

**Deliverable D5.3 External factors effecting the
profitability of dairy farms in the Atlantic Area**



Document Classification

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About Dairy4Future:

Dairy-4-Future aims to increase the competitiveness, sustainability and resilience of dairy farms through the development of innovative and efficient dairy systems in the Atlantic Area. The priority of the project is stimulating innovation and competitiveness, with the objective of strengthening the transfer of innovation results to facilitate the emergence of new products, services and processes.

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Document Abstract

This paper explores the effect of external factors on the profitability of dairy farms in the Atlantic Area (AA). Data from a survey of 89 dairy farmers was used to assess the density and diversity of economic agents (dairies, suppliers, banks, etc.) present in the respondents' regions, and to identify the external factors considered as beneficial or unfavorable to the economic success, according to the farmers.

The results indicate that nature of the dairy contract and the conditions of access to credit were considered as the most favorable external factors to the dairy business. By contrast, the difficulties with access to land and the price of agricultural equipment were considered unfavorable by more than 70% of the respondents. Also, the survey results show that some regions face specific challenges more related to the different national policies.

To deal with the external factors, dairy sector stakeholders have put in place several initiatives that aim to improve the resilience of the dairy sector. Initiatives and solutions proposed are listed by country in the last part of the document. The majority initiatives are related to the nature of the dairy contract and the milk price (contracts with guaranteed milk prices or covering production costs). Solutions and initiatives presented in this report could serve as recommendations for the dairy sector stakeholders to overcome external factors that impact upon profitability at farm level.

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1 INTRODUCTION

European dairy farmers operate in an increasingly complex and dynamic environment and many external factors affect the profitability of dairy farms. These external factors can be defined as the relations between farmers and their business partners (banks, suppliers, etc.) and the nature of the external environment in which the farm is located in terms of markets, regulations, territorial context (Galliano and Siqueira, 2021). Many external factors are common to all the farms of the AA (market volatility, changes in public policies, new societal expectations, etc.) but the strategies adopted by farmers to deal with them can differ depending on the strategies of their dairy processor or the market orientation in their region (Thorsøe and al, 2020). Some regions also face more specific challenges related for example to the different national policies or insularity.

The evolution of the external environment of dairy farms can be a source of opportunities for some farmers, and threats for others. Dairy stakeholders and public decision-makers need to tackle these issues of external factors' impacts on farm profitability in order to propose relevant solutions to farmers and help them build a long-term business strategy.

2 PURPOSE AND METHODOLOGY

The objectives of this study are:

- To identify the external factors that impact the profitability of dairy farms in AA.
- To understand how the actors of the dairy sector get organized to cope with these external factors.

In order to carry out this study and meet the objectives, we performed two surveys among the dairy sector players.

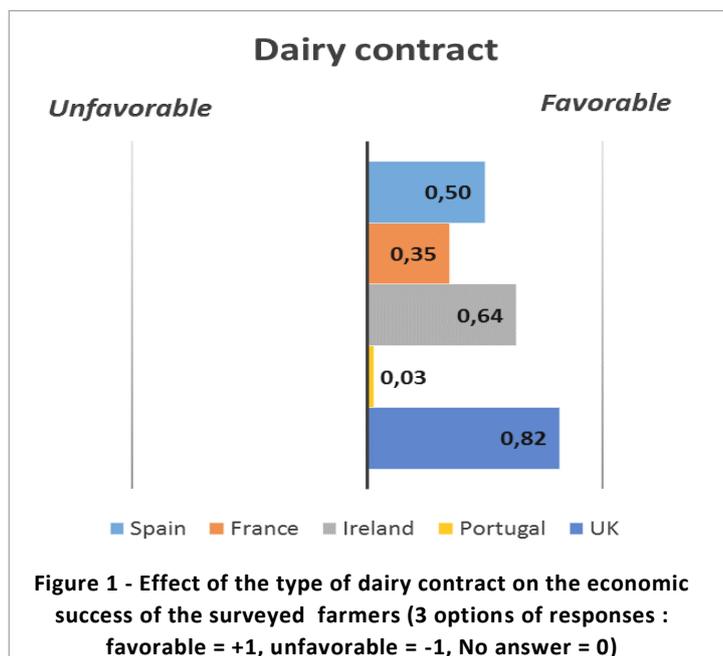
An initial questionnaire was addressed to the pilot farmers of the Dairy4Future (D4F) project and was carried out from May to June 2020, through an online questionnaire. The survey questions allowed us to assess the density and diversity of economic agents (dairies, suppliers, banks, etc.) present in the regions of the respondents. Each farmer was also able to give his/her opinion on the external factors that he/she considers beneficial or unfavorable to the economic success of his/her business. A total of 89 specialised dairy farmers responded to the survey (34 Portuguese, 17 French, 16 Spanish, 11 Irish and 11 UK). The D4F pilot farms were recruited for their good economic performance and innovativeness. Although these farms are not statistically representative of AA dairy farms, the opinions of the surveyed farmers do highlight the challenges facing the sector across the varied regions. The main results of this survey are presented in the 3rd part of this report.

