



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



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Glossary and definitions

Abbreviation	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.
ARMA	Agency for Restructuring and Modernisation of Agriculture
BGK	Bank Gospodarstwa Krajowego
BIK	Loan Information Agency
BPS	Bank Polskiej Spółdzielczości
CAP	Common Agricultural Policy
COSME	EU Programme for Competitiveness of Small and Medium-sized Enterprises
EAFRD	European Agricultural Fund for Rural Development
EC	European Commission
EIB	European Investment Bank
EIF	European Investment Fund
ESIF	European Structural and Investment Funds
EU	European Union
EU 24	The 24 EU Member States covered by the <i>fi-compass</i> 'EU and Country level market analysis for Agriculture': Austria, Belgium, Bulgaria, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, The Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden.
EU 28	All EU Member States: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, The Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, The United Kingdom.
EUR	Euro
FADN	Farm Accountancy Data Network
<i>fi-compass</i> survey ¹	Survey on financial needs and access to finance of 7 600 EU agriculture enterprises carried out by <i>fi-compass</i> in the period April-June 2018 and based on respondents' 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>.



GFCF	Gross Fixed Capital Formation
GVA	Gross Value Added
ha	Hectare
KRD	Krajowa Rada Drobiarstwa
MSME	Micro, small and medium-sized enterprise
PLN	Zloty
PPI	Purchasing Power Parity Index
RDP	Rural Development Programme
SAFE Survey	The survey on the access to finance of enterprises (SAFE) provides information on the latest developments in the financial situation of enterprises, and documents trends in the need for and availability of external financing.
SGB	Spółdzielcza Grupa Bankowa
SG-OP	Smart Growth Operational Programme
SME ²	Small and medium-sized enterprise
SO	Standard Output
UAA	Utilised Agricultural Area
WIBOR	Warsaw Interbank Offer Rate

2 Small and medium-sized enterprises (SMEs) are defined in the EU recommendation 2003/361. Micro enterprises have less than 10 employees, small enterprises have less than 50 employees and medium-sized enterprises less than 250 employees. https://ec.europa.eu/growth/smes/business-friendly-environment/sme-definition_en.



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EXECUTIVE SUMMARY

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

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 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 the legal basis and/or policies at the European level to mitigate the crisis since the 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 Poland

While the agriculture sector in Poland is undergoing an important structural change, the sector is still highly fragmented and dominated by small-sized farms, where more than half of the farms are under 5 hectares (ha) and more than 90% of the farms utilising less than 20 ha. Productivity levels remain low, despite investments in new machinery and equipment, which have been significantly supported by the Rural Development Programme (RDP). Farmers in Poland are younger than the EU 24 average and this generates a particular need for finance and technical support.

The analysis highlights the following **main drivers of investment** in the Polish agriculture sector:

- (i) The **need to expand agriculture production units**, which is related to the small average size of agriculture holdings. In order to increase the production capacity, farmers need to increase the farm size and introduce more efficient production methods.
- (ii) The **introduction of modern technologies**, especially in the dairy and horticulture sub-sectors.
- (iii) **Improving production standards** since a large share of the agriculture production in Poland is exported. This implies adopting a stricter set of production standards in terms of the quality, size of production, food safety and packaging requirements of agriculture products. These investments generate a further demand for finance.
- (iv) **Adaptation to climate change** increases the drive for investments in technologies for plant protection, such as those which protect against hail and frost, or technologies that improve farm efficiency, such as those that reduce input factors like water.

Investments in the agriculture sector are increasing but the overall level is still low. In 2018, investments in the agriculture sector amounted to EUR 1.3 billion, which was an increase of 30% compared to 2010. However, the overall level of investments compared to the GVA of the sector is low, with a share of 13% compared to the EU 28 average of about 30%. The majority of investments undertaken were related to the modernisation and update of machinery, equipment and buildings.

The CAP is an important driver of investment in the Polish agriculture sector. Poland is the fifth largest recipient of CAP payments in the EU, making this support an important contributor to the investments undertaken by the agriculture sector. The direct payments help to stabilise cash flows, and as such facilitate access to finance for farmers as it increases their creditworthiness. At the same time, improving farm viability and competitiveness has been recognised as a key priority by the Polish government with the Rural Development Programme (RDP) and 35% of the total RDP budget has been allocated to supporting physical investments in agriculture and agri-food processing. In order to benefit from the measures, farmers need to complement the grant with their own resources which, in many cases, come from bank loans. There is a particularly high demand for young farmer support and a high share of the RDP budget set-aside for this purpose has already been allocated.



While the agriculture loan portfolio of cooperative and commercial banks is increasing, these institutions are maintaining good portfolio quality. By the end of 2017, the total outstanding loan portfolio to the agriculture sector amounted to EUR 8.4 billion and, in recent years, loans to the sector have been following an increasing trend. Subsidised loans account for more than a third of the total outstanding loan portfolio to the agriculture sector.

The main providers of finance are the large number of cooperative banks and a small number of commercial banks. In 2017, more than half of the outstanding loans to farmers were provided by cooperative banks. Recently, leasing has also become a viable alternative for farmers in Poland who wish to finance fixed assets.

An EAFRD guarantee fund was launched in Poland in late 2019. The instrument aims at addressing collateral challenges on the side of borrowers. In addition, there are various preferential loans and guarantees available to the agriculture sector. However, the large majority of farmers are currently not served by these schemes because they do not comply with the requirement of being a registered enterprise.

The report shows that there is a substantial financing gap in Poland estimated to be between **EUR 3.0 billion and EUR 6.2 billion**. The gap mainly concerns small-sized farms³ and long-term loans⁴.

In particular, the finance gap consists of two separate components:

- The first component of the gap includes the estimated value of loan applications submitted in the past year by viable enterprises which were rejected by banks or those which translated into loan offers that were refused by applicants due to non-acceptable lending conditions. According to the *fi-compass* survey, 10% of loan applications from the agriculture sector are rejected and these mostly concern medium to long-term loan applications.
- The second component of the gap includes the estimated value of loan applications that were not submitted by viable enterprises due to discouragement stemming from a fear of possible rejection. In Poland, 6% of farmers did not apply for a loan due to a fear of rejection.

Access to finance is most constrained for medium and long-term loans. Loan applications are rejected due to a lack of sufficient collateral or missing information about the financial situation of the farm. Farmers are often unable to present financial data and business plans due to a lack of management knowledge and a low level of financial literacy. This negatively affects the assessment of their creditworthiness by the banks. Small-sized farms are discouraged to a greater extent than the larger farms. These farms are more frequently turned away from the banks and decide not to submit a loan application after preliminary informal meetings with banks. A significant proportion of refused loan applications due to unfavourable loan conditions were noted, which points to the fact that banks perceive the sector as risky and tend to apply a less favourable pricing policy.

The supply of finance has recently been affected by a new regulation concerning the sale of agriculture land and enforcement proceedings against farmers, which has created some incertitude for financial institutions, and might have determined stricter lending policies. In addition, there has been a diminished outreach in rural areas through the rationalisation of the branch network and the cautious overall approach of banks to farming clients.

Young farmers represent a considerable part of the gap, about 50-70%, which is twice as much as the EU 24 average. This is because, in addition to the overall challenge of providing sufficient collateral and proving their creditworthiness, they also lack credit history leading banks to be more hesitant to provide financing.

3 The *fi-compass* survey, on which the estimations are based, divided farms in three size categories: small-sized (<20 hectares), medium-sized (20-100 hectares), and large-sized (>100 hectares).

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



RECOMMENDATIONS

- It is believed that the **EAFRD guarantee fund** implemented in December 2019 will support farmers in accessing finance. However, given the dimension of the identified gap, it is unlikely that the instrument will be able to bring the market to full functionality by the end of the current programming period. For this reason, the continuity of the guarantee instrument should be ensured also in the 2021-2027 programming period, subject to an assessment to measure the effectiveness of the instrument after a few years of operation. More specifically, the assessment should in particular aim to verify:
 - the adequacy of the guarantee capital and the expected leverage, and
 - the concrete ability to address the constraints of young farmers and small-sized enterprises, which according to this analysis are the more constrained segments. The opportunities offered by the new legal framework, such as the easier combination of financial instruments and grant support or the possibility to finance the purchase of land for young farmers, might offer interesting opportunities to increase the effectiveness of the instrument towards those segments.
- Based on the analysis conducted for this study, one of the elements limiting a bank's interest in lending to small-sized enterprises is the higher transaction costs related to the assessment of loans with limited amounts, resulting in lower profit margins. This constraint might have a particularly negative impact in a market context of low interest rates. For this reason, a specific micro-credit instrument (in the form of a guarantee or a risk sharing loan fund), also involving non-banking financial institutions and small local financial players, might be considered. The possibility to combine the financial instrument with grants, including in the form of technical support, might also offer interesting opportunities.
- Technical support, in the form of training and advisory services, might be provided to farmers to help improve their relationships with banks. Training in financial management and accounting topics should be a fundamental component of this support.

Financing gap for the agri-food sector in Poland

The agri-food sector is an important part of the Polish economy. It accounts for 16% of industrial output and employs 400 000 people. The sector's share of Poland's GVA is 3.3%, compared to an average of 2.0% for the EU 28. Poland is the seventh largest producer of food products in the EU. The agri-food sector consists of many small enterprises, 95% are SMEs (below 250 employees), but the production is dominated by the large corporations.

For the agri-food sector, the study identified the following main drivers of demand for finance:

- (i) **Expansion of production capacity** through automation and innovation is a driver for investments, since previous comparative advantages, such as low labour cost, energy cost and raw material cost, are being exhausted.
- (ii) Like the agriculture sector, increasing **access to new markets** requires adaptation to different product requirements, packaging standards and marketing mechanisms.
- (iii) **More efficient use of input factors**, like energy and water, is becoming an important criterion in investment decisions, as the prices and availability of inputs are becoming more volatile.

There has been significant investment activity in the sector in recent years, as enterprises modernise and expand their production capacity. Between 2010 and 2017, investments increased by 47% to EUR 2.3 billion, which corresponds to 17% of the sector's GVA. The main driver of this trend are the large-sized companies that invested heavily in state-of-the-art production lines and infrastructure, especially in the dairy, meat, frozen food and beverage sub-sectors.

CAP also stimulates investments in the Polish agri-food sector. Food chain organisation is one of the six priorities of the RDP in Poland. Like the agriculture sector, enterprises need to provide their own resources in order to complement the grant obtained and for this they often rely on bank loans. Until 2017, only one fifth of



the RDP applications from agri-food companies for support were approved. This is a sign that a significant unmet demand for financing exists in the agri-food sector.

The overall trend of lending to enterprises is positive. While there are no figures available for the outstanding loan portfolio for the agri-food sector in particular, the sector follows the overall growing trend of the manufacturing sector. Commercial banks, cooperative banks and, increasingly, leasing companies are the main finance providers to the sector.

The guarantee scheme under the EAFRD was launched in late 2019 and aims at overcoming the collateral challenges for agri-food enterprises. As is the case for farmers, agri-food enterprises can in addition apply for general SME support under national and EU funded programmes, including COSME Loan Guarantee Facility and cohesion policy instruments like the Smart Growth Programme on a national level.

The report estimates a **financing gap for the agri-food sector in Poland of EUR 84 million**. The gap mainly concerns small enterprises (less than 50 employees). In terms of loan products, the financing gap is largest for long-term loans (maturity over 5 years), but this is less accentuated than for the agriculture sector.

The market gap is comprised of (i) the rejected loans, which made up 14% of applications for bank products and 12% for credit lines/bank overdrafts, and (ii) entrepreneurs that were discouraged from submitting a loan application. Although the survey recorded only 3% of enterprises that did not apply for a loan due to a fear of being rejected, this share is likely to be higher based on the information received in interviews.

Access to finance is constrained for enterprises due to a lack of adequate collateral, insufficient business management and planning skills, and the general risk-averse attitude among entrepreneurs towards external finance. On the supply side it was observed that loan conditions are not favourable due to the perception by banks that the sector is risky, which means that banks tend to control their exposure to the sector. In addition, banks consider loan appraisal for the agri-food sector more complex than for other enterprises.

As for the agriculture sector, the launch of the guarantee instrument under the RDP in December 2019 addresses one of the key challenges of agri-food enterprises to access finance, whereby the effects of this instrument should be evaluated before further similar interventions can be recommended for the supply side.

RECOMMENDATIONS

- As for the agriculture sector, it is recommended to ensure continuity of the EAFRD guarantee instrument also in the 2021-2027 programming period, subject to an assessment to measure the effectiveness of the instrument after a few years of operation. Also for the agri-food sector, it should be verified:
 - The adequacy of the guarantee capital and the expected leverage.
 - The concrete ability to address the constraints of small-sized enterprises.
- Combination between grants and financial instruments in a single operation could be an interesting implementation option for the new CAP Strategic Plans saving costs and resources.
- Consider the creation of a pilot risk-sharing credit fund as a solution to the risk-aversion of banks and their perception about the high risk associated with the sector, alongside the current high interest rates imposed on any agri-food company borrowing resources.
- While interviews conducted for this report showed that companies in Poland can already obtain information and advice related to access to finance, an additional effort, in terms of awareness raising and training on the financial management and investment opportunities for agri-food business, might be considered. Capacity building should therefore be an integral component of any intervention. It should cover the topics of business planning and management skills, especially with regard to accessing international markets and on technical topics such as energy and water efficiency.



1. INTRODUCTION

Objective

This report belongs to a series of 24 country reports and presents an assessment of the potential financing gap for the agriculture and agri-food sectors in Poland. 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 study. 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 the legal basis and/or policies at European level to mitigate the crisis since surveys and data available covered a period prior to its outbreak. This would need to be subject to further analyses by interested stakeholders, administrations and/or researchers.

Report structure

This report is structured in two parts, each focused on one of the sectors of interest: Part I covers financing for the agriculture sector; and Part II 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 Polish agriculture sector

- Poland is considered a rural country, with agriculture representing a significant part of the economy in terms of output and employment.
- 47% of all land in Poland is used for farming and 36% of the population live in rural areas.⁵
- Agriculture accounts for 2.4% of total Gross Value Added (GVA) and 10.4% of the total employment.
- About 45% of total output comes from crops and 55% from animals. The largest sub-sector is milk (16.5%), followed by cereals (14.7%), poultry (12.8%), pork as well as vegetables and horticulture (both at 11.3%).
- In total, 90.6% of the 1.4 million farms are categorised as small-sized farms (below 20 ha). The average size of Polish farms is 10.1 ha, compared to 16.6 ha for the EU 28 average.⁶
- There are ongoing structural changes that are increasing the bi-polar division in the sector with small-sized farms decreasing in number and large-sized farms growing.
- Average gross income per farm was EUR 14 600 in 2016.⁷
- 20.3% of Polish farmers are young farmers (below 40 years of age), which is almost twice the average of 10.6% for the EU 28.
- While the total number of farms has been decreasing, and while productivity is low due to fragmentation, the average output per farm has been increasing.
- The transformation from labour-intensive to capital-intensive agriculture is still pending. Many farms lack modern farm equipment, and many farmers lack knowledge on new technologies.
- Poland has a trade surplus in agriculture products and important trading relationships with other EU member states.

Poland remains predominantly a rural country and agriculture continues to represent a significant part of its economy, both in terms of output and employment. Around three quarters of the country's area is considered as lowland,⁸ which makes it ideal for agriculture production. Within the European Union (EU 28), Poland is among the countries with the largest utilised agricultural area (UAA) and is a main producer of agriculture products. The primary sector contributes 2.8% to total gross value added (GVA) and employs 10% of the workforce.⁹ Both figures are above the EU 28 average of 1.6% and 3.9%, respectively, and demonstrate the weight of the agriculture sector in the economy.

Agriculture output is split nearly evenly between animal and crop production. Animal production accounts for 55% of agriculture output while crop production accounts for 45%. The largest sub-sector is milk (16.5%), followed by cereals (14.7%), poultry (12.8%), pork as well as vegetables and horticulture (both at 11.3%).¹⁰ The total agriculture output amounted to EUR 26 billion in 2018, which was an increase of 30% compared to 2010 (Figure 1). During the same period, the factor income per working unit grew by 40%.

⁵ Eurostat, 2019, Agriculture, forestry and fishery statistics.

⁶ Eurostat, 2019, Agriculture, forestry and fishery statistics.

⁷ FADN, 2019, https://ec.europa.eu/agriculture/rca/database/report_en.cfm?dwh=SO.

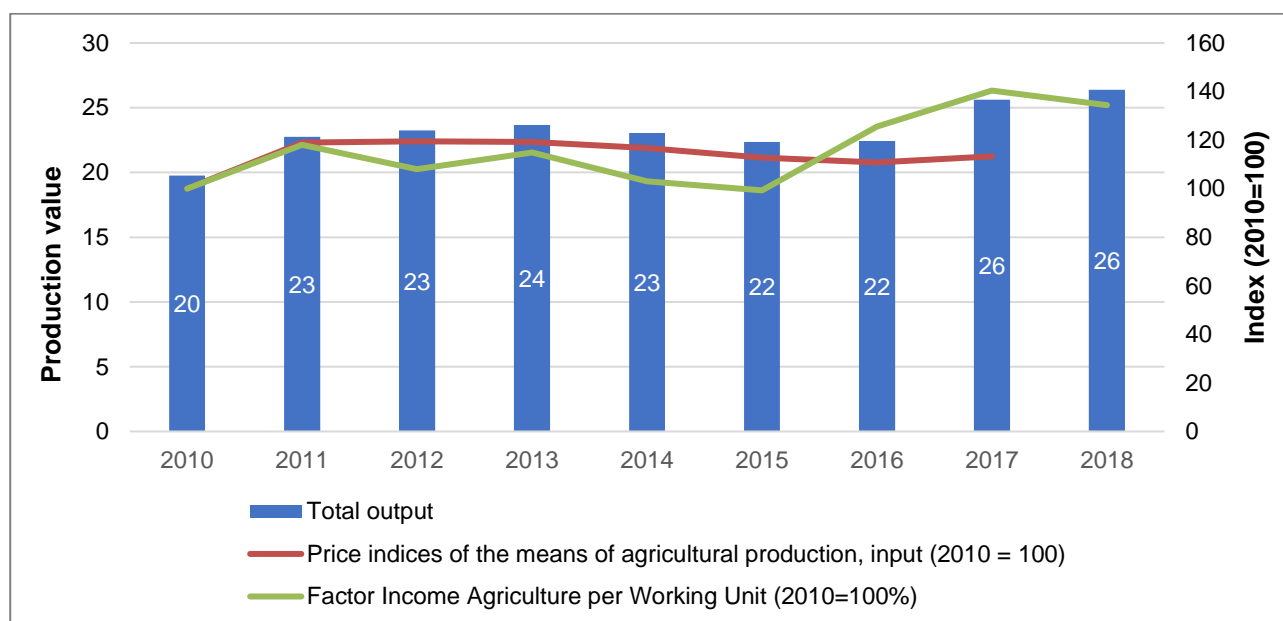
⁸ FAO, 2019, <http://www.fao.org/3/y2722e/y2722e0z.htm>.

⁹ European Commission, 2019, Statistical Factsheet Poland.

¹⁰ European Commission, 2019, Statistical Factsheet Poland.



Figure 1: Development of the Polish agriculture output, producer prices and agriculture factor income in 2010-2018, EUR billion



Source: Eurostat – Economic accounts for agriculture, 2019.

* 2018 data for price indices of the means of agricultural production, input (2010 = 100) not available.

Poland has a trade surplus in agriculture products. The country is an important food producer for the EU 28. The main crops exported are fruit, potatoes, sugar beet and cereals (rye and wheat), while the main animal products exported are milk and poultry.¹¹ Poland's trade relationship with other EU members is important, with 80% of its exports going to, and 83% of its imports coming from, other Member States. However, despite this close relationship, Poland remains vulnerable to external shocks, such as the 2014 Russian embargo that severely affected its economy. Also, the emergence of African Swine Fever (ASF) is negatively impacting the production and trade in pork meat in Poland. The disease appeared for the first time in 2014 and has since continuously spread across the country, now also affecting large-sized farm estates.¹²

Structural and socio-economic changes are still ongoing. Poland has received substantial support from the EU to modernise and transform its agriculture sector. Since 2004, the sector has experienced profound structural and socio-economic changes, but there is still the potential for further growth. The total number of holdings dropped from almost 2.5 million in 2005 to 1.4 million in 2016¹³. At the same time, the average UAA per holding grew from 6 ha to 10.1 ha. However, still the majority of farms are small-sized, or very small-sized, with over 50% of the farms utilising less than 5 ha, and more than 90% of the farms utilising less than 20 ha. Farms above 50 ha experienced a strong increase in UAA between 2004 and 2016¹⁴. Although the standard

11 Ernest and Young, 2019, Doing business in Poland, [https://www.ey.com/Publication/vwLUAssets/ey-doing-business-in-poland-sectors/\\$FILE/ey-dbp-sectors.pdf](https://www.ey.com/Publication/vwLUAssets/ey-doing-business-in-poland-sectors/$FILE/ey-dbp-sectors.pdf).

12 Ministerie van Landbouw, Natuur en Voedselkwaliteit, 2019, Update ASF in Poland, <https://www.agroberichtenbuitenland.nl/actueel/nieuws/2019/11/25/update-asf-poland>. Since 2014 until November 2019) 5 351 cases were detected. The disease is spreading from East to West reaching close to the German border. ASF restricted areas cover around one third of the Polish territory. The number of infected pigs is getting higher, since now also areas with large-sized farm estates are affected.

13 No later data available.

14 The farm structure of Poland is important to bear in mind for the forthcoming analysis in this report, where the *fi-compass* survey results will be analysed. The analysis of the survey divided farms into small farms (below 20 hectares), medium-sized farms (20-100 hectares), and large farms (>100 hectares). Hence, in the case of Poland,



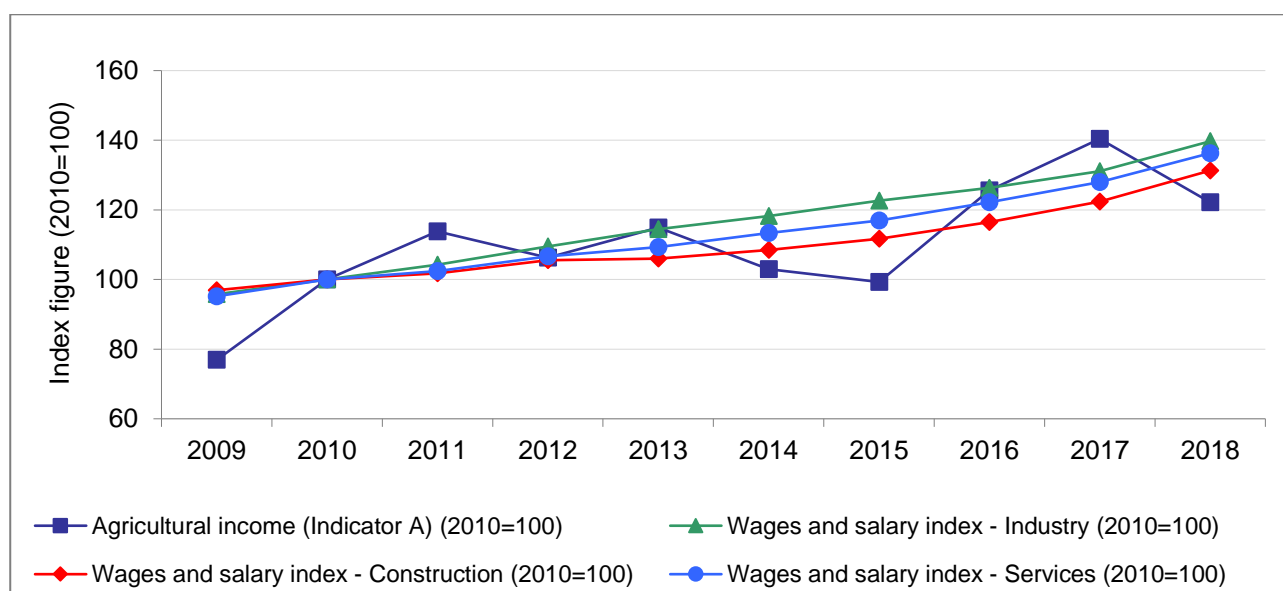
output¹⁵ (SO) remains very low overall, with 87% of the farms having a SO below EUR 25 000, the number of farms with a SO above EUR 50 000 more than doubled between 2005 and 2016.

Despite the overall positive development of the agriculture sector, the following **main obstacles** remain:¹⁶

- The farm structure remains small and fragmented making it difficult to benefit from economies of scale and to adapt to the changing consumers' demands.
- Productivity of the majority of the farms is low due to a lack of modern equipment and basic infrastructure and services.
- There is little diversification towards non-agriculture activities.
- Experience and knowledge of modern technologies is low among farmers.

Whereas income levels for other sectors of the economy have grown steadily, agriculture income has varied in the course of the last 10 years. In 2018, income levels were below that of other sectors but in 2017 it was slightly higher. Still, overall agriculture income has grown by 59% when comparing 2009 levels to 2018 (Figure 2).

Figure 2: Evolution of Polish agricultural income compared to wages and salaries in other sectors of the economy, 2009-2018



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

Looking at the cost and revenue structure, comparing the period 2016 to 2018 to the 2004 to 2006 period, the most notable change is the increase of fertiliser and labour costs whereas other costs and taxes have decreased. The revenue structure for the period 2016 to 2018 has also largely remained similar to that of the 2004 to 2006 period. The most notable change is the change in the subsidy structure: for the period 2004 to 2006 other subsidies and product subsidies accounted for 6% of revenue each, the share of product subsidies has decreased for the period 2016 to 2018 whereas other subsidies have increased for the same period, reflecting the Common Agricultural Policy (CAP) reforms undertaken (Figure 3).

