, the number of agri-food companies in Portugal has remained stable. • In 2017, Portuguese agri-food production accounted for 14.5% of the total sales in the manufacturing sector. • In 2017, agri-food output volumes in Portugal amounted to EUR 15 billion. • The main production sub-sectors are meat processing which account for 18.5% of total sales, followed by bakery at 13.4% and dairy at 11.8%. • In 2017, the manufacture of food products accounted for 78% of the total production volumes in the sector.

Between 2008 and 2017, the Portuguese agri-food sector performed positively with an increase of the output value of the Portuguese agri-food sector by almost 12%. In 2017, the production value of the sector was approximately EUR 15 billion. In the same year, the manufacture of food product accounted for 78% of the total output value. Similarly, the value added, at factor costs, increased by 15%, growing from EUR 2.7 billion in 2008 to EUR 3.2 billion in 2017[87]. Together with the agriculture sector, the agri-food sector serves as the backbone of the Portuguese economy. The agri-food sector is one of the main drivers of the Portuguese manufacturing industry, with its production representing 14.5% of total sales in 2016[88].

The domestic market is the main destination for Portuguese agri-food products, but exports are growing in importance. In 2016, 20% of food companies' turnover originated from exports. The foreign market contributed to approximately a 1% increase in the sector's turnover, although the highest contribution was from the domestic market. In 2016, export activities were of great relevance for approximately 5% of the enterprises operating in the food industries in Portugal. However, the importance of exports in the agri-food sector was lower than that registered in the manufacturing sector at 15%[89].

Animal slaughter, meat preparation and preservation were the most valued activities in the Portuguese agri-food sector, accounting for 18.5% of the total production value in 2017 (18.7% in 2016), followed by bakery and other flour-based products with 13.4% (same as in 2016) and the dairy industry with 11.8% (11.9% in 2016)[90].

The Portuguese agri-food sector comprises of 11 212 enterprises and employs approximately 107 503 workers[91]. Between 2008 and 2017, the number of agri-food companies in Portugal remained relatively stable. However, the number of firms operating in the manufacture of food products declined by approximately 7.5% over the same period, whilst the number of enterprises operating in the manufacture of beverages industry increased. In 2017,

87 Eurostat, 2019, Structural Business Statistics.

88 Bank of Portugal Statistics, 2019.

89 Banco de Portugal - NOTA DE INFORMAÇÃO ESTATÍSTICA: Análise setorial das indústrias alimentares 2012-2016. No later data are available.

90 Banco de Portugal - NOTA DE INFORMAÇÃO ESTATÍSTICA: Análise setorial das indústrias alimentares 2012-2016.

91 Eurostat, 2019, Structural Business Statistics . No later data are available.

manufacturing food product companies accounted for approximately 83% of the total number of firms operating in the sector[92].

The Portuguese agri-food sector includes a high number of micro-enterprises and SMEs. In 2017, firms with less than 50 employees accounted for almost 97% of the sector[93]. In 2018, the ten largest companies in the sector collectively had revenues of approximately EUR 3.4 billion, representing 20% of the total revenues of the sector[94] (Table 12).

Of the top ten companies, six are domestically owned businesses namely, Lactogal, Sovena Portugal, Sovena Oilseeds, Sumol+Compal, Sohi Meat Solutions and Lusiaves, and four are foreign-owned businesses namely, Super Bock Bebidas (owned by Heineken), SCC (owned by Carlsberg), Nestlé Portugal and Coca-Cola European Partners Portugal. Lactogal, the company with the highest revenue in 2018, was created in 1996 through a merger of three agricultural cooperatives, notably Cooperativa Agros, Cooperativa Lacticoop and Proleite/Mimosa S.A.

Table 12: Top 10 most important agri-food businesses in Portugal, in terms of revenue, 2018

Enterprise name	Employees	Revenue (EUR million)	Turnover (EUR million)
Lactogal - Produtos alimentares, S.A.	1 438	663. 8	678.1
Nestlé Portugal, Unipessoal Lda	1 763	483.4	468.2
Super Bock Bebidas, S.A.	750	397.8	461.1
Sovena Portugal - Consumer Goods, S.A.	223	322.7	366.1
Sovena Oilseeds Portugal, S.A.	126	306.9	411.1
SCC - Sociedade Central de Cervejas e Bebidas, S.A.	637	284.4	294.8
Sumol+Compal - Marcas, S.A.	1 219	269	300.4
Sohi Meat Solutions - Distribuição de Carnes, S.A.	420	266.6	NA
Lusiaves - Indústria e Comércio Agro-Alimentar, S.A.	1 048	219	224.4
Coca-Cola European Partners Portugal, Unipessoal, Lda	387	196.7	179.0

Source: Informa D&B; 2018; 1000 Maiores Empresasda economia Portuguesa https://www.listagem.pt/melhores/.

92 Eurostat, 2019, Structural Business Statistics.
93 Eurostat, 2019, Structural Business Statistics.
94 Total revenues of the agri-food sector in 2018 were EUR 17 billion. (NACE codes C10 - Manufacture of food products and C11 – Manufacture of Beverages): EUR 17 083 941 231; C10 – EUR 13 679 619 188; C11 – EUR 3 404 322 043; Source: https://www.ine.pt/xportal/xmain?xpid=INE&xpgid=ine_main&xlang=en.

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 analysis of the type of enterprises which face more constraints in accessing credit. The examination of the demand for agri-food finance is based on the findings from Agri-food survey results of 100 Portuguese enterprises, as well as interviews with key stakeholders in the agri-food sector combined with national statistics.

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

- Since 2013, gross investment in the Portuguese agri-food sector has been increasing. In 2017, the investment level reached EUR 2.1 billion.
- Gross investment in tangible goods accounted for 52% of the overall level of investment in the sector, followed by investment of 35% in machinery and equipment.
- In 2017, the sub-sectors reporting the highest level of investment were the bakery and farinaceous sub-sector at EUR 299 million, followed by the dairy and the meat processing sub-sectors.
- In 2018, access to qualified labour and high production costs represented the main challenges for 33% and 31% of Portuguese agri-food companies, respectively.
- The main drivers of investments include modernisation in order to improve cost efficiency in the production and expand production, internationalisation, investments in training and the development new products; and investments in working capital.
- The support for processing/marketing and/or development of agricultural products from the RDP plays a key role in stimulating investments undertaken by the agri-food sector.
- Portuguese agri-food enterprises seek less finance from banks than their EU counterparts, at 28% compared to an EU 24 average of 46%.
- The unmet demand for finance of the agri-food sector was estimated at EUR 849.9 million.
- The rejection rate for loan applications in 2018 was around 10%.
- The main reasons for rejection by banks are the high business risks associated with the agri-food sector. This is likely due to banks insufficient knowledge to properly assess the risk of the sector for some banks, in combination with volatile and unpredictable production cycles and low profit margins of the sector.
- In addition, lack of collateral, credit history and personal relations with banks, together with the relatively low level of financial literacy amongst micro-businesses and SMEs, further constrain the agri-food sector's access to finance.
- Applications related to start-ups, innovative investment in non-tangible assets and small-sized enterprises are more likely to be rejected, and when financed they obtain less favourable financing conditions.
- Complicated application procedures and the fear of rejection are among the main reasons why the Portuguese agri-food sector refrain from approaching banks. The share of discouraged enterprises was 14%, almost twice as high as in the EU 24, in 2018.

3.2.1. Drivers of total demand for finance

Since 2013, gross investment in the Portuguese agri-food sector has been increasing. Between 2008 and 2012, the level of investments in the sector decreased by approximately 34% (Table 13). In 2013, the negative trend reversed, and investment started growing again, although with fluctuations until 2016. In 2017, a significant growth was registered, with a year-on-year increase of 23%, reaching the total volume of EUR 2 136 billion. In 2017, investments in tangible goods accounted for the largest share of gross investment in the sector at approximately 52%, followed by investments in equipment and machinery with EUR 649 million at 30%.[95]

Table 13: Gross Investment in the Portuguese agri-food sector, 2008-2017, EUR million

Gross investment in:	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Construction and alteration of buildings	170	130	246	233	204	202	228	220	217	263
Existing buildings and structures	178	136	26	21	30	34	27	18	45	30
Land	97	78	9	10	71	83	80	74	89	90
Machinery and equipment	752	637	505	508	461	482	498	511	479	649
Tangible goods	1230	1013	945	926	831	848	902	890	900	1104
Total	**2 427**	**1 994**	**1 817**	**1 792**	**1 596**	**1 649**	**1 730**	**1 715**	**1 732**	**2 136**

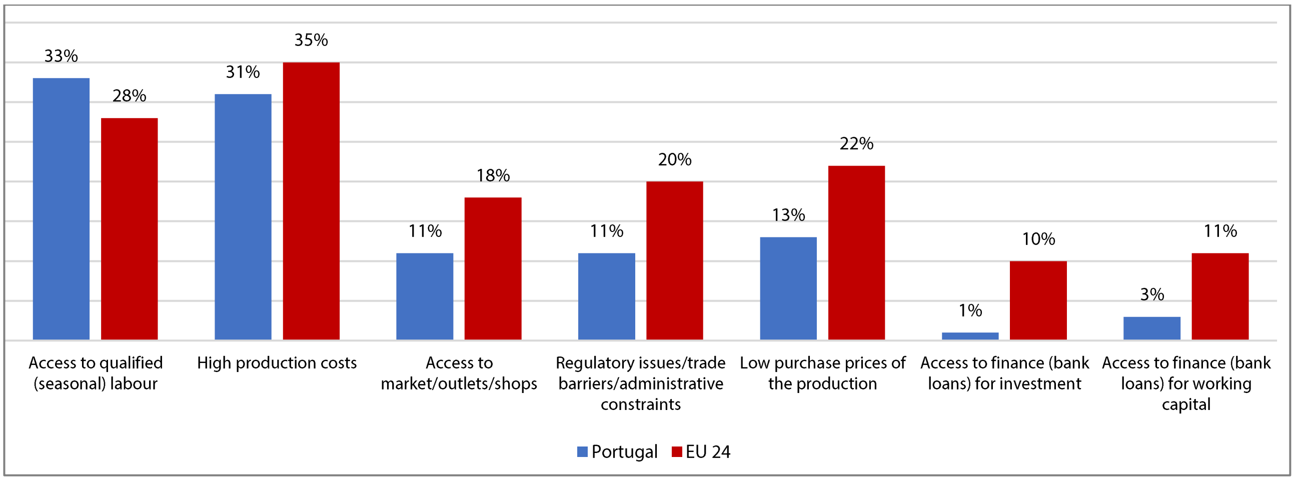
Source: Structural Business Statistics – Eurostat, 2019.

At sub-sector level, the manufacture of bakery and farinaceous products registered the highest level of investments in the sector. In 2017, the level of investments in the bakery and farinaceous sub-sectors stood at EUR 299 million. The dairy sector ranked second in terms of overall gross investment with EUR 179 million, followed by the processing of meat products sub-sector[96].

The lack of access to qualified labour and high production costs are the main concerns for the sector (Figure 14). The main challenges for the sector are access to qualified labour and high production costs. According to the Agri-food survey, in 2018, 33% of Portuguese agri-food enterprises experience difficulties in accessing qualified labour, whilst high production costs represent an important challenge for 31% of the companies in the sector. Interestingly, only 1% of Portuguese firms experience problems in accessing finance for investments.

95 Later data is not available at the time of publication.
96 Eurostat, 2019, Structural Business Statistics.

Figure 14: Difficulties experienced by agri-food enterprises in 2018



Source: Agri-food survey.