A second questionnaire was completed by several dairy sector experts in the different regions of the AA. The objective was to identify the different regional experiences (new forms of dairy contracts, public support, relations with suppliers, etc.) that aim to improve the resilience of the dairy sector. These initiatives, which could serve as recommendations for actors in the dairy sector, are presented in the 4th part of this report.

3 EXTERNAL ENVIRONMENT EFFECT ON THE ECONOMIC SITUATION OF DAIRY FARMS, ACCORDING TO D4F PILOT FARMERS

The surveyed dairy farmers identified external factors that may or may not contribute to the economic success of their activity (see Appendix 1). The nature of the dairy contract and the conditions of access to credit were considered by more than 60% of the farmers to be favorable to their business. On the other hand, difficulties with access to land and the price of agricultural equipment were considered unfavorable by 76% and 72% of the respondents respectively. Even if common trends emerge among the responses from farmers in all the countries, the survey results also show disparities between regions.

3.1 Type of dairy contract



The majority of surveyed farmers consider that the nature of their dairy contract has a positive effect on the profitability of their farm (Figure 1). Several aspects of the contract are important in interpreting these results.

With the end of milk quotas, the volume of milk that can be produced per farm is a factor that differs greatly from one region to another and between operators. Thus, all the Irish farmers surveyed and $\frac{3}{4}$ of the UK farmers answered that they have no milk production limit, compared to only 6% for French farmers. The conditions related to the respect of fixed volumes of milk delivery also vary according to the milk processors. For the majority of farms with limited

production volume, a penalty system in case of overproduction is in place as an incentive to respect the reference volume. Several Portuguese farmers also mention eventual penalties in case of underproduction. The cessation of collection in case of overproduction was also mentioned by some Portuguese farmers.

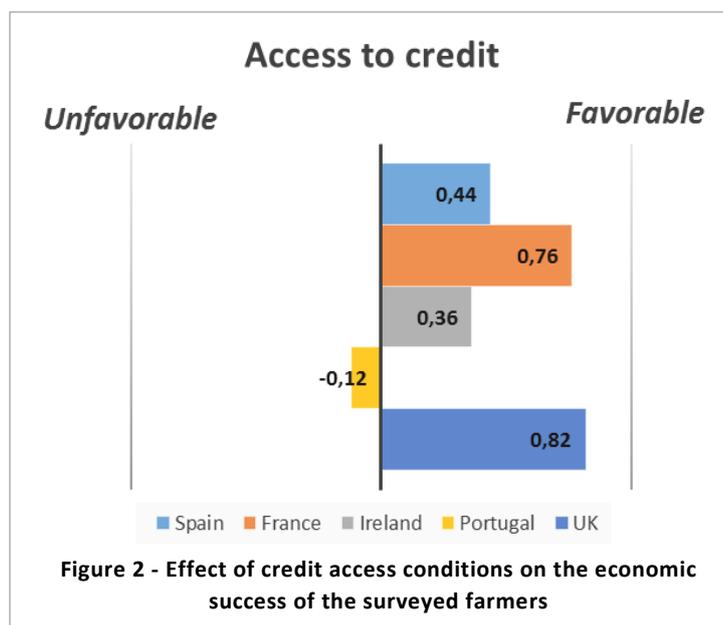
The price of milk and the conditions under which it is fixed are certainly the main issues affecting the profitability of farms. Several farmers emphasized the commitments of certain milk processors to ensure price stability, thus enabling farmers to build a longer-term strategy. Others claim that the price of milk is not sufficiently high to cover production costs.

"Milk is not sufficiently valued as Portugal is the country with the lowest price per liter of milk in Europe. It should be given a higher value because of the work that producers have to carry out in order to deliver it to consumers" Portuguese dairy farmer (Norte)

Finally, the period of commitment to a dairy contract is also a major factor in differentiating between contracts. The possibility or not for a farmer to change milk buyers is a decisive element, especially in a territory where several dairy operators practice contrasting buying prices.