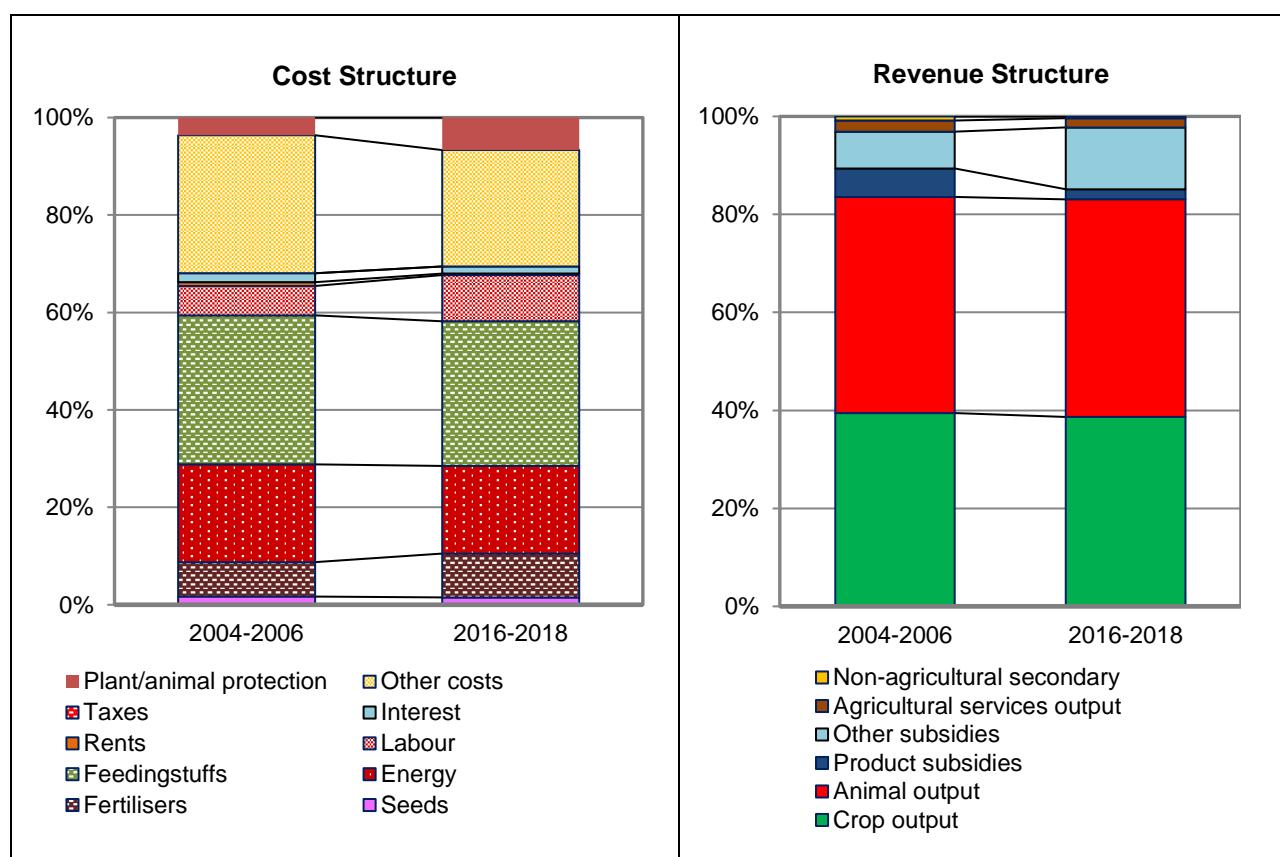
90% of the farms fall in the category of small farms as defined on a European level. However, in the understanding of the national context, a small farm is considered to be smaller than 5 hectares, rather than below 20 hectares, and a large farm is a farm over 50 ha, rather than 100 ha.

¹⁵ The standard output (SO) of an agricultural product (crop or livestock) is the average monetary value of the agricultural output at farm-gate price, in euro per hectare or per head of livestock.

¹⁶ European Commission, 2014, Factsheet on 2014-2020 Rural Development Programme for Poland.



Figure 3: Agriculture income – cost and revenue structure in Poland, 2004-2018



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

Statistical factsheet Poland, 2019

More data on agriculture indicators from Poland can be found in the [Statistical factsheet for Poland 2019](#) of the Directorate-General for Agriculture and Rural Development, Farm Economics Unit and in Annex A.6.



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 elaborates the main reasons for farm enterprises to request financing and identifies the agriculture sub-sectors with 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 320 Polish 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 Polish agriculture sector

- GFCF (EUR 1.3 billion) amounted to 13% of GVA in 2018, which points to low investment activity. This is well below the EU 28 share of 30.4%.
- Demand for finance is driven by (i) the expansion of agriculture production, (ii) investments in modern technology, and (iii) improving standards in order to increase farm competitiveness and adaptation to climate change.
- Farmers use bank loans for investments in machinery, equipment and facilities, reflecting the need for modernisation of the sector.
- Poland is the fifth largest recipient of CAP support, in absolute volume, and both direct payments and RDP support facilitate farmers access to finance.
- Implementation of a guarantee instrument under EAFRD was launched in December 2019.
- The highest demand for finance is for medium and long-term loans, but approval rates for these are lower than for short-term loans.
- In 2016, the Polish government passed new laws which contained tighter provisions on the sale of agriculture real estate¹⁷ and which defined a range of assets to be excluded from the enforcement of bank loans against farmers.¹⁸ While both laws aimed at protecting small-sized farms, they led to increased uncertainty within the market.
- The unmet demand for finance for the agriculture sector in Poland is estimated at EUR 6.4 billion.
- The rejection rate for long-term loans is significant and around 10%.
- The main reasons loan applications are rejected by banks are due to (i) a lack of creditworthiness, which is related to weak accounting and business planning skills, (ii) missing or poor credit history, and (iii) insufficient collateral.
- Young farmers and new entrants, in particular, lack access to finance due to their lack of collateral, lack of credit history and their little experience in farming and farm management. They would benefit from increased technical support.

17 Ustawa z dnia 5 sierpnia 2015 r. o kształtowaniu ustroju rolnego, <http://prawo.sejm.gov.pl/isap.nsf/download.xsp/WDU20150001433/U/D20151433Lj.pdf>.

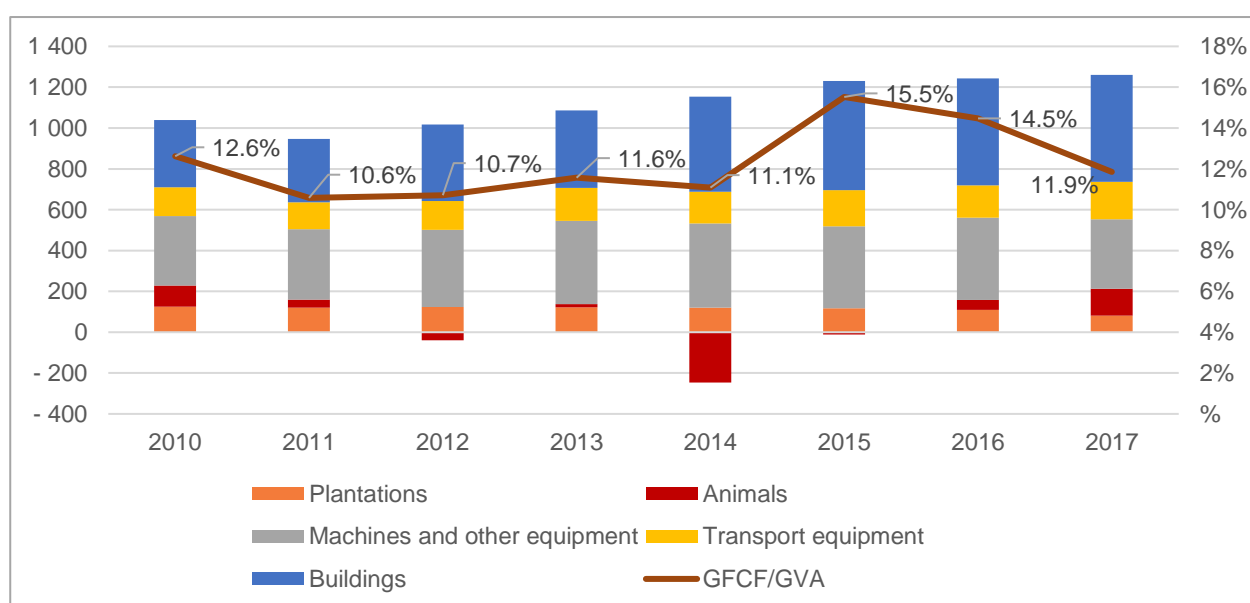
18 Rozporządzenie ministra sprawiedliwości z dnia 5 lipca 2017 r. w sprawie określenia przedmiotów należących do rolnika prowadzącego gospodarstwo, które nie podlegają egzekucji.



2.2.1 Drivers of total demand for finance

Gross Fixed Capital Formation¹⁹ (GFCF) in Poland is low and has not shown a trend of significant growth over the last five years. In 2018, GFCF amounted to EUR 1.3 billion which, in relation to the total agriculture GVA (EUR 9.4 billion), implies that only about 13% of GVA was used for investments in physical assets.²⁰ This is well below the EU 28 share of 30.4% and means Poland ranks third last among the EU member states, in this regard.²¹ Looking at the period from 2010 to 2018, the absolute volume of GFCF increased by 21% from EUR 1 billion to EUR 1.3 billion, with the strongest growth occurring between 2011 and 2015. In terms of the share of GVA, figures fluctuate between 10.7% and 15.5% (Figure 4). The majority of GFCF were investments into machinery and buildings. Agriculture assets, such as fruit trees, permanent crops, and animals, played a minor role. Investments in animals were negative in 2012 and 2014, possibly caused by the Russian embargo that affected pig and poultry production.

Figure 4: Gross Fixed Capital Formation in the Polish agriculture sector, 2010-2017, EUR million



Source: Eurostat, *Economic Accounts for Agriculture (value at basic prices)*, 2019.

In general terms, the **drivers of demand for finance** in Poland are:

- (i) expansion of agriculture production;
- (ii) investments in modern technologies;
- (iii) improvements in production standards, in order to increase competitiveness; and
- (iv) adaptation to climate change.

Expansion of agriculture production is part of the ongoing structural process. The farming sector in Poland is still very fragmented and this limits its growth potential. In order to reach efficient levels of production, the purchase of land is necessary which has been an important driver of the demand for finance over the last

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

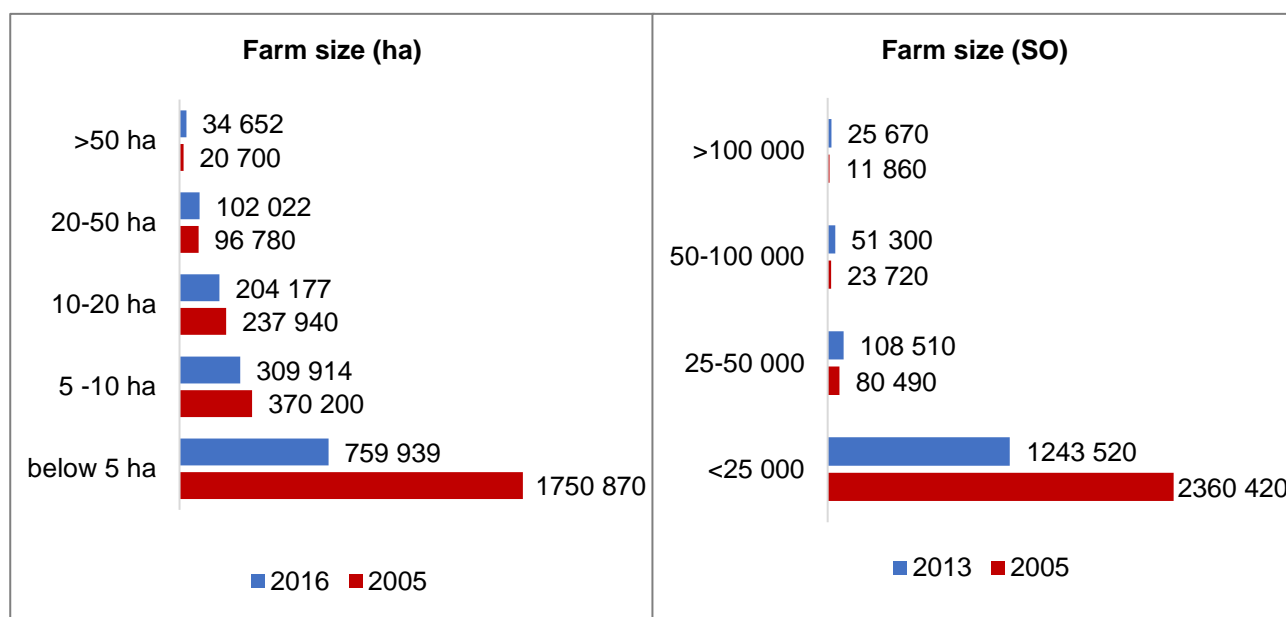
20 Eurostat database.

21 Eurostat, 2018, Agriculture, forestry and fishery statistics.



years. As already highlighted in Section 2.1, the sector is undergoing a structural change. Since 2005, the number of farms with less than 20 ha has been decreasing while the number of farms over 50 ha has been increasing (Figure 5). The development was strongest on both ends, with farms up to 5 ha in size decreasing by 57% and farms over 50 ha increasing by 67%. Despite the farm consolidation process, more than 75% of all farms are still below 10 ha and only 2.5% are above 50 ha. In terms of economic size, the number of farms with a standard output below EUR 25 000 decreased by 47% while the number of farms with a SO above EUR 50 000 more than doubled (+116%). Nevertheless, the overall standard output remains low.

Figure 5: Development of number of farms by size (ha) and standard output in EUR



Source: Statistical Office Poland, Statistical Yearbook of Agriculture 2017 and EC, Statistical Factsheet for Poland 2018.

New regulations on land sales and enforcement proceedings has led to increased uncertainty within the sector. In 2016, the Polish government passed new laws which contained tighter provisions on the sale of agriculture real estate²² and which defined a range of assets to be excluded from the enforcement of bank loans against farmers.²³ While both laws aimed at protecting small-sized farms within the sector, they led to increased uncertainty within the market. According to the interviews conducted, the new laws slowed down the agriculture land market and led to more volatility. According to the financial institutions interviewed, the new laws hinders their lending business and further aggravates the problem of insufficient collateral in the hands of small-sized farms. However, the use of bank finance to purchase land seems to have increased in 2017 and 2018. This might be due to the measures foreseen in the same law, aiming to facilitate the consolidation of farm, which might have stimulated more transfer of land parcels (further analysis on this aspect can be found in Section 2.3.2). In addition, based on the results of the *fi-compass* survey, only 5% of Polish farmers had difficulties in access to land compared to 11% in the EU 24 (Figure 7)

Access to land is a major difficulty in Poland for young farmers and new entrants. Young farmers constitute one fifth of the farmers' population in Poland, which is twice as much as the EU 28

22 Ustawa z dnia 5 sierpnia 2015 r. o kształtowaniu ustroju rolnego <http://prawo.sejm.gov.pl/isap.nsf/download.xsp/WDU20150001433/U/D20151433Lj.pdf>.

23 Rozporządzenie ministra sprawiedliwości z dnia 5 lipca 2017 r. w sprawie określenia przedmiotów należących do rolnika prowadzącego gospodarstwo, które nie podlegają egzekucji.



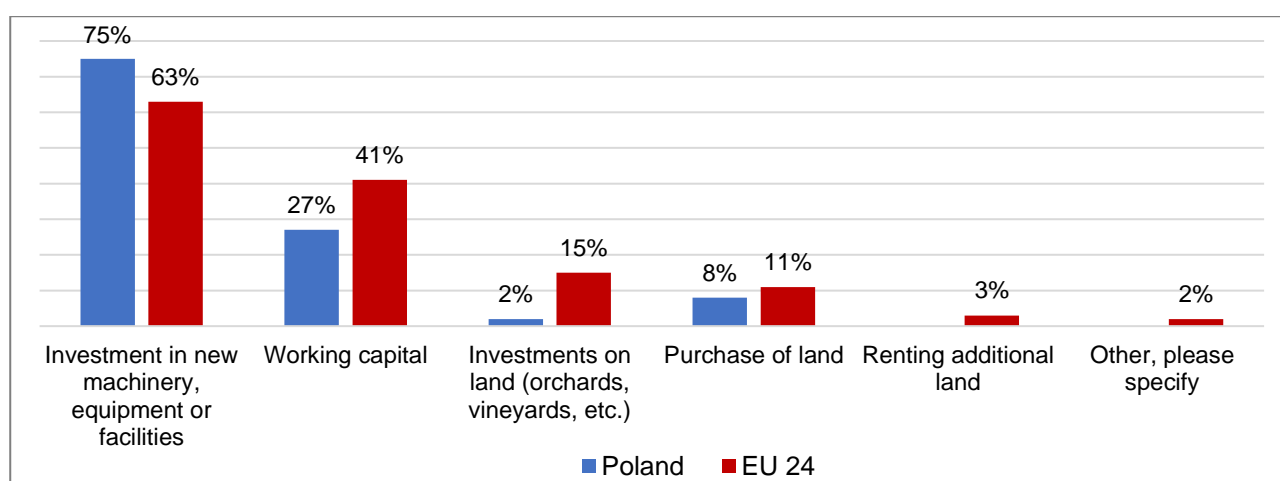
average (10.6%).²⁴ However, recently many young people have been migrating to urban regions and cities seeking more and better paid work opportunities.²⁵

In a survey carried out among young farmers,²⁶ the main concerns were related to the purchase of and rent of land, as well as the lack of co-operation between the farmers. Young farmers and new entrants particularly struggle to expand their production because affordable land is becoming scarce and they have to compete against established farmers. Young farmers that take over the agriculture holding from their parents are in a more favourable position than new entrants, because they can rely on existing land, installations and machinery. A national particularity for Poland is that new entrants are required to have a formal technical qualification in agriculture before they are allowed to operate a farm or to apply for CAP subsidies.²⁷

The main purpose of the loans obtained is to invest in machinery, equipment or facilities (Figure 6). The findings from the *fi-compass* survey confirm the high need for modernisation of equipment and technology, with 75% of farmers that obtained a loan intending to use it to invest in farm assets, which is above the EU 24 average of 63%. Interviewees from financial institutions confirmed that many farmers still use old equipment which often is inefficient.

Working capital finance is also high on the agenda (27%), but the demand is less than that of the EU 24 average (41%). Although finance for the purchase of land is lower in Poland (8%) than for the EU 24 (11%), it is still a relevant driver of demand in the national context. For those wanting to increase their farm size and reach higher productivity levels, loans can be used to finance the purchase of land, the take-over of other farms or the renting of larger lots.

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



Source: *fi-compass* survey.

Several sub-sectors of Polish agriculture show a high demand for investment in modern production technologies. Certain sub-sectors, such as horticulture and milk production, have a particularly high demand

24 European Commission, 2018, Statistical Factsheet Poland. 75% of the Polish population lives in rural and intermediate areas.

25 Interview with Beata Andrzejewska (BPS S.A.). She also observed, to a minor degree, the opposite trend of young people returning to the rural areas.

26 Ecorys (for European Commission), 2015, Young farmers' needs in Poland. Further concerns were related to the weak political and economic position of farmers in comparison to processors and distributor companies and the lack of cooperation among farmers.

27 OECD, 2018, Rural Policy Reviews: Poland.



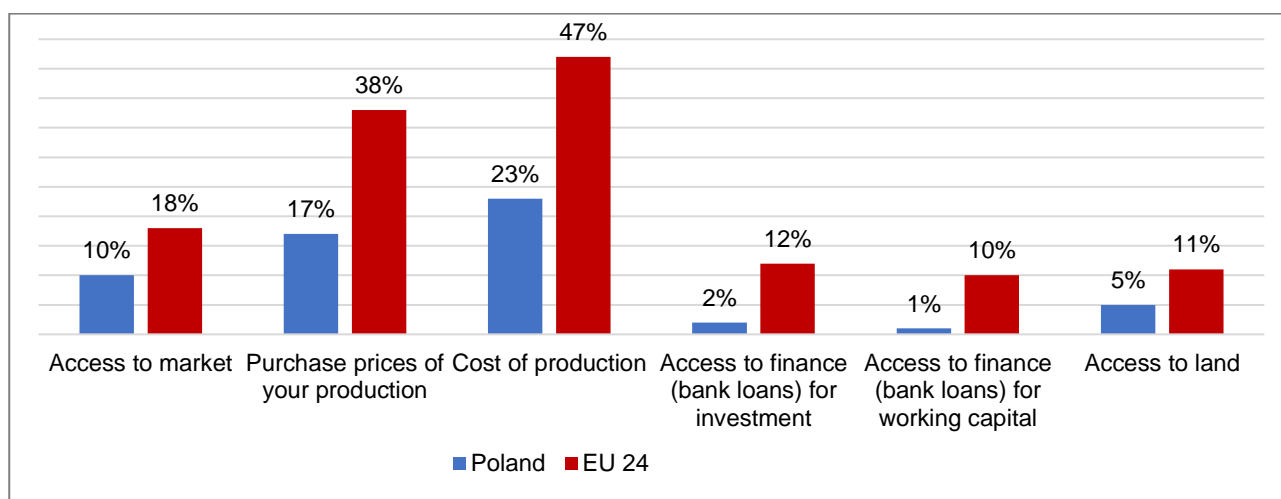
for investments in technology that allows them to improve their position in the value chain, increase productivity and thus become more competitive:

- **Fruit and vegetables** (specifically orchards): during the last 10 years, production has become more intensive due to the use of new types of plants/trees, high-efficient irrigation systems and precise fertigation²⁸ systems. Persisting changes in weather patterns and environmental challenges, like soil erosion and soil degradation, require farmers to invest in technologies to protect their perennial crops.
- **Milk production:** In recent years, the sector has seen a significant decrease in sale price of products (mainly due to the Russian embargo). Margins have also decreased due to rising production costs (mostly labour costs). There is a large need to introduce new technologies, such as milking machines and other type of supporting equipment, to increase the quality of milk and decrease labour costs.

The transformation from labour-intensive to capital-intensive agriculture is still pending. While farmers are investing in new machinery, productivity in the agriculture sector has not reached its full potential. This is because most farms are still small in size and lacking in modern farm equipment, and because farmer's lack knowledge of new technologies. Management approach tends to differ between small and large-sized enterprises. Small-sized farms tend to be family owned and tend to grow mixed crops with traditional farming methods. In contrast, large-sized farms tend to be run as enterprises and are more specialised in production using modern equipment.

Although the use of loans to finance working capital is below the EU 24 average, it is still an important element for Polish farmers given that cost of production is a key concern for them. According to the *fi-compass* survey, 23% of Polish farmers claimed that costs of production was a key difficulty. This was followed by selling prices (17%) and market access (10%) (Figure 7). One-third of the Polish farmers (32.6%) have experienced a recent increase in their cost of production. Similar results are shown in the FADN data, where the total specific costs incurred by an average farm have increased by 4.1% between 2016 and 2017, with the cost of energy and fuel being a main driver.

Figure 7: Difficulties experienced by farmers in 2017



Source: *fi-compass* survey.

²⁸ Fertigation is a tool used in precision agriculture and refers to the injection of fertilizer into an irrigation system.



Demand for finance is also driven by the need to improve production standards in response to consumer demand and the need to enable farmers to compete more successfully on the EU and international markets. To expand their exports, Polish farmers need to adopt a different set of EU and international production standards, in terms of quality, size, food safety and packaging requirements, to be able to enter new markets.²⁹ This requires investing in farm assets such as, for example, sorting facilities and chilling stations (e.g. for apple producers).³⁰ Farm practices have to be adapted to environmental and animal welfare standards. Many farmers lack awareness and knowledge on these topics and this deters them from implementing the standards and effectively planning the necessary investments.

Investments to improve the resilience of farms to environmental challenges will increase the demand for finance. The risks associated with climate change have already had an effect on farmers in Poland. Hotter winters, shorter springs and heat waves in summer have already caused harvests to fail in recent years, while lower and more variable rainfall leads to droughts. Certain areas are also affected by erosion, low water quality and decreasing soil quality,³¹ which needs to be addressed by improved farming methods. As a result, farmers need to invest in new farming technologies, such as improved irrigation systems, and this thus generates a demand further for finance.

Overall, the demand for finance is driven by large-sized farms. According to information from the FADN database, large-sized farms (with an SO over EUR 100 000) account for the highest share of liabilities, with an average of EUR 40 000 per farm (Table 1). Since 2010, these farms have been increasing their level of assets. This is particularly the case for very large-sized farms (SO above EUR 500 000), which have more than doubled their asset base since 2010 and which have the smallest liabilities to asset ratio (0.2%) among all farm sizes. While there is a clear link between economic farm size and asset size, the picture is not so clear cut for economic farm size and liabilities. While farms with an SO below EUR 8 000 have high liabilities, with an average of EUR 24 409 per farm, given their characteristics (family owned) the loans might not have been exclusively used for business purpose but rather for mixed private household needs.

Table 1: Assets and Liabilities per farm by economic size (SO based) in 2017, Poland

Economic size group (SO)	Total assets, EUR	Total liabilities, EUR	Short-term liabilities, EUR	Medium and long-term liabilities, EUR	Liabilities to assets ratio, %	Short-term to total liabilities ratio, %	Number of farms
EUR 2 000 - < 8 000	81 748	24 409	18 197	6 213	29.9%	74.6%	257 790
EUR 8 000 - < 25 000	138 277	5 798	3 782	2 016	4.2%	65.2%	295 940
EUR 25 000 - < 50 000	241 888	10 739	8 107	2 632	4.4%	75.5%	108 510
EUR 50 000 - < 100 000	389 324	4 623	3 350	1 274	1.2%	72.5%	51 160
EUR 100 000 - < 500 000	741 496	40 502	31 377	9 126	5.5%	77.5%	22 780
EUR ≥ 500 000	2 762 732	5 423	3 527	1 896	0.2%	65.0%	2 360
All farms	178 166	9 522	6 973	2 549	5.3%	73.2%	738 540

Source: Calculations based on FADN data, 2019.

29 Apple and pear farmers' representatives in interviews explained that the domestic market and certain export markets previously were less demanding about the size of the apples and the packing of the fruits. This changed when they were forced to enter new markets. Depending on the target country they had to adjust for example to the respective standards in terms of packaging.

30 Interviews with fruit producer.

31 European Commission, 2014, Factsheet on 2014-2020 Rural Development Programme for Poland.



The sub-sectors with the highest liabilities are poultry, horticulture and milk (Table 2). The poultry sub-sector has the highest liabilities, with liabilities to poultry producers growing from EUR 25 000 per farm in 2010 to EUR 40 500 in 2017, reflecting increasing demand for finance over the same time period. This is due to poultry producers having significantly expanded their level of production in recent years due to demand from the EU where poultry is one of Poland's key export products. New non-EU markets were also discovered.

The second highest level of liabilities are to be found in the horticulture sector, where Poland plays a leading role in the EU for crops such as apples. The comparatively high amount of medium and long-term liabilities is related to the fact that many farmers have made investments to adjust to new planting technologies, new varieties of fruit trees or new after-harvest technology.³² The milk sub-sector produces 17.4% of the agriculture output and is expanding consistently.³³ Investments in this sub-sector are predominately made in livestock and equipment.