According to agri-food sector representatives, the Portuguese agri-food sector is endeavouring to attract skilled workers. For many years, the agriculture and agri-food sectors in Portugal have been a labour market for those who did not want to continue with their studies in higher education, according to stakeholders representing the agri-food sector. Jobs in these sectors were accessible to individuals with a low level of education. Today, in a globalised economy, the success of economic activity often depends on the ability to remain competitive and appealing in a market dictated by quality, added value and consumers' preferences.

Therefore, according to agri-food sector representatives, enterprises that do not invest and adopt state-of-the-art techniques and technologies find themselves unable to sell their products. Interviewees from the sector pointed out that market trends have caught up with the managers who are now hiring a more qualified workforce, although it is not always easy to attract such workers to the sector. However, the aspiration of the sector is that the increasing focus on hiring qualified labour will not only improve the output of the sector, but also position it as a labour market for qualified labour in the longer run, hence generating a virtuous cycle of innovation and added value.

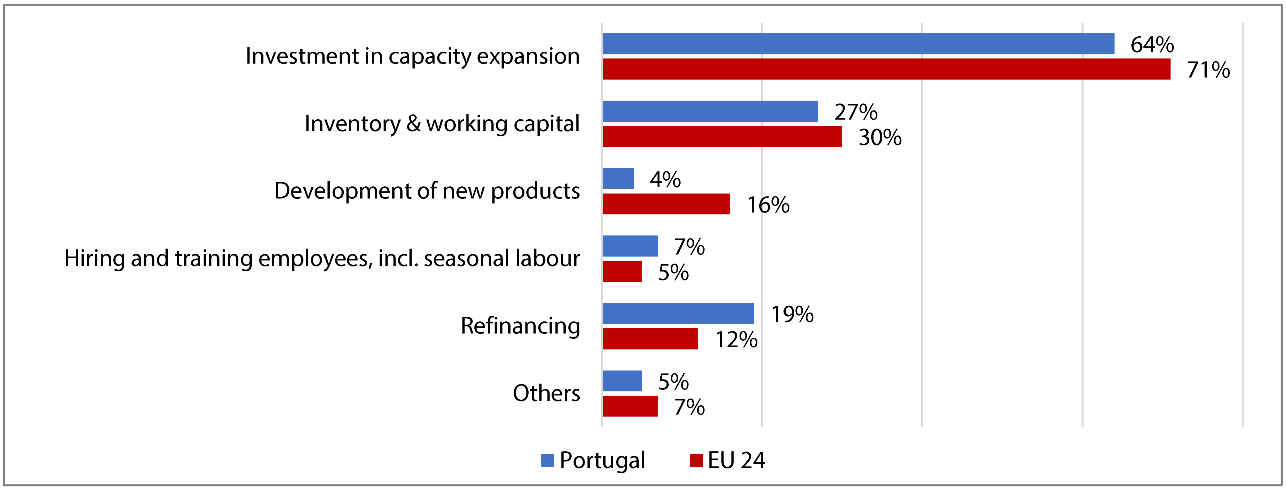
According to the Portuguese food and drinks association, the main drivers for investments include:

- Investments in modernising factories and production equipment in order to improve cost efficiency in the production such as amortisation and keeping up with state-of-the-art production lines, with a view to expand production.
- Internationalisation, i.e. investments motivated by the possibility of obtaining increased market shares in non-domestic markets.
- Investments in the training of the work force and new products' development.
- Investments in commercial assets linked to for example marketing and branding; and
- Working capital needs, such as for the purchase of raw materials and the expenditure for the daily running of the business.

In 2018, the purpose of the credit requested by Portuguese agri-food firms was related to investments in capacity expansion, investments in inventory and investments in working capital. According to the Agri-food survey, 64% of the enterprises in the sector applied for finance in order to invest in capacity expansion through the enlargement of buildings or machinery modernisation (Figure 15). Furthermore, 27% of Portuguese companies are compelled to search for external funds to meet their short-term needs regarding inventory and working capital.

Refinancing previous loans and training of new employees are other important drivers of the demand for finance in the sector. According to the Agri-food survey, 19% and 7% of Portuguese agri-food firms applied for bank loans in order to meet their refinancing needs and to train new workers, respectively (Figure **15**). However, according to interviewees from the sector, additional financing resources are needed to extend the training period and to increase workers' remuneration in order to make the sector more attractive to qualified workforce.

Figure 15: Purpose of bank loans in the agri-food sector in 2018



Source: Agri-food survey.

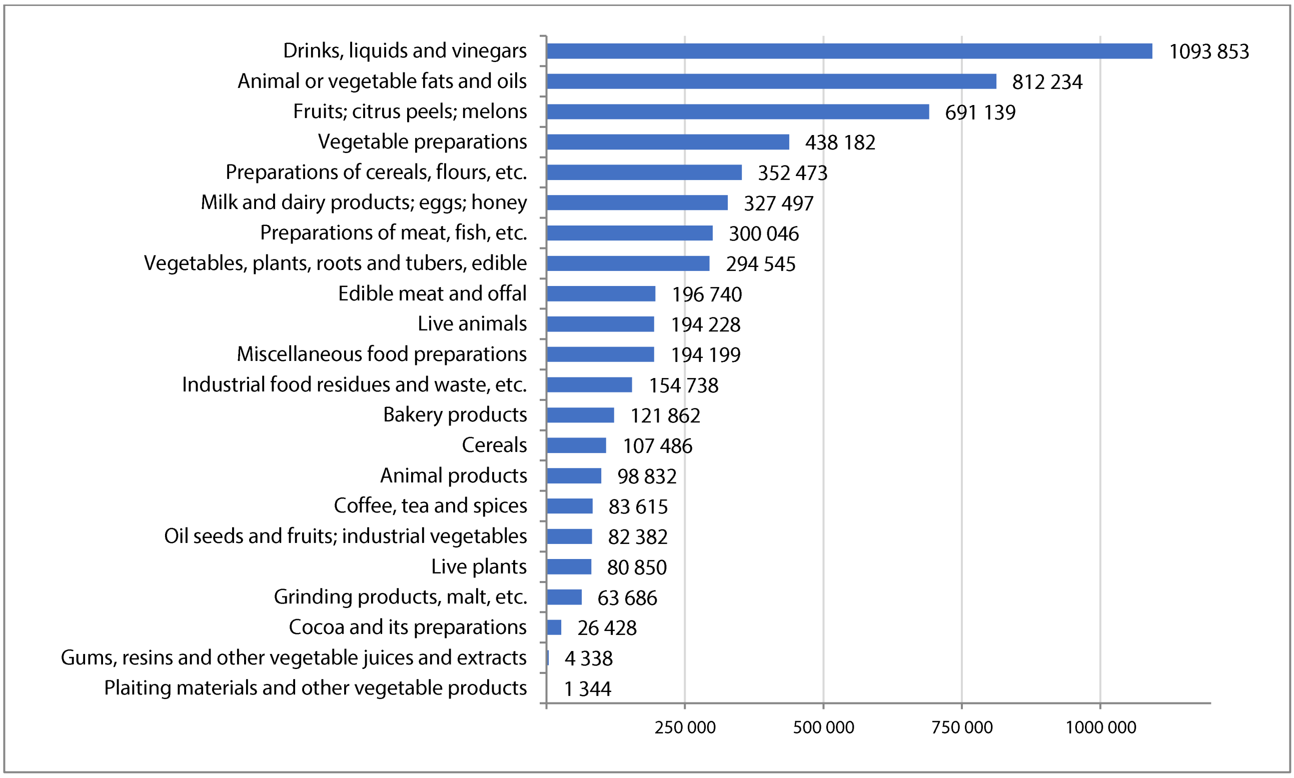
Increasing sales on export markets is an important driver of the investments undertaken by the large-sized companies, but also companies not looking to export need to invest. When analysing investment trends for the Portuguese agri-food sector, a distinction should be made between medium and large-sized companies, on the one hand, and small-sized companies, on the other hand, as their investment motivations differ. The aforementioned investments are largely motivated by an increased presence on export markets. In order to increase sales on foreign markets, investments are undertaken for numerous reasons, for example, investments aimed at improving production efficiencies and increase competitiveness, investments aimed at expanding production by investing in new factories and in hiring and training of new employees, and investments aimed at adopting products to new markets and to add value to the products.

However, companies that want to remain competitive in the domestic market also need to invest for the same reasons as outlined above. According to Federação das Indústrias Portuguesas Agro-Alimentares (FIPA), the sector is so competitive in Portugal, that if a company does not regularly invest, it is difficult for them to stay in business. Thus, the modernisation of factories, as well as investments in marketing strategies, market research and equipment, are essential for all companies. According to one bank interviewee, the new protocol of the Ministry of Health to encourage sugar and salt reduction in agri-industrial goods[97] has also had an influence on the investments in the sector, as companies have had to invest in product development/adaptation, and, consequently, on the financing of the sector. Climate change was considered a less important factor for the time being, but as awareness is increasing, investments motivated by climate change, for example in building heating efficiency or packaging, are expected to increase in the (near) future.

97 Serviço Nacional de Saúde, May 2019, DGS assina protocolos com a Indústria Alimentar para uma alimentação mais saudável, https://www.dgs.pt/?cr=35599; https://www.fipa.pt/consumidor/reformulacao-nutricional-e-um-compromisso; The protocol was signed between the Ministry of Health and FIPA, the Food and Drinks Association on May 2 in 2019. In addition to the representativeness of the organisations involved, this process incorporates an independent monitoring system, conducted by Nielsen and the National Institutes of Health, which will allow monitoring the evolution of the nutritional composition of products representing 80% of sales of the various categories, presenting annual balance sheets based on the average weighted by sales volume, which channels the reformulation processes into the most consumed products.

The main export oriented sub-sectors are also driving forward the investment volume. The main export product is wine, followed by olive oil. According to FIPA, these are the two top products of the Portuguese sector. Wine and olive oil are followed by bakery products, biscuits, crackers, canned fish, and preserved and transformed tomatoes (Figure 16). The main export markets are EU countries, where Spain has 22% of the total export value, followed by France at 12% and the UK at 8%. Outside the EU, Angola is the largest market at 6% followed by the US at 4%, Brazil at 2.9%, and China, currently at 1%, but whose share is increasing[98].

Figure 16: Exports of agricultural and agri-food products in 2018, EUR



Source: Agricultural Statistics – 2018, National Statistics Institute of Portugal.

As presented above, the type of investments undertaken depends on the company. Those that are Portuguese owned and linked to the agriculture sector, such as for example, the larger olive oil producer Sovena, invest in the olive plantations, as well as in the rest of the value chain. Sumol+compal, a domestic family owned fruit juice producer, and also one of the top ten companies in Portugal (Table 13), is said to invest less in the agricultural part of the production but more in innovation, factories, commercial initiatives and marketing. Imperial, a large chocolate producing company which is now foreign owned, but was previously Portuguese, is known for its innovative production and exports to 80 markets. Lactogal, the large dairy processing company, is built on agricultural producers created from a merger of three cooperatives, and exports a substantial share of its production to Spain. Lactogal is said to invest in both production processes and marketing.

Investments aiming at adopting new products and increasing value added were only mentioned by 4% in the Agri-food survey as a reason for borrowing. However, according to representatives of the agri-food sector, this represents a very important investment motivation for some companies. Indeed, agricultural stakeholders pointed out that the investments undertaken by the agri-food sector in adding value to the final product has been an essential driver to the improved performance of the agriculture over the past few years.

98 All data is based on interview information with FIPA. The % refer to % of total exports.

For some sub-sectors, such as the wine, olive oil, and fruit and vegetables, the primary and the processing stages are also closely interlinked, and more often than not, the processors will also own the farming facility. Hence, as evidenced in section 2.2.1, investments by several of the main agri-food producers in the country are undertaken for the chain as a whole. They invest in the field, in the processing facilities, and in the commercialisation of the products all at once, in order to improve their competitiveness in foreign markets through ensuring stable quality of the production[99]. Compared to the agriculture sector, the companies in the agri-food sector are larger, more professional, and the investments undertaken are larger.