"I can't change buyers offering a better milk price before 2023" Irish dairy farmer (Leinster)

3.2 Access to credit



Banking partners have a major contribution to make the dairy sector resilient (Figure 2). The relationships established with farmers will strongly influence the profitability of the farms and the investment strategy. The results of the survey also show the relevance of the bank advisor's level of expertise in the dairy sector. The bank advisers for UK, French and Irish farmers are all specialized in the agricultural, or even dairy, sector. Thus, a good knowledge of this sector of activity can provide greater flexibility on the part of the bank, allowing for example to adjust the repayment terms according to movements in the milk price (e.g. MilkFlex in Ireland, since 2018).

On the other hand, for more than half of the Spanish and Portuguese farmers questioned, the bank interlocutors are non-specialist advisers.

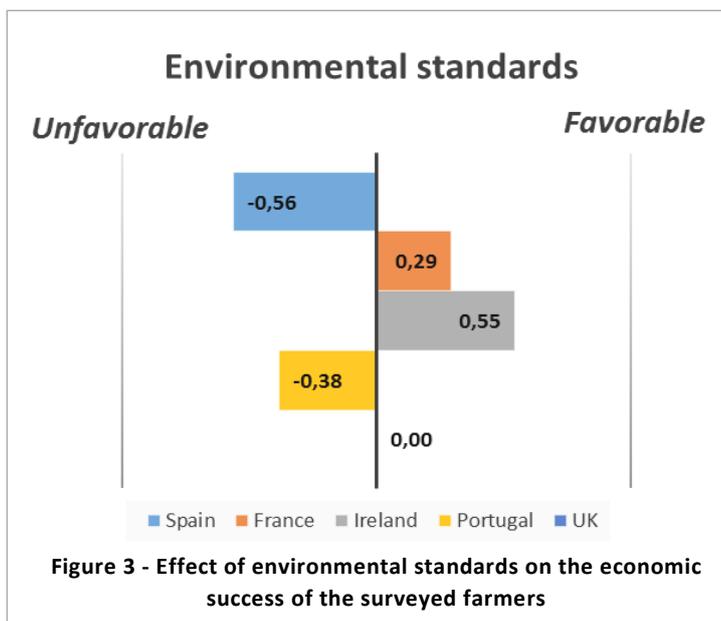
*"Bank advisers have no expertise on agricultural aspects, they only consider repayment guarantees."
Spanish farmer (Basque Country)*

Finally, nearly 1 in 2 UK farmers declare that more than 3 banks in their region would be likely to finance a dairy project, compared to 1 in 3 for the rest of the farmers surveyed. These results suggest a contrasting level of attractiveness of the dairy sector for banking organizations from one region to another.

3.3 Environmental standards

Dairy farming systems along the AA are very diverse and their level of intensification has a direct effect on the environment. Numerous legislative measures have been put in place to limit the negative externalities of dairy farming. Among them, the directive concerning the protection of waters against pollution caused by nitrates from agricultural sources (91/676/EEC) aims at ensuring the quality of water in Europe by forcing the states to respect certain measures: definition of manure application periods, setting up of minimum effluent storage capacities, etc. This directive introduces a maximum ceiling of 170 kg N/ha/year of organic nitrogen that can be spread in vulnerable zones. Some countries may derogate from this limit under defined conditions. This is notably the case of Ireland and UK, with a limit set at 250kg N/ha/year. These countries have this derogation because they have a minimum of 80% of their utilised agricultural area (UAA) in grassland, as grass is a regulator of the nitrogen cycle. This derogation allows dairy farmers to have higher stocking rate and milk production per hectare than in other regions.

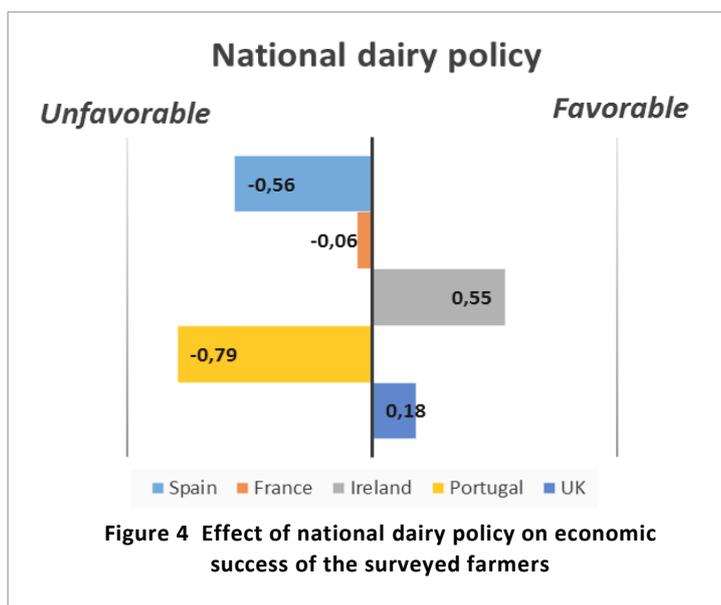
« Maintaining the nitrates derogation is critical to the profitability of dairy farming in Ireland. » Irish dairy farmer (Leinster)



Differences in livestock systems and legislation partly explain the differing responses between respondents (Figure 3). There is a high proportion of Spanish and Portuguese livestock farmers claiming that environmental standards are not favorable to the economic success of their farms. Indeed, in Galicia and the Basque Country, there is a large surplus of liquid manure that is difficult to spread locally (few areas under cultivation). The transport of manure or investments in treatment infrastructures to reduce organic pressure have a cost that affects the profitability of farms.