Table 2: Assets and Liabilities by type of farming in Poland, per farm, 2017

Type of farming	Total assets, EUR	Total liabilities, EUR	Short-term liabilities, EUR	Medium and long-term liabilities, EUR	Liabilities to assets ratio, %	Short-term to total liabilities ratio, %	Number of farms
Field crops	176 823	10 630	8 062	2 568	6.0%	75.8%	253 990
Horticulture	148 986	24 409	18 197	6 213	16.4%	74.6%	25 300
Other permanent crops	171 743	5 798	3 782	2 016	3.4%	65.2%	43 340
Milk	225 339	10 739	8 107	2 632	4.8%	75.5%	99 560
Other grazing livestock	157 023	4 623	3 350	1 274	2.9%	72.5%	35 610
Granivores	383 902	40 502	31 377	9 126	10.6%	77.5%	20 170
Mixed	152 313	5 423	3 527	1 896	3.6%	65.0%	260 580
All farms	178 166	9 522	6 973	2 549	5.3%	73.2%	738 550

Source: Calculations based on FADN data, 2019.

Short-term liabilities prevail across all sectors and farm sizes. This is because it is comparatively easy to obtain short-term loans, compared to longer term loans, as stated by the participants of the *fi-compass* survey. This is despite the demand for medium and long-term loans being higher (section 0).

The agriculture sector in Poland benefits greatly from CAP payments. The sector receives CAP support through Pillar I, which is financed entirely by the EU budget and consists (principally) of direct payments and market support, and Pillar II, which is co-financed with national resources and consists of numerous measures aimed, among other things, at increasing the competitiveness of the sector. The Rural Development Programme (RDP) in Poland is managed by the Ministry of Agriculture and the CAP support measures are implemented by the Agency for Restructuring and Modernisation of Agriculture (ARMA).

³² Interviews with apple and pear producers.

³³ European Commission, 2018, Statistical Factsheet Poland.



In 2017, Poland received a total of EUR 4.6 billion in support from CAP, of which 72% consisted of direct payments (EUR 3.4 billion). Another EUR 1.2 billion was provided by the RDP³⁴ and EUR 0.1 billion by market measures.³⁵

Polish farmers receive a significant volume of direct payments. Under the framework of Pillar I, the allocation of direct payments to Poland over the total period 2014-2020 amounts to EUR 23.4 billion,³⁶ making it the fifth largest recipient of CAP direct payments in the EU. Since direct payments are mainly linked to the size of the farm, Polish farmers growing arable crops, which in general are the larger-sized farms, are the main beneficiaries. Direct payments play an important function not only as a safety net, but also in stabilising the cash flows of farms and therefore facilitating their access to finance. Direct payments also provide farmers with a guarantee which is acceptable to banks for short-term loans.³⁷ Furthermore, they allow more farmers to invest into the modernisation of their businesses, therefore improving their productivity.

The main priority of the RDP in Poland is farm viability and competitiveness. For Poland, a total volume of EUR 13.6 billion is foreseen under Pillar II for the 2014-2020 programme (EUR 8.7 billion EAFRD resources and national co-financing of EUR 4.9 billion). This corresponds to 27% of the total CAP funds for Poland, including national co-financing. Improving farm viability and competitiveness has been recognised as a key priority and 35% of the total RDP budget has been allocated to supporting physical investments in agriculture and agri-food processing (Measure 4).³⁸

For farm modernisation investments (sub-measure 4.1), a budget of EUR 2.7 billion is available, which is split in 3 different types of operations. The dominant type of operation supported is the Modernisation of agricultural holdings (EUR 2.5 billion total public support), followed by Investments in holdings located in sites within Natura 2000 (EUR 119 million), and Investments to protect water from pollution of nitrates, including in nitrate vulnerable zones (EUR 90 million). The support rate for the last two operations is 100%, while the one for the main type - investments on farms for their modernisation - is 63.6%.

By the end of April 2020, the total number of applications submitted under each of the 3 types of operations exceeded the available budget. For the Modernisation of agricultural holdings, in total 29 356 contracts with beneficiaries have been signed thereby covering 53% of the available budget, while in total 58 909 applications were submitted, totalling 114% of the budget. Dairy, cattle and pig breeding are among the sub-sectors demanding most of the investments. Similarly, support for Investment in holdings located in sites within Natura 2000 has had 3 748 applications (totalling 130% of the available budget), with 1 454 contracts already signed (covering 43% of the budget). For water protection from nitrate pollution, the demand already reached the available budget - with 5 368 applications submitted for 99.7% of the budget and 1 842 contracts signed, covering 33% of the budget.

The EAFRD provides support for start-up activities of young farmers under sub-measure 6.1. The sub-measure targets young farmers that are starting for the first time an activity in an agriculture holding as the person managing the farm. They have to submit a business plan and their farm should have a size of at least the national or regional average, but smaller than 300 ha. Besides this, at least 70% of the farm area must be owned or rented from public bodies with a long-term contract. Grants are provided up to EUR 24 000 for all agriculture activities, with exception of poultry other than organic, energy crops and animal keeping for special

34 Note: The total amount requested 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 the budget under the call is no longer available.

35 European Commission, 2018, Statistical Factsheet.

36 European Commission, 2017, CAP in your country Poland.

37 Ministry of Agriculture, 2019, Ocena ex ante zasadności zastosowania instrumentów finansowych w ramach Programu Rozwoju Obszarów Wiejskich na lata 2014-2020.

38 European Commission, 2014, Factsheet on 2014-2020 Rural Development Programme for Poland.



purposes.³⁹ The Managing Authority has programmed EUR 718 million in total public support for the whole period, of which EUR 456.9 million are EAFRD resources. The sub-measure has been very popular, with 24 313 applications submitted in total by the end of April 2020, amounting to 90% of the allocated budget. So far, about 18 742 contracts with young farmers are signed, amounting to 70% of the budget of which one-third of it (34%) has already been paid out.

As the response to the calls for applications shows, farmers in Poland are aware of the opportunities provided by the programme and are eager to take advantage of it. In this context, and from a financial point of view, according to information from the Managing Authority, there is a clear link between loan applications and RDP support, as beneficiaries of investment support often rely on bank loans to provide the 'own resources' needed to complement the grant.⁴⁰

A guarantee fund supported by the EAFRD was implemented in December 2019. The beneficiaries are farmers and micro, small and medium-sized enterprises in the agri-food sector. Eligible expenditure items for the guaranteed loans include a broader range than those delimited by RDP sub-measures 4.1 and 4.2 (for example also the purchase of animals, working capital and annual plants not eligible under grant support). An amount of EUR 50 million from the RDP is allocated to the fund and expected to leverage loans worth EUR 250 million until 2023. The fund is managed by Bank Gospodarstwa Krajowego (BGK) and supervised by ARMA. The financial instrument is part of the government's program 'Supporting entrepreneurship using the sureties and guarantees of Bank Gospodarstwa Krajowego'⁴¹.

BGK guarantees under the financial instrument are provided for up to 80% of the loan amount, but they are subject to the requirement that the minimum amount of the guarantee is not less than EUR 800 000 (PLN 3 500 000), and the maximum amount of guarantee is not higher than the equivalent of EUR 10 000 000.

BGK charges a fee of 3.8% for micro, small or medium-sized enterprises and a fee ranging between 1.15% to 4.00% for larger businesses (the rate is determined individually and depends on the risk class assigned when BGK is granting a security).⁴²

The Guarantee fund, which has a total budget of EUR 50 million (EUR 31.8 million from the EAFRD and EUR 18.2 million national funds) is implemented through 8 commercial banks that have signed an agreement with BGK. Two other banks are expected to join it very soon. By the end of April 2020, it has issued 23 guarantees committed for a loan amount of EUR 5.6 million (PLN 25.6 million). The total financing of the supported projects is EUR 7.2 million (PLN 32.5 million)⁴³.

39 Ministry of Agriculture, 2019.

40 Ministry of Agriculture, 2019, Ocena ex ante zasadności zastosowania instrumentów finansowych w ramach Programu Rozwoju Obszarów Wiejskich na lata 2014-2020.

41 BGK, 2019, 50 mln euro dla rolników - powstał Fundusz Gwarancji Rolnych, <https://media.bgk.pl/66719-50-mln-euro-dla-rolnikow-powstal-fundusz-gwarancji-rolnych>.

42 BGK, Loan repayment sureties/guarantees, granted in cooperation with banks providing credit facilities under the government programme 'Supporting Entrepreneurship through BGK Sureties and Guarantees', <https://www.en.bgk.pl/activities/government-programs/loan-repayment-suretiesguarantees-granted-in-cooperation-with-banks-providing-credit-facilities-under-the-government-programme-supporting-entrepreneurship-through-bgk-sureties-and-guarantees/>.

43 Information provided by the Ministry of Agriculture, 2020.



Prior to implementing the financial instrument, an ex-ante assessment⁴⁴ (box below) were carried out which identified areas where the potential use of financial instruments could be beneficial for agriculture holdings and agri-food enterprises. Later on, this was complemented with a *fi-compass* feasibility study as part of the EAFRD - EFSI Initiative launched by the European Commission in 2016. The financial instrument products that were identified to best address the key challenges of a lack of collateral and insufficient guarantees were 'uncapped' portfolio guarantees and first loss portfolio guarantees.⁴⁵ Further information about the financial instrument under the RDP is presented in section 2.3.1.2.

Main findings of the ex-ante assessment for the use of Financial Instruments within the European Agricultural Fund for Rural Development in Poland⁴⁶

- The ex-ante assessment was conducted in 2019 and studied the possibility of introducing a financial instrument under the current RDP (2014-2020). The main obstacles for farmers and agri-food companies to access finance consisted in high collateral requirements and an insufficient offer of public guarantees. Besides this, RDP sub-measures 4.1 and 4.2 showed limitations in terms of beneficiaries and investment purposes.
- About 6% of farmers are discouraged from applying for a loan. This concerns in particular small-sized farms.
- Farmers mostly apply for longer term maturity loans.
- The gap between supply and demand was estimated at EUR 2.7 billion for the agriculture and agri-food sectors together. The gap assessment was based on desk research, interviews with stakeholders, an online survey (CATI) and focus group discussions.
- Recommendations derived from the ex-ante assessment were:
 - The introduction of a guarantee instrument (capped and uncapped portfolio guarantee) as a pilot project due to the advanced stage of the RDP period.
 - A contribution of EUR 50 million from RDP.
 - Defining types of investments as broad as possible.
 - To use a combination of EAFRD and EFSI funds in compliance with the omnibus regulation.

44 *fi-compass*, 2018, Feasibility study in support of the implementation of Financial Instruments combining EAFRD and FSI within the framework of the Rural Development Programme of Poland for the 2014-2020 programming period, Final report, and Ministry of Agriculture, 2019, Ocena ex ante zasadności zastosowania instrumentów finansowych w ramach Programu Rozwoju Obszarów Wiejskich na lata 2014-2020, (ex-ante assessment).

45 Niec, Dariusz, EAFRD-EFSI Initiative for Agriculture, Presentation during *fi-compass* Fourth annual EU conference on EAFRD financial instruments for agriculture and rural development in 2014-2020, 5 – 6 June 2018, Sofia (link).

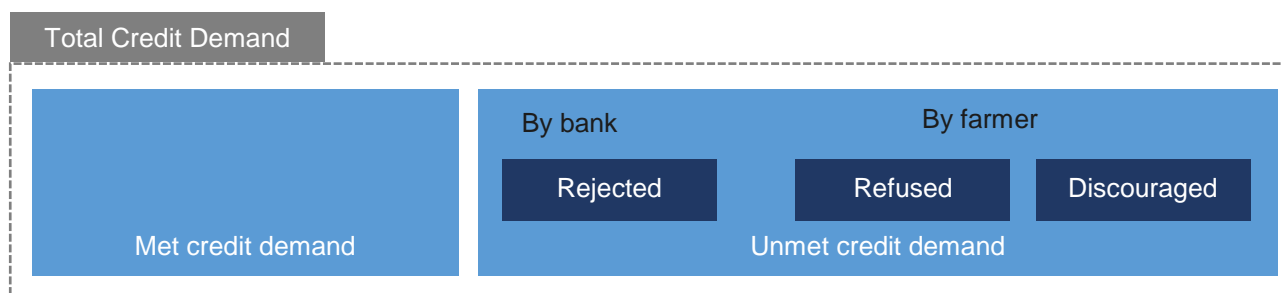
46 Ministry of Agriculture, 2019, Ocena ex ante zasadności zastosowania instrumentów finansowych w ramach Programu Rozwoju Obszarów Wiejskich na lata 2014-2020.



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 demand consists of the assumed value of applications rejected by a financial institution, offers of credit refused by farmers, alongside cases where farmers are discouraged from applying for credit due to an expectation of rejection or refusal (Figure 8).

Figure 8: Schematic overview of the demand side of agriculture



Source: Ecorys, 2019.

Based on the results of the *fi-compass* survey, the unmet demand for the agriculture sector in Poland is estimated at EUR 6.4 billion.

The share of Polish farmers applying for finance is low. Only 11.9% farmers applied for bank finance in 2017 according to the *fi-compass* survey, which is slightly below the EU 24 average of 13.2%. The farmers and financial institutions interviewed viewed this low result as being related to the general slowdown in the agriculture sector, which is forcing farmers to postpone investments.

However, when Polish farmers need finance, they rely on financial institutions. According to the results of the *fi-compass* survey, farmers prefer to approach banks for finance, rather than relying on private sources. In Poland, 11.9% of the farmers applied for finance at a bank while none (0%) declared to have used private sources or a mix of both sources. The latter includes lending from family and friends, but also from money lenders and credit agencies, who provide finance with very high interest rates. In both cases, farmers do not openly talk about these types of financing, as reflected in the survey answers where the farmers surveyed declared not to use private finance.

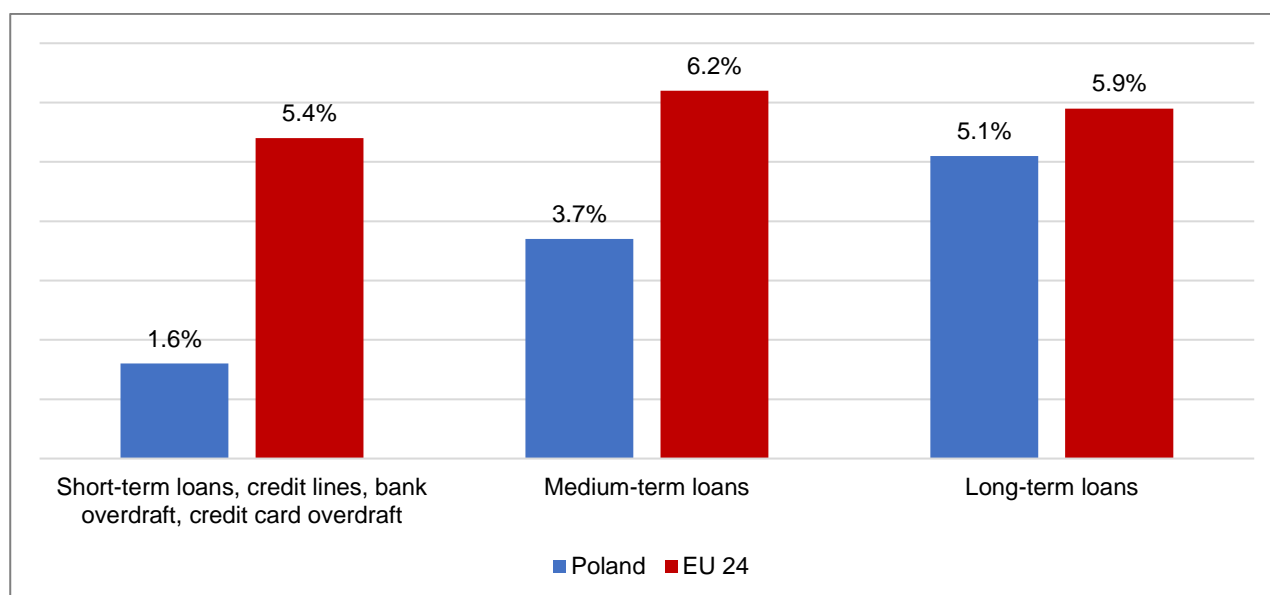
Farmers mostly applied for medium and long-term loans (Error! Reference source not found.). This is because farmers usually use their own funds, private finance sources or trade credit⁴⁷ (which was not included in the *fi-compass* survey) for short-term liquidity needs, and these sources do not require the submission of a loan application. Long-term loans were used by 5.1% of responding farmers and medium-term loans were applied for by 3.7%. The ex-ante assessment for a financial instrument under the RDP confirms this tendency towards longer maturities.⁴⁸

47 Trade credit refers to loans given by traders of agricultural inputs, equipment and machinery.

48 Ministry of Agriculture, 2019, Ocena ex-ante zasadności zastosowania instrumentów finansowych w ramach Programu Rozwoju Obszarów Wiejskich na lata 2014-2020. The Ex-ante assessment confirms this statement.



Figure 9: Polish farms applying for finance in 2017, by financing product



Source: *fi-compass* survey.

As mentioned above, relatively fewer Polish farmers use bank loans compared to the EU 24. Based on the *fi-compass* survey, this is because around 73% of farmers have sufficient own funds (in line with the EU 24 average), while around 24% said that their previous loans were still sufficient for covering their needs (compared to 10% for the EU 24 average) (Figure 10).

Small-sized farms tend to be discouraged from applying for loans due to their lack of accounting records and the low profits of their activities. Both, the *fi-compass* survey and the ex-ante assessment for the implementation of financial instruments under the RDP, found similar results for the share of Polish farmers that did not apply for a loan due to a fear of possible rejection (6% and 5.3%, respectively).⁴⁹ Mostly small-sized farms were discouraged.

Interviews revealed that farmers often come to banks for an informal discussion before officially applying for a loan.⁵⁰ After reviewing a small-sized farm's business plan and credit history (if available), banks commonly recommend that the farmer does not apply as their application is not viable. Furthermore, the assessment of the creditworthiness of small-sized farms is more difficult than for large-sized farms⁵¹, because small-sized farms are not obliged to be registered as an enterprise and therefore have no obligation to keep accounting records.⁵²

49 Ministry of Agriculture, 2019, Ocena ex-ante zasadności zastosowania instrumentów finansowych w ramach Programu Rozwoju Obszarów Wiejskich na lata 2014-2020.

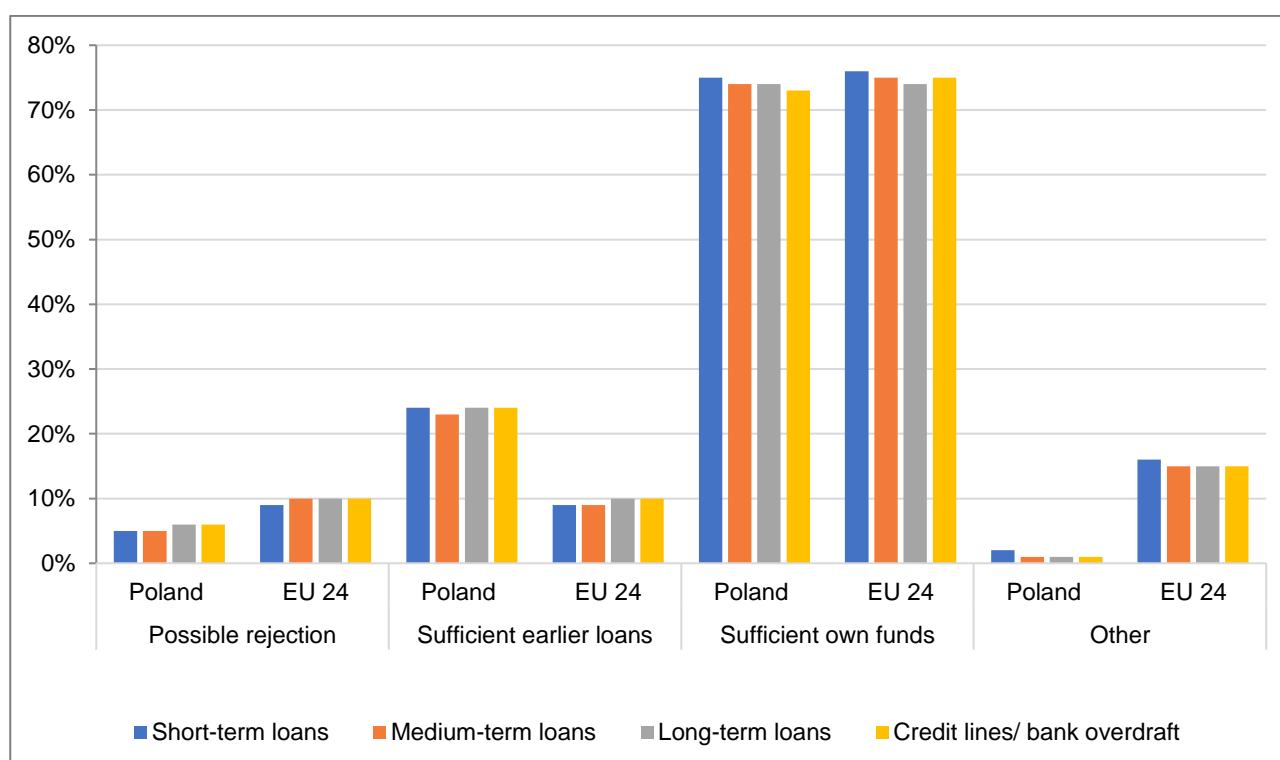
50 Interviews with financial institutions.

51 Financial institutions that were interviewed considered a farm as large if it has more than 100 ha.

52 In Poland, farms are exempted from having an account as long as they are not registered as an enterprise.



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



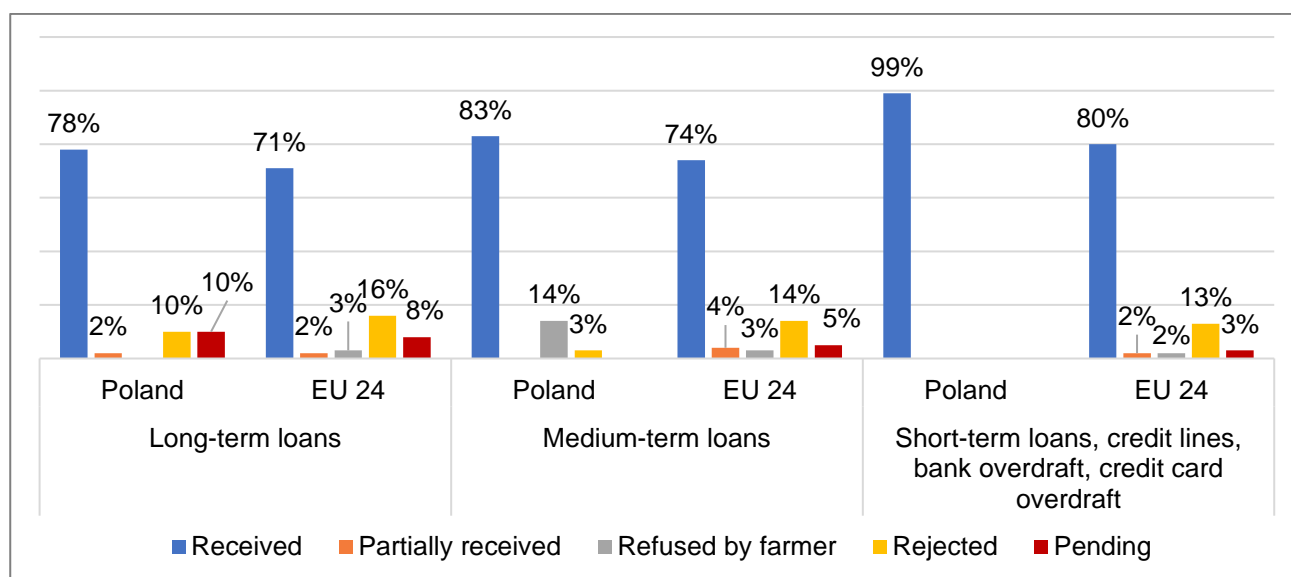
Source: *fi-compass survey*.

Despite the overall favourable outcome of loan applications in Poland, there are significant differences across products. With an approval rate of 99%, nearly all of Polish farmer's short-term financing needs are met (Figure 11). This is also in line with the fact that almost all applications for short-term loans and credit lines, bank overdraft etc (99%) were successful by just approaching one bank (Figure 12). The approval rate drops to 83% for medium-term loans (EU 24, 74%) and 78% for long-term loans (EU 24, 71%).⁵³ The longer the loan term, the higher the rejection rate by the lender, with rejection rates reaching 10% for long-term loans (another 10% were with a pending decision at the time of the survey). Approval rates in Poland are high because Polish farmers tend to apply for relatively small loan amounts, which therefore present a lower credit risk for banks.⁵⁴ Higher approval rates may also be attributed to the fact that lending is provided by a small group of specialised commercial banks (or departments in banks) and cooperative banks which mostly work with farm clients and are thus familiar with their characteristics. In addition, many of the farmers that may have been rejected should they present a formal application, are discouraged from applying during the informal meetings held by banks as discussed above. Information about finance providers can be found in section 2.3.1.1.

A significant share of farmers do not agree to the loan conditions offered for medium-term loans. From the farmers that applied for a medium-term loan, 14% refused the loan offered by the financial institution. This rate is particularly high compared to the EU 24 average of only 3% for this loan product (Figure 11). Interviewees related this finding to the loan conditions, in particular to the high interest rates and inflexible repayment plans.

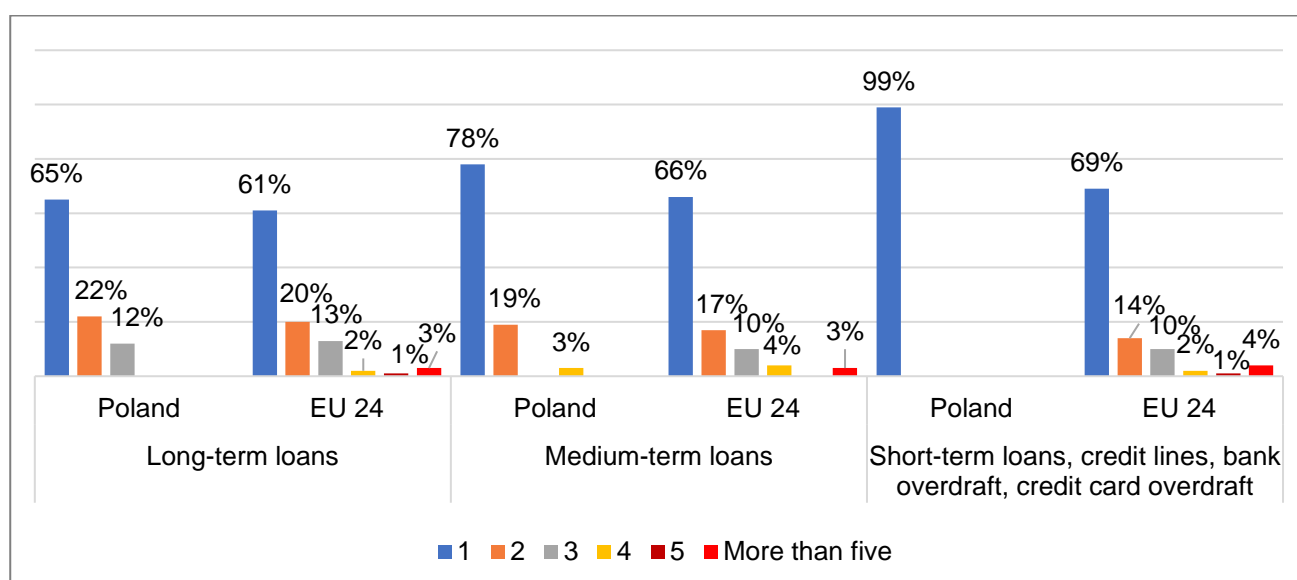
⁵³ The results obtained in the ex-ante analysis are different: 1.6% of the applications for long-term loans were rejected and 1.6% were approved but with lower amounts.