In 2018, enterprises operating in the fruit and vegetables processing segments reported the highest reliance on external debt. In 2018, the debt to asset ratio of this sub-sector was 32%. The dairy processing was the sub-sector with the lowest reliance on external debt, reporting a ratio of 16%.

For investments undertaken by SMEs, a distinction should be made between the more traditional SMEs and the new SMEs/start-ups.[100] The traditional SMEs are not investing a significant amount in innovation. They instead focus on financing the day-to-day activities. They also seek financing for investments in equipment, premises, vehicles and the running cost for operations. This financing is mainly sourced from banks. The new SMEs are exploring new trends on the market, and they invest in innovation. If possible, they try to access loans for day-to-day business, but they also apply for EU support for innovation projects. These companies could also be an offspring from an EU supported research project, which has allowed them to develop a competitive product. Occasionally, these companies also obtain risk investment from private individuals. However, according to FIPA, the start-up segment is still rather small in Portugal. During an interview carried out for this study, FIPA mentioned examples of start-ups specialising in producing new snack trends (dehydrated fruit), and a company producing mashed fruits for yoghurts for dairy companies.

Small-sized companies are confronted with growth obstacles relating to access to finance. According to FIPA, small-sized companies usually start with investments from Portuguese investors to initially grow the company, and they rely on RDP support, as well as collaboration with Universities to access EU research funding. However, companies acting only with private investors, and public support, reach a level when they need to sell the company, or identify an international partner, due to the limited capacity of the Portuguese investors. This is however not unique for the Portuguese market, but similar to the situation for companies in other countries, as the food sector is mainly composed of small-sized companies.

Additional investments in quality products and branding would provide benefits for both the agriculture and agri-food sector. Agricultural stakeholders, including the main agricultural organisation, Confederação de Agricultores de Portugal, and regional public administration offices, argue that one opportunity for the agriculture and the agri-food sector is further investments in quality products and branding of Portuguese products. This would allow for both the primary producers and the smaller agri-food companies to position themselves better in the food value chain, and thus allow them to add more value to their products.

At the moment, big agri-food companies are said to be able to dictate the prices to small-sized farms, who are faced with few options with regards to whom to sell their products. However agricultural stakeholders consider this to be a losing strategy for everyone involved. If smaller, local agri-food companies collaborated more directly with farms, giving them certain guarantees about the exploits surrounding their products, then these companies would be able to increase the quality of their offer, adding parallel values, which would benefit both the farm and the agri-food sector. At the same time, the important role of the agri-food sector in providing famers with legal and technical know-how related to their production has been underlined by agriculture stakeholders.

Thus, additional investments in innovation and entrepreneurship, promoting tourism, and marketing platforms, have been considered essential in order to promote the growth of both the agriculture and the agri-food sectors. One

99 Interviews with agriculture and agri-food representatives, 2019.

100 Interview with FIPA, 2019.

agriculture stakeholder suggested that an umbrella brand is needed in Portugal. The national products were considered to need a larger presence in international trading exhibits.

Working capital financing increases due to the delay of payment by retailers. In Figure 15, in 2018 working capital was identified as the purpose of the bank loan by 27% of the companies that had their loan requests approved. The Portuguese agri-food sector has, according to FIPA, one of the lowest profit margins in the EU, at approximately 2-3%. Two large retailing companies control more than 60% of the consumption, and they are said to impose strong pressure on the agri-food sector, often using food or drink products for their promotional activities and transferring the cost of the promotion to the producer/processor. Portuguese consumers are said to give priority to price over quality, or over nationally/locally produced products, and that it is difficult for the agri-food sector to alter this situation, so that they are forced to accept agreements giving up to a 50-75% discount if they want their products to stay on the shelf. In addition, retailers often delay the payment of the product between 60-90 days, causing liquidity problems for the agri-food producers. This leads agri-food companies to ask for working capital financing, which, according to stakeholders from the sector, is entirely financed from the banks.

The support for processing/marketing and/or development of agricultural products from the EAFRD plays a key role in stimulating investments undertaken by the agri-food sector. At the same time, the demand for public support significantly overtakes the resources made available under the three RDPs by the end of 2019 (under sub-measure 4.2 Support the investment needs of the agri-food sector). As Table 14 indicates, the overall volume of support applied for amounted to EUR 374 million from 1 138 applications in total (before administrative and eligibility checks). The resources made available under the 25 grant calls were EUR 273 million, leaving a gap of EUR 101 million.

Table 14: Portugal: 2014-2020 RDPs implementation data for sub-measures 4.2, total public finance, by the end of 2019

RDP sub-measures	Number of applications	Total support requested by all submitted applications (EUR million)	Budget made available under all grant calls (EUR million)	Number of approved applications for support	Amount requested not being supported (EUR million)
4.2 Support to investments needs of the agri-food sector	1 138	374	273	591	101

Source: Portuguese Ministry of Agriculture, 2019. Preliminary data. To be noted that the data for Mainland Portugal for the 'Total support requested by all submitted applications', which is 88% of the value, is based on the average support rate of the approved projects (and not potential projects waiting for approval).

Note: The total amount 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.

As presented in section 2.2.1 and 3.2.1, an EAFRD capped portfolio guarantee instrument is under implementation as of March 2020, and agri-food SMEs in mainland Portugal are eligible for support.

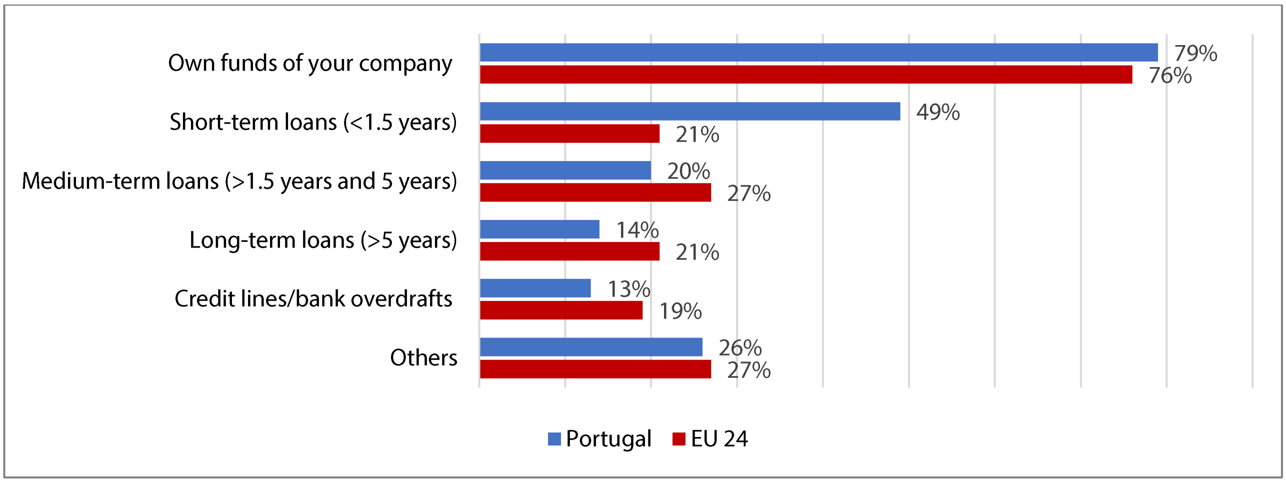
3.2.2. Analysis of the demand for finance

The potential total demand for finance combines both met and unmet demand. The met demand consists on the aggregate volumes of all applications for finance which were accepted by the financial institutions in a given year. The unmet demand consists of the assumed volumes of applications rejected by a financial institution, offers of credit refused by farmers, alongside cases whereby farmers are discouraged from applying for credit due to an expectation of rejection or refusal.

In 2018, unmet demand for finance in the Portuguese agri-food sector was estimated to be EUR 849.9 million.

Portuguese agri-food companies tend to rely on their own funds to a greater extent than bank finance (Figure 17). According to the agri-food survey, between 2016 and 2018, 79% of the enterprises operating in the sector relied primarily on their own financial resources to meet their financing needs.

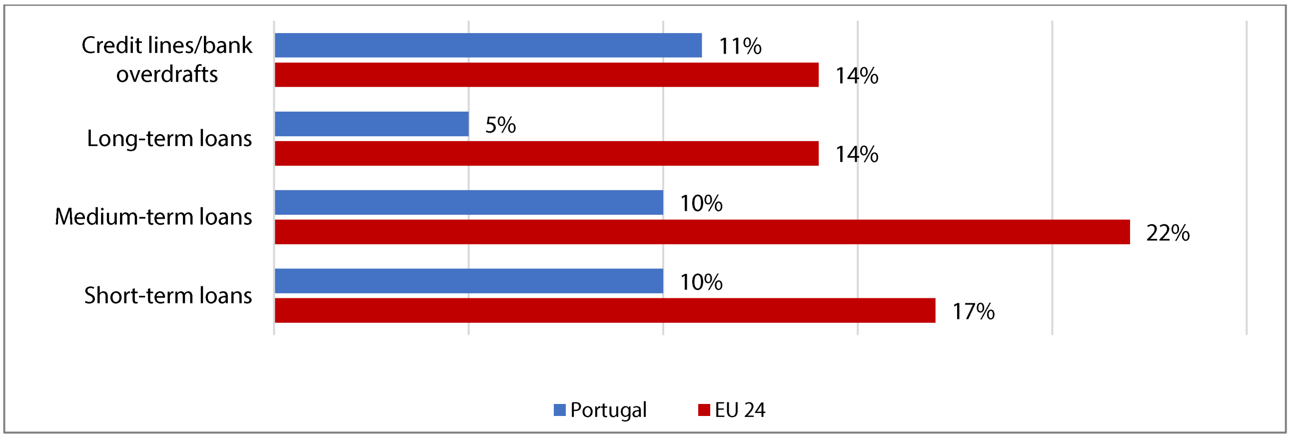
Figure 17: Most important financing instruments to agri-food enterprises in 2018



Source: Agri-food survey.

Portuguese agri-food companies are less likely to apply for bank loans than their European counterparts. According to the Agri-food survey, in 2018, 28% of Portuguese agri-food firms applied for finance, compared to an EU 24 average of 46%. For the same year, credit lines/overdrafts were the most requested financing products with an application rate of 11%. Around 10% of the firms operating in the sector applied for short and medium-term loans, respectively, whereas long-term investment loans reported an application rate of 5% (Figure 18).

Figure 18: Portuguese agri-food enterprises applying for finance in 2018, by financing product



Source: Agri-food survey.

According to banks, the highest share of the outstanding loans is constituted by long-term loans. According to an interview with Crédito Agrícola, in 2019 the average exposure amount per credit agreement granted to the agriculture and agri-food sector (no distinction is made between the two sectors) was EUR 138 700. The average maturity of these credit agreements is 11 years. In May 2019, these bank's outstanding credits to the agri-food sector, broken down by products, was the following:

- Short-term loans and credit lines: 11%;
- Medium and long-term loans: 74%;
- Security account: 14%.

According to the food and drinks association, working capital needs represent an important driver for borrowing, and bank financing is often requested for this need. However, as short-term loans are generally smaller in value than long-term loans, their overall share of the volume of outstanding loans is low, although their number is higher.