“The main constraints for the development of farms are above all environmental regulations [...] and the environmental impact studies to be carried out...” Portuguese dairy farmer (Ribatejo)

3.4 National dairy policy



As with environmental standards, there is a strong contrast in terms of the national policy's effect on the economic success of farmers, depending on the country of origin (Figure 4). These results highlight very different national policy strategies since the end of quotas in 2015. In particular, Ireland had set itself the target of increasing national production by 50 % in 2020, compared to the average production over the period 2009-2007 (DAAF, 2010). In 2019, this increase reached +38% (Eurostat, 2019). This expansion has been achieved thanks to a national strategy to support production: the establishment of training programs, the creation of a health

management organization (Animal Health Ireland), investments in processing plants, etc. (Kelly, 2020).

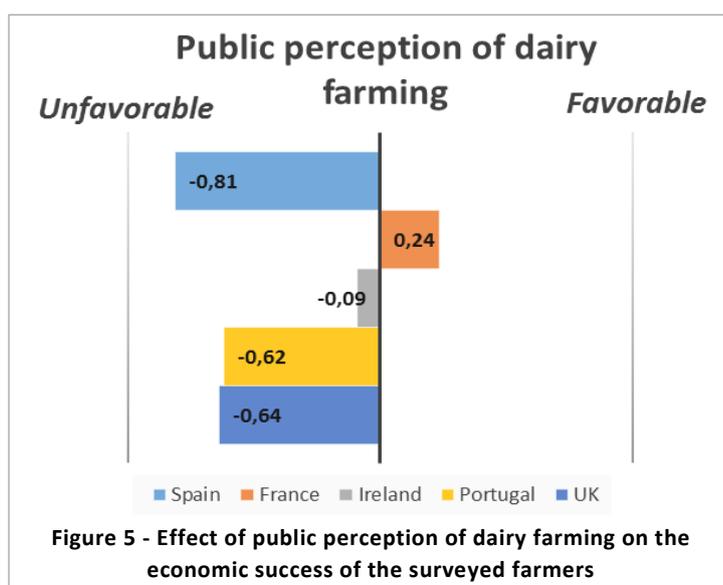
In the Azores, where all the farmers surveyed said that the regional policy is not favorable to them, the lack of basic infrastructure (milking parlour, refrigerated tank, etc.) is a major issue. Public decision-makers are aware of the problem and have allowed livestock farmers to benefit from POSEI (Program of options specifically relating to remoteness and insularity) subsidies up to 75% if they wish to invest in their production equipment.

“The moment we are going through (COVID-19 pandemic) may make us reconsider the strategic importance of national production and support for investments in this sector” Portuguese dairy farmer (Ribatejo)

In France, the Egalim law was promulgated at the end of 2018 on the balance of commercial relations in the agricultural sector. This law was the result of a broad reflection involving the actors of the sector and public decision-makers. The primary objective of this law is to increase the income of farmers through a better distribution of added value in the agri-food chain. To achieve this objective, mechanisms have been created to ensure a balance of power within the sector (creation of indicators on the production cost, supervision of promotions, etc.). Although the law has enabled the intensification of exchanges between producers, processors and distributors, the distribution of added value is still judged insufficient by a majority of dairy farmers.

“National policy will be favorable when the Egalim law will be implemented” French dairy farmer (Brittany)