⁵⁴ Interviews with financial institutions.

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

Source: fi-compass survey.

Not many farmers approach more than one bank to discuss and submit their loan applications. While for short-term loans and credit lines all farmers were successful in receiving a loan by just applying at one bank, this number drops to 78% medium-term loans for and 65% for long-term loans (Figure 12). As a result, some Polish farmers try to look for better conditions, which is also supported by the fact that 24% of them stated that they would definitely apply for a loan if they were offered a lower interest rate or adjusted payments, compared to only 14% for the EU 24.⁵⁵ However, the share of Polish farmers approaching more than one bank for these types of loan applications (medium and long-term loans) is lower than for the EU 24, reflecting a potential lower level of financial literacy, or financial confidence, in Poland.

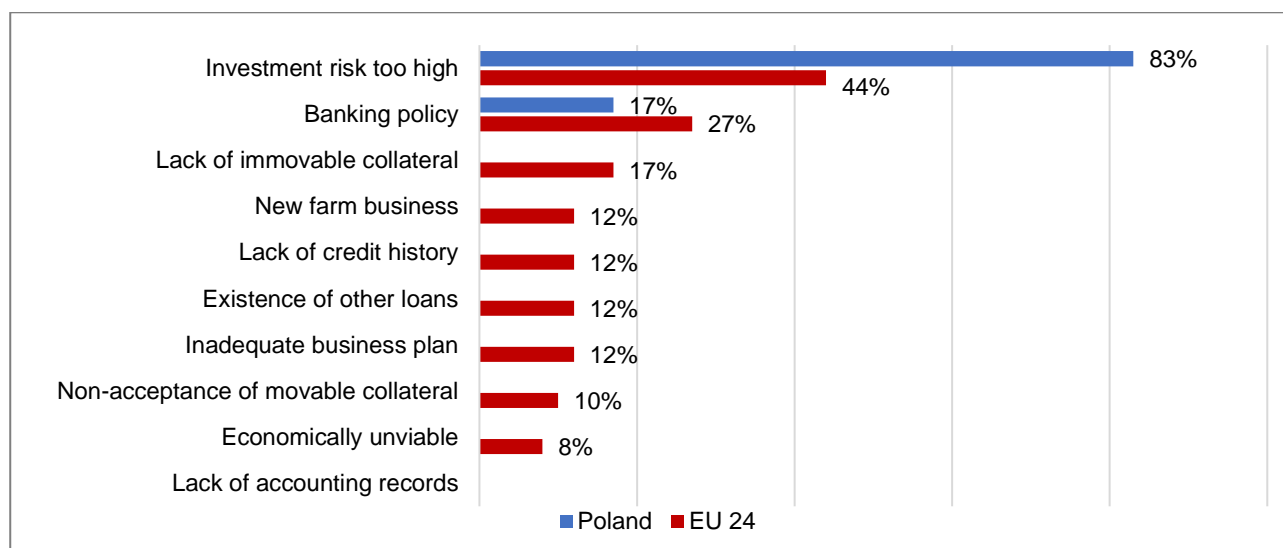
Figure 12: Number of banks approached by farmers seeking finance in 2017

Source: fi-compass survey.



There are high rates of rejection for longer term loans as banks consider the agriculture sector to be risky. According to the agriculture producers participating in the *fi-compass* survey, the main reason bank's give for rejecting a loan is that the investment risk was deemed as being too high. In Poland, this was the reason given by 83% of respondents, which is almost twice the EU 24 average of 44% (Figure 13). The second highest reason (17%) was prohibitive bank policy with respect to agriculture lending.⁵⁶

Figure 13: Reasons for applications' rejection in the agriculture sector in 2017



Source: *fi-compass* survey.

The discussion with interviewees helped to differentiate the factors that are leading financial institutions to conclude that farmers' investments are too risky:

- **Low creditworthiness** was provided as the main reason for rejection. Repayment capacity is often insufficient due to the low productivity of some agriculture holdings, their small business size and their low margins. In recent years, sales prices for agriculture products have dropped while the costs for raw material, labour and energy have risen.
- **Lack of sufficient collateral** is also a key issue. As already highlighted, a recent regulation change has narrowed the range of suitable collateral for securing bank loans and has introduced restrictions on land sales and on the repossession of farm assets.⁵⁷ Additional factors are the low value of existing farm equipment and the fact that agriculture land is often rented. The ex-ante assessment for the EAFRD financial instrument also concluded that the high collateral requirements and an insufficient offer of public guarantees are important obstacles in accessing finance for the agriculture sector.
- **Lack of business plans and financial data.** Banks also find it difficult to appraise farm clients because most of them are not in the position to provide financial statements or business plans. Furthermore, farm cash flows are irregular and depend on the seasonality of production.
- There is a **lack of financial literacy** among farmers and this makes it difficult for banks to deal with these clients. The level of knowledge about financial products, including their uses and benefits, and on how to plan an investment is low.

⁵⁶ Multiple choice questions.

⁵⁷ In 2016, the Polish government passed new laws which contained tighter provisions on the sale of agriculture real estate and which defined a range of assets to be excluded from the enforcement of bank loans against farmers. See Section 2.2.1.



- Rejections due to existing loans are frequent due to a **lack of repayment capacity** to serve an additional loan. According to interviews, farmers often take loans because they are linked to subsidies. In some cases this leads to overinvestments and repayment difficulties, leading to a negative record in the Loan Information Agency (BIK).

Young farmers and new entrants find it difficult to obtain finance due to their lack of experience, lack of collateral and lack of credit history. With a fifth of the farmers in Poland part of this category, they are an important target group for financial institutions. Despite this, they are not adequately served by the financial sector. For both - young farmers and new entrants - a lack of experience in farming is a key issue. This is particularly the case for new entrants, who experience problems due to a lack of collateral and high up-front investments. Financial institutions insisted that young farmers which inherit an agriculture holding would not have problems in obtaining loans because they had sufficient collateral and existing cash flows. For this group, the reason for rejection is rather a lack of credit history. In contrast, new entrants starting from the scratch are likely to face significant difficulties in obtaining finance and cannot rely on receiving bank loans.⁵⁸

In Poland, training for farmers is offered by ARMA. However, **according to interviewees, the training offered could be substantially improved.** Besides this, bank staff also play an instructional role in providing financial advice. Some interviewed farmers also mentioned that they would benefit from specific support in terms of business planning, branding and marketing.

58 This was also confirmed in the ex-ante assessment.



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 Poland 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 and the FADN database.

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 agriculture producers. Potential differences in the availability of financial products across different types of agriculture producers are reviewed and analysed.

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

- Finance to farmers is provided by cooperative banks and a core group of five commercial banks who have an almost equal share of the market.
- Leasing has become an increasingly important source of agriculture asset finance.
- The Agency for Restructuring and Modernisation of Agriculture (ARMA) offers subsidised loans and guarantees from national resources. The share of subsidised loans is significant, although the trend is declining.
- A new EAFRD guarantee instrument was introduced in December 2019 and is increasing in importance.
- The total outstanding loan volume for agriculture was EUR 8.4 billion at the end of 2017, after having grown by 68% since 2010.
- Long-term loans with maturities over five years account for the highest share of outstanding loans.
- Loans to farmers are mostly disbursed under the category of consumer loans and, to a minor extent, as corporate loans.
- The main constraints to the supply of finance to the Polish agriculture sector are (i) the lending policy, (ii) the rationalisation of the distribution network and (iii) the unfavourable cost-benefit ratio for loans to small-sized farms due to high transaction costs.

2.3.1 Description of finance environment and funding availability

This analysis is based on data from national statistics and from an overview of, and discussions with, the key financial institutions in Poland who offer financing to the agriculture sector.

2.3.1.1 Finance providers

Poland's financial system is dominated by the banking sector, which is made up of 63 commercial banks and 553 cooperative banks.⁵⁹ Almost all cooperatives are attached to one of the two affiliating bank networks: SGB (Spółdzielcza Grupa Bankowa) Bank S.A and BPS (Bank Polskiej Spółdzielczości) S.A. The two largest commercial banks and the largest insurance company are state-controlled, through significant shareholdings.

Five of the 63 commercial banks provide 44% of all agriculture lending, and these view the agriculture sector as a strategic priority (Table 3). These banks are Alior Bank, BNP Paribas, Crédit Agricole, PEKAO S.A. and Santander Bank Polska. They are among the leading banks in Poland and together hold more than half

⁵⁹ Narodowy Bank Polski, 2018, Financial System in Poland 2017.



of the banking sector's total assets.⁶⁰ Subsidised agriculture loans from the Agency for Restructuring and Modernisation of Agriculture (ARMA) are channelled through commercial banks such as Krakowski Bank Spółdzielczy, Bank BGŻ BNP Paribas S.A., Santander Bank Polska S.A., Bank Pekao S.A., Bank Ochrony Środowiska S.A. and affiliate bank networks of cooperatives (BPS S.A., SGB-Bank S.A.).

Table 3: Total debt of farmers (business loans) per bank, as of April 2019⁶¹

Type of Bank	Debt size (EUR billion)	Share
Top 5 commercial banks: Alior Bank, BNP Paribas, Credit Agricole, PEKAO S.A., Santander Bank Polska	2.85	44%
Other commercial banks	0.13	2%
Cooperative banks: SGB-Bank S.A., BPS S.A.	3.53	54%
Total	6.50	100%

Source: Loan Information Agency (BIK).

Cooperative banks are a key player in lending to farmers and in the rural economy. In 2017, more than half of the outstanding loans to individual farmers (54%) were related to cooperative banks.⁶² Agriculture loans made up 27% (EUR 4 billion) of their total loan portfolio to the non-financial sector, showing the importance of the sector in the operations of cooperative banks.⁶³ The Polish cooperative banks are usually relatively small, with most of them (70.7%) having up to only EUR 5 million in capital.⁶⁴ Due to their small size, they lack the scale needed for access to technology and third-party services.⁶⁵ While they serve about one quarter of the population, they account for only 5% of the financial system's assets.⁶⁶

Most cooperative banks operate on a local scale and are closely linked to their communities. Many are specialised in financing certain types of agriculture activities, depending on their members. This reduces information asymmetry and is one of the drivers behind the good risk performance of the cooperative banks portfolio.⁶⁷ Unlike commercial banks, which have introduced scoring models for applications, cooperatives rely on both the experience of their employees and their proximity to their clients to correctly assess the viability farm businesses.

Because the agriculture loans held by cooperative banks are of high quality, these banks have a low-risk portfolio (e.g. 2.8% at the end of 2017). The quality of loans is particularly good for preferential loans. Overall, the quality of loans at cooperative banks is significantly higher than at commercial banks. This is likely

60 Calculation based on BFG monthly report and annual reports.

61 The banking statistics in Poland distinguish between 'non-financial corporations' and 'households'. Farmers can be found in both statistics- the registered enterprises under 'non-financial corporations' and farmers without business registration under 'households'. The only information on the share of agriculture in banks' loan portfolios is from the Loan Information Agency (BIK) which only covers the 'household' category. Therefore, the total outstanding debt to the sector is larger than presented in this table.

62 Monitoring of banks.

63 Ibid.

64 IMF, 2019, Technical Note Cooperative Banks and Credit Unions.

65 Technology and third-party services for example include internet banking platforms, mobile banking, linking accounts to an e-wallet, etc.

66 IMF, 2019, Republic of Poland: Financial Sector Assessment Program, Technical Note- Stress Testing and Systemic Risk Analysis.

67 Portfolio quality refers to the likelihood that interest and principal will be paid by the client according to the loan contract. Positive or good portfolio quality therefore means that payments are made on time.



because cooperative banks have better knowledge of the local agriculture market, allowing them to better assess credit risk.⁶⁸

Leasing plays a key role in financing Polish agriculture, with the sector having developed rapidly over the last 20 years. In 2017, the leasing market's annual volume was around EUR 16 billion and the value of agriculture equipment that was financed through leasing companies amounted to approximately EUR 1 billion.⁶⁹ Out of the 30 leasing companies operating in Poland, 18 provide financing to the agriculture sector. Some of them are owned by banks while others are independent companies. Since there is significant competition in the Polish leasing market, the leasing companies have been trying to introduce new types of assets in response to the needs of potential customers. Leasing is an attractive financing option for Polish farmers because it helps them to address collateral challenges, which are a particular issue for medium and long-term loans.

While several guarantee funds exist in the market, they do not target farmers specifically. In Poland, there are 43 guarantee funds which facilitate access to finance for small and medium-size enterprises (SMEs), including farmers.⁷⁰ However, farmers are not a specific target group since a prerequisite of accessing the funds is to be registered as an enterprise. To address this shortcoming, cooperative banks (SGB and BPS) have started a discussion with the National Association of Guarantee Funds about the introduction of a guarantee program specifically for the agriculture sector.

Public support is provided by ARMA. ARMA was founded in 1994 and is supervised by the Ministry of Agriculture and Ministry of Finance. It is in charge of implementing instruments that are co-financed with the EU as well as aid from national funds. The main national instrument for supporting farmers are interest subsidies for bank loans and guarantees (section 2.3.1.2).

Up-stream and down-stream value chain actors are also providing de-facto loans to farmers, by providing seeds, fertilisers, plant protection products and machinery on credit. These arrangements are similar to working capital loans that are due after harvest. In some cases, these loans are not official, while in other cases they are based on a formalised loan agreement. According to information from interviewees, trade credit often covers the cost of fertiliser, seeds and pesticides for the whole year.

68 Narodowy Bank Polski, 2019, Financial Stability Report 2018.

69 Polish Leasing Association, 2018, Polish Leasing Industry Results 2017.

70 Ministry of Agriculture, Ocena ex ante zasadności zastosowania instrumentów finansowych w ramach Programu Rozwoju Obszarów Wiejskich na lata 2014-2020.



2.3.1.2 Financial products

Polish financial institutions offer a variety of loans and products dedicated to farmers. Commercial and cooperative banks have developed dedicated loan products for the agriculture sector, which can be grouped into three categories: interest rate-subsidised and subsidised loans, investment loans and working capital loans (Table 4).

Table 4: Overview of financial products offered to Polish farmers

Type of Product	Purpose	Maturity	Interest Rate
Interest Rate-Subsidised and Subsidised Loans	Capital investment	Mostly medium and long-term, some short-term loans	1.95 – 2.5% (investment loans) 1.4 – 3.5% (disaster loans)
Investment Loans	Capital investment	Mostly medium and long-term (longer than 12 months), some short-term loans	N/A
Working Capital Loans	Cash flow management	Typically less than 12 months	Up to 10.00%

Source: Summary based on interviews, 2019, The Agency for the Restructuring and Modernisation of Agriculture.

Preferential loans are financed from national funds and managed through ARMA. Affiliated banks⁷¹ may grant loans with ARMA interest-rate subsidies under selected credit lines, such as loans for investments in agriculture, loans for purchase of land, loans for investments in the processing of agriculture products, and disaster recovery loans.⁷²

The applications for the loan subsidies are processed by the regional offices of ARMA which also support farmers in filling in the necessary forms.⁷³ With the exception of the disaster recovery loan, which can be applied for at any point in time, all other preferential loans are subject to the periodic release of funds which is announced on the website of ARMA. Farmers can apply for interest rate subsidised loans if they are a natural person or legal entity. The permitted agriculture activities and loan purposes are listed in Table 5.

71 Participating banks are Bank Polskiej Spółdzielczości SA and associated cooperative banks; SGB-Bank SA and associated cooperative banks; BGŻ BNP Paribas SA; Krakowski Bank Spółdzielczy; PEKAO SA; BZ WBK SA.

72 The available preferential credits are: 'Line RR' investments in agriculture and inland fisheries, 'Line Z' loans for purchase of land, 'Line PR' investments in agro-food processing companies, 'Line K01, K02, DK01, DK02' Disaster recovery loans.

73 Starting from 2020, applications for preferential loans are to be submitted via an internet platform ('e-wniosek').

**Table 5:** Overview of ARMA credit lines, eligible activities and loan purposes⁷⁴

Credit lines	Activities	Loan purpose
Loan for investments in agriculture (RR line)	<ul style="list-style-type: none"> • agriculture crops other than perennial • cultivation of perennial plants • plant propagation • animal husbandry and breeding • mixed farming • seed treatment for plant propagation 	<ul style="list-style-type: none"> • construction, reconstruction, renovation of buildings or structures • purchase or installation of machines used for agriculture production, storage and warehousing • purchase of buildings and structures • establishing orchards or perennial plantations including energy crops • pastures and shelters for livestock
Loan for purchase of agriculture land (Z line)	<ul style="list-style-type: none"> • agriculture crops other than perennial • cultivation of perennial plants • plant propagation • animal husbandry and breeding • mixed farming • seed treatment for plant propagation 	<ul style="list-style-type: none"> • purchase of agriculture land to improve the farm structure of the borrower • land purchase is not financed if: <ul style="list-style-type: none"> ○ in case of new farms, the land is smaller than the average farm size in a given voivodship⁷⁵ ○ the area exceeds 300 ha
Loan for investments in processing of agriculture products (PR line)	<ul style="list-style-type: none"> • food production • production of mead and cider • production of energy crops or products from other perennial crops 	<ul style="list-style-type: none"> • construction or modernisation of buildings or structures • the purchase/installation of machinery and equipment • purchase of means of transport • acquisition of shares in companies conducting activities in the field of processing of agriculture products

Source: ARMA, 2019.

Given this context, the number and amount of subsidised loans that are granted each year fluctuate. In 2018, ARMA had granted 7 351 loans with a total amount of EUR 267 million, of which 78% were channelled through cooperative banks (Table 6). The loan amounts that were granted in the period 2015 to 2018 did not vary to the same degree as the number of loans did.

Table 6: Preferential loans with ARMA subsidies granted by commercial and cooperative banks, 2015-2018, EUR million

Year	Commercial banks		Cooperative banks		Total	
	N° of loans	loan amount	N° of loans	loan amount	N° of loans	loan amount
2015	2 592	196	5 138	185	7 730	380
2016	3 002	128	12 000	232	15 002	360
2017	1 284	89	3 317	159	4 601	248
2018	1 649	88	5 702	179	7 351	267

Source: The Agency for the Restructuring and Modernisation of Agriculture, 2019.

⁷⁴ This table only provides a brief overview. On the website of ARMA full information can be found: <https://www.arimr.gov.pl/pomoc-krajowa/kredyty-preferencyjne.html>.

⁷⁵ A voivodship is the area administered by a voivode (Governor) in several countries of central and Eastern Europe.



In terms of outstanding portfolio, the share of subsidised loans in the total loan portfolio to farmers was 35% (section 2.3.2).

Besides the preferential loans, ARMA also offers loan guarantees. Farmers can apply for guarantees of up to 80% of the approved loan amount, but not exceeding EUR 480 000 (PLN 2 million). The guarantee scheme is not limited to the preferential loans.

In interviews, farmers representative said that the procedures for obtaining preferential loans are complicated and highly bureaucratic. It was also said that subsidised interest rates are becoming less popular, due to the general downward trend of interest rates. Similar observations were made in the ex - ante assessment for a financial instrument under the RDP. Overall, farmers lack knowledge and awareness about the existence of ARMA financial instruments.

In addition, an EAFRD guarantee fund was implemented in December 2019. Managed by Bank Gospodarstwa Krajowego (BGK) and supervised by ARMA it provides guarantees to farmers and micro, small and medium-sized enterprises in the agri-food sector. The instrument is foreseen to leverage loans worth EUR 250 million until 2023 and guarantees are also provided for a broad range of investments, including the purchase of animals, working capital and annual plants. Further information about the status of implementation of the financial instrument under the RDP is presented in section 2.2.1.

2.3.1.3 Description of financing market

Polish banking sector statistics distinguish between loans to non-financial corporations and loans to households. Because of their small-sized farms, farmers are mostly captured under the 'household' category or small-sized enterprises, with less than 10 employees, category.

There is a positive trend in lending to the non-financial sector. In 2017, the annual growth rate of loans to households and enterprises continued an upward trend (8% year on year growth at the end of the year),⁷⁶ which was supported by low interest rates, a broad capital base in the banking sector and a stable macroeconomic environment. The increase was primarily driven by the high growth of current loans, which, according to banks, resulted from the higher financing needs of enterprises for inventories and working capital. This matches the findings of the *fi-compass* survey, where borrowers confirmed their success in accessing short-term loans and credit lines.

However, banks are recently tightening their lending policies across all credit market segments. For corporate loans, the more restrictive lending is related to credit risks in certain industries. For consumer loans, elevated demand and regulatory factors are the main reasons. With regard to the farming sector, tighter provisions on the sale of agriculture real estate and restrictions on enforcement proceedings against farmers have had an impact.⁷⁷ This is particularly the case for cooperative banks, where loans to farmers (including preferential loans) account for 28% of the value of their loan portfolio. This trend could be clearly seen in Figure 14, which shows a declining growth rate (although still positive) in the lending to farmers of cooperative banks.⁷⁸

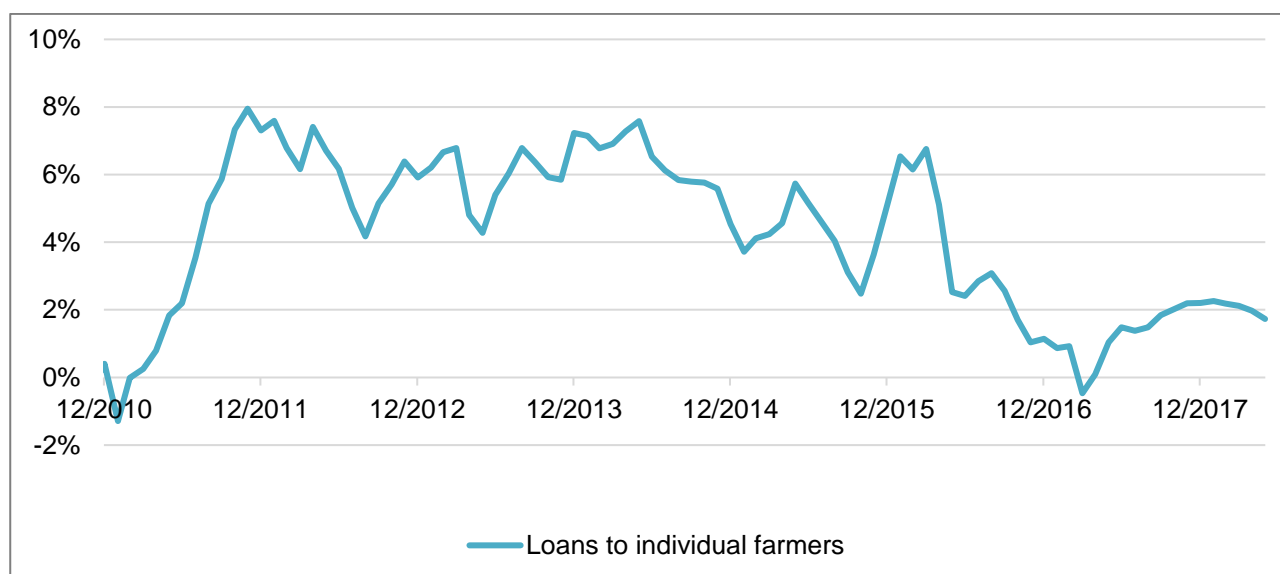
⁷⁶ Narodowy Bank Polski, 2018, Financial System in Poland 2017.

⁷⁷ See section 2.1.

⁷⁸ NBP stability report June 2018.



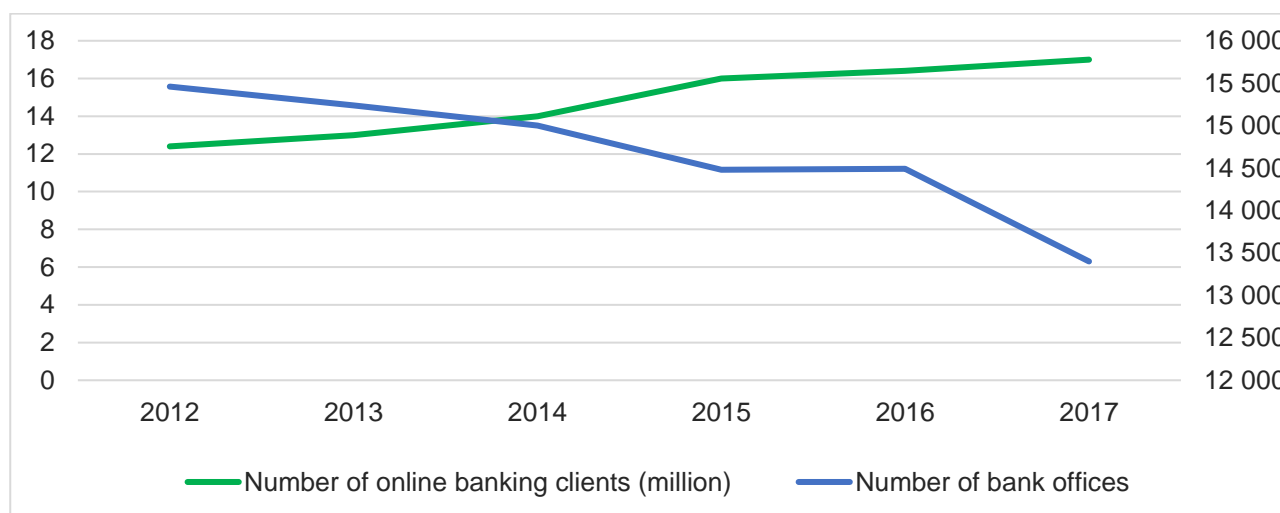
Figure 14: Growth rates of lending to Polish farmers at cooperative banks, 2010-2017



Source: Narodowy Bank Polski, 2019, *Financial Stability Report 2018*.