Overall, the agri-food sector's dependency on bank financing is lower than that for the economy as a whole. In 2016, interest-bearing debt accounted for 48% of the agri-food sector's liabilities, less than what was reported for the manufacturing sector and total economy at 51% and 57%, respectively[101]. Financial autonomy[102] in the agri-food sector is more than the average of the manufacturing sector, and gradually increased between 2012 and 2016. According to Bank of Portugal's Credit Responsibility Centre in 2016, the financial autonomy of the agri-food sector was 42%, 40% for manufacturing industries and 32% for the entire economy. Micro-enterprises reported lower financial autonomy in the same year at 19%, due to their negative equity and/or high level of indebtedness arising from fall in market volumes. The dairy industry had the highest financial autonomy ratio at 65%, whilst bakery products ranked last at 28%[103].

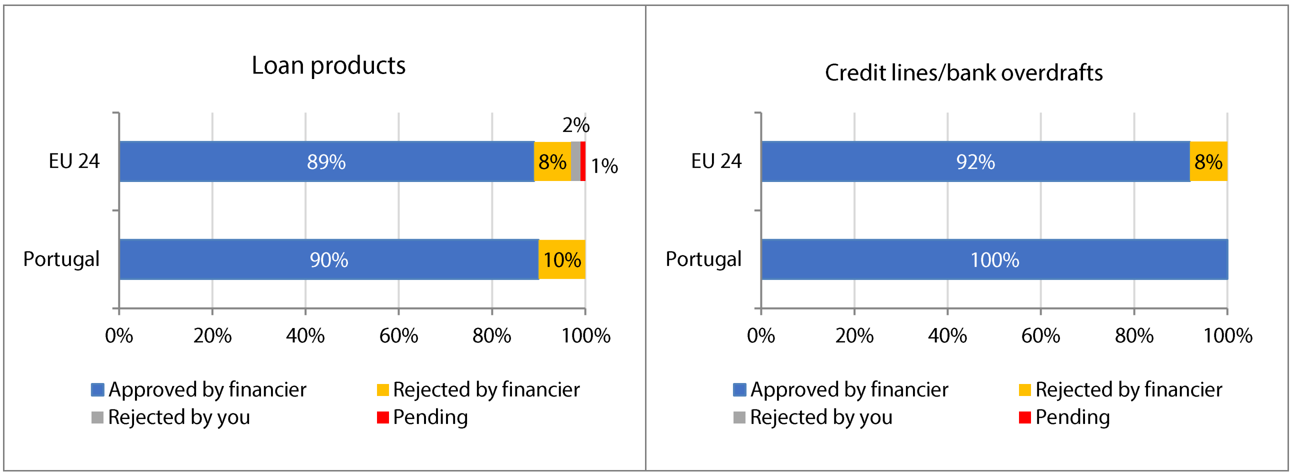
According to the Agri-food survey, in 2018, 10% of the enterprises applying for loan products were rejected. This evidence is in line with the SAFE survey, which states the rejection rate of bank loan application for SMEs from the entire economy was also approximately 10% in Portugal (Figure 19). No rejections for credit lines have been recorded.

101 Bank of Portugal's Credit Responsibility Centre, 2019. No later data is available.

102 Financial autonomy indicates the part of the company's total applications, namely goods and investment applications, financial applications, stocks applications, credit granted to clients, etc., which was supported by capital owned by the company self, i.e. the company's equity. The concept is useful on the long-term financial risk evaluation since it supplies information about the financial structure of the operator applying for funds, and about its capacity to fulfil its long-term financial commitments. The higher the financial autonomy, the higher the part of its applications that are being funded by equity and, consequently, lower will be the part that is being funded with resource to external funding or debt, that is, smaller will be the degree of the company's indebtedness.

103 Bank of Portugal's Credit Responsibility Centre, 2019. No later data are available.

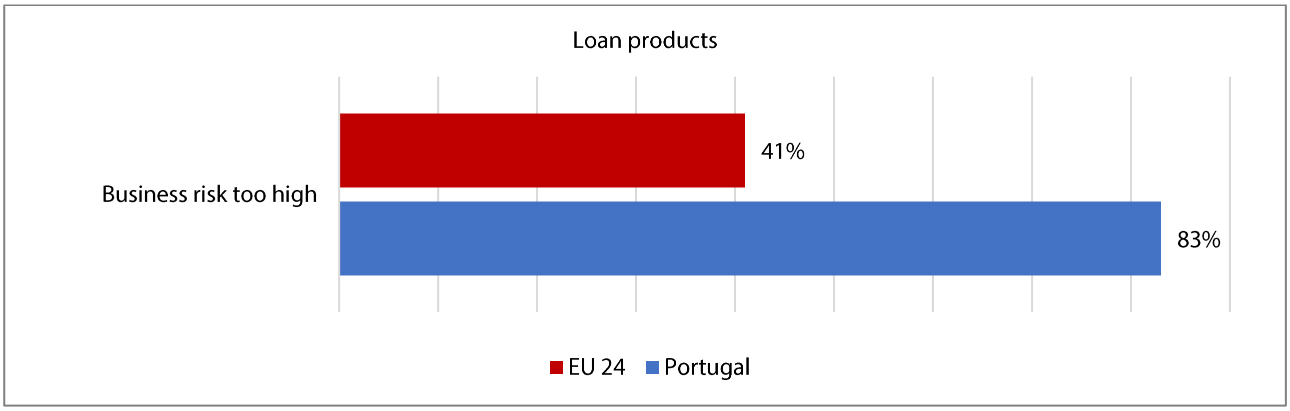
Figure 19: Results from loans applications in the agri-food sector in 2018



Source: Agri-food survey.

Rejection levels vary depending on the performance of the company and the purpose of the investment. According to agri-food sector and bank interviewees, access to finance is not considered a major obstacle for the agri-food companies looking to undertake investments in tangible assets, such as factories and equipment, and who can present an overall positive balance sheet, a good product, and a viable investment project. Also, access to working capital finance is not considered a major problem. However, the difficulties appear for the companies that are innovating and presenting project proposal applications linked to investments in intangible assets. Also, start-ups without a business track record, and without a credit history, face problems. In addition, credit for covering operational costs such as salary expenses, or for purchase / leasing of company cars, etc, are considered as more difficult to be approved, particularly compared to the situation in the past.

Figure 20: Reasons for loans' rejections in the agri-food sector in 2018



Source: Agri-food survey.

Loan applications by agri-food processors in Portugal are rejected mostly because of the high risk associated with the sector and the proposals; something significantly more common in Portugal than in other EU 24 countries. The main reasons behind banks' high risk perception are:

- **Lack of banks' sufficient knowledge to properly assess the risk of the sector.** Some applications fall under non-fundable initiatives due to risk considerations, particularly when linked to innovative investments in non-tangible assets. This happens in particular with banks that do not have a tailored banking policy for the agri-food sector, which assess agri-food applicants on the basis of the same criteria as applicants operating in other non-agri related and less risky sectors, and thus they may be more frequently rejected[104].

- **Volatile and low profit margins lead to uneven balance sheet structures.** This intrinsic characteristic of the agriculture sector also influences the agri-food sector and its possibilities to access finance. Agri-food production is influenced by climate and natural conditions, as many agri-food businesses also own the agriculture facility and rely on internal production to satisfy their processing needs. The balance sheet of some companies may fluctuate due to circumstances beyond the control of the agri-food enterprise, and this can lead to difficulties for banks to estimate the companies' creditworthiness. In addition, the low profit margins of approximately 2-3%[105], see section 3.2.1, further complicates the situation for the sector to access finance.
- **Low economic performance**. According to banks interviewed, non-compliance with debt ratio (net debt/EBITDA) and / or lack of economic and financial viability of the project submitted for financing are common reasons for turning loan applications down, both from the agriculture and agri-food sector.

According to interviews with Portuguese financial institutions, other reasons of rejection include:

- **The lack of collateral**. The EAFRD ex-ante assessment for financial instruments[106] found the low access to collateral to be one of the main constraints in access to finance for the Portuguese agriculture and agri-food sectors. According to Government representatives, this is still the case, along with the generally longer repayment period of loans, on average 10-12 years, as well as the higher risks associated with lending to agri-food, all of which lead the banks to request higher levels of collateral or guarantees. This was further confirmed by the agri-food sector representatives who reported that banks usually request high guarantees for investment loans. The level of the collateral depends on the economic size of the company, its solvency, and the expected viability of the project. Naturally, the higher the risk associated with the financing, the higher the collateral requested. Usually company assets are used as guarantees, rather than personal collateral. According to agri-food sector representatives, it is not uncommon for the bank to request the company itself to be the guarantee for the loan. SMEs and micro-enterprises in the agri-food sector are particularly challenged when it comes to meeting banks' collateral requirements.
- **Lack of credit history and low level of financial management**. The business fabric of the agri-food sector in Portugal is composed mainly of family businesses, micro-enterprises and SMEs. Family owned firms might attempt self-accountancy and are not able to provide a good quality record of their past activities. According to FIPA, many small businesses lack the skills to negotiate with banks, they do not have the ability to gain the banks' trust, and may not have the competences to prepare an adequate business plan.

  New businesses do not have production history and are often characterised by erratic productivity trends, making it difficult for banks to assess their profitability and growth capacity. As presented section 3.2.1, start-ups that often seek to invest in innovative solutions and product development are faced with difficulties in obtaining capital in the market.

Several interviewees representing the agriculture and agri-food sectors underlined the importance of having a pre-established relationship with the bank in order to access finance: not only credit history, but also personal relationships were considered to be relevant for being successful in obtaining a loan. One bank interviewee also underlined that know-how of the product being produced and of the sub-sector is a key factor in project evaluation.

Complicated application procedures imposed by banks and the fear of rejection are two of the main reasons for Portuguese agri-food companies not to apply for loans. In 2018, sufficient access to internal funds was the most

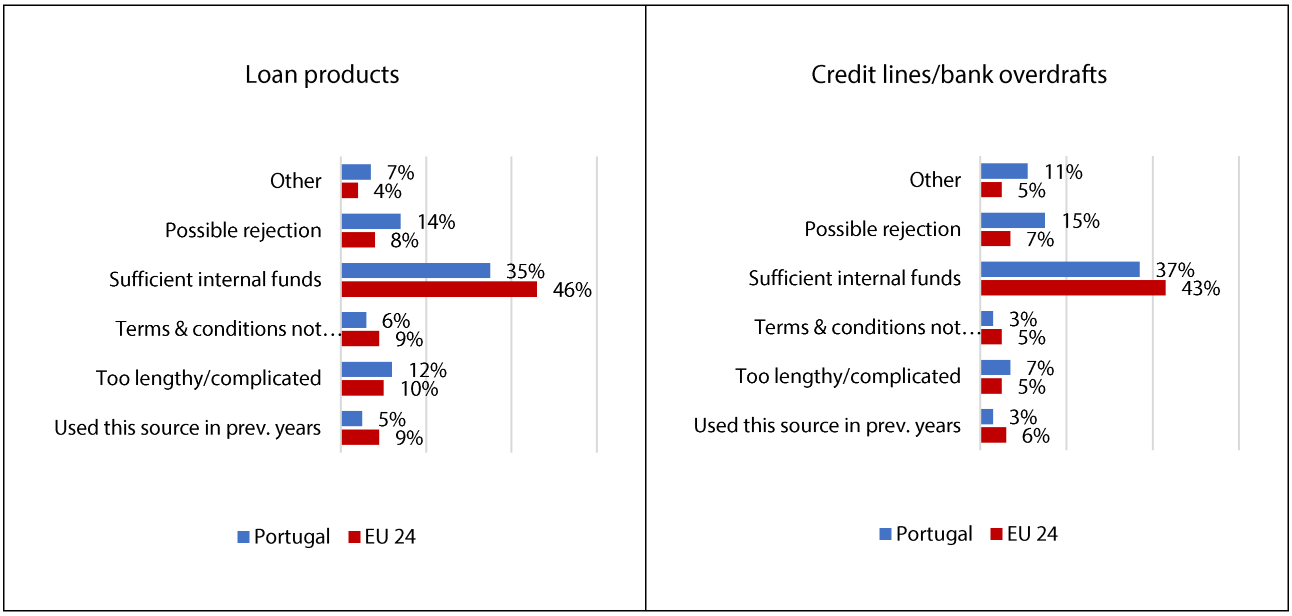
104 This was also confirmed in the ex-ante assessment carried out in 2015 (AD&C – Agência para o Desenvolvimento e Coesão, I.P, Avaliação ex ante dos Instrumentos Financeiros de Programas do Portugal 2020: Lote 1 - Instrumentos Financeiros para o apoio direto às empresas, 2015).