3.5 Public perception

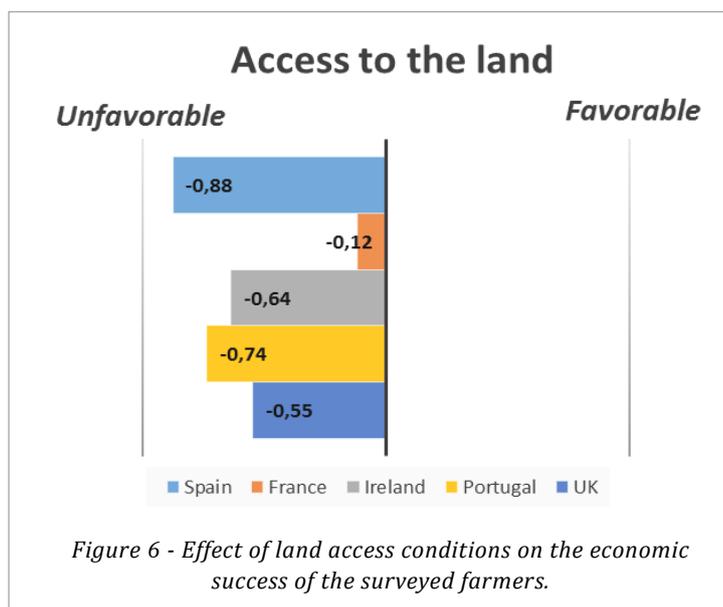


In general, the majority of the farmers surveyed report a lack of consideration of their profession by the rest of society (Figure 5). The negative externalities of livestock farming are decried in the media, while the services provided are poorly highlighted. For dairy farmers, this negative public perception of their activity has several consequences. Firstly, the impact on the demand for dairy and meat products is not insignificant and repercussions on sales prices could occur.

“Unfortunately, more and more people are switching to milk substitute drinks, largely due to the information that is circulating about the health consequences of milk.” Portuguese dairy farmer (Norte)

Then, this negative image weighs on the attractiveness of the dairy farming and the non-renewal of generations of farmers is, and will be more so in the future, a major issue for the sector. Faced with the rise in societal expectations (animal welfare, carbon footprint, use of phytosanitary products and antimicrobials, GMO-free), the dairy sector has set up several segmented chains, in which several farmers have taken part. Thus, among the farmers surveyed, 15% sell milk under a quality mark (organic milk) or within the framework of specific approaches (GMO-free, animal welfare).

3.6 Access to the land



Access to land is the external factor considered as the most unfavorable to dairy farming, according to the farmers surveyed (Figure 6). The results of the survey should be interpreted in the light of land prices observed in the different regions. While in Spain, Ireland and the United Kingdom, the price of agricultural land is between 20 and 30 thousand euros per hectare, the price of land in western France is between 4 and 8 thousand euros per hectare (Eurostat, 2018). In Azores and North Portugal, the cost of land is extremely high (between 40 and 70 thousand €/ha) and the majority of farmers rely on land rental solutions to increase their farming area.

In addition to the financial aspect, access to land also depends on the purchase opportunities. In fact, several mechanisms of access to land exist in Europe. For example, in Ireland, inheritance is the main form of agricultural land transfer, with less than 0.5% of the country's agricultural land available for sale each year (Shalloo and Kelly, 2019). In other countries, such as France, the transfer model is based on purchase, even within families. However, access to land should not be limited to ownership. The annuities linked to land investments and their impact on farmer's income encourage them to move towards other models of access to land (rental, land sharing). Disparities also exist, depending on the country, on the rate of agricultural land rental. In Ireland, only 20% of the national UAA is rented, compared with around 40% in Spain and the UK, and more than 80% in France (European Commission, 2018).