Banks' presence in rural areas is declining. In the last few years, banks in Poland have been concentrating their distribution networks by reducing the number of branches and employees. Between 2012 and 2017, the total number of branches were reduced by 30%. During the same time, the number of customers doing internet banking increased by almost 50%, from 12 million to almost 17 million (Figure 15). However, this cannot compensate for the closing down of branches, particularly in rural areas. Poland is among the countries with the lowest score in the Digital Economy and Society Index of the European Commission⁷⁹ and its rural areas especially lag behind in terms of connectivity.⁸⁰

Figure 15: Number of banking offices and number of active customers using online banking in Poland, 2012-2017



Source: Central Statics Office of Poland, *Monitoring of Banks 2017*.

⁷⁹ European Commission, 2019, Connectivity. Broadband market developments in the EU. Digital Economy and Society Index Report.

⁸⁰ Ibid. Fixed broadband coverage in rural Poland is the lowest in EU 28. Next Generation Access coverage is below 30% which again ranks among the lowest scores in EU-28.



Polish financial institutions who lend to the agriculture sector have invested in specialised assessment tools that improve the financial analysis of farming enterprises. Interviews confirmed that banks face challenges in obtaining clear and reliable information on such things as yields, turnover and assets. To overcome these challenges, many banks have developed specialised agriculture credit assessment tools. According to information from interviews with financial institutions, scoring tools based on quantitative (e.g. previous yield) and qualitative (e.g. irrigation, fertiliser use) parameters are used.

Despite these new tools, **most commercial banks plan to finance this client segment cautiously in the next few years.** This is largely due to the low financial literacy of the majority of their potential clients. During the interviews it was stressed that farmers need financial education. Banks mentioned that farmers do not understand things such as cash flow, business planning, financial products and services, how the investment process works and how to work with financial institutions. This results in farmers being considered a high-risk segment and loan conditions being adjusted accordingly.

Loan conditions are also influenced by the transaction cost involved for each loan application. The large majority of Polish farms are small-sized and scattered across the rural area. For financial institutions this can imply significant costs in the assessment process, since the loan appraisal and monitoring involve site visits. Moreover, because small-sized farms tend not to keep records about their financial situation and apply for relatively small loan amounts, the cost/benefit ratio tends to be unfavourable.

2.3.2 Analysis of the supply of finance

At the end of 2017, outstanding loans and advances in the Polish banking sector amounted to EUR 285 billion (PLN 1,201 billion),⁸¹ of which 82% were to the non-financial sector. In this category, most of the lending was for real estate (48%). The remaining lending is split between households (41% of lending), enterprises (6%) and others (5%).⁸²

The total outstanding loan volume in agriculture amounted to EUR 8.4 billion in 2017, of which 91% was listed under loans to households (Table 7). Few loans were provided to farmers in under the corporate lending scheme, which is related to the fact that most agriculture holdings are small in size.⁸³ For instance, in 2018, less than 5% of the corporate loans were to the farming sector.⁸⁴

Table 7: Breakdown of agriculture loans by type of bank in Poland, 2010-2017⁸⁵

EUR million	2010	2011	2012	2013	2014	2015	2016	2017
Commercial banks	1 816	2 013	2 508	2 747	3 248	3 555	3 690	4 242
of which subsidised	1 464	1 429	1 665	1 734	1 685	1 482	1 427	1 374
Cooperative banks	3 146	3 044	3 542	3 722	3 873	3 959	3 858	4 118
of which subsidised	2 111	1 954	2 159	2 219	2 122	1 881	1 682	1 580
Total	4 963	5 057	6 050	6 469	7 121	7 514	7 548	8 360
of which subsidised	3 575	3 383	3 823	3 953	3 807	3 363	3 110	2 954
share subsidised	72.0%	66.9%	63.2%	61.1%	53.5%	44.8%	41.2%	35.3%

Source: *Monitoring of Banks, statistical annex, own compilation.*

81 INFOEURO, December 2017, 1 PLN = 0.23806 EUR.

82 Central Statics Office of Poland, 2017, Monitoring of Banks.

83 In the statistics corporate loans also comprise SME with more than 11 employees.

84 IMF, 2018, Republic of Poland, Article IV Consultation – Press Release; Staff Report; and Statement by the Alternate Executive Director for the Republic of Poland.

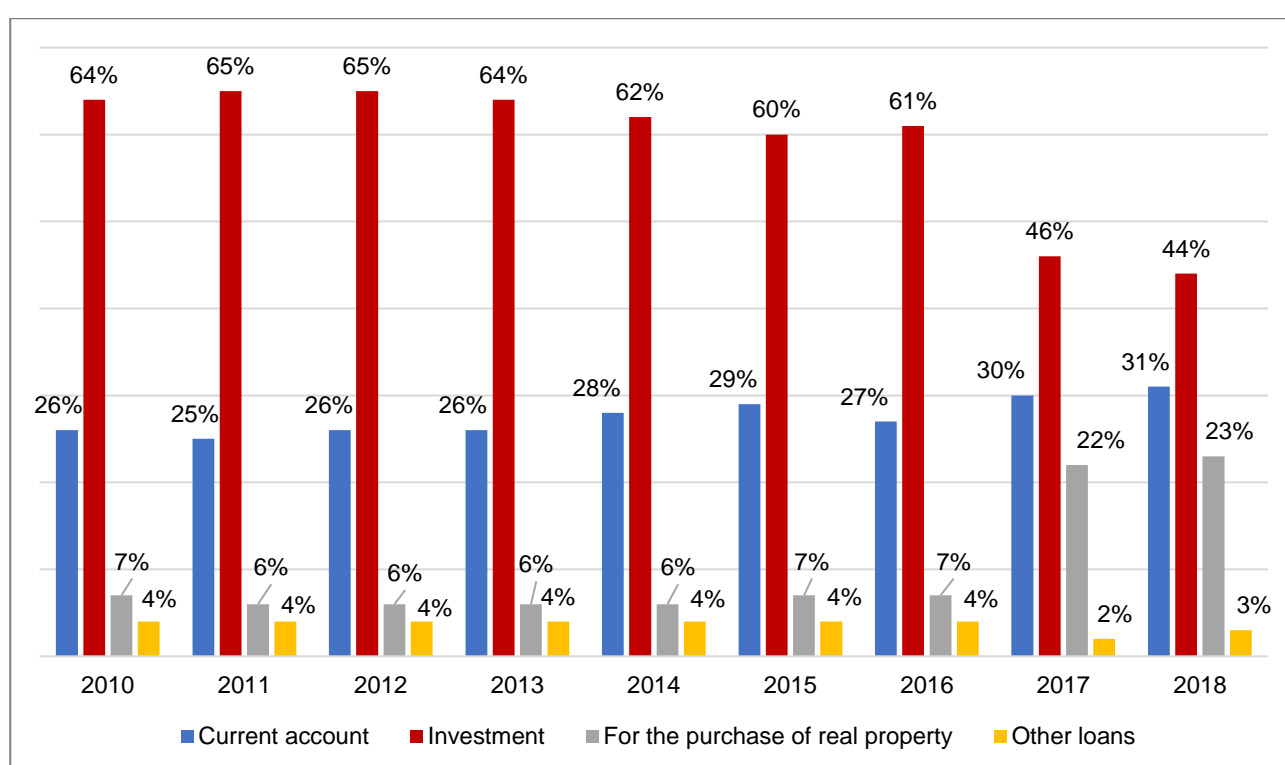
85 Figures for 2018 are not publicly available yet.



Over the period from 2010 to 2017, the outstanding loan portfolio to farmers grew by 68%, from EUR 5 billion to EUR 8.4 billion. During the same period, the share of subsidised loans dropped significantly, from 72% in 2010 to 35.3% in 2017. This is related to the availability of funds and to the general downward trend in interest rates, which makes it less attractive to apply for subsidised loans, given all the requirements and requests for documentation involved.

The majority of the loan volumes held by farmers were for investments. Until 2016, around 60% of the loans were for this purpose, while 28% were for working capital (Figure 16:). This is in line with the findings from the *fi-compass* survey, where most farmers stated a need for investment loans (section 2.2.1, Figure 6). In 2017 and 2018, a significantly higher amount of loans (22% and 23%) were used to purchase real property. The increase in loans for the purchase of real property is related to the restructuring of the agricultural system that followed the legislative reform in 2016. The Act in particular aimed at improving the area structure of farms and for this purpose created an administrative structure which facilitates the consolidation of farm land.

Figure 16: Breakdown of loans to farmers by loan purpose in 2010-2018 in Poland

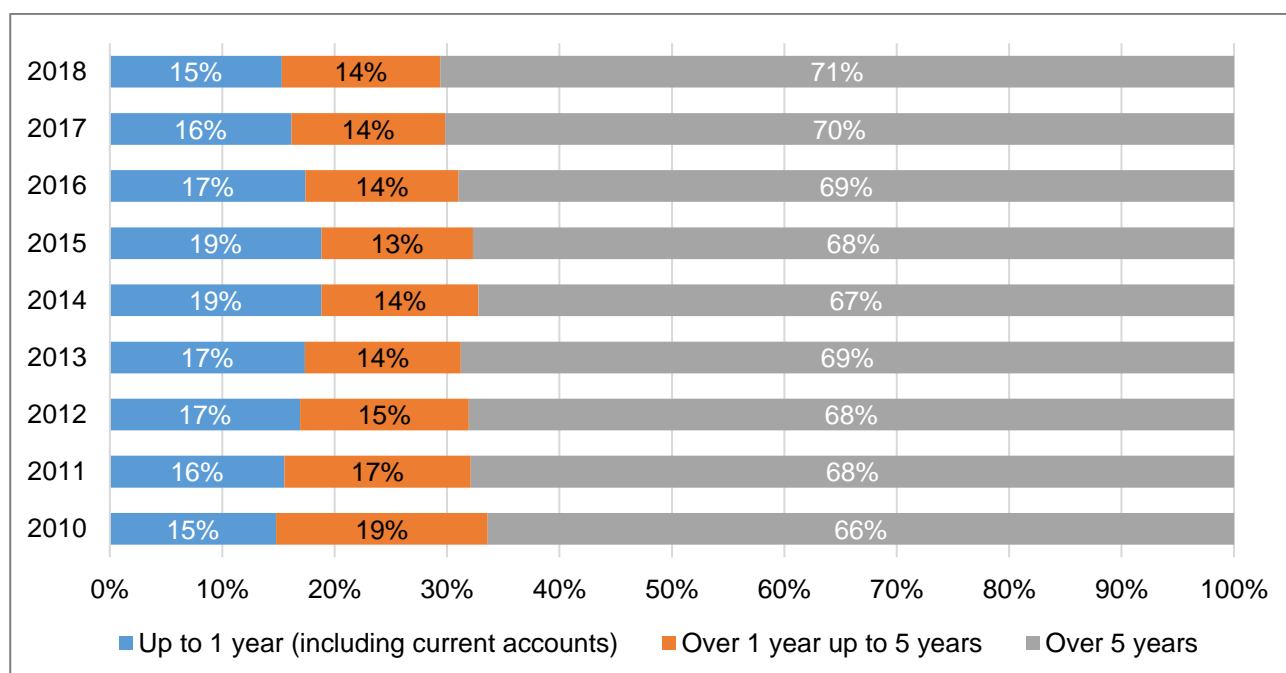


Source: NBP Assets and Liabilities of Monetary Financial Institutions.

Long-term loans with maturities over five years account for the highest share of outstanding loans. For instance, in 2018 these loans accounted for 71% of all loans to farmers (Figure 17). This seems to be a long-term trend, as a large number of subsidised loans have been disbursed for investments over the last few years.



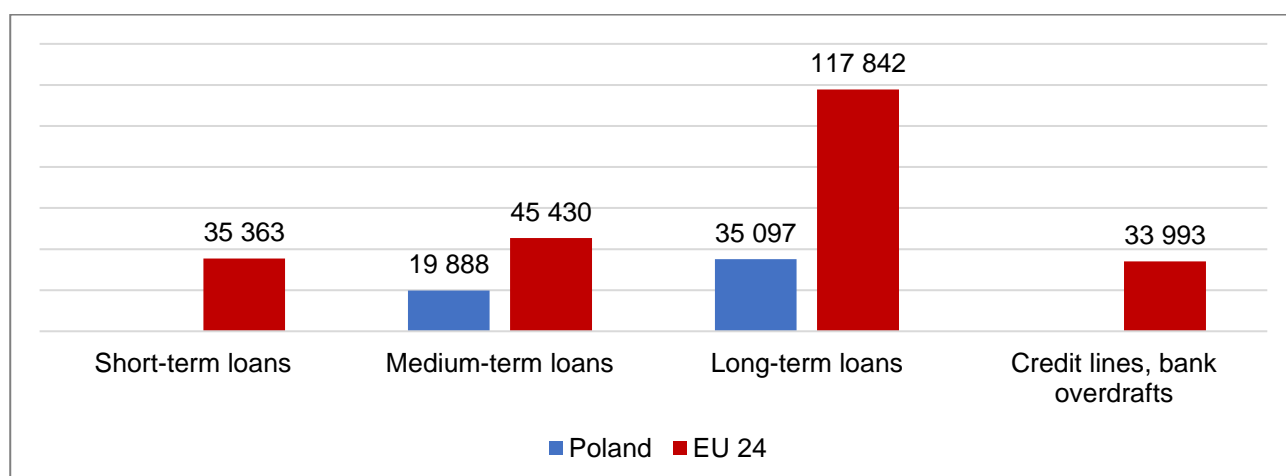
Figure 17: Breakdown of bank loans to farmers by maturity (based on outstanding amounts at end of the year)



Source: NBP Assets and Liabilities of Monetary Financial Institutions.

The average loan amount applied for is significantly below the EU 24 average. For the EU 24, the average loan amount requested by farms was between EUR 35 363 for short-term loans and EUR 117 842 for long term loans, according to the *fi-compass* survey (Figure 18). In contrast, the average loans to Polish farmers are 2-4 times lower. The reasons for this are due to lower financing needs (sufficient funds remaining), a lack of knowledge on the new technologies available and the fact that the prices in Poland are lower than in many western EU countries. In the case of short-term loans and credit lines, farmers did not report average loan size. The representatives of the financial institutions interviewed reported that the figures from the survey are realistic and align with their expectations.

Figure 18: Average loan size per loan maturity in 2017, EUR



Source: *fi-compass* survey.



2.4 Financing gap in the agriculture sector

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

Key elements of the financing gap in the Polish agriculture sector

- The financing gap is estimated to be between EUR 3.0 billion and EUR 6.2 billion.
- The largest gap has been identified for long-term financing.
- Access to finance is particularly a problem for small-sized farms.
- The key constraints for access to finance are (i) a lack of availability of collateral, (ii) weak repayment capacity and limited creditworthiness, (iii) a lack of accounting records, and (iv) a lack of financial and technical knowledge.
- Important constraints to the supply of finance are also evident, including (i) a rationalisation of the distribution network, (ii) the tightening of lending policies by banks, and (iii) the unfavourable cost-benefit ratio for loans to small farms due to high transaction costs.
- Around 50-70% of the total financing gap relates to young farmers (twice as much as the EU 24 average) and it is mainly due to a lack of collateral and credit history by young farmers.

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.

$$\text{Financing gap} = \text{Number of farms} \times \text{percentage of firms that are both financially viable and have unmet demand} \times \text{average loan volume}$$

All the calculations are based on the results of the *fi-compass* survey for Polish 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 farms⁸⁶. 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.

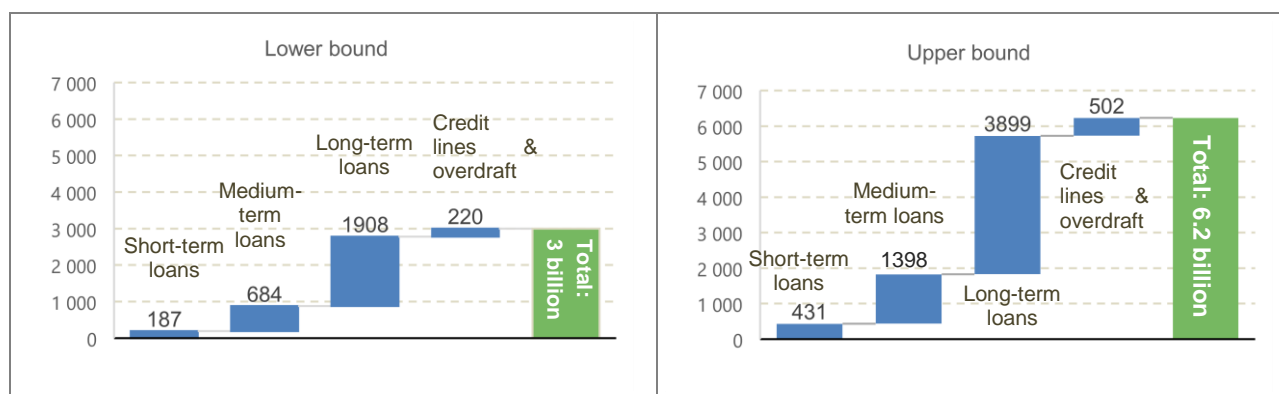
For the purpose of this study, 'turnover growth' is used as a proxy of farm viability. In particular, two different criteria for viability are used, which lead to the calculation of a range for the financing gap between an upper and a lower bound:

⁸⁶ The financing gap presented in this section is different from the total unmet demand presented in Section 0. In the quantification of the total unmet demand, all the enterprises in the population applying for finance are considered independent from their economic viability.



- The 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.

Figure 19: Financing gap by product in the agriculture sector, 2017, EUR million



Source: *fi-compass* survey and project calculations.

The financing gap for the Polish agriculture sector is estimated to be between EUR 3 billion and EUR 6.2 billion (Table 8). Farms below 20 ha account for most of the financing gap and the gap is the largest for long-term loans. Access to working capital is not a key concern for Polish farmers, given that there are dedicated financial providers (particularly cooperative banks) which finance individual farmers. This was confirmed in the *fi-compass* survey.

Table 8: Financing gap by farm size in the agriculture sector, 2017, EUR million

		Total	Short-term Loan	Medium-term Loans	Long-term Loans	Credit lines/ bank overdraft
Upper bound	Small-sized farms	5 267.0	351.3	1 200.0	3 309.5	406.2
	Medium-sized farms	785.6	62.1	159.2	501.5	62.9
	Large-sized farms	177.3	17.8	39.3	87.7	32.5
	Total	6 230.0	431.2	1 398.5	3 898.6	501.6
Lower bound	Small-sized farms	2 537.8	152.7	587.3	1 619.7	178.2
	Medium-sized farms	377.9	27.0	77.9	245.4	27.6
	Large-sized farms	84.2	7.7	19.3	42.9	14.3
	Total	2 999.8	187.4	684.4	1 908.0	220.0

Source: *fi-compass* survey and project calculations.



The estimate of the gap is supported by the ex-ante assessment of financial instruments under the RDP.⁸⁷ The ex-ante assessment estimated a financing gap for the agriculture and agri-food sector of EUR 2.77 billion. Since the agriculture sector alone accounts for 98.2% of the demand according to the ex-ante analysis, this results in a gap of EUR 2.72 billion for the sector. As the study only considered long-term loans, and assuming that the long-term financing gap is about 62.5% of the total,⁸⁸ the total finance gap would amount to about EUR 4.4 billion. This result is in line with the boundaries of the gap estimated in the *fi-compass* survey.

The main drivers of the gap stem from a lack of collateral, limited creditworthiness, an absence of credit history and a lack of income documentation and planning. These factors lead many financial institutions to consider farmers to be a higher risk segment, despite the positive performance of their agriculture loan portfolios:

- **An absence of credit history** is a further obstacle, in particular for young farmers and new entrants who need to first establish a relationship with financial institutions. Lack of accounting records for small-sized farms also constitutes an obstacle.
- **Limited creditworthiness** is a result of the low economic returns of farming activities, which is due to increasing costs and decreasing margins. Again, this particularly affects small-sized farms. The repayment capacity is further reduced by existing loans and the lack of accounting, which makes it difficult to assess the creditworthiness in the first instance.
- **A lack of financial and technical knowledge** makes it difficult for farmers to understand investment opportunities, to plan for them, and to convincingly present them to a financial institution.

From the side of the financial institutions, the tightening of their lending policy, the rationalisation of their distribution network, and the perception of agriculture as a risky sector contribute to the gap. In addition, the less favourable cost-benefit ratio for loans to small-sized farms due to high transaction costs means banks are less interested in providing loans to small-sized farms.

Around 50-70% of the total financing gap in Poland relates to young farmers, which is twice as much as the EU 24 average. For young farmers and new entrants, the barriers to accessing finance are high since they do not have enough collateral, lack credit history and, in the case of starting a farming activity, have no existing cash flow. It should be noted, however, that financial institutions do not treat the children of farmers as new entrants and so they enjoy more preferential policies.

The financing gap in Polish agriculture is also partly driven by political events and climate change. The Russian embargo had a strong negative impact on the growth rate of the Polish agriculture sector and it reduced the profitability of most Polish farming enterprises that were exporting to the Russian market. With respect to climate change, over the last 10-15 years there has been an increasing number of adverse weather events (hailstorms, spring frosts, low precipitation rates, soil erosion), which have increased the volatility of farmer's income. This has made it harder for those farmers to access finance.

The financial needs of the agriculture sector are expected to continue to grow. This may further increase the financing gap, unless the underlying factors that are causing the gap are addressed. Based on interviews and additional analysis, the main reasons for this growth in the need for finance include:

- **Investment support:** the demand for finance in Poland is influenced by national and EU-funded investment support. The number of loan applications increases in years when public support is available and slows when support ends. Hence, as a significant part of the budget for investment support is still unused, this points to a potential for an increased demand for loans over the coming years when the budget is disbursed.

87 Ministry of Agriculture, 2019, Ocena ex ante zasadności zastosowania instrumentów finansowych w ramach Programu Rozwoju Obszarów Wiejskich na lata 2014-2020.

88 Total unmet demand weighted long-term gap = EUR 3 971 million of total EUR 6 350 million is 62.5% (*fi-compass* survey).



- **Consumption trends:** in recent years, there have been significant changes in food trends. For example, ecological farming is gaining popularity, and a larger number of people are choosing gluten free or lactose free foods, or reducing their meat consumption. Changes in these trends influence the prices farmers receive and the investments that they make, and this will thus influence the finance gap.
- **Further effects of climate change:** Poland is observing an increasing number of extreme weather events and a changing climate. This is causing an increase in the volatility of farmer's yields, increasing their rate of discouragement and decreasing their loan capacity. Climate change is also increasing the need for Polish farmers to invest in new technologies that would allow them to adapt to the changing environment, and this is further increasing the need for investment.



2.5 Conclusions

Agriculture is an important part of the Polish economy. The sector is dominated by small, family run enterprises. Output in the Polish agriculture sector is nearly evenly split between animal and crop production. The finance needs of Polish farmers depend on the particular sub-sector they are operating in.

The analysis identified four main drivers of demand for finance in the sector:

- The expansion of agriculture production (enterprise size and production capacity).
- The need to invest in modern production technologies.
- The need to improve standards in response to consumer demands and to enable Polish farms to compete more successfully in the EU single market.
- The need to adapt to climate change.

Young farmers are an important driver of the demand for finance, with a fifth of all farmers younger than 40 years. Their main concern is access to land, through either land purchase or leasing, in order to set up or expand their agriculture activity.

Investments in the Polish agriculture sector are increasing, but the overall level is still low. Between 2010 and 2018, investments increased by 30%, reaching EUR 1.3 billion. This represents 13% of the GVA in the sector, which is significantly lower than the EU average of 30.4%.

Farmers rely on bank finance for investments. The outstanding loan portfolio to the agriculture sector has been consistently increasing. Lending to farmers is provided by cooperative banks and a limited number of commercial banks. Loan disbursements are linked to the availability of subsidies, since farmers are still regarded as a high-risk segment.

The main purpose of loans are for investments in machinery, equipment and farm installations, to modernise the agriculture business, increase productivity and improve production standards.

CAP support has been stimulating both demand for, and access to, finance. Direct payments are an important income source for Polish farmers, helping them to stabilise their income streams and increase their creditworthiness. Measures under the RDP stimulate further the investment demand and the demand has exceeded significantly the available budgets.

The financing gap for the Polish primary agriculture sector is estimated to be between EUR 3.0 billion and EUR 6.2 billion. The type of loans for which the gap is the largest are long-term loans. The financing gap mainly concerns small-sized farms. These farms make up a large share of the farms that are economically viable, but still have an unmet demand for finance. Young farmers represent 50-70% of the gap. Hence, they are an important part of the financing gap.

A significant amount of long-term loan applications are rejected. This is mainly due to the lack of collateral of farmers and the difficulties bank's face in assessing the creditworthiness of farming clients, which is made more difficult by their low level of financial literacy and management knowledge. For young farmers, an additional problem is their lack of credit history.

Banks perceive farmers as being risky clients. While a few banks have identified the agriculture sector as a strategic priority, many still shy away from lending to farmers, and especially to small farms. Lending policies have also been tightened, following new regulations on the sale of agriculture real estate and restrictions on enforcement proceedings against farmers.

Existing financial instruments include preferential loans and guarantees that are financed from national funds. While both instruments are important for Polish farmers, their limited availability and the complicated application procedures limit their use.



Recommendations to increase access to finance for Polish agriculture producers:

- It is believed that the EAFRD guarantee fund implemented in December 2019 will support farmers in accessing finance. However, given the dimension of the identified gap, it is unlikely that the instrument will be able to bring the market to full functionality by the end of the current programming period. For this reason, the continuity of the guarantee instrument should be ensured also in the 2021-2027 programming period, subject to an assessment to measure the effectiveness of the instrument after a few years of operation. The assessment should in particular aim to verify:
 - The adequacy of the guarantee capital and the expected leverage.
 - The concrete ability to address the constraints of young farmers and small-sized enterprises, which according to this analysis are the more constrained segments. The opportunities offered by the new legal framework, such as the easier combination of financial instruments and grant support or the possibility to finance the purchase of land for young farmers, might offer interesting opportunities to increase the effectiveness of the instrument towards those segments.
- Based on the analysis conducted for this study, one of the elements limiting banks' interest in lending to small-sized enterprises is the higher transaction costs related to the assessment of loans with limited amounts, resulting in lower profit margins. This constraint might have a particularly negative impact in a market context of low interest rates. For this reason, a specific micro-credit instrument (in the form of a guarantee or a risk sharing loan fund), also involving non-banking financial institutions and small local financial players, might be considered. The possibility to combine the financial instrument with grants, including in the form of technical support, might also offer interesting opportunities.
- Technical support, in form of training and advisory services, might be provided to farmers to help improve their relations with banks. Training in financial management and accounting topics should be a fundamental component of this support.