105 Interview with FIPA, 2019.

106 AD&C – Agência para o Desenvolvimento e Coesão, I.P, 2015, Avaliação ex ante dos Instrumentos Financeiros de Programas do Portugal 2020: Lote 1 - Instrumentos Financeiros para o apoio direto às empresas.

important reason why Portuguese agri-food companies did not apply for financing. This finding is very much in line with the situation in EU 24. However, according to the Agri-food survey, 14% and 15% of the agri-food companies in Portugal did not apply for bank loans and credit lines, respectively, because of fear of rejection. These values are almost twice as high as the EU 24 average. Another important reason for the Portuguese agri-food companies to not apply is that they find the application processes lengthier and more complicated than their European counterparts. The paperwork associated with application procedures is the third most important reason for not applying for a bank loan (Figure 21).

Figure 21: Reasons for not applying for loans in the agri-food sector in 2018



Source: Agri-food survey.

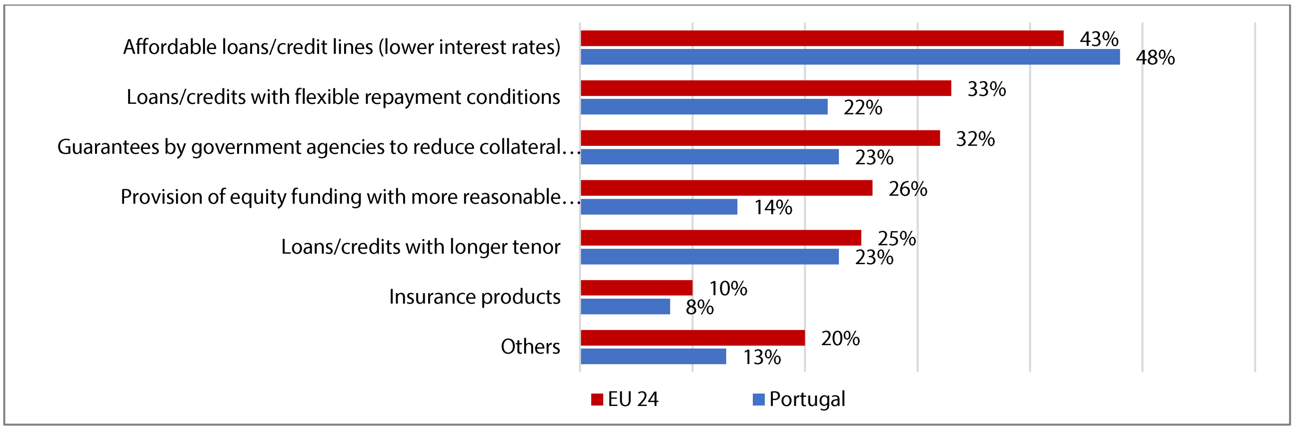
The reasons why Portuguese agri-food companies are discouraged from applying for finance are all related to the relatively limited financial awareness of the small-sized companies, as presented both by bank interviewees and agri-food sector representatives. The reasons, which stop companies from submitting loan applications, can be linked to the following factors:

- **Informal talks between the applicants and the banks**, before filing applications can result in agri-food companies withholding applications, as the agri-food firms are worried of not being able to pass as creditworthy;
- **Firms' low understanding of the banks' terms and conditions for loans**. Interviews with banks revealed that enterprises sometimes have unrealistic expectations of the terms and conditions that should be offered to them;
- **Inadequate business plan**. The low capacity of small-sized agri-food enterprises to prepare an adequate business plan holds them back from presenting loan applications. The belief that the documentation they can provide is likely not to be able to satisfy the banks' requirements leads the companies to refrain from approaching them for finance.

Lower interest rates and availability of public guarantees are seen as the main solutions to reduce the sectors' financing constraints. According to the agri-food survey, almost half of the companies operating in the agri-food sector declared that lower cost of credit would help reduce the difficulty of their access to financing (Figure 22). Additionally, 23% of the firms in the sector consider the availability of guarantees provided by the Government to ease collateral requirements, and of loan and credit schemes with longer tenor as important elements to reduce their difficulties in accessing finance.

As in section 3.3.1.2, according to both bank and sectorial representatives, the loan conditions offered by banks often vary depending on the applicant and the project, therefore the riskier the applicant, the higher the interest rate and a higher guarantee is requested. Even if the general interest rate is currently very low, it may be that some companies, for example those considered innovative, or the micro and small-sized businesses, suffer from being given (much) higher interest rates on their loans. This may also explain the rather high interest in more affordable loans expressed by the survey participants.

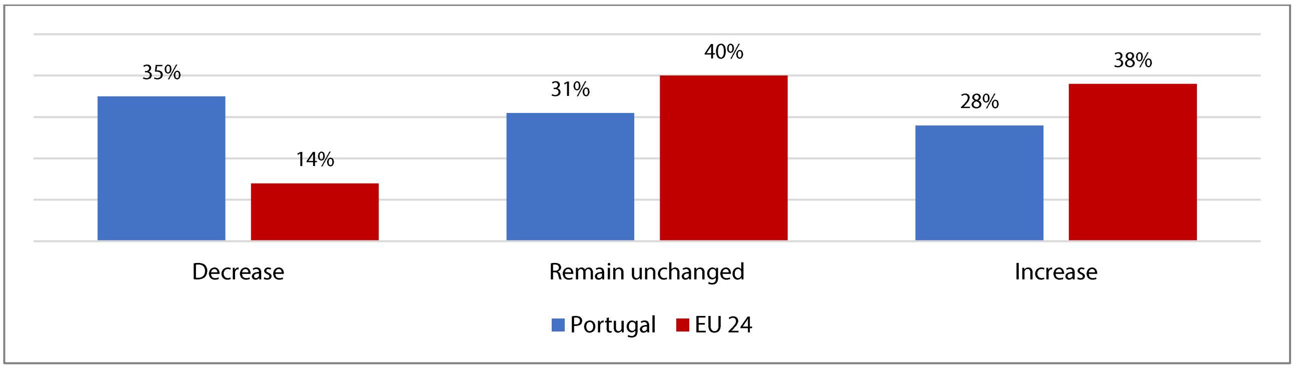
Figure 22: Solutions to reduce difficulties in accessing finance, 2018



Source: Agri-food survey.

The financing needs of the Portuguese agri-food companies are expected to be stable over the next two-three years. About 35% of the Portuguese firms expect their financial needs to decrease over the next two-three years (Figure 23). This is the opposite of what most of their European peers are anticipating as only 14% of the European companies foresee such a decrease. However, FIPA does not expect any slowdown of the investment rates of the Portuguese agri-food sector, even if investment levels do not increase. Companies also use their internal resources. The low interest rates currently offered on the market were also understood as a further motivation for companies to continue demanding financing from banks.

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



Source: Agri-food survey.

Technical support aimed at improving SMEs' financial literacy could increase their access to finance. Agri-food sector representatives pointed out that no specific state-funded program exists to improve the food and beverage industries' knowledge on the financial system and its specificities. However, training on bank products and on the preparation of a business plan could provide substantial benefits to the sector, allowing them to access finance to a greater extent than what is currently the case.

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 Portugal 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 Portuguese agri-food sector

- The stability of the Portuguese financial system has improved since the end of the financial crisis. In the period 2015-2019, the level of indebtedness of private sector decreased, and the banking sector stabilised.
- Novo Bank; Crédito Agrícola, BPI and Banco Santander are the four main financing institutions providing credit to the agri-food sector in Portugal.
- The agri-food sector can also rely on different types of financing products issued by public institutions such as PME Investimentos and IDF.
- Four mutual guarantee societies provide guarantees to agri-food companies throughout the country and, as of March 2020, an EAFRD funded capped portfolio guarantee instrument is also available to support the sector.
- Since 2012, the level of interest rates has been decreasing. SMEs benefit the most from the interest rate reduction, whilst micro enterprises experienced the lowest interest rate decrease.
- In 2019, the total outstanding loan volume amounted to approximately EUR 3 billion, showing a stable trend over the last years.
- Despite the increased interest expressed by the banks in financing the agri-food sector, some supply constraints have been identified, similar to those identified for the agriculture sector. These are: (i) balance sheet position of banks which prevents risk taking; (ii) less favourable loan conditions and more stringent assessment procedures are applied for micro businesses and SMEs, in particular start-ups; and (iii) banks' requirements for start-ups to demonstrate the availability of sufficient own capital in order to be financed.

3.3.1. Description of finance environment and funding availability

3.3.1.1. Finance Providers

Commercial banks are the main financial providers for the agri-food sector. By the end of 2018, the five largest financial institutions in Portugal had a market share, in terms of total aggregate assets for the full economy, of 81.7%. However, according to the Herfindahl-Hirschman index[107], the market is moderately concentrated at 1 477, having decreased by 44 points compared to the previous year. The financial sector is dominated by the following five banks:

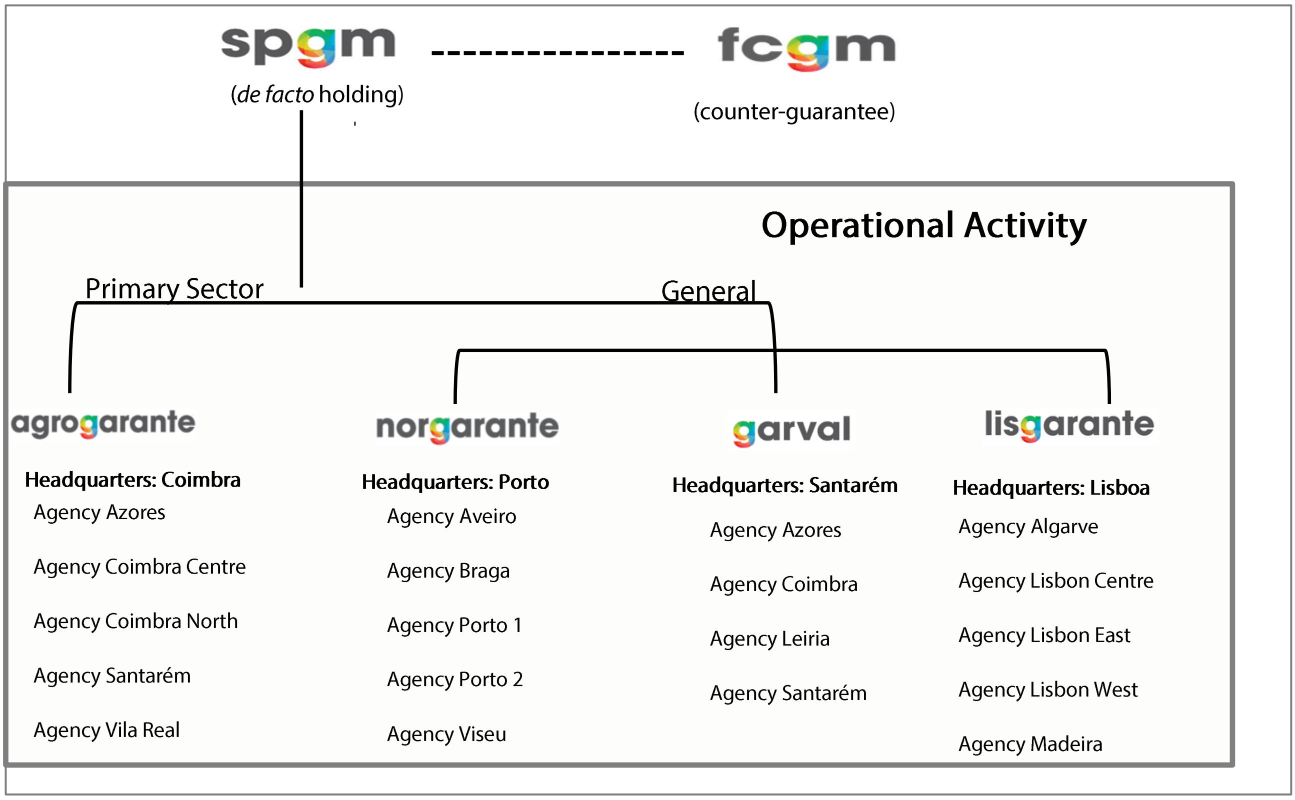
107 The Herfindahl-Hirschman index is a measure of the competitiveness of an industry in terms of the market concentration of its participants. Higher values of the index indicate higher market concentration and monopoly power as well as decreased competitiveness. For example, if there is only one firm in a market with 100% of market share, then the value of the index would equal 10 000 (1 002). The index decreases when a market is made up of a larger number of firms, each with a smaller market share.