4 INITIATIVES AND PERSPECTIVES TO COPE WITH EXTERNAL FACTORS

4.1 France

External Factor	Examples of initiatives/solutions set up by dairy sector stakeholders
Public perception of dairy farming	<ul style="list-style-type: none"> • Implementation of segmented brand to satisfy the new expectations of consumers (organic, GMO-free milk, grazing), involving an increase in the milk price for farmers, e.g.: <ul style="list-style-type: none"> ➢ BEL dairy (private): +0.015€/l if non-GMO feed and +0.06€/l if >150 days of grazing. ➢ Sodiaal Cooperative "Les laitiers responsables": +0,015€/l if non-GMO food and >150 days grazing. ➢ Triballat dairy (private): +0.01 to +0.015€/l if non-GMO feed, >200 days of pasture and 0,15 hectare of grassland/VL minimum • Development of short supply chains with the establishment of on-farm dairy processing. As for the development of the AB sector, this trend is a response to the challenges of improving farmers' income and meeting societal expectations. • Supporting farmers in their projects to reduce greenhouse gas emissions with the launch of the "Low Carbon Dairy Farm" approach in 2015. More than 11,000 dairy farms in France have already chosen to engage in this approach by carrying out an environmental diagnosis on their farm. • Research program to redesign the rearing methods for calves from dairy herds and the implementation of segmented brand to enhance the value of these animals. For example : <ul style="list-style-type: none"> ➢ Charal company, Herbopack® brand: production of young steers and heifers (milk x meat crossbreeds) with feed mainly based on grazed grass.
Type of milk contract and milk price	<ul style="list-style-type: none"> • Creation of Producer Organizations (POs) since the end of quotas, as intermediaries between private farmers and processors, and whose role is to negotiate milk supply contracts. About 90 POs are active at the national level. • Creation of specific contracts for young farmers with a guaranteed minimum price or a compensation system for shortfall. For example: : <ul style="list-style-type: none"> • Dischamp dairy (private): gives young producers an additional 100,000 to 200,000 liters to produce over 3 years with a guaranteed minimum milk price over 7 years.
Availability of labour	<ul style="list-style-type: none"> • Communication campaign to improve the attractiveness of the dairy farming profession • Development of employers' groups to share one or more employees among adherents (farmers)
Increase of agricultural equipment price (machinery, buildings)	<ul style="list-style-type: none"> • Creation of new Cooperatives for the Use of Agricultural Equipment (CUMA) every year. In France, there are about 11,700 of them and almost one farmer in two is a member of a CUMA. This sharing of equipment is a real opportunity to reduce the mechanization costs in farming. • Regional subsidies for investments in adapting buildings to climate change (windbreak nets, building insulation, ventilators and water sprayers).
Increase of concentrate prices	<ul style="list-style-type: none"> • Supporting farmers in towards greater protein autonomy thanks to Cap'Proteines project, funded by the government. • Public subsidies (PCAE) for investments aimed at increasing food autonomy (access paths to pasture, storage building, etc.). • EU coupled subsidies for the production of vegetal proteins in order to improve the protein autonomy of livestock farms.

4.2 Ireland

External Factor	Examples of initiatives/solutions set up by dairy sector stakeholders
Milk price volatility	<ul style="list-style-type: none"> • Dairy co-operatives started offering fixed milk price contracts in 2010. Fixed price contracts have worked well for farmers. The weighted average of specialist dairy farms in the NFS having forward sold milk in 2016 was found to be 37%. Effect on profitability changes from year to year depending on the fixed price contracts offered by the different co-ops, however, data from 2016 showed that Irish farmers would have been 1 cent better off with adoption of a fixed price contract. • Encouragement of low-cost production systems, i.e. high proportion of grazing. Adoption of a system with low running costs allows for a more resilient business, securing an income despite periods of low milk prices. • Finance Ireland Agri launched MilkFlex as a national product, available through participating Cooperatives with the key feature being that it has built-in ‘flex triggers’ that can adjust loan repayments in line with movements in milk price, thereby providing farmers with cash flow relief when needed.
Public perception of dairy farming	<ul style="list-style-type: none"> • Origin Green is the Bord Bia sustainability programme that operates on a national scale to implement sustainability measures right through from producers to manufacturers and retailers. To be apart of Origin Green, farmers must comply with the Sustainable Dairy Assurance Scheme (SDAS). Farmers are checked for compliance with strict welfare and environmental criteria. E.g.: <ul style="list-style-type: none"> ◦ Glanbia, one of Ireland’s major dairy cooperatives have offered a 0.20c/L (including VAT at 3.6% butterfat and 3.3% protein) biodiversity payment. • Carbery group, owned by four West Cork cooperatives, have launched a project with the aim of developing a climate neutral dairy farm called Shinagh. They will be looking at greenhouse gas emissions, but also water quality, biodiversity, renewable energy and soil carbon sequestration.
Availability of labour	<ul style="list-style-type: none"> • Teagasc released the Farm Labour manual. A manual to assist farmers currently employing, or thinking about employing, a labour unit for the first time. Dairy farms in Ireland have historically only been worked by family members, passed down through the generations. Since the expansion, the lack of knowledge has been highlighted as farmers that typically worked alone or with family members, must learn how to be employers. The material and workshops provided by Teagasc and co-operatives helps to educate farmers on employer responsibilities. • Lakeland Dairies/Teagasc Joint Programme: Working smarter not harder. A guide to cope with the dairy expansion. • People in Dairy Action Plan. Stemming from Food Wise, this action plan has been formed by government and dairy sector representatives to ensure Irish dairying reaches its full potential and delivers a rewarding career to both dairy farmers and farm employees. It will also serve a further very useful and important role in helping to make dairy farms safer places to work. The Dairy Action plan has outlined a number of initiatives such as Dairy Step Up, targeting people wanting a career in farming with farmers looking for a successor, a media campaign to promote a career in farming, improved farmer HR skills. These actions will help promote a healthy dairy sector that can support Ireland’s dairy expansion.