3. PART II: AGRI-FOOD SECTOR

3.1 Market analysis

Key elements on the Polish agri-food sector

- The agri-food sector accounted for 16% of the total industrial output of Poland in 2018, and contributed to 3.3% of total GVA in 2017.
- Since accession to the EU in 2004, the agri-food sector has recorded an annual turnover growth of between 5-7%.
- While 75% of the companies are small-sized enterprises (less than 50 employees), the market is dominated by large corporations.
- There are around 400 000 people employed in the agri-food sector, by 15 154 enterprises.
- 96.5% of enterprises are food producers while 3.5% are beverage manufacturers.
- The two main sub-sectors are meat and dairy processing, which account for 22% and 12% of output, respectively.
- Poland is a net exporter of agri-food products and mainly serves other EU countries.
- In 2018, exports of food and beverages reached EUR 15 billion. Exports have increased significantly since accession to the EU.

Poland is the seventh largest producer of food products in the EU, following Germany, France, Italy, Spain, the UK and the Netherlands. Poland accounts for 5.3% of total EU 28 agri-food production.⁸⁹ In 2018, total food and beverage exports reached EUR 15 billion, which represents an increase of 8.3% compared to the previous year.⁹⁰ EU countries are Poland's most important agri-food trade partners, accounting for 93% of its exports.⁹¹ This is despite efforts to open up new international markets for Polish agri-food products. Food items are a key export commodity for Poland, and the expansion of trade into new markets frequently generates additional demand for finance.

The Polish agri-food sector plays a significant role in the Polish economy. In 2018, the sector accounted for around 16% of Poland's total industrial output, at around EUR 60 billion (Figure 20). Food production accounts for 92% of output, while beverages account for the remaining 8%. In terms of GVA, the sector accounted for 3.3% of total GVA in 2017.⁹²

89 Eurostat, 2019, Structural Business Statistics.

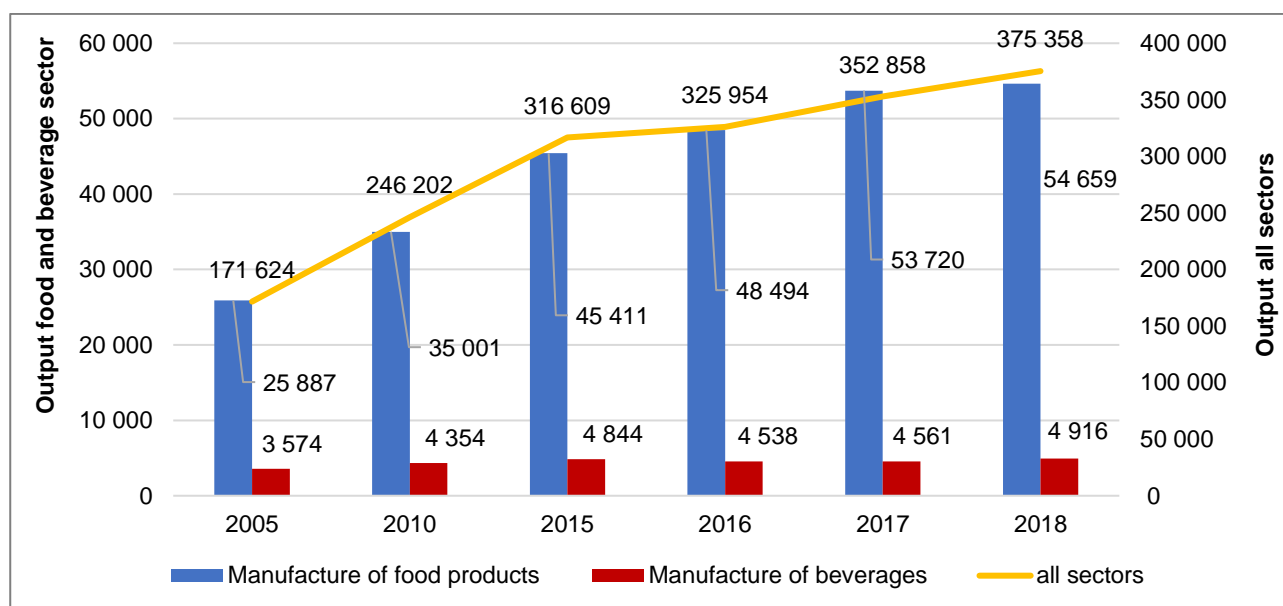
90 Food from Poland, 2018, Polish agri-food exports, http://foodfrompoland.pl/article/art_id,25742-61/export-of-food-products-in-2018/place,1/.

91 Statistics Poland, 2019, Statistical Yearbook of Industry 2018.

92 Eurostat, National Accounts Aggregates. No data for 2018 were available.



Figure 20: Output of food and beverages industry vs. total Polish industry, 2018, EUR million, current prices



Source: Statistics Poland, 2018, Statistical Yearbook of Industry.

While the agri-food sector has been growing in recent years, there is still room for productivity improvements. Since 2005, the Polish agri-food sector has seen continuous output growth of around 5-7% per year. This is due to substantial investments being made in the sector, especially in dairy, meat, frozen food and beverage production. The largest sub-sectors within Poland's agri-food sector are meat processing, which accounts for 28.5% of the production value, followed by dairy production, which accounts for 13.6%.⁹³

The food and beverage manufacturing sector is a key employer in Poland. Around 400 000 people are employed in the sector by 15 154 companies. This accounted for 16% of the total manufacturing workforce in Poland in 2017.⁹⁴ Agri-food production is highly concentrated in certain regions of the country. For example, the Mazowiecki region accounted for 14.8% of total employment in the sector within Poland in 2016. This was followed by Lubelskie (6.3%) and Warmińsko-mazurskie (6.2%), and with employment shares that only comparable to the Bretagne region in France.⁹⁵

While most enterprises within the sector are SMEs, the market is dominated by large corporations. In the agri-food sector, 94.8% of enterprises fall under the category of SMEs. Small enterprises (with less than 50 employees) account for 75% of the companies in the sector⁹⁶ and, in terms of employment, account for 20% of the workforce. However, when it comes to their contribution to the total sales of the sector, they only account for a minor share of 13%, which indicates that the market is dominated by larger corporations.⁹⁷

⁹³ Eurostat, 2019, Structural Business Statistics.

⁹⁴ Eurostat, 2019, Structural Business Statistics.

⁹⁵ Eurostat, 2019, Regional Yearbook.

⁹⁶ SMEs are enterprises with up to 250 employees.

⁹⁷ Statistics Poland, 2018, Statistical Yearbook of Industry.



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 analysis of the demand for agri-food finance is based on the findings from the Agri-food survey results of 130 Polish firms, as well as interviews with key stakeholders in the agri-food sector, combined with national statistics.

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

- In 2017, investment outlays in fixed assets in the food and beverage sector amounted to EUR 2.3 billion. Since 2010, investments have increased by 47%.
- The main drivers of finance demand are (i) the need to expand capacity and improve production standards, (ii) the development of new products, (iii) gaining access to new markets, and (iv) focusing on more efficient use of key inputs.
- High production cost is the main concern of Polish enterprises in the sector. High costs are driven by a shortage in qualified labour, increasing wages and rising energy prices.
- The RDP has provided EUR 823 million in investments for SMEs involved in the processing and marketing of agriculture products.
- An EAFRD guarantee instrument was launched in December 2019, which also supports agri-food enterprises.
- Polish enterprises mostly use external financing for working capital needs rather than for investments. Most requested financial products are credit lines and bank overdrafts (51%), followed by short-term loans (44%) and medium-term loans (38%).
- The unmet demand for finance for the agri-food sector in Poland is estimated at EUR 219 million.
- The main reasons why enterprises did not apply for a loan was due to sufficient own funds, limited investment plans, or aversion to risk.
- Banks rejected 14% of applications for loans and 12% of applications for credit lines and bank overdrafts. This is significantly higher than the rejection rate of 8% for the EU 24.
- The key constraints in access to finance are: (i) lack of sufficient collateral, particularly for small-sized enterprises and start-ups, (ii) Insufficient repayment capacity, (iii) poor credit history, and (iv) limited business planning skills.

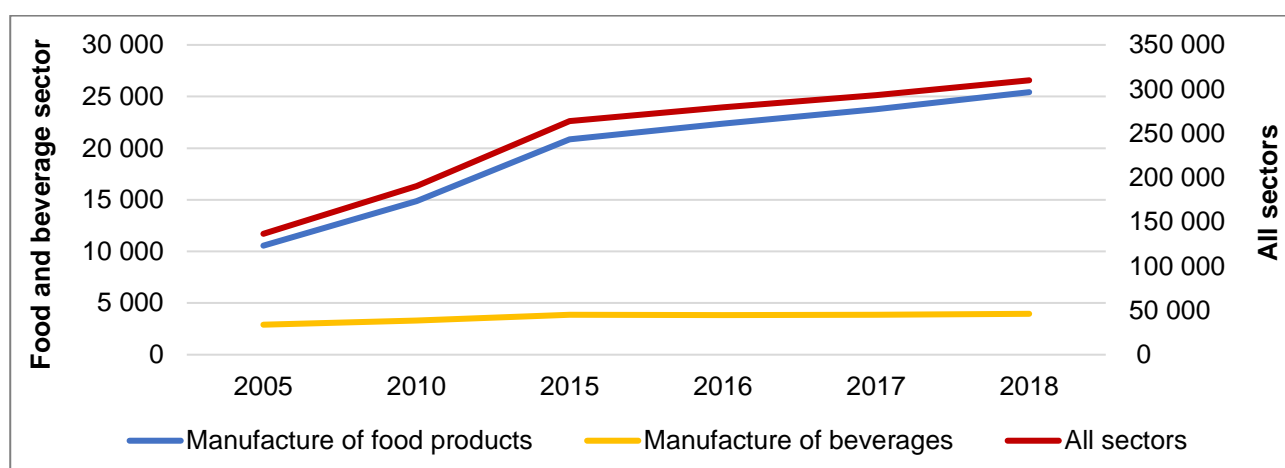
3.2.1 Drivers of total demand for finance

Since 2005, **the gross value of fixed assets in the agri-food sector has increased, driven by the investments made by large companies.**⁹⁸ This increase is higher than the average for all other industrial sectors, and it is especially pronounced in the food manufacturing sector (Figure 21). However, many small-sized firms still lag behind in the modernisation of their old machinery.

98 Based on recorded investment activity.



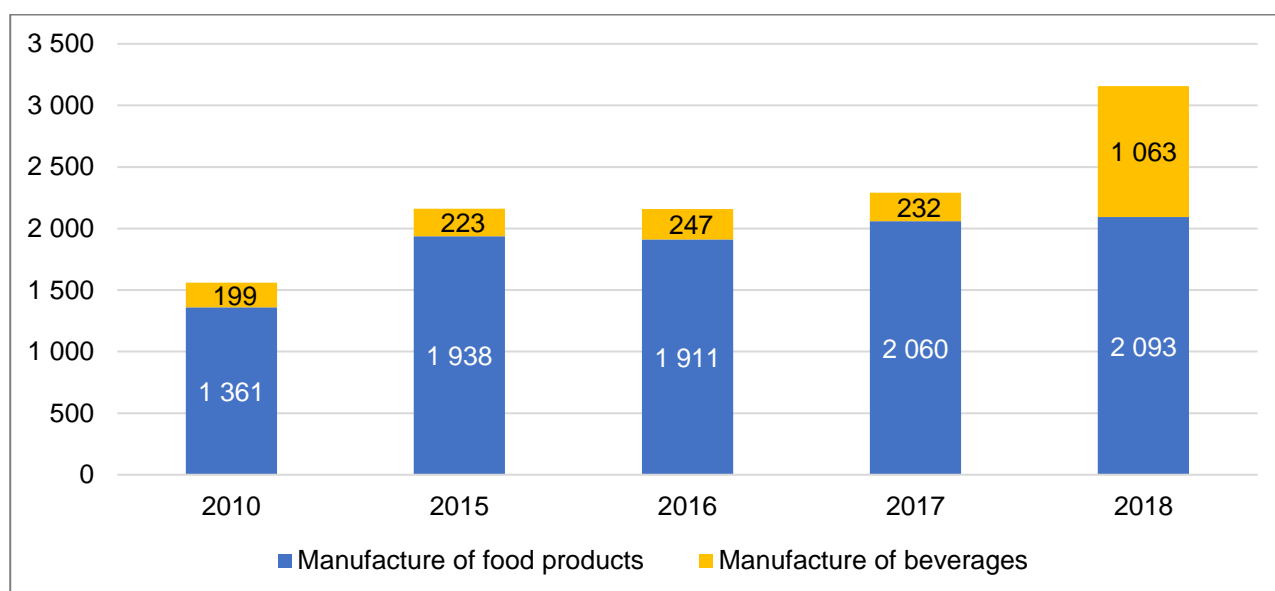
Figure 21: Gross value of fixed assets in agri-food sectors vs. all manufacturing sectors in Poland, 2005-2018, EUR million



Source: Statistics Poland, 2018, Statistical Yearbook of Industry.

Overall, the Polish agri-food sector shows a positive attitude towards investment. In 2018, investment outlays in fixed assets of the food and beverage sector amounted to EUR 3.2 billion. Of this, EUR 1.5 billion, or 66%, were investments in machinery and equipment. This was followed by buildings and structures at EUR 0.6 billion, or 28% of investments.⁹⁹ On the timeline shown in Figure 22, it can be seen that investment in the sector has grown by 50% since 2010. This was driven by investments into the modernisation of enterprises in the dairy, meat, frozen food and beverages sub-sectors, and includes investments in modern production-lines that are often even more advanced than those in other EU countries.¹⁰⁰

Figure 22: Investment outlays in the food and beverage industry in EUR million, 2018, current prices



Source: Statistics Poland, 2018, Statistical Yearbook of Industry.

The main driver of loan applications are for investments in capacity expansion, though this purpose is less common compared to the EU 24 average. According to the Agri-food survey, 58% of companies use

⁹⁹ Statistics Poland, 2018, Statistical Yearbook of Industry.

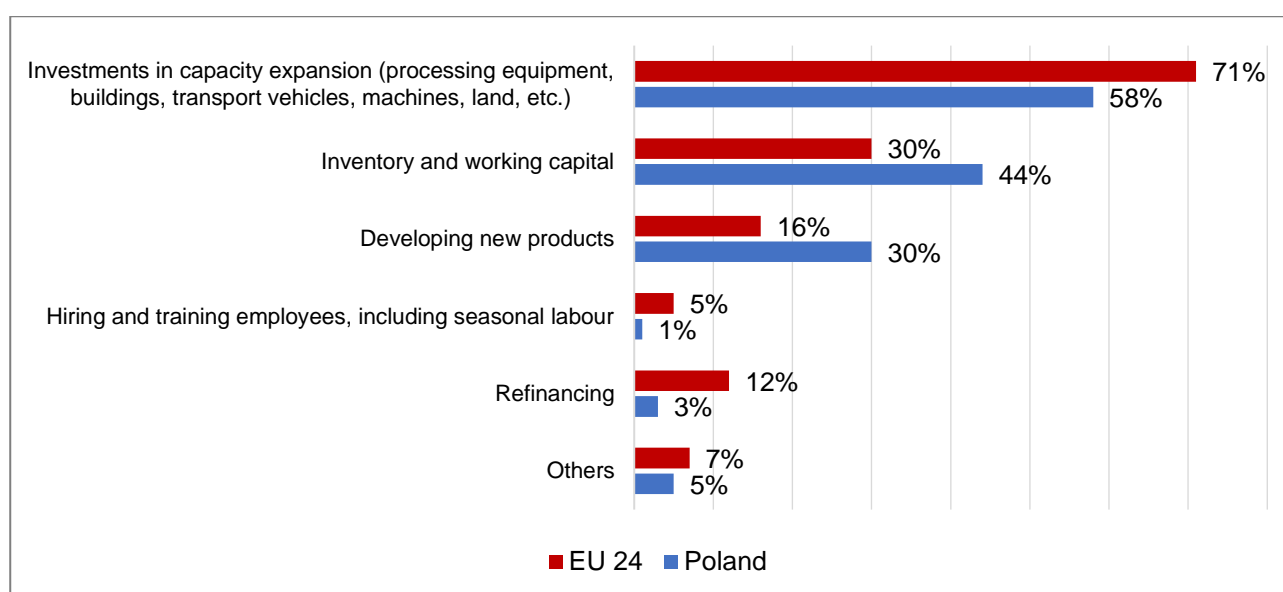
¹⁰⁰ McKinsey, 2015, Poland 2025: Europe's new growth engine.



external financing for the purpose of investments in capacity expansion, while 44% use it for working capital needs (Figure 23). However, in interviews Polish companies said that they mostly use loans to finance their working capital needs, rather than investments. The reason for this is the widespread ‘hold-up’ problem, where large retail chains do not immediately pay agri-food companies upon delivery of their goods, but instead only months later. For agri-food companies, this leads to liquidity shortages that they then try to cover with working capital loans.

Significantly more companies in Poland (30%) invested in new product development in 2018 compared to the EU 24 (16%). This is an interesting indication, since product development has long been a neglected topic for Polish agri-food companies. The agri-food sector is considered as the least innovative industry in Poland, with low investments in new products and processes.¹⁰¹ Substantial investments are needed to meet the demand emerging from new food trends in domestic and foreign markets.¹⁰² Without these investments there is a risk that they will remain as suppliers of raw materials and semi-finished products.

Figure 23: Purpose of bank loans in the agri-food sector, 2018



Source: Agri-food survey.

In addition to the need to expand capacity, demand for finance in the agri-food sector is driven by investment to improve production standards, access new markets and to use key inputs more efficiently. These drivers can be explained as follows:

- **Investments in new technologies are needed to remain competitive in a global market.** Previously, Polish agri-food companies benefitted from comparative advantages, such as lower labour, energy and raw material costs, but these are now being levelled out. Investments in automation will allow companies to increase their production and improve the quality of their products, thus helping them to maintain their

101 BGZ BNP Paribas, 2018, Agro ring scenario-based costs. Agri-food sector: perspective until 2023. Only 8.1% of agri-food companies launched product novelties (2014-2016). R&D was carried out almost exclusively in the case of receiving a subsidy.

102 McKinsey, Poland 2025: Europe's new growth engine, 2015. Areas for the introduction of innovation include dedicated and customised dietary food, high-quality minimally processed food, nanotechnology in conservation, filtering, and packaging.



position in the global market. Interviewees also mentioned that more innovation is needed in the development of new products.

- **The costs and availability of energy and water are becoming challenges for the industry.** Poland is restructuring its energy sector by moving away from fossil fuels and towards renewable energy. This process is leading to large increases and volatility in energy prices. For example, in 2018 alone, prices increased by around 60% and this adversely impacted the profitability of agri-food enterprises.¹⁰³ Besides this, Poland has been facing increasing water stress over the last few years. This affects the availability and quality of water, which is an important input factor in the agri-food sector. Efficient use of input factors is also an important criterion for investment decisions and an additional driver of the demand for finance. However, Polish agri-food companies still lack awareness and knowledge about resource-efficient production methods.
- **Exports require companies to adapt their products and services.** As seen above, Poland is already a significant food exporter. As the level of agri-food production continues to grow, companies will need to seek out new international markets. This will require the adaptation to new product requirements, packaging standards and marketing mechanisms, which is likely to further drive the demand for finance.

Enterprises in the agri-food sector mainly have short-term liabilities. The share of short-term liabilities in both the food and beverage sectors is about 70% of total liabilities (Table 9). This indicates that external finance is mostly used for operational purposes.

Table 9: Assets and liabilities in food and beverage manufacturing, Poland, 2017

Sector	Total assets, EUR	Total liabilities, EUR	Short-term liabilities, EUR	Medium and long-term liabilities, EUR	Liabilities to assets ratio, %	Short-term to total liabilities ratio, %
Food	38 937	13 851	9 906	3 944	35.6%	71.5%
Beverages	6 144	2 666	1 844	822	43.4%	69.2%
Total	45 081	16 516	11 750	4 766.3	36.6%	71.1%

Source: Statistics Poland, 2018, Statistical Yearbook of Industry.

The liability to asset ratio is higher in the beverage sector (43.4%) than in the food (35.6%) sector. This is unsurprising, given that investments in the beverage sector were mostly in fixed assets (75%).¹⁰⁴

The agri-food sector has benefited from significant RDP support during the 2014-2020 programming period amounting to EUR 823 million in total public resources.¹⁰⁵ Food chain organisation is one of the six priorities of the Polish RDP.

The RDP supports investments in micro, small and medium-sized enterprises of up to EUR 2.4 million (PLN 10 million) that are involved in the processing and marketing of agriculture products. In the case of producer groups, the amount reaches up to EUR 3.6 million (PLN 15 million). Investments are co-financed for up to 50% of the eligible costs.

By the end of April 2020, a total of 4 146 applications for support were submitted under the grant calls, which, in volume, accounted for 213% of the total available budget. By that date, about 1 175 contracts with selected

¹⁰³ BGZ BNP Paribas, 2018, Agro ring scenario-based costs. Agri-food sector: perspective until 2023.

¹⁰⁴ Statistics Poland, 2018, Statistical Yearbook of Industry.

¹⁰⁵ Note: The total amount requested 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.



beneficiaries were signed totalling 76% of the budget, It is clear that the demand is considerably higher than the resources available and that by 2023 there will not be many further possibilities for support, unless additional budget can be transferred to the sub-measure.

Several financial instruments with EU resources are now available on the Polish market, including the EAFRD Guarantee Fund under the RDP (section 2.2.1).

The National Agency for Research and Development provides subsidies for innovative projects by private enterprises. The innovation be at the process or product level. In terms of the agri-food sector, benefits from innovation could include increases in food or employee safety, reduction in environmental impact, general increases in the innovation of the enterprise, the creation of new and more efficient processes and products, digitalisation, and increases in the share of the international market. Depending on the programme, the subsidies can reach up to 75-80%. The enterprise must prepare a very detailed business and research plan, show the expected result of the project, and indicate how it will influence the future operations of the enterprise. The process is quite lengthy, taking at least 6-8 months, and requires the preparation of documents, submission, feedback and assessment. Because of this, only well organised companies with capacity and resources are applying for these funds.

Polish companies operate in a challenging environment. Compared to their peers in the EU 24, respondents to the Agri-food survey stated that they experienced more difficulties in almost all dimensions. Particularly in regards to high production costs (51%), access to qualified labour (43%), regulatory issues (33%), access to market (31%) and low selling prices (30%) (Figure 24), which were all significantly above the EU 24 average. The interviews confirmed that these issues mainly affect smaller family owned firms, which have lower liquidity and resources than larger ones. A lack of qualified workers, however, has a negative influence on all the firms, independent of size.

Figure 24: Difficulties experienced by agri-food enterprises in 2018



Source: Agri-food survey.

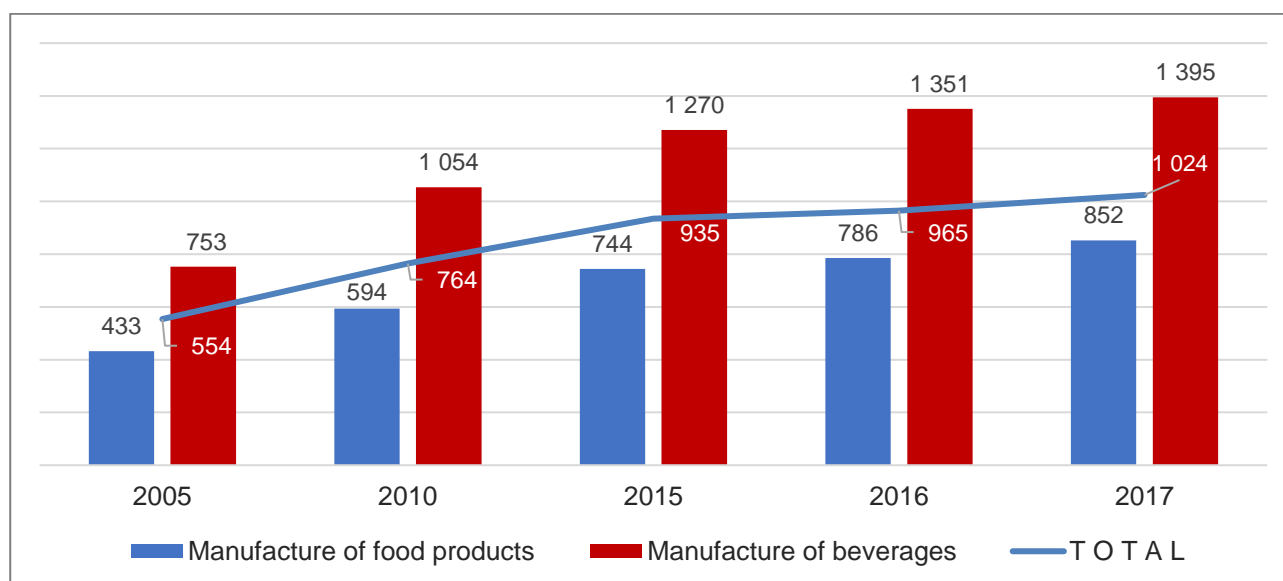
There are increasing labour costs, due to a shortage of workers and high wages. Both the food and beverage processing sectors are labour intensive, with labour costs accounting for 9% of total operational costs.¹⁰⁶ Therefore, the sector is particularly affected by labour market dynamics. In Poland, the effects of an ageing population, a declining birth rate and emigration of workers leads to both a shortage of labour supply and higher wages. The situation was further exacerbated by government regulations, which increased the

106 BGZ BNP Paribas, 2018, Agro ring scenario-based costs. Agri-food sector: perspective until 2023.



minimum wage. Figure 25 shows the development of wages between 2005 and 2017. Interestingly, wages in the beverage sector are significantly higher than in the food sector.

Figure 25: Average monthly gross wages and salaries in Poland, 2017, EUR



Source: Statistics Poland, 2018, *Statistical Yearbook of Industry*.

Access to market is more of a concern for Polish agri-food companies than for those operating in other EU 24 countries (Figure 24). The agri-food sector in Poland is strongly driven by growing domestic and foreign demand. Food products are among the key export items and companies are seeking to expand their business in the international market. While the main trade partners are still other EU countries, trade to other countries is increasing. This became a necessary development following the Russian embargo and the Ukraine crisis, which both severely affected the agriculture sector. Accessing new markets not only requires a change in the quantity and quality of production, but also investments in branding and marketing. This, therefore, generates further demand for finance. Because many companies lack knowledge about foreign markets, they will need technical support in business and management topics, in addition to funds for investment.