Caixa Geral de Depósitos who hold 21%; Millennium BCP at 18%; Banco Espírito Santo (now Novo Banco), at 14%; BPI at 9.5%; and Santander Totta at 8%.[108][109]

As for agri-food financing, four banks dominate the finance supply to the sector; Novo Bank, Crédito Agrícola, BPI and Banco Santander Totta. However, no information related to market shares of the various banks in the agri-food financing is available. For further information on commercial banks see section 3.3.1.1.

Mutual guarantee societies have an important role in the financing of Portuguese SMEs. In 1992, mutual guarantee systems emerged in Portugal, resulting from a public initiative by the Institute to Support Small and Medium-sized enterprises and Innovation (IAPMEI). Similar to other EU countries, where alternative SMEs financing systems already existed, such as those in Germany, France, Italy and Spain, the Portuguese Society of Mutual Guarantees (SPGM) was created to implement quality guarantee operations and other services to SMEs. In 2003, three Mutual Guarantee Societies (MGS) were introduced; Garval, Lisgarante and Norgarante, which overtook all SPGM operations associated with guarantee provisions. In 2007, Agrogarante was created specifically to support the primary sector, and counts on a number of MGS (see section 3.3.1.1 for further information). The Portuguese MGS is currently composed of the six entities shown below[110].

Figure 24: Portuguese Mutual Guarantee System's Structure



Source: The mutual guarantee system in Portugal-Economic and financial additionality over the 2011-2016 period[111].

108 Portuguese Bank Association and Bank of Portugal.
109 The market share relates to information from 2012.
110 Research Centre in Management and Applied Economics Universidade Católica Portuguesa, Porto, 2018, The mutual guarantee system in Portugal -Economic and financial additionally over the 2011-2016 period.
111 Research Centre in Management and Applied Economics Universidade Católica Portuguesa – Porto, 2018.

At the operational level, there are four MGS: Norgarante, Garval, Lisgarante and Agrogarante. The first three provide guarantees to firms in the industrial, energy, construction, tourism, trade, service and transport sectors, hence including the agri-food sector. Each of these societies operates in a specific geographical area; Norgarante in the North of the country, Lisgarante in Southern Portugal and the Madeira island, Garval operates in Central Portugal and in the Azores island.[112]

Agrogarante is the only mutual guarantee association that has a sectoral approach, and that acts in all parts of the national territory. Its services are available exclusively for companies in the agriculture, forestry and the agri-food sectors. The agri-food sector can use Agrogarante and the other mutual guarantee companies depending on the conditions of the product they are applying for. According to the managing authority, no data is available that allows the evaluation of the importance of the regionally based institutions performance in the agri-food sector.

Over the past decade, the sectoral allocation of guarantees issued has been relatively stable. Manufacturing industries annually absorb approximately one third of the total amount of guarantees issued. Total guarantees amounted to EUR 15.2 million in 2018, an increase from EUR 13.9 million in 2017.[113] Within the manufacturing industries, mutual guarantees are widespread, having acted on 329 sub-sectors. From the six sub-sectors that surpass the threshold of 1% of the total amount of guarantees issued by the system, it is important to highlight the wine sub-sector[114].

In addition, as of March 2020, an EAFRD funded guarantee instrument is available to support the sector. The instrument that has been set up is a capped portfolio guarantee. The beneficiaries include agricultural producers, including agricultural cooperatives and producer organisations, and SMEs involved in the processing and the marketing of agricultural products. For more information on the product, see section 3.3.1.2.

Partially guaranteed loans are available under the InnovFin - EU Finance for Innovators programme for innovative SMEs and mid-caps with up to 499 employees. InnovFin provides various financing tools, including debt and equity products, and focuses on research and innovation investment.[115] In Portugal, as of the end of 2018, InnovFin had provided access to finance for 168 SMEs and small mid-caps in the agriculture, forestry and fishing sector for a total of EUR 106.3 million (7.0 % of the total portfolio)[116].

Commercial banks also cooperate with public financial companies as intermediaries, providing credits under framework protocols set-up by PME Investimentos, and Istitusao Financeira de Desenvolvimiento (IFD).

112 Research Centre in Management and Applied Economics Universidade Católica Portuguesa – Porto, 2018, The mutual guarantee system in Portugal -Economic and financial additionality over the 2011-2016 period.

113 Relatório de Garantias & Contas, 2018, 2018 Annual Report SPMG.

114 AECM European Association of Mutual Guarantee Societies, February 2014, EU Financial Instruments for Research and Innovation, https://www.gppq.fct.pt/h2020/_docs/eventos/1679_ppt_garantias_spgm.pdf.

115 Start-ups and new entrants can benefit from products such as:

- InnovFin technology transfer supports technology transfer projects or technology rights, through commercial demonstration and commercialisation, by targeting investments into technology transfer funds operating in the pre-seed (including proof of concept) and seed stages;
- InnovFin Business Angels: targets funds pooled by business angels or business angel co-investment funds investing into innovative early-stage enterprises and social enterprises established or active in Participating Countries operating in the sectors covered by Horizon 2020, including social impact;
- InnovFin Venture Capital: targets investments into venture capital funds that provide funding to enterprises (including social enterprises) in their early stage operating in Horizon 2020 sector;
- InnovFin Funds-of-Funds: targets investments into fund of funds holding or targeting to build a portfolio of investments into underlying funds with significant early stage focus;
- Intermediated equity financing.

SMEs can benefit from:

- InnovFin SME guarantee provides guarantees and counter-guarantees on debt financing between EUR 25 000 and EUR 7.5 million, in order to improve access to finance for innovative SMEs and small mid-caps of up to 499 employees;
- Intermediated debt financing.

116 EIF, 2019.

PME Investimentos, is a public financial company that creates and manages financial instruments, co-financed by European Structural Funds. Its aim is to support the revitalisation and expansion of the business sector, mainly in areas of activity that are not eligible for EAFRD funding. However, some support under these instruments is available to the agri-food sector, and in certain situations, after political decisions, their activities can be extended to the primary sector.[117]

IFD is a public financial company created to manage the financial instrument programmes under the European Structural and Investment Funds allocated to Portugal and their reimbursements[118]. According to the Ministry of Agriculture, the situation regarding the agri-food sector is similar to PME Investimentos; the sector can be benefit from IFDs products but no data is available to evaluate its importance.[119]

3.3.1.2. Financial Products

Crédito Agrícola and BPI Bank provide products specifically dedicated to the agriculture and the agri-food sectors, but do not differentiate between the two sectors. According to interviews with these banks, the rationale behind this stems from their need to have a simple and practical approach towards these sectors as they are significantly interlinked. Santander Totta is understood to provide a relevant share of the financing to the agri-food sector. Only one bank, Novo Banco, has specific products available to the agri-food sector, although, many of these products are adaptations of the products offered to other business sectors.

In essence, the financial products available to the agri-food sector are divided into three categories:

(i) Investment loans;

(ii) Working capital loans;

(iii) Export loans - for expanding activities through internationalisation.

Investment and working capital loans include short, medium and long-term loans whose purpose is to support enterprises in investments such as the acquisition of land, machineries and equipment whilst maintaining a high level of liquidity. In relation to investment projects, commercial banks also support agri-food enterprises by providing specific credit for beneficiaries of the RDP programme. These products are offered on a medium and long-term basis, and can also be used to obtain an advance on the amount of the incentives after the enterprise is selected as a beneficiary of grants. The main terms and conditions of the products offered by the four main banks providing financing the sector[120] are presented in the following table.

117 It manages a credit line to provide loans in collaboration with commercial banks, including Crédito Agrícola, Banco BPI and Banco Santander. No data is available to evaluate the importance of the products managed by this company in the agri-food sector. www.pmeinvestimentos.pt.

118 IFD acts as a wholesale institution in partnership with commercial bank, MGS, and other private financial entities, such as Private Equity or Venture Capital companies and Business Angels, as well as existing public institutions that deal with guarantees, especially mutual counter-guarantees.

119 IFD website, www.ifd.pt.

120 Crédito Agrícola, BPI, Novo Banco, Santander Totta.

Table 15: Overview of terms and conditions applied to investment and working capital loans for agri-food companies by Portuguese banks

Type of product	Purpose	Maturity	Interest rate	Guarantee
Short-term financial products				
Working capital loans	Acquisition of production factors	Up to 12 months	n.a.	Defined by the bank according to the enterprise risk assessment
Medium-term financial products				
Credit line for animal feed	This solution supports the working capital needs related to increased production costs resulting from drought	Up to 24 months	n.a.	The mutual guarantee covers up to 70% of the investment
Advance of RDP grants	After the approval of a RDP project this instrument provides an advance of the grant	Up to 2 years	EURIBOR 12M + spread from 1,75%	Defined by the bank according to the enterprise risk assessment
Long-term financial products				
Loan for the acquisition of machinery and equipment	Acquisition of machinery and equipment	Up to 8 years	n.a.	Defined by the bank according to the enterprise risk assessment
Advance of RDP grants	After the approval of a RDP project this instrument provides an advance of the grant	Up to 8 years	n.a	Defined by the bank according to the enterprise risk assessment
Complementary loan for RDP grant	It finances the investment for the part not covered by the grant	Up to 10 years	Negotiated case by case	Defined by the bank according to the enterprise risk assessment
Long-term investment loan	Finance investment projects	Normally 15-20 years. Max 40 years.	Negotiated case by case	Defined by the bank according to the enterprise risk assessment

Source: Credito Agrícola, BPI, Novo Banco, Santander Totta websites.

Commercial banks have signed an agreement with the IFD and the SPGM under which commercial banks offer credit lines to SMEs. The instrument supports enterprises for strengthening business skills and developing new products and services. The credit provided under this line supports working capital needs is up to EUR 500 000. The maturity is up to 12 years and eight years for innovative projects, and the mutual guarantees covers up to the 80% of the investment.

In addition, commercial banks offer short and long-term products to support agri-food enterprises which want to internationalise their business. The main terms and conditions are presented in the following table.

Table 16: Overview of terms and conditions applied to loans and credit lines for internationalisation

	Purpose	Amount	Maturity
Credit line for internationalisation	It finances expenses arising from the participation to international fairs and events and for the expansion of its business.	From EUR 3 000 to EUR 50 000	Up to 2 years
External financing	It provides an advance for the amount of export orders and allows the enterprise to maintain the liquidity.	100% of commercial operations	Short (up to 1 year) or medium-term (over 1 year) loans
Export Advance	It provides an advance for the amount of revenue based on the copy of the documents supporting the management and financing of sale operations.	100% of commercial operations	n.a.
Commercial export discount	Financing intended to advance the value of revenue from credit sales of goods and / or services from export operations.	To be negotiated between client and financial institution	n.a.