4.3 United Kingdom

External Factor	Examples of initiatives/solutions set up by dairy sector stakeholders
Increase of feed cost and agricultural equipment price (machinery, buildings)	<ul style="list-style-type: none"> • Buying groups of farmers: buy in higher quantities to get discounts, aim to buy at a lower price than average • Machinery rings to share machinery equipment and services (electricity contracts, fuels) . Some of these rings also work as a buying group. • Contractor use on farm: farmers have access up-to-date equipment without the buying costs and can negotiate price and terms e.g. for silaging. • Grow own cereals: Maintain profit levels by growing feeds. Remove the risk of overbuying feeds when the price is good by growing own. • Developing suitable rations which are low cost, low emissions and environmentally friendly, whilst maintaining production levels e.g. replacing soya.
Milk price volatility	<ul style="list-style-type: none"> • Development of more stable contracts e.g.: <ul style="list-style-type: none"> ➢ Aligned contracts: milk price is based on cost of production – stability of supply keeping farmers in business ➢ Additional price over retail milk prices (usually 1p/litre), which is increased when the retail price drops below a defined level and is decreased when the retail price rises. ➢ Fixed milk price contract : <ul style="list-style-type: none"> ○ Dale Farm Dairy Cooperative: introduction of two fixed milk price schemes since January 2018. The first Dale Farm fixed milk price scheme came in to operation from January 2018 and runs to Dec 2020. A second scheme started in January 2019 and runs to December 2021. Cooperative members have the opportunity to fix a proportion (10 to 60% of lowest monthly production, Scheme 1; or up to 15% of annual supply, Scheme 2) of their milk supply at a fixed price for 3 years. Approximately 40% of the Dale Farm membership have taken up the fixed milk price schemes to some extent. A new fixed price scheme was launched to replace the first completed scheme and has attracted interest from a much higher proportion of the cooperative supply base. • Use of direct selling to consumers by farmers and processors through vending machines or doorstep sales – higher retail price and good engagement with consumers. • Production of specialized milk products, e.g. barista milk or cheese, which can demand a higher retail price and allows access to a different retail market.
Public perception of dairy farming	<ul style="list-style-type: none"> • Implementation of segmented brand to satisfy the new expectations of consumers e.g.: <ul style="list-style-type: none"> ➢ Free range milk – pasture promise: Members have to follow specific standards and are paid a higher milk price ➢ Arla: 1ppl premium available to those farmers who commit to improve herd standards ➢ Organic milk ➢ High protein milk etc. ➢ Regionally sourced milk • Adoption of Red Tractor Quality Assurance Standard established in 2000 in UK <ul style="list-style-type: none"> ➢ Lakeland Dairies Group: Decision taken by Republic of Ireland milk processor Lakeland Dairies to adopt the Red Tractor Quality Assurance Standard for milk supplies from N. Ireland. A 0.5 ppl penalty is to be imposed from Sep 2020 on milk supplied by farmers not accredited by Red Tractor.

	<ul style="list-style-type: none"> • Education – school outreach and farm visits e.g. RHET (Royal Highland Education Trust), Nuffield (scholarship for scientific related research), LEAF (Linking Environment and Farming), SAFYC (Scottish Association of Young Farmers Clubs) • Local and national agricultural shows (e.g.: Royal Highland Show) • Farmer Led Groups (e.g. Climate change, Scottish government, 2020)
<p>Food safety</p>	<ul style="list-style-type: none"> • A risk based surveillance program was established in March 2015, involving a network of companies screening feed and feed materials for the principle contaminants - including mycotoxins, heavy metals, dioxins and pesticides. Results are shared between members and with the Department of Agriculture, Food and Rural Affairs (DAERA) and the Food Standards Agency (FSA). The scheme covers all compound feed marketed in Northern Ireland and is reviewed regularly in terms of its operation and risk assessments by The Queen’s University Belfast. This program ensures protection against potential milk price shocks caused by feed contamination incidents and reassurance to existing and prospective dairy product customers of the quality standards applied in N. Ireland to ensure food safety and integrity. • Farm level – Assurance schemes and standards, reduction of antibiotic use on farm, improved animal health, product testing (from farm to processor).