3.2.2 Analysis of the demand for finance

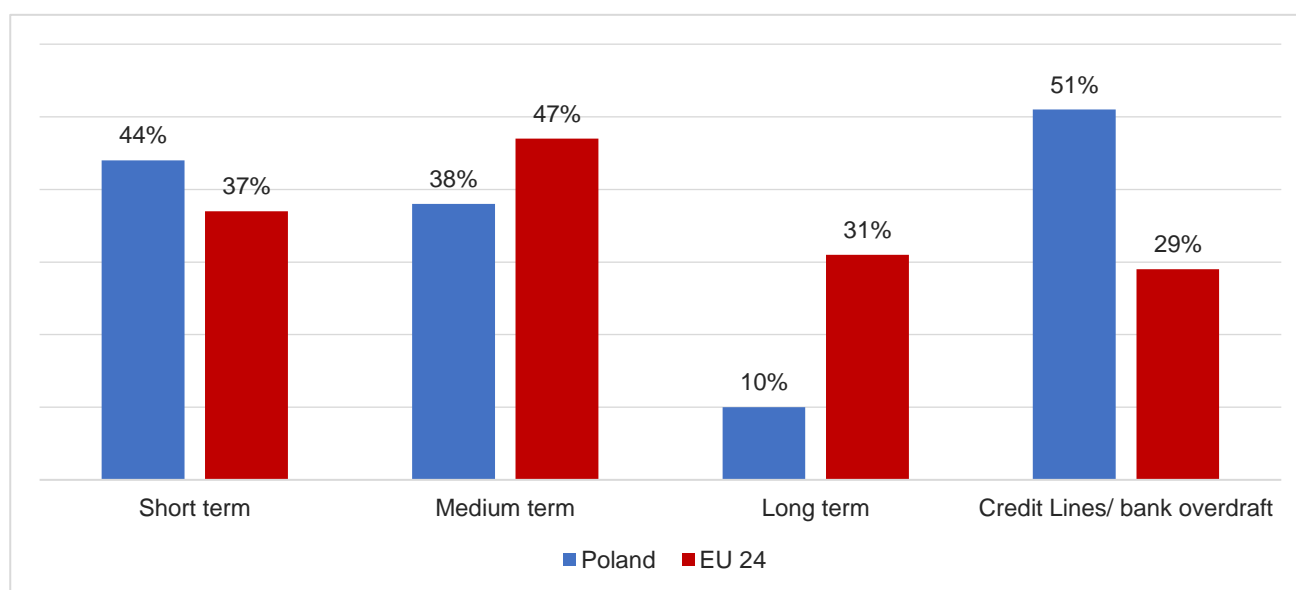
The potential total demand for finance combines both met and unmet demand. The met demand consists of the value of all applications for finance which were accepted by the financial institutions in the relevant year. The unmet demand consists of the assumed value of applications rejected by a financial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

Based on the Agri-food survey, the unmet demand for the agri-food sector in Poland is estimated at EUR 219 million.

The share of enterprises applying for finance in Poland is below the EU 24 average. In Poland, only a third of agri-food companies said that they applied for finance, compared to 46% for the EU 24 average. Interviewees confirmed this finding and added that Polish entrepreneurs often prefer not to take loans and to instead finance investments using their own funds.

The most requested loan products are credit lines and short-term loans. Given their high need for working capital it is unsurprising that Polish agri-food firms mostly apply for short-term loans (44%) and credit lines and bank overdrafts (51%) (Figure 26). Both figures are above the EU 24 average of 37% and 29%, respectively.

Figure 26: Polish agri-food enterprises applying for finance in 2018, by financing product



Source: Agri-food survey.

Having sufficient own funds is the most common reason for not applying for a loan. In the Agri-food survey, around 65% of the respondents said that they had sufficient own funds (Figure 27). This is in line with the finding that most entrepreneurs rely on their own finance for investments. The fact is also confirmed by the National Bank of Poland, which repeatedly observed that enterprises in Poland have a low propensity for loan use and that the percentage of enterprises which foresee applying for new loans is decreasing.¹⁰⁷

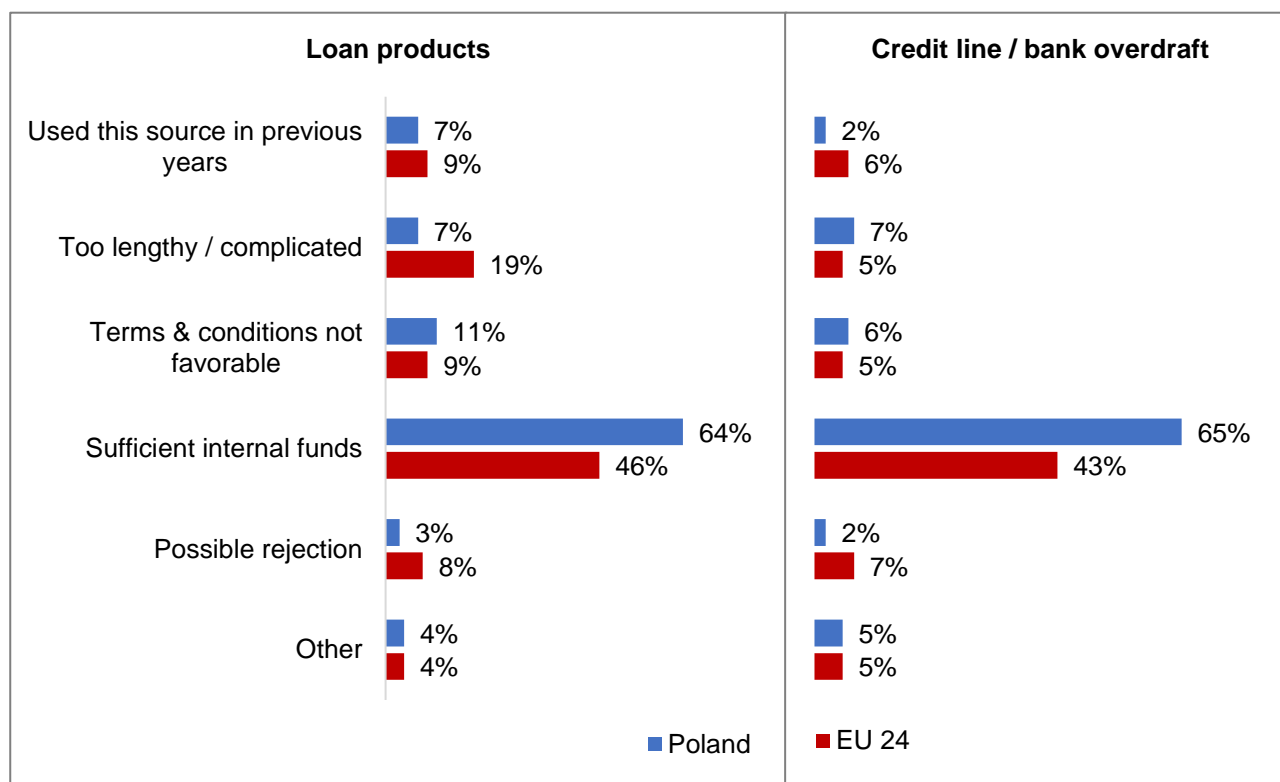
It is likely that many loan applications are not submitted due to a fear of possible rejection. In the Agri-food survey, only 3% of the participants indicated that they were discouraged from applying for a loan due to a fear of being rejected. While this is less than the EU 24 average of 8%, interviews revealed that before a

¹⁰⁷ NBP Financial Stability Report December 2017.



loan application is officially registered, the relationship manager of the bank interacts intensively with the potential clients, selecting only the most promising applicants. This means that rejections that happen at this screening stage are not officially recorded and therefore do not appear in bank statistics.¹⁰⁸ It also indicates that the share of discouraged firms may be substantially higher than what was found by the survey.

Figure 27: Reasons for not applying for loans in the agri-food sector in 2018



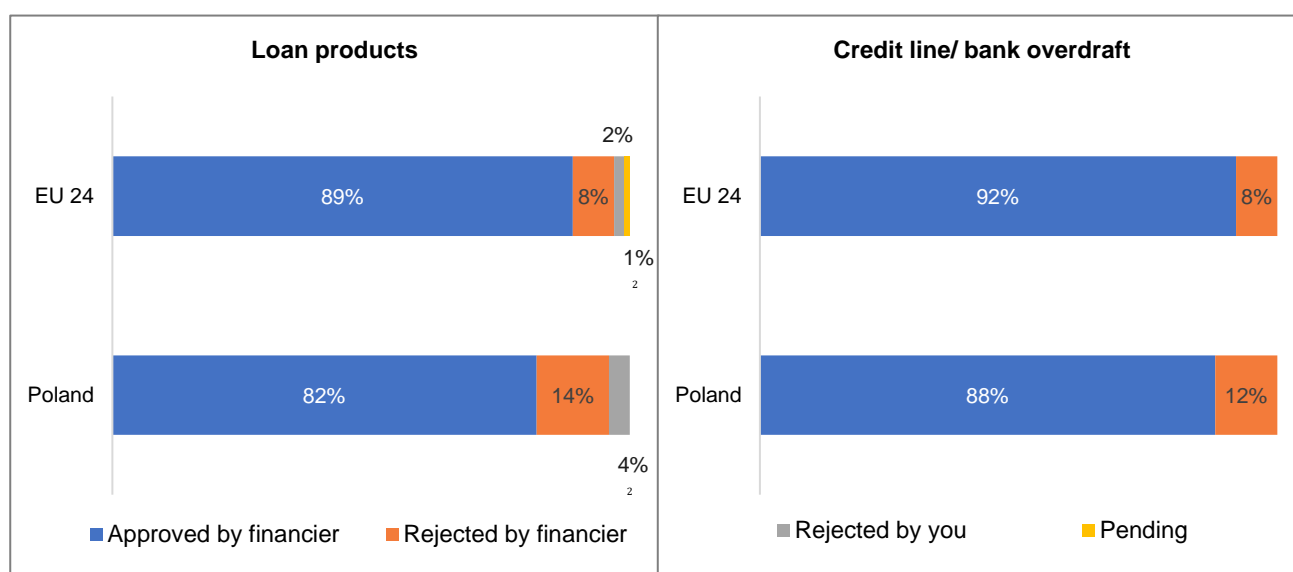
Source: Agri-food survey.

Polish agri-food manufacturers are sensitive to the terms of the loan offered. In fact, because of unfavourable loan terms, 11% of the entrepreneurs did not even apply for a loan in 2018 (Figure 27), which is higher than for the EU 24 (9%). Interestingly, more loan offers are also refused by potential borrowers in Poland (4%) compared to the EU 24 average (2%), as shown in Figure 28. This result points to the fact that food and beverage manufacturers are not always offered favourable loan conditions.

Rejection rates in Poland are higher than the EU 24 average. In Poland, 14% of applications for loans and 12% for credit lines and bank overdrafts were rejected by banks, according to the Agri-food survey (Figure 28). In both cases, the results were above the EU 24 average of 8%. Based on the SAFE survey, 7% of bank loan applications and 5% of bank overdraft applications by all Polish SMEs were denied.¹⁰⁹

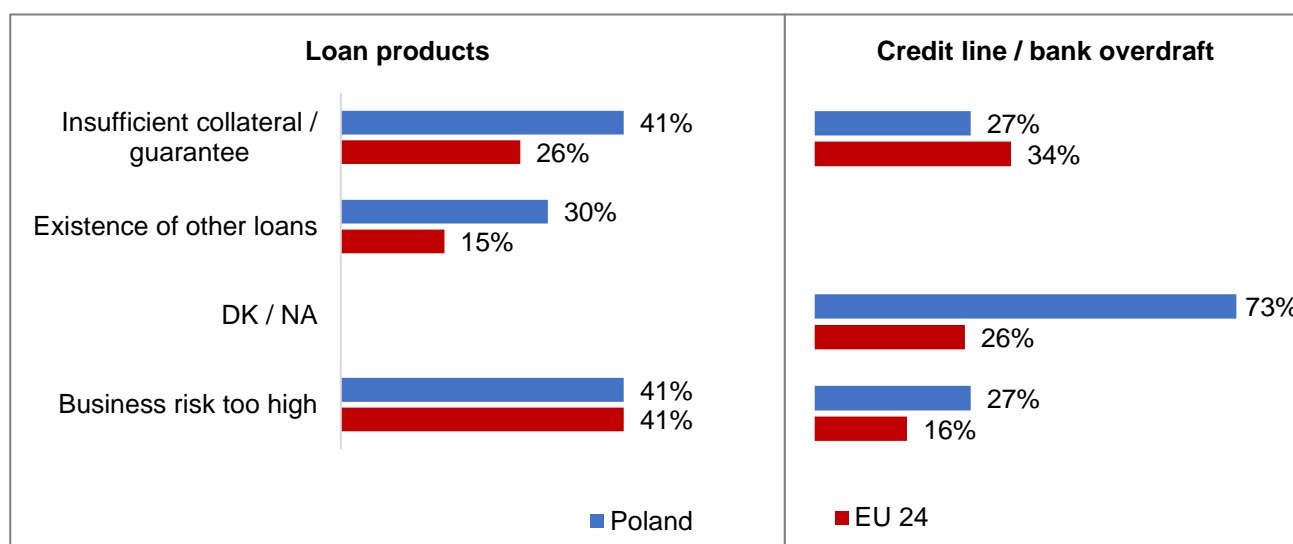
¹⁰⁸ Interviews with financial institutions.

¹⁰⁹ European Central Bank, 2018, Access to finance of enterprises (SAFE).

**Figure 28:** Results from loan applications in the agri-food sector in 2018

Source: Agri-food survey.

Applications for finance by agri-food enterprises are mainly rejected due to high business risk or a lack of collateral. In Poland, one of the key reasons why loan applications by food and beverage manufacturers are rejected is because banks view the business risk as being too high (41% for bank loans) (Figure 29). This is also the case for the EU 24 (26% for bank loans). However, a lack of collateral for bank loans represented a more significant obstacle for Polish enterprises (41%) than for others in the EU 24 (26%). Also the *fi-compass* feasibility study supported the finding that loan applications from agri-food enterprises are rejected due to lack of collateral.¹¹⁰

Figure 29: Reasons for loan rejections in the agri-food sector in 2018¹¹¹

Source: Agri-food survey.

110 *fi-compass*, 2018, Feasibility study in support of the implementation of Financial Instruments combining EAFRD and EFSI within the framework of the Rural Development Programme of Poland for the 2014-2020 programming period, Final report.

111 DK/NA means 'do not know' or 'no answer'.



Interviews with financial institutions confirmed that a lack of sufficient collateral is the main reason for rejection. This is particularly the case for small-sized enterprises and start-ups who find it difficult to comply with collateral requirements. Furthermore, they mentioned that the repayment capacity of many clients was too low, due to them still having to serve existing loans or because they had poor credit history.

Small-sized enterprises are more likely to be rejected. There is a huge difference between the large-sized enterprises in the sector, which apply advanced technologies and have achieved deep market penetration, and the majority of small-sized enterprises, which lag behind in the modernisation of their production and mainly serve a local client base. In this competitive environment it is difficult for small-sized enterprises to scale up and it is therefore more likely their loan applications are rejected. Hence, business size becomes a decisive parameter in the risk classification.

Agri-food enterprises in Poland need advice and support in business and management topics. Currently, enterprises in the food and beverage sector can access training provided by the state agency for the development of entrepreneurship for SMEs. This training provides a number of financial, marketing and business courses.¹¹² In addition to this, a number of private service providers are also in place. Nevertheless, the overall level of business and management skills among entrepreneurs is still low, and this especially the case for those running small-sized enterprises. Although registered enterprises are required to keep accounts, banks still find it difficult to assess the creditworthiness on this basis. An additional key issue is business planning and marketing, where stakeholders expressed the need for training. Awareness raising and training is also required with regard to resource efficiency, which is a topic of increasing importance and which impacts the financial performance of the agri-food enterprises.

112 PARP Groups PFR, 2019, <https://www.parp.gov.pl/component/site/site/kursy-online>.



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 Poland 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. 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 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 Polish agri-food sector

- The agri-food sector in Poland is served by both cooperative banks and commercial banks.
- Cooperative banks are the main finance provider for the food and beverage manufacturing sector. They mainly finance small-sized enterprises.
- Compared to the agriculture sector, a larger number of commercial banks engage in financing agri-food companies.
- Loans to enterprises in all sectors have been increasing, however specific portfolio figures for the agri-food sector could not be obtained.
- In 2018, new loans to SMEs (under 250 employees) in the agri-food sector amounted to EUR 863 million.
- The main products offered by financial institutions in Poland are working capital loans, cash loans, investment loans and leasing.
- Leasing has become an important source of finance for machinery in the agri-food sector. In 2018, EUR 167 million worth of machinery was financed through leasing.
- Agri-food companies have access to preferential loans, guarantees and innovation subsidies. As of December 2019, an EAFRD guarantee instrument also provides the sector with improved access to finance.
- The main constraints to the supply of finance are (i) a dependence on collateral, (ii) bank policy limiting exposure to certain sectors, and (iii) banks consider loan appraisal for the agri-food sector more complex than for other enterprises.

3.3.1 Description of finance environment and funding availability

3.3.1.1 Finance providers

The agri-food sector can rely on a broader range of finance providers than the agriculture sector. Around one fifth of the 63 commercial banks are active in lending to the agri-food sector, which means there is a more competitive finance environment than for the agriculture sector.

Cooperative banks mainly provide finance to small-sized enterprises. Cooperative banks have a large client base in the small-sized enterprise sector, and they are the main finance provider to the food and beverage manufacturing sector. In 2017¹¹³, loans to sole proprietors accounted for 16% of the loan portfolio of cooperative banks, in terms of value, while the share to farmers was 28%.¹¹⁴

¹¹³ 2018 data were not available.

¹¹⁴ Narodowy Bank Polski, December 2017, Financial Stability Report.



Leasing is an alternative source of finance for agri-food companies. Most of the 30 leasing companies operating on the Polish market are subsidiaries of commercial banks. They constitute an important finance partner for micro and small-sized enterprises in particular, since they do not require collateral other than the asset that's being leased. This therefore overcomes one of the key constraints of the agri-food manufacturing sector. In 2018, 73% of leasing clients were micro and small-sized companies with a turnover of up to EUR 4.7 million (PLN 20 billion), with half of these companies (52% of total leases) belonging to the micro segment.¹¹⁵ In the food industry, leasing amounted to EUR 167 million, which corresponds to 3.4% of the total value of machines and information technology financed.¹¹⁶

Agri-food companies can also rely on guarantees and loan funds. In addition to the bank sector, there are 90 loan funds and 43 guarantee funds¹¹⁷ operating in Poland that offer financial services to registered enterprises. Both service providers are not subject to specific regulations and they can take various legal forms. They are distributed across all regions in Poland.

3.3.1.2 Financial products

Financial institutions provide commercial loans for working capital and investments. Loan maturities vary between short-term (up to 1 year), medium-term (from 18 months to 5 years) and long-term (above 5 years). Loans are usually secured with collateral which can be land, buildings or machines.

Agri-food companies can apply for support from ARMA. As for the agriculture sector, ARMA plays an important role in the agri-food sector by providing preferential loans and guarantees. For investments in the processing of agriculture products a dedicated credit line ('credit line RR') was established. During the period 2015-2018, less than 2 000 loans were disbursed under this credit line. The total amount of these were below EUR 9 billion, making up only 0.7% of the total amount disbursed under all credit lines.¹¹⁸ Companies can apply for loans, for example, for the construction or modernisation of buildings used to for processing and storing agriculture products, or for machinery and equipment. The maximum loan amount is 70% of the investment value, not exceeding EUR 3.8 million (PLN 16 million). The maximum interest rate is the Warsaw Interbank Offer Rate (WIBOR) 3M¹¹⁹ plus a maximum of 2.5%. Loan terms of up to 15 years are offered. In addition, guarantees are available for up to 80% of the loan amount, but not exceeding EUR 480 000 (PLN 2 million). Like the credit lines directed at farmers, procedures for applying for preferential loans and guarantees are reported to be complicated and to involve a high level of administrative effort.

Contrary to farmers (see Part I), agri-food manufacturers tend to be registered enterprises and thus have access to **public guarantee schemes** under either the COSME LGF or the nationally funded guarantee programme under *de minimis* of BGK, as long as the agri-food business produces so called Annex I

115 Polish Leasing Association, 2019, Polish Leasing Industry Results in 2018.

116 Ibid.

117 The system of loan and guarantee funds was created in the 1990s from funds of financial support programmes to SMEs. Initially, the funds were run by public sector entities of foundations and gradually transformed into separate legal entities. The funds are supported by the regional governments, often with EU co-financing. Waniak-Michalak, et al (2018), Financial performance of loan and guarantee funds in Poland. How business model elements influence it?

118 ARMA, presentation at conference. Credit Line RR is aggregated with other minor credit lines. The main share of loans went to Line Z (purchase of land) – 32%, Line RR (farm investment) -32% and disaster recovery – 27%.

119 Warsaw Interbank Offered Rate – interest rate on the Polish interbank market. Banks lend credits for other banks according to WIBOR (Statistics Poland, Glossary) 3 M refers to the average interest rate over 3 months.



products¹²⁰. One disadvantage with these schemes is that the overall duration of the guarantees has been assessed as being too short. Further, food and beverage manufacturers can apply for **preferential loans** at ARMA, but as for other subsidised loans, the application procedures are reported to be highly bureaucratic and complicated.

Bank Gospodarstwa Krajowego (BGK), the state development bank, has been running a guarantee programme since 2013, under *de minimis* rules. According to information from the National Bank of Poland, SME lending is strongly supported by the guarantee schemes of BGK, with guaranteed loans accounting for 14% of all loans extended to enterprises in the second half of 2017.¹²¹ The guarantee programme is targeting SMEs that plan to apply for a loan in one of the 22 partner banks of BGK and is funded from the national budget.¹²² The guarantee covers 60% of the loan amount and has a maximum term of approximately 8 years, in the case of investment loans. A single guarantee can be granted for up to a maximum amount of EUR 830 000 (PLN 3.5 million). So far, a total of 235 000 guarantees were granted, totalling EUR 10 billion.¹²³ Out of this, EUR 380 million (3.5% of the total loans guaranteed) were guarantees for agri-food companies producing products that fall within the scope of Annex I.

COSME provides a 50% counter-guarantee to a guarantee facility for SMEs managed by BGK and channelled through 12 banks. The guarantee covers up to 80% of the loan amount¹²⁴ with a ceiling of EUR 140 000 (PLN 0.6 million) per single guarantee. Specific data on the activity of the facility in the agri-food sector could not be obtained.

The **Smart Growth Operational Programme (SG-OP)** under the cohesion policy supports innovative businesses. Approximately 10% of the SG-OP budget has been allocated to financial instruments like seed capital, venture capital and loans to support start-up and spin-off enterprises.¹²⁵ SMEs in the agri-food sector can apply for support under the thematic area of agriculture and bio-economy, especially in the area of 'healthy food' (of high quality and produced organically).¹²⁶

The guarantee instrument that was implemented under the RDP in December 2019 with support from the EAFRD is also directed at micro, small and medium-sized agri-food companies. See section 2.2.1 for more details.

120 In EU law, agricultural products are listed in Annex I to the Treaty on the Functioning of the EU. By contrast, processed agricultural products are often called 'Non-Annex I goods'. These are goods are listed in Regulation (EU) no 510/2014. They include products such as chocolate, confectionary, sweet drinks, beers, spirits, biscuits and bakery products. More than 70% of agricultural commodities produced in the EU are transformed into manufactured food products, many of which are Non-Annex I goods. https://ec.europa.eu/growth/sectors/food/processed-agricultural-products/definition_en

121 Narodowy Bank Polski, June 2018, Financial Stability Report.

122 20 commercial Banks and the 2 'apex' banks of the cooperative banks.

123 Ministry of Agriculture, 2019, Ocena ex ante zasadności zastosowania instrumentów finansowych w ramach Programu Rozwoju Obszarów Wiejskich na lata 2014-2020 (Ex – ante assessment).

124 BGK guarantee covers up to 80% of the loan amount, and benefits from a counter-guarantee from COSME for up to 50% of the loan amount.

125 Ministry of Infrastructure and Development, 2015, From Idea to market, https://www.poir.gov.pl/media/10296/POIR_broszura_ang_082015.pdf.

126 The SG OP contains 18 national smart specialisations, grouped in 5 thematic areas. Of relevance for the agri-food sector is the thematic area: Agriculture and food bioeconomy, forest based and environmental bioeconomy which includes 'healthy food'.



3.3.1.3 Description of the financing market

Since banking statistics only provide a breakdown of loan portfolio figures in corporations and households, it is not possible to obtain information on the outstanding loans per sector for either the total manufacturing sector or the agri-food sub-sector.¹²⁷ As an indication, the development of corporate loans should be looked at.

Corporate loans experienced a substantial increase in 2017, with current loans¹²⁸ being the fastest growing segment. This resulted from higher financing needs for working capital and inventories. This is in line with the observations on the analysis demand side of the market. Nevertheless, the share of corporate loans in the total loan portfolio remained at 32% at the end of 2017.¹²⁹ The manufacturing sector holds the largest share in the total corporate loan portfolio (under 20%). The portfolio quality is comparably good with an impaired loan ratio around 6%.¹³⁰

The annual disbursements of loans to SMEs in the food sector amounted to EUR 863 million in 2018.¹³¹ This new annual loan business data was found at the Loan Information Agency. Out of the 4 188 loans, most were credit lines (38% of total value), bank overdrafts (34%) or investment loans (22%). The average loan amount disbursed across all products was EUR 203 187 (Table 10). Data from the Loan Information Agency only covers micro companies and SMEs. There is no information available on the size of the total annual financing to the agri-food for all company types.

Table 10: Annual disbursements of loans in the Polish food sector (SMEs) in 2018, by type of loan

Type of loan	Number of Loans	Value in EUR million
Credit line	2 006	324
Overdraft	857	298
Investment loan	421	189
Cash loan	271	7
Credit card	114	1
Others	521	45
Total	4 188	863

Source: Loan Information Agency, 2019.

Leasing is growing rapidly. The new business value generated by leasing companies increased by 66% between 2015 and 2018, to EUR 19.6 billion. Of this figure, EUR 167 million was for the financing of machines in the food industry.¹³²

Loan appraisal for the agri-food sector is considered more complex by financial institutions. There is no information available on specific bank policies for the agri-food sector. Interviewed financial institutions reported that applications of agri-food clients are appraised as those of other enterprises in the manufacturing

¹²⁷ Reports of financial institutions also show only aggregated figures, like for example the Financial Statement of BZG BNP Paribas covers the agri-food sector under the agriculture sector.

¹²⁸ Corporate loans are loans disbursed to companies which are registered legal entities. Current loans are short-term loans i.e. for working capital.

¹²⁹ Narodowy Bank Polski, 2018, Financial System in Poland 2017.

¹³⁰ Narodowy Bank Polski, June 2018, Financial Stability Report.

¹³¹ Loan Information Agency (BIK), 2019.