Source: Credito Agrícola, BPI, Novo Banco, Santander Totta websites.

Leasing solutions

Commercial banks also provide real estate and equipment leasing to agri-food companies. Real estate leasing is a form of finance that gives the companies the possibility of using a real estate property (e.g. installation of agro-industries, warehouses, offices and commercial spaces) for a fixed amount of time. At the end of the contract there is the option to buy the property. The minimum amount of this type of leasing contracts is EUR 7 500 for a period from six months and up to 30 years. Interest rate and guarantees are set by commercial banks according to the risk level.

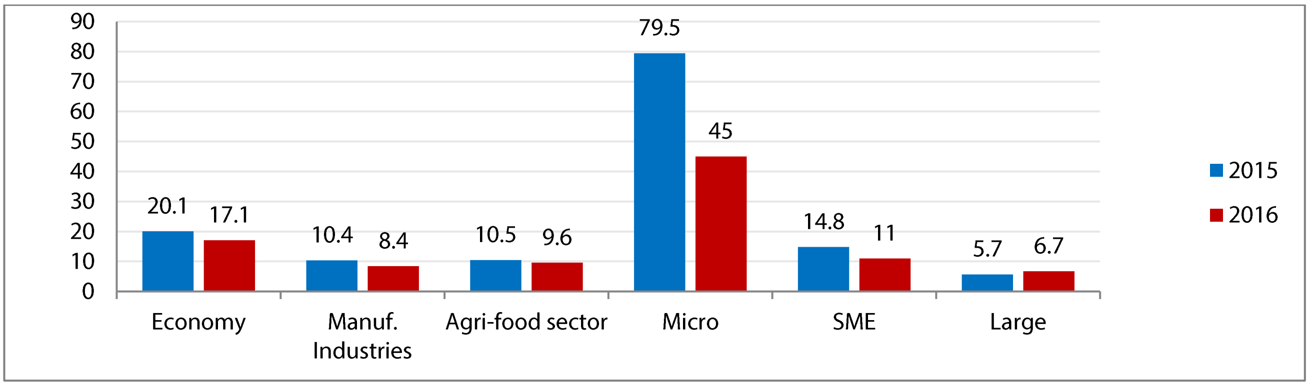
Equipment leasing allows for transfer of the use of certain assets to farmers for a certain period of time. There is no minimum and maximum amount for this product, and the maximum term is up to 30 years. According to agri-food representatives, leasing contracts are common in Portugal. Equipment, commercial cars, and trucks represent the main products. It is less common to lease the facilities and factories, which are usually investments undertaken by the company and financed by banks.

3.3.1.3. Description of financing market

The stability of the Portuguese financial system improved after the end of the financial crisis. As explained in section 3.3.1.3, the level of indebtedness of the private sector decreased, and the banking sector stabilised between 2015 and 2019.

In 2016, interest rates decreased, easing access to finance for the agri-food sector, despite the reduction in EBITDA[121] experienced in the sector[122] (Figure 25). In the same year, for every EUR 100 of EBITDA generated by the agri-food sector, EUR 9.6 were consumed by interest, which was higher than in the manufacturing industries at 8.4% but lower than that observed in the economy as a whole at 17.1%. Large-sized companies of the sector saw their financial pressure increase by 100 basis points, reaching 7%, whilst micro enterprises recorded the highest levels of financial pressure at 45% in 2016.

Figure 25: Weight of interest expenses supported by EBITDA, %



Source: Bank of Portugal's Credit Responsibility Centre, 2017.

In 2018, there was no change in the lending conditions in Portugal. According to the Bank Lending Survey, credit standards, and overall terms and conditions applied on loans to enterprises remained unchanged compared to the previous year. However, a few banks reported a slight decrease in the spreads applied on average risk loans to both SMEs and large-sized enterprises, which was mainly due to competition forces.

3.3.2. Analysis of the supply of finance

In 2019, the loan volume supplied to the agri-food sector amounted to approximately EUR 3 billion. Since 2014, the total outstanding loan volume has been relatively stable, fluctuating slightly between EUR 2.9 billion and EUR 3.1 billion. In 2018, EUR 3.1 billion was the largest annual volume recorded over the last decade (Table 17 and Figure 26).

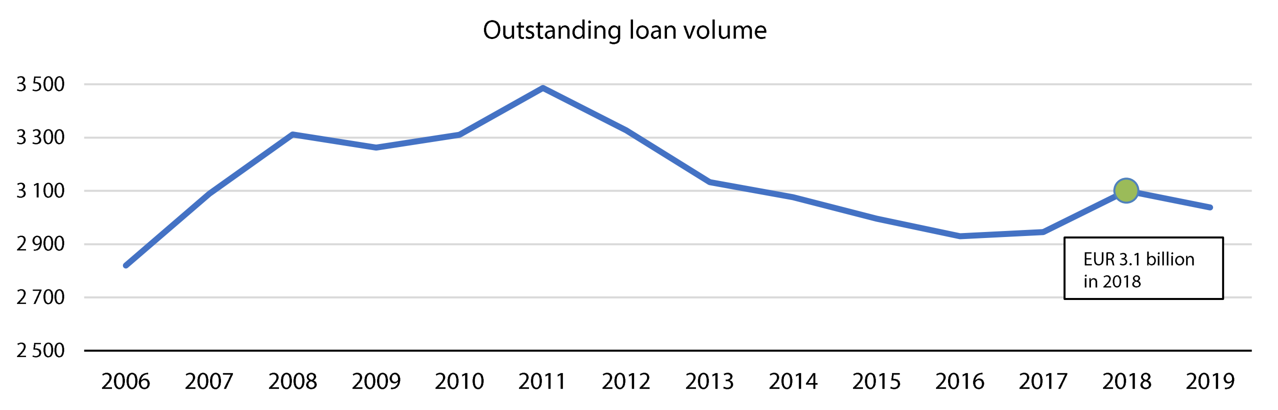
Table 17: Agri-food sector outstanding loan volume, 2010-2019[123], EUR million

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Total outstanding loan volume	3 310	3 486	3 327	3 133	3 076	2 996	2 930	2 946	3 100	3 038
Growth of outstanding loan volume in EUR compared to previous year	48	176	-159	-195	-57	-80	-66	16	154	-63

121 Earnings before interest, taxes, depreciation and amortization.
122 Bank of Portugal's Credit Responsibility Centre.
123 Outstanding loan volume in December, except for 2019 (November).

Source: Banco do Portugal, 2019.

Figure 26: Trend of outstanding loan volume in the Portuguese agri-food sector, 2006-2019[124], EUR million



Source: Banco do Portugal, 2019.

Access to finance was easier before the economic crisis in 2009-2012. According to FIPA and banks, before the crisis, it has been very easy to get access to credit, as 'everyone' could have asked for a loan and almost all would receive an approval. As a result, loans for covering salary expenses, or consumer goods, were frequently requested and obtained. Following the crisis and the stricter measures of the financial regulations, access to these loans are more difficult today. It is now harder to be approved than in the past, as the appraisal of the application is more stringent. FIPA underlines that the 'good companies' with good balance sheets and good products do not face difficulties in accessing bank loans, as long as the investments are related to infrastructure or other tangible assets.

Interest rates have decreased over the past few years but can still be an obstacle for micro enterprises. Data from the Bank of Portugal from 2016 shows that the agri-food sector for that year recorded a decrease of the interest growth rate equivalent to 20%. This reduction was larger than that recorded in the manufacturing industries at 18% and in the entire economy at 9%. This decrease was particularly significant for agri-food SMEs at 21%[125]. On the contrary, micro enterprises (which display the lowest attitude to financial autonomy, as highlighted in Section 3.2.2) experienced the lowest decrease of in interest rates. As evidenced in section 3.2.2, the loan conditions, i.e. interest rates applied, guarantee requests, and maturities offered of the loan products, vary depending on the degree of riskiness of the borrower. Therefore, some segments of the sector, such as, for example, micro companies and SMEs, and particularly those companies undertaking investments in innovative projects, or trying to start-up a company, may be faced with higher interest rates than the average for the sector.

Banks interest in the agri-food sector has increased since the economic crisis. As in the agriculture sector, the agri-food sector in Portugal went through the financial crisis showing a high level of resilience. This has increased the banks' interest in the sector, which, before the crisis, was said to be limited. According to representatives of both the bank and agri-food sectors, agri-food processing may still be considered riskier than, for example, the real estate market, but the situation is significantly different compared to that of 7-8 years ago. Compared to the agriculture sector, even if the two sectors are to a great extent financed by the same banks, it is considered easier for the processors to access finance. There are fewer of them, and they often are larger companies with a higher turnover, which in turn have better access to qualified accountancy and other support, which facilitates their contacts with banks.

Limited access to property and other physical assets by new entrepreneurs constitutes a key limitation to their access to finance, as banks tend to prefer these types of assets as guarantee for the loan provision. As a result, the

124 Outstanding loan volume in December, except for 2019 (November).

125 Bank of Portugal's Credit Responsibility Centre.

agri-food industry is increasing controlled large foreign multinationals that buy the properties from the locals and then lease it to the young entrepreneurs and entrants[126].

Portuguese banks are not keen on financing new entrants who cannot commit sufficient equity in their project. As mentioned in section 3.3.2 with reference to the agriculture sector, this represents a major constraint to the supply of finance in Portugal, despite banks' stated willingness to support start-ups. BPI, for instance, requires loan applicants to provide approximately 20-25% of capital equity. Start-ups and new businesses are those affected the most by this specific feature of Portuguese banking policy as they typically cannot provide a high amount of capital at the initial phases of their businesses.

Small-sized companies are subject to more stringent assessment procedures. Interviews with financial intermediaries revealed that young entrepreneurs and start-ups, and small-sized companies must provide higher quality projects than the other actors in the sector, as they are typically subjected to a different and more stringent assessment by banks due to their lack of proven experience. This constitutes a constraint for them as they often experience difficulties in mitigating their lack of specialised technical knowledge (small-sized companies) or experience (young entrepreneurs). To overcome this issue, companies need to rely on external technical support that is typically difficult to afford for firms at the starting phase of their activity.

126 Interviews with financial institutions, 2019.

3.4. Financing gap in the agri-food sector

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

Key elements of the financing gap in the Portuguese agri-food sector
• The financing gap in the Portuguese agri-food sector was estimated at EUR 734 million. • Small-sized firms of with less than 50 employees account for more than 83% of the overall financing gap in the sector at EUR 611.6 million. • The gap is the largest for long-term loans (of above five years), although an important gap for medium-term loans has also been identified. • The main drivers of the gap include: (i) banks' risk perception, linked to the volatile and unpredictable production cycles and low profit margins of the sector; (ii) lower risk taking capacity by Portuguese banks after the financial crisis; (iii) lack of adequate collaterals; (iv) lack of credit history and personal relations with banks on the side of the agri-food companies; and (v) relatively low level of financial literacy amongst micro businesses and SMEs. • In addition, less favourable loan conditions are applied for micro businesses and SMEs, particularly to start-ups, who are associated with higher risks. Young entrepreneurs and small-sized companies are also subject to more stringent assessment procedures, leading to access to finance being particularly complicated for these segments.