4.4 Spain

External Factor	Examples of initiatives/solutions set up by dairy sector stakeholders
Milk price volatility	<ul style="list-style-type: none"> • Several cooperatives for milk collection maintain a stable price for associated farmers. • Farmers increased the own milk transformation in farms • In most of contracts milk price is flat for the whole period, this trigger too rigid market either for farmer or industry
Public perception of dairy farming	<ul style="list-style-type: none"> • Milk promotion events with social repercussion • Promotion of healthy milk components: LCA, A2A2 • Welfare certificates development • Best practices promotion from industries referring to local production of milk and milk products.
Generational relay	<ul style="list-style-type: none"> • Young farmers insertion programs • Financial incentives for those giving up their farms and incorporating young farmers on them • Creation of “Bank of dairy farms” were farms where people going on retirement can publish their facilities
Environmental standards	<ul style="list-style-type: none"> • Government: <ul style="list-style-type: none"> ➢ Creation of a collective flexible bag where slurry is carried by some farmers and crop farmers take it for their crops ➢ Slurry treatment under study in high intensification dairy area ➢ Surplus slurry collection service by a company that applies it on agricultural land • Farmers: <ul style="list-style-type: none"> ➢ Installation of solid-liquid separation equipment in different farms ➢ Use of manure windrows ➢ Individual initiative by a farmer to rent his slurry hose equipment
Access to innovation	<ul style="list-style-type: none"> • A new technological centre to be run by Leartiker aims to become a benchmark in the dairy sector in the Basque Country, promoting collaboration between the sector's agents and offering advanced technical advice, specialized training, development of innovation projects and other services based on food safety.
Funding	<ul style="list-style-type: none"> • National and regional subsidies for projects in the rural area • National subsidies for equipment investment in agriculture

4.5 Portugal

Specific initiatives/solutions related exclusively to Acores region are listed in *italics*.

External Factor	Examples of initiatives/solutions set up by dairy sector stakeholders
Low milk price and decrease of milk consumption	<ul style="list-style-type: none"> • Focus less on the total amount of milk produced and give more relevance to the milk quality and milk brand (milk from grass or organic milk) in order to increase farm rentability. • Farmers increase efficiency using better the available resources with support of farmers associations. • Increasing own milk processing at the farms level and creation of innovative dairy products for specific niche markets.
Increase of input prices	<ul style="list-style-type: none"> • Farmers to respond to this factor, use more and more maize silage. For this, they have the technical support from the cooperatives to improve their forage production, using soil analysis and respective correction, • Farmers also use genetic improvement and food management of the herds, so that they can be less dependent on external factors.
Consumer demands for environmental friendly products	<ul style="list-style-type: none"> • More efficient use of natural resources (water, soil) with greater respect for the environment. • Use of slow-release fertilizers. • Increased production efficiency with lower inputs, using research in the areas of genetic improvement (e.g. conversion index), increased biodiversity of pastures and digestibility of animal feed. • Promotion of collective manure treatment solutions and the transfer of derived organic fertilizers for other agricultural activities lacking in organic matter. • Implementation of farm certification mechanisms for animal welfare and environmental sustainability with requirements at levels above national legislation • <i>Promote milk production based on grazing.</i>
Increase of agricultural equipment price (machinery, buildings)	<ul style="list-style-type: none"> • <i>POSEI subsidies up to 75% to farmers willing to invest their infrastructures and Bel help with a money advance to farmers so that they can make their investments in infrastructure</i>
Lack of infrastructure	<ul style="list-style-type: none"> • <i>Government is building and improving the rural roads, increasing the distribution of electricity in farms and creating\improving water reservoir for summer months</i>
Access to the land and speculation on land price	<ul style="list-style-type: none"> • <i>Aid to buy land next to farm zone and promote soil plant exchange between farmers to create larger plot</i>
Increase of the farm size and decrease of the number of farms	<ul style="list-style-type: none"> • <i>Link subsidies to grassland area (as in Ireland) rather than to the milk production or herd size</i> • Support small and medium farm to minimize the need of acquiring more land to create large farms • <i>Highlight the problems associated to large dairy farms in the Azorian context</i>

5 CONCLUSION

Dairy farmers face many changes in the external environment, which impact the profitability of their farms. Difficulties of access to land, the increase of agricultural equipment prices and the rise in societal expectations affect the economic success of farms, according to the surveyed dairy producers.

Farmers must therefore continually adapt to these changes. This adaptation is a question of internal issues within the farms (e.g. changes in farming practices), but also of relations between actors in the sector.

This is why many measures have been taken by the stakeholders to support dairy farmers. These are mainly initiatives related to the nature of the dairy contract and the milk price. For example, in Ireland and the UK, contracts with guaranteed milk prices or covering production costs have largely developed, while in France, Spain and Portugal they are still difficult to be deployed.

Finally, the low availability of labour and the lack of social recognition of livestock farming were also highlighted by D4F farmers. Therefore, these results show the real requirement for initiatives to improve the attractiveness of the dairy farming profession.

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ANNEXE 1 – CLASSIFICATION OF EXTERNAL FACTORS ACCORDING TO D4F PILOT FARMERS

Results to the question :

Are the following factors favorable or unfavorable to the economic success of your dairy operation?

Surveyed farmers had 3 options of answers : Favorable (+1 point), Unfavorable (-1 point), No answer (0 point)