¹³² Polish Leasing Association, 2018, Polish Leasing Industry Results in 2018.



sector. However, the inherent characteristics of the Polish agri-food sector - being mostly small-sized enterprises in a highly competitive market - make loan appraisal more complex. With many enterprises exporting their goods, banks also need to be able to assess developments in foreign markets. As discussed in the demand section, many of the small-sized agri-food enterprises lack business and financial management skills. This makes the appraisal of their creditworthiness by banks more difficult and might lead to a situation where these clients are not served by banks. In addition banks reported that agri-food enterprises often lack collateral, a finding also supported by the *fi-compass* feasibility study.¹³³

Besides this, banks have **internal policies limiting their exposure in certain economic sectors**. This is an important risk mitigation measure, especially for the smaller financial institutions like many of the cooperatives.

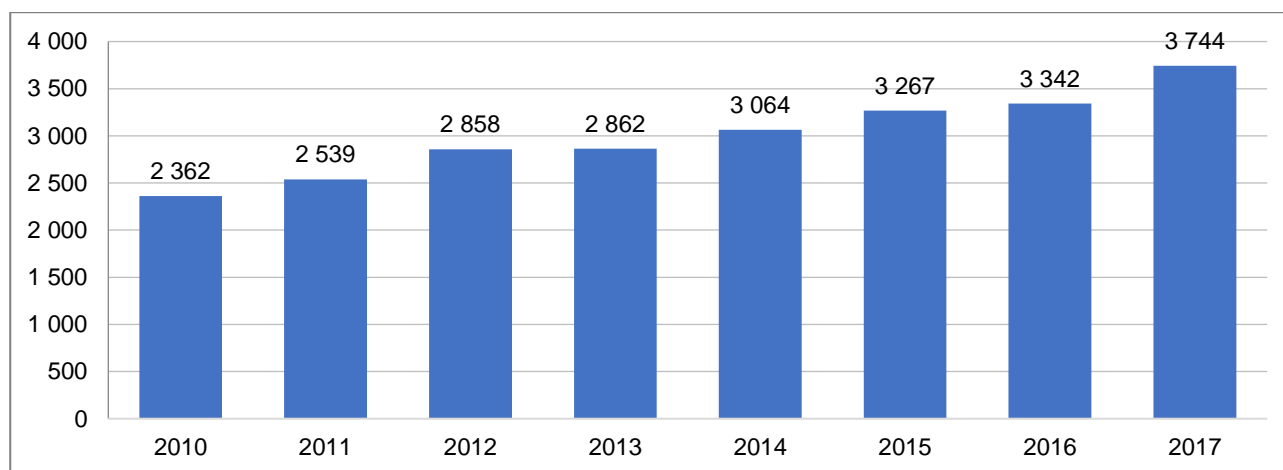
133 *fi-compass*. 2018, Feasibility study in support of the implementation of Financial Instruments combining EAFRD and FSI within the framework of the Rural Development Programme of Poland for the 2014-2020 programming period, Final report.



3.3.2 Analysis of the supply of finance

The outstanding portfolio to the agri-food sector was estimated to be EUR 3.7 billion in 2017. Due to a lack of specific data (see also Section 3.3.1) on outstanding loans for the entire agri-food sector, an estimate of the size of the loan portfolio of the food and beverage manufacturing sector was made. This estimate used the assumptions made in the ex-ante assessment for the introduction of a financial instrument. This assumption is that 4.3% of the loans to enterprises are related to the agri-food sector. Based on this, it was estimated that out of the total outstanding loan volume of EUR 49 billion to SMEs and large-sized enterprises, EUR 3.7 billion are related to food and beverage manufacturing (Figure 30).

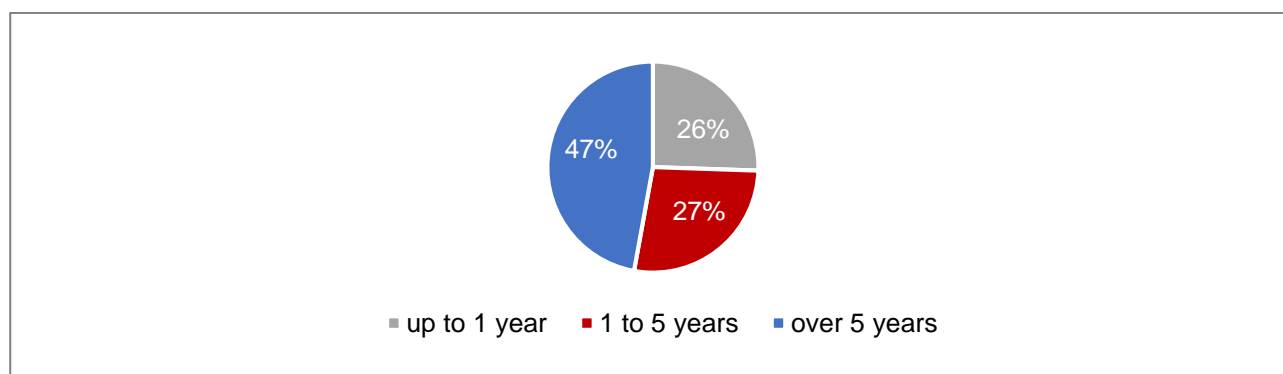
Figure 30: Development of the outstanding loans to the agri-food sector (estimate), 2010-2017, EUR million¹³⁴



Source: *Monitoring of Banks 2017*, project calculations.

As is the case for outstanding loans, there is also no specific data available on the composition of the loan portfolio, by maturities, for either the agri-food or manufacturing sectors. However, the aggregated figures of outstanding loans to enterprises might give an indication. According to this, almost half of the outstanding portfolio to enterprises is made up of long-term loans with a maturity over five years (Figure 31). Short and medium-term loans have an almost equal share.

Figure 31: Breakdown of outstanding loan portfolio to enterprises by maturity (as of end of 2017)¹³⁵



Source: *NBP, Assets and Liabilities of Monetary Financial Institutions*.

¹³⁴ The figures for 2018 are not publicly available yet.

¹³⁵ Ibid.



3.4 Financing gap in the agri-food sector

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

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

- The financing gap is estimated to be EUR 84.3 million.
- The financing gap mainly concerns small-sized enterprises (less than 50 employees) who face the most difficulties in accessing finance, in particular start-ups.
- The type of loans for which the gap is largest are long-term loans (above 5 years), followed by medium-term loans, short-term loans, and credit lines and overdrafts.
- The key constraints in access to finance is (i) the risk aversion of agri-food enterprises, which stops them from applying for finance due to a fear of not being able to repay the loan; (ii) a lack of knowledge among agri-food enterprises of the financial market; and (iii) a lack of available collateral.
- In addition, bank policy limiting exposure to certain sectors, and the complexity associated with approving loan applications from the agri-food sector perceived by banks may limit the supply of financing to the sector.
- Polish agri-food companies need support in terms of collateral, likely in the form of guarantees.

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 Polish 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 firms¹³⁶. As explained in section 2.2, the unmet demand for finance includes:

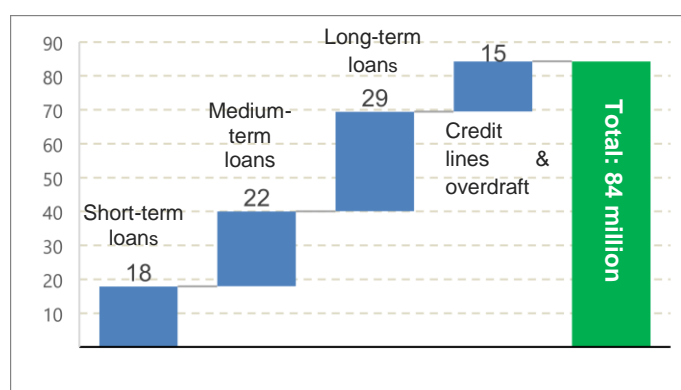
- (i) lending applied for but not obtained, or;
- (ii) a lending offer refused by the potential borrower, as well as;
- (iii) lending not applied for due to expected rejection.

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.

¹³⁶ 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 32: Financing gap by product in the agri-food sector, 2018, EUR million



Source: Agri-food survey

The financing gap for the Polish agri-food sector is estimated to be EUR 84 million (Table 11). 58% of the value of the gap is related to small-sized firms. In terms of loan products, 60% of the gap concerns long-term loans. However, gaps have been identified for all financing products and for all enterprise sizes.

Table 11: Financing gap by firm in the agri-food sector, 2018, EUR million

	Total	Short-term Loan	Medium-term Loans	Long-term Loans	Credit lines/bank overdraft
Small-sized firms	48.7	9.5	13.0	17.5	8.7
Medium-sized firms	25.2	6.6	6.2	8.2	4.1
Large-sized firms	10.3	1.7	2.8	3.7	2.1
Total	84.3	17.8	22.1	29.4	15.0

Source: Agri-food survey.

The *fi-compass* feasibility study estimates the gap at approximately EUR 47 million for food processing companies. This is focused on long-term loans and can help to explain why the gap is only about half of the gap calculated by the Agri-food survey.¹³⁷

The three main drivers of the gap include the risk aversion of agri-food companies, a lack of collateral, and limited business or technical education among agri-food enterprises.

- **Use of own resources because of fear of not being able to repay a bank loan:** most companies in the agri-food sector follow an organic approach to business development, meaning that they prefer to expand their business using their own funds. Entrepreneurs fear that they might not be able to repay loans because of the low profits in the sector and the high fluctuations of input prices.
- **A lack of collateral** was revealed in the survey, in interviews, and by the ex-ante assessment as being a significant issue for many Polish agri-food firms. Bank still mostly rely on the availability of suitable collateral in their lending decisions. Small-sized enterprises and start-ups, in particular, are not in the

¹³⁷ *fi-compass*, 2018, Feasibility study in support of the implementation of EAFRD Financial Instruments within the framework of the Rural Development Programme of Poland for the 2014-2020 programming period, Final report.



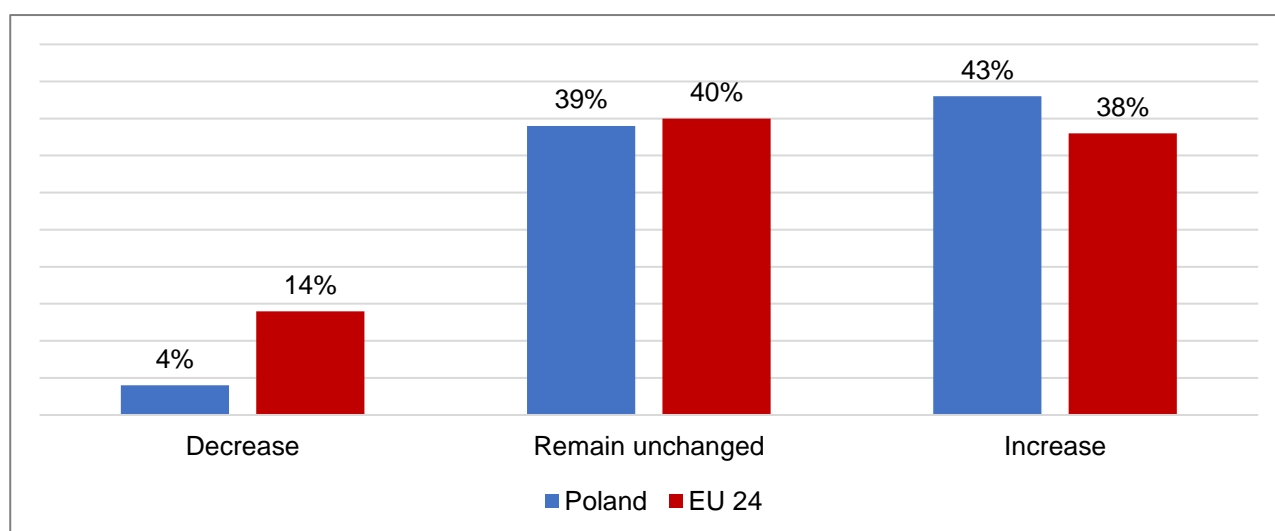
position to comply with this requirement. This is because they have a limited number of assets and these often have a low collateral value due to their age.

- **Limited business and technical education:** their limited business management knowledge is a serious obstacle for all Polish agri-food companies. This includes not only increasing the level of knowledge about financial management, but also on topics like marketing, branding and legal requirements.

Access to finance is particularly difficult for small-sized agri-food companies and start-ups. Interviews revealed that while the agri-food sector was not considered as problematic by banks as a whole, they were cautious to lend to small-sized agri-food enterprises because they are less able to absorb external shocks, given the very tight margins in the sector. In addition, the loan appraisal process is considered difficult due to the limited business understanding and a lack of collateral which, again, particularly affects start-ups. Large-sized enterprises, on the other hand, did not encounter problems obtaining loans.

Demand for finance is likely to persist and, if no action is taken, the financing gap is likely to increase over the coming years. In the agri-food survey, 43% of the firms expected their need for finance to increase in the coming years (Figure 33). In the interviews, banks recognised that the sector is developing rapidly and that it will need further investments. While in the past the upgrading of production lines was a priority, investments in increasing resource efficiency are now also gaining in importance. It is also expected that demand for finance could grow further if the sector decides to shift to a higher share of high value added products. For this, companies will need to reach a larger scale, which is likely to occur through a consolidation of fragmented processors, and to invest in product innovation and brand building.¹³⁸ However, issues pertaining to insufficient collateral and risk aversion will cause the gap to grow unless efforts are undertaken to support agri-food enterprises. The introduction of the EAFRD guarantee instrument as from December 2019 may prove to be pivotal in addressing the main issues keeping agri-food companies from accessing finance.

Figure 33: Agri-food companies' expectations on future financing needs, 2018



Source: Agri-food survey.

¹³⁸ McKinsey, 2015, Poland 2025: Europe's new growth engine.



3.5 Conclusions

The agri-food sector is an important player in the Polish economy. The sector's output has been increasing steadily in recent years and Poland holds a strong position as a food exporting nation. While the sector is fragmented, with many small-sized companies operating within it, a few large corporations dominate the market in terms of production.

The agri-food sector is active in investing in machinery and equipment. Since 2010, investments have increased by 47% and the gross value of fixed assets by 52%. However, the main driver of this trend are the large-sized companies who invest in state-of-the art production lines and infrastructure.

While agri-food companies can rely on a broader offer of finance providers than farmers, they still prefer to use their own funds. Companies can access finance through cooperative and commercial banks and, increasingly, through leasing companies. Despite this, most keep a risk averse attitude when it comes to external finance and often prefer to grow using their own resources, even if this implies missing out on profitable business opportunities.

RDP supports investments in the processing of agriculture products as one of the dimensions of improving the food chain organisation. Until 2017, only 21% of the applications were approved, implying a potential significant unmet demand for finance.

In late 2019, the Agricultural Guarantee Fund was set-up, an EAFRD guarantee instrument that is also available for agri-food enterprises. In addition, food and beverage manufacturers can apply for financial instruments that are generally available for SMEs and which are both EU and nationally funded.

The financing gap for the agri-food sector is estimated to be EUR 84 million. With regard to loan products, the gap mainly concerns long-term loans, but to a lesser extent than for the agriculture sector. The client base that is mostly affected by the gap are small-sized enterprises, which make up a large share of the market by number.

The constraints in accessing finance for the agri-food companies in Poland that were identified by the study relate to (i) a lack of adequate collateral, (ii) insufficient business management and planning skills, and (iii) the general risk averse attitude among entrepreneurs towards external finance. On the supply side, it was observed that loan conditions are not favourable due to a perception that the sector is risky, which means that banks tend to control their exposure to certain sub-sectors within the food manufacturing sector. In addition, the complexity associated with approving loan applications from the agri-food sector perceived by banks may limit the financing provided to the agri-food sector.

Recommendations for the agri-food sector:

- As for the agriculture sector, it is recommended to ensure continuity of the guarantee instrument also in the 2021-2027 programming period, subject to an assessment to measure the effectiveness of the instrument after a few years of operation. More specifically, the assessment should in particular aim to verify:
 - The adequacy of the guarantee capital and the expected leverage
 - The concrete ability to address the constraints of small-sized enterprises.
- Combination between grants and financial instruments in a single operation could be an interesting implementation option for the new CAP Strategic Plans saving costs and resources.
- Consider the creation of a pilot risk-sharing credit fund as a solution to the risk-aversion of banks and their perception about the high risk associated with the sector, alongside the currently high interest rates imposed on any agri-food company borrowing resources.



- While interviews conducted for this report showed that companies in Poland can already obtain information and advice related to access to finance, an additional effort, in terms of awareness raising and training on the financial management and investment opportunities for agri-food business, might be considered. Capacity building should therefore be an integral component of any intervention. It should cover the topics of business planning and management skills, especially with regard to accessing international markets and on technical topics such as energy and water efficiency.



ANNEX

A.1. References

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A.2. Stakeholders interviewed

Type of Organisation	Name of Institution
Agri-food processor	Meat processors
Agri-food producer	Maja Drejling (butcher)
Association	Polish Bank Association – Conference on the sustainable rural development by 2030
Association	Association of Poultry Producer – Krajowa Rada Drobiarstwa (KRD)
Bank	BGZ BNP Paribas S.A.
Bank and leasing company	Millennium Bank and Leasing
Cooperative bank	BPS S.A. (affiliate network of 323 cooperative banks)
Cooperative bank	SGB S.A.(affiliate network of 194 cooperative banks)
Cooperative Bank	Bank Spółdzielczy w Brodnicy
Farmer	Tomasz Sobolewski – pear producer
Farmer	Włodzimierz Wrzosek
Farmer	GOH Sp.Z.o.o. (Piotr Kłosiewicz) – herbs and sprouts producer
Farmer and agri-food processor	Piotr Ziemiński Milk and white cheese producer
Farmer and agri-food processor	Krzysztof Hermanowicz apple and cyder producer
Financial services providers	BNP Paribas Leasing
Financial services providers	Krakowski Bank Spółdzielczy
Financial services providers	Bank Millennium S.A.
Financial services providers	Millennium Leasing S.A.
Government	Ministry of Agriculture and Rural Development
Leasing company	SGEFS.A.
Leasing company	PKO Leasing Group
Leasing company	BNP Paribas Lease Group
Other	Loan Information Agency (BIK)
Other	Institute of Agricultural and Food Economics National Research Institute



A.3. Methodology for financial gap calculation

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

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

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

Rejected credit applications include applications that are rejected by banks (or other credit organisations) and offered from banks, but turned down by the farmers/firms.

The share of Viable firms is measured by the share of total firms that have a non-negative turnover growth¹³⁹ or a non-negative turnover and that are not in a situation of cost increase (these two criteria might be used to obtain an upper and lower boundary for the calculations).

Discouraged application is proxied by the average size (financial value) of loan applications made by firms that applied for a similar type of financial product. This allows for grouping firms which did not apply for fear of rejection with rejected firms (see step 2 and 4 below).

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

Step1: Ratio of viable farms with unmet demand for finance

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

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

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

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



Step 2: Number of farms rejected or discouraged

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 33th and 66th percentile, or below the 33th percentile of the PPI index in the EU. We assume equal rates of rejections among 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

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 party 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.

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

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* 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 Poland Table 12 and Table 13 report the elements used in the calculation of the financing gap for the agriculture and agri-food sector, respectively.

**Table 12:** Elements for the calculation of the financing gap in the agriculture sector in Poland, 2017

		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%	0.51%	0.51%	0.00%
	Share of respondents that have not applied because of possible rejection	1.74%	2.25%	2.25%	2.25%
	Total (sum of rejected and discouraged)	1.74%	2.76%	2.76%	2.25%
Upper bound: farms with a non-negative turnover growth	Share of respondents rejected by creditor or farmer	0.00%	0.62%	0.51%	0.00%
	Share of respondents that have not applied because of possible rejection	4.01%	5.03%	5.14%	5.14%
	Total (sum of rejected and discouraged)	4.01%	5.65%	5.65%	5.14%
Total unmet demand: all farms	Share of respondents rejected by creditor or farmer	0.00%	0.62%	0.51%	0.0%
	Share of respondents that have not applied because of possible rejection	4.12%	5.14%	5.24%	5.24%
	Total (sum of rejected and discouraged)	4.12%	5.75%	5.75%	5.24%
Farms with constrained access to finance, lower bound	Small-sized farms	15 410	24 439	24 439	19 924
	Medium-sized farms	2 150	3 410	3 410	2 780
	Large-sized farms	209	331	331	270
Farms with constrained access to finance, upper bound	Small-sized farms	3 460	49 936	49 936	45 422
	Medium-sized farms	4 948	6 968	6 968	6 338
	Large-sized farms	481	677	677	616
Standard loan application size (EUR)	Small-sized farms	9 416	22 842	62 996	8 501
	Medium-sized farms	11 931	21 711	68 404	9 430
	Large-sized farms	35 188	55 250	123 168	50 223

Source: *fi-compass survey*.

**Table 13:** Elements used for the calculation of the financing gap in the agri-food sector in Poland, 2018

		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 firm	0.46%	0.00%	0.00%	0.46%
	Share of respondents that have not applied because of possible rejection	1.14%	1.60%	0.76%	0.84%
	Total (sum of rejected and discouraged)	1.60%	1.60%	0.76%	1.30%
Total unmet demand: all firms	Share of respondents rejected by creditor or firm	2.92%	0.00%	0.00%	1.69%
	Share of respondents that have not applied because of possible rejection	3.97%	1.60%	1.99%	2.07%
	Total (sum of rejected and discouraged)	6.89%	1.60%	1.99%	3.76%
Firms with constrained access to finance	Small-sized firms	206	206	98	168
	Medium-sized firms	18	18	9	15
	Large-sized firms	5	5	2	4
Standard loan application size (EUR)	Small-sized firms	46 040	63 028	178 768	51 985
	Medium-sized firms	365 774	344 430	958 141	278 300
	Large-sized firms	360 688	603 250	1 693 413	566 000

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 14 reports the number of respondents by Member State.

Table 14: *fi-compass* survey sample size per Member State

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

Source: *fi-compass* survey.

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

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

For additional information, please refer to <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 questionnaires for each Member State. The minimum sample size obtained varied per country mirroring the differences in the size of the sector. Table 15: reports the sample size per country.

Table 15: Agri-food survey sample size per Member State

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

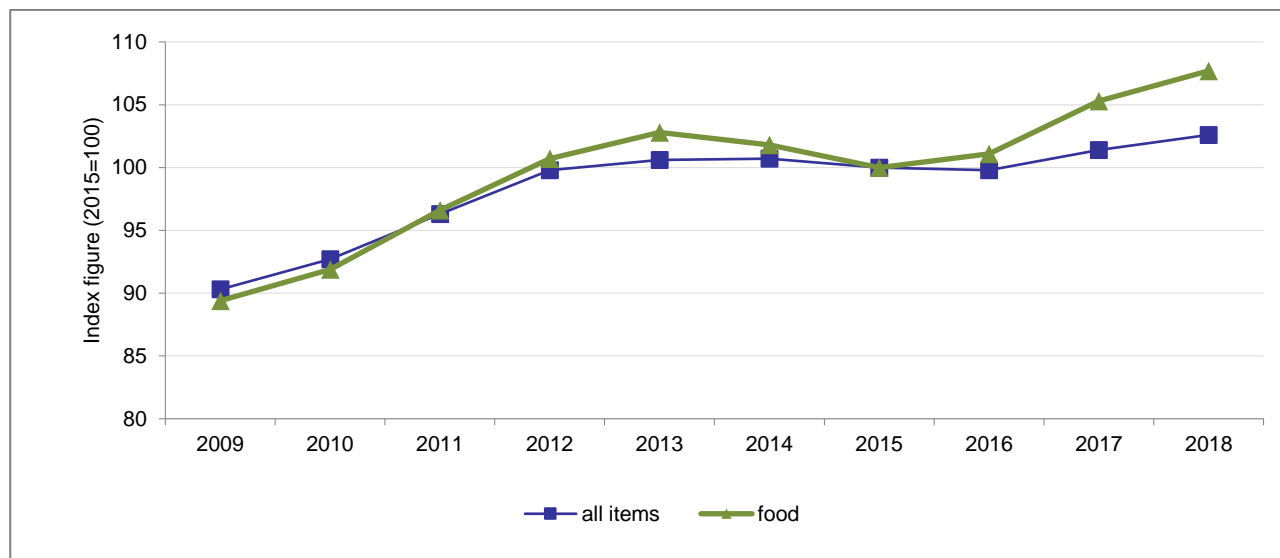
Source: Agri-food survey.

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



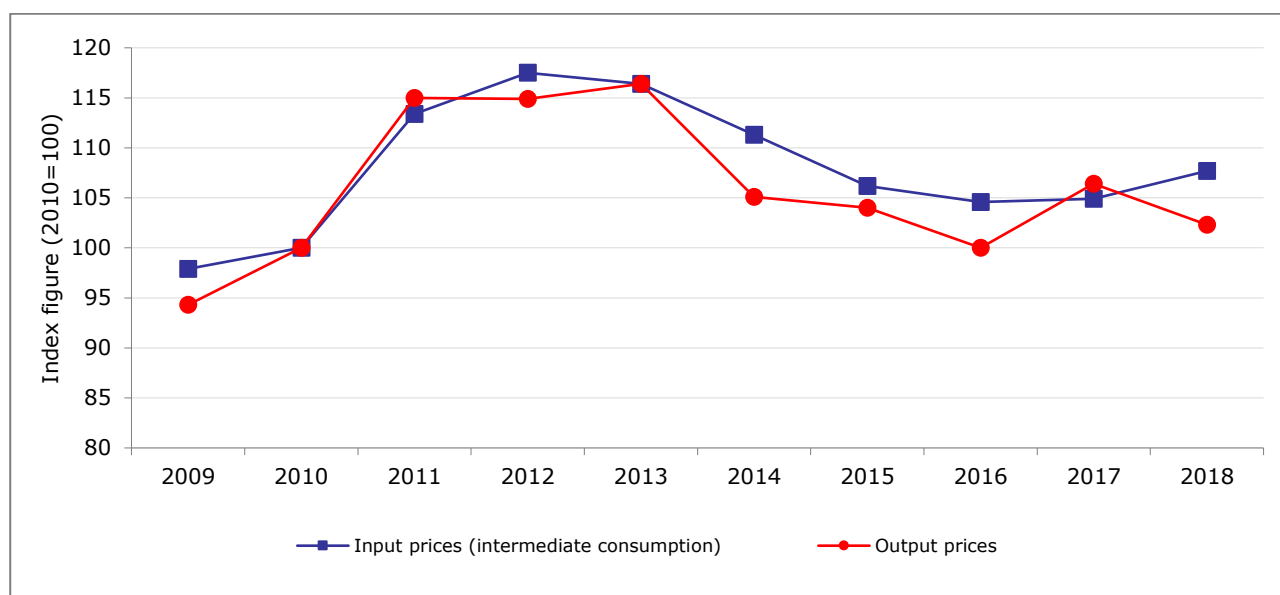
A.6. Data from the agriculture statistical factsheets

Figure 34: Evolution of harmonized indices of consumer prices, 2009-2018



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

Figure 35: Evolution of agricultural input and output prices, 2009-2018



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