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 Portuguese 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[127]. As explained in section 2.2, the unmet demand for finance includes

(i) lending applied for but not obtained, or

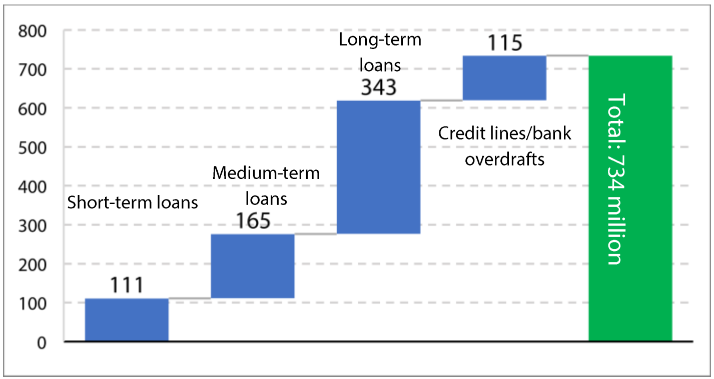
(ii) a lending offer refused by the potential borrower, as well as

(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.

127 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.

Figure 27: Financing gap by product in the agri-food sector in 2018, EUR million



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

The total financing gap in the agri-food in Portugal is estimated at EUR 734 million (Figure 27). Results from the agri-food survey suggest that the gap is wider for small-sized firms at EUR 611.6 million, which account for more than 83% of the overall financing gap in the sector (Table 18). Medium-sized enterprises have an estimated financing gap of EUR 98.9 million, whilst for large-sized companies it is only EUR 23.2 million.

In terms of loan maturity, unmet demand and related gap for long-term loans accounts for approximately 47% of the overall financing gap in the agri-food sector, with EUR 342.9 million (Table 18).

Table 18: Financing gap by firm size and product in 2018, EUR million,

	Total	Short-term Loans	Medium-term Loans	Long-term Loans	Credit lines/bank overdrafts
Small-sized firms	**611.6**	88.2	138.8	288.5	96.1
Medium-sized firms	**98.9**	19.7	21.3	43.5	14.5
Large-sized firms	**23.2**	2.8	5.3	10.9	4.2
Total	733.7	**110.7**	**165.4**	**342.9**	**114.7**

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

The general drivers of the financing gap for the agri-food sector in Portugal are related to:

- Banks' risk perception. Banks tend to have difficulties to assess the risk of the sector, due to the volatile and unpredictable production cycles and low profit margins of the sector.
- In addition, the recent financial sector crisis continues to affect the **risk-taking abilities of financial institutions** due to the lingering effect of these events on banks' balance sheet position. This leads banks to ask for higher guarantees, particularly for loans with long repayment periods.
- **The lack of collateral.** Small-sized companies experience more difficulties in providing sufficient guarantees, and in complying with financial institutions' requirements. This explains why the small-sized firms report a higher financing gap. Additionally, start-ups, young entrepreneurs and entrants generally lack access to collateral, including third person guarantees.
- **Lack of credit history or personal relations with banks** also limits access to finance, particularly for small-sized companies and start-ups.

- **Overly complicated application process and low level of financial literacy.** New entrants usually have poor credentials and may lack technical know-how and entrepreneurial experience. As a result, business incubators and turnkey services are necessary in order to help propel their initiatives by providing technical assistance on the application processes and business knowledge.

Young entrepreneurs and small-sized companies are typically subjected to stricter risk assessment procedures and less favourable loan conditions. In order to access finance, the quality of the projects must be higher than that provided by other actors in the sector. However, these types of companies typically lack the adequate technical knowledge to present a good quality business plan. Also, when loans are approved, they are often accompanied by higher interest rates and higher guarantee requirements, reflecting the banks' risk perception.

The financing need of the sector is expected to remain stable. As a result, unless the roots of the cause of the financing gap are addressed, the financing gap can be expected to persist. The EAFRD funded guarantee instrument is available to agri-food enterprises as of March 2020 and is expected to facilitate the agri-food sector's access to finance.

3.5. Conclusions

Since 2012, gross investment in the Portuguese agri-food sector has been increasing. The main drivers of investments undertaken by the sector include modernisation in order to improve cost efficiency in the production and expand production, internationalisation, investments in training and in the development of new products, and investments in working capital.

Since 2014, the size of the financing market for agri-food measured by the volume of outstanding loans, has been relatively stable, in 2019 it stood at EUR 3 billion. Only one bank provides products specifically to the agri-food sector, whereas two other banks provide specific common products for the agriculture and agri-food sectors. In addition, several public entities are involved in the financing of the sector, including through the provision of guarantees from four mutual guarantee societies.

A financing gap in the Portuguese agri-food sector is estimated to be EUR 734 million. The main drivers of the gap include: (i) banks' risk perception, linked to the volatile and unpredictable production cycles and low profit margins of the sector; (ii) limited risk taking capacity by Portuguese banks after the financial crisis; (iii) lack of adequate collateral; (iv) lack of credit history and personal relations with banks on the side of the agri-food companies; and (v) a relatively low level of financial literacy amongst micro businesses and small-sized enterprises.

In addition, less favourable loan conditions are applied for micro businesses and SMEs, particularly for start-ups, who are associated with higher risks. Young entrepreneurs and small-sized companies are also subject to more stringent assessment procedures, meaning that access to finance is particularly complicated for these segments.

Based on the findings of this report, the following recommendations could be considered to further improve access to finance for the agri-food sector:

- The EAFRD guarantee fund currently being implemented could reduce the financing gap for SMEs in the agri-food sector. At a later stage, an evaluation should be made of the capital adequacy of the fund and of its concrete ability to address the needs of start-ups and small-sized enterprises.
- A pilot risk-sharing loan instrument to provide targeted support to start-ups, micro and small-sized enterprises could be considered. As banks tend to apply higher interest rates to these segments, such an instrument should combine risk coverage for banks with the possibility for reduced interest rates.
- The opportunities offered by the new legal framework, particularly in terms of easier combinations of financial instruments and grants, should be explored with the aim of increasing the impact of future interventions.
- Considering the lack of finance for start-ups, which is linked to their lack of own equity, the potential of introducing a targeted equity instrument should be investigated.
- The introduction of financial instruments should be accompanied by the provision of technical support to start-ups and small-sized enterprises to increase their awareness and understanding of available financial products and to improve their capacity to prepare loan applications.

ANNEX

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A.2. Stakeholders interviewed

Type of Stakeholder	Name of institution/organisation	Address and website
Financial institution	Crédito Agrícola	R. Castilho 233, 1070-292 Lisboa www.creditoagricola.pt
Financial institution	Banco Português de Investimento (BPI)	R. Tenente Valadim, 284, 4100-476 Porto http://www.bpi.pt/
Farmers organisations	Confederação de Agricultores de Portugal (CAP)	R. Mte. Lima de Freitas 1, 1549-012 Lisboa www.cap.pt
Government organisation	Instituto de Financiamento da Agricultura e Pescas, (IFAP)	R. Castilho, nº. 45 51, 1269-164 Lisboa www.ifap.pt
Regional Government organisation	Direção Regional de Agricultura e Pescas (DRAP) Norte	R. Dr. Francisco Duarte 365, 4715-213 Braga www.drapnorte.gov.pt
Managing authority	Gabinete de Planeamento, Políticas e Administração Geral (GPP)	Praça do Comércio, 1149-010 Lisboa https://www.gpp.pt/
Representative from young farmers	Associação de Jovens Agricultores de Portugal (AJAP)	R. Dom Pedro V 108, 1269-128 Lisboa www.ajap.pt
Agricultural network	Manager of Agroportal	www.agroportal.pt
Food and drinks association	Federação das Indústrias Portuguesas Agroalimentares	www.fipa.pt
Managing authority	PRORURAL + (Açores)	Vinha Brava 9700-240 Angra do Heroísmo Açores http://proruralmais.azores.gov.pt/

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**:

1. $\boldsymbol{Rejected}$ **credit applications** include applications that are rejected by banks (or other credit organisations) and offered from banks but turned down by the farmers/firms.
2. **The share of** $\boldsymbol{Viable}$ **firms is measured by** the share of total firms that have a non-negative turnover growth[128] 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).
3. **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.

Step 1: 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 $j = Short-term\ , Medium-term, Long-term\ Loans, Credit\ lines.$

128 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.

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

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 Portugal, Table 19 and Table 20 report the elements used in the calculation of the financing gap for the agricultural and agri-food sector, respectively.

Table 19: Elements for the calculation of the financing gap in the agriculture sector

		Short-term Loans	Medium-term Loans	Long-term Loans	Credit lines/bank overdraft
Lower bound: farms with a non-negative turnover growth and no cost increase	Share of respondents rejected by creditor or farmer	0.00%	0.00%	0.00%	0.00%
	Share of respondents that have not applied because of possible rejection	0.04%	0.51%	0.51%	0.58%
	Total (sum of rejected and discouraged)	***0.04%***	***0.51%***	***0.51%***	***0.58%***
Upper bound: farms with a non-negative turnover growth	Share of respondents rejected by creditor or farmer	0.00%	0.00%	0.00%	0.00%
	Share of respondents that have not applied because of possible rejection	0.72%	1.64%	2.11%	2.18%
	Total (sum of rejected and discouraged)	***0.72%***	***1.64%***	***2.11%***	***2.18%***
Total unmet demand: all farms	Share of respondents rejected by creditor or farmer	0.00%	0.00%	0.00%	0.46%
	Share of respondents that have not applied because of possible rejection	2.11%	2.57%	3.03%	3.15%
	Total (sum of rejected and discouraged)	***2.11%***	***2.57%***	***3.03%***	***3.61%***
Farms with constrained access to finance, **lower bound**	Small-sized farms	38	451	451	514
	Medium sized farms	7	85	85	97
	Large-sized farms	3	31	31	35
Farms with constrained access to finance, **upper bound**	Small-sized farms	640	1466	1879	1941
	Medium-sized farms	121	277	355	367
	Large-sized farms	44	101	129	134
Standard loan application size	Small-sized farms	EUR 14 720	EUR 35 707	EUR 98 476	EUR 13 289
	Medium-sized farms	EUR 18 650	EUR 33 938	EUR 106 928	EUR 14 741
	Large-sized farms	EUR 55 006	EUR 86 366	EUR 192 536	EUR 78 508

Source: fi-compass survey.

Table 20: Elements used for the calculation of the financing gap in the agri-food sector

		Short-term Loans	Medium-term Loans	Long-term Loans	Credit lines/bank overdraft
Firms with a non-negative turnover growth	Share of respondents rejected by creditor or firmer	0.00%	0.00%	0.31%	0.00%
	Share of respondents that have not applied because of possible rejection	11.74%	13.49%	9.57%	11.32%
	Total (sum of rejected and discouraged)	***11.74%***	***13.49%***	***9.89%***	***11.32%***
Total unmet demand: all firms	Share of respondents rejected by creditor or firmer	0.00%	1.75%	0.31%	0.00%
	Share of respondents that have not applied because of possible rejection	16.49%	13.49%	11.32%	13.07%
	Total (sum of rejected and discouraged)	***13.49%***	***15.23%***	***11.63%***	***13.07%***
Firms with constrained access to finance, upper bound	Small-sized firms	1261	1449	1062	1216
	Medium-sized firms	35	41	30	34
	Large-sized firms	5	6	4	5
Standard loan application size	Small-sized firms	EUR 114 818	EUR 144,960	EUR 423,033	EUR 155 415
	Medium-sized firms	EUR 1 429 809	EUR 747 185	EUR 1 811 037	EUR 634 788
	Large-sized firms	EUR 6 060 435	EUR 3 414 155	EUR 22 751 692	EUR 15 310 933

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 21 reports the number of respondents by Member State.

Table 21: *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

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 https://www.fi-compass.eu/publication/brochures/survey-financial-needs-and-access-finance-eu-agricultural-enterprises.

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 22 reports the sample size per country.

Table 22: 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

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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