

**Note on the Economic Implications of Pillar I CAP Reform
Implementation**

(including BISS, Eco scheme and CRISS)

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December 2022

Executive Summary

Economic Implications of CAP Reform Implementation Option Outlined in the CAP Strategic Plan

- This report examines the impact on the distribution of Pillar I direct payment income supports, family farm income and agricultural output of a defined CAP reform implementation option, agreed with DAFM officials, using data from the Teagasc National Farm Survey (NFS).
- The implementation is based on the CAP Strategic Plan for Ireland submitted to the European Commission.
- The analysis is based on an average BISS payment of €156.18 per ha by 2026, an eco payment of €77 per hectare and a CRISS payment of €43 on the first 30 hectares.
- A decision to implement a convergence strategy for Pillar I payments in this CAP reform implies reduced levels of income support for some cohorts of the population, whilst providing additional levels of income support to other cohorts. However, for most farmers the change in income support received and in family farm income that would be experienced is relatively small.
- In the CAP reform scenario, the majority of dairy farms are worse off than they were in 2019.
- Only a very small proportion of specialist tillage farms gain in terms of direct income support receipts or family farm income under the CAP reform scenario relative to the 2019 position. However, in contrast to the implications of the scenario for dairy farm incomes, a considerable proportion of specialist tillage farms would experience negative income effects of 10 percent or more under the CAP reform scenario.
- Unlike dairy and tillage, the implications for specialist sheep farms is more mixed when the proportion of sheep farms represented by those in income gain and loss categories is examined. Slightly over 50 percent of specialist sheep farms represented by the Teagasc NFS would gain in terms of change in family farm income under the CAP reform scenario relative to 2019.
- It is interesting to note that the pattern of income gains and losses is different for the two specialist cattle systems. The proportion of farms losing in terms of changes in family farm income under the reform scenario is greater for cattle other (mainly finishers) farms than it is for cattle rearing farms, where a slightly greater proportion of the farms represented by the NFS see gains in income due to the CAP reform .
- In a separate analysis of low output farms, which are defined as ‘small’ farms in the context of the Teagasc NFS (farms with less than €8,000 of Standard Output), a greater number of such ‘small’ farms gain in income rather than lose under the reform scenario relative to income in the status quo.
- Focusing on the proportion of output produced by gaining and losing farms, the value of output produced by farms gaining under the reform analysed is less than the value of output produced by the farms experiencing losses in income as a result of the CAP reform analysed. The implication is that farmers who benefit tend to produce less agricultural output.
- The analysis suggests that there will not be significant increase in the numbers of farms that are found to be economically viable. This is because the change in incomes that result from the CAP reform scenario are in general small relative to the scale of the income changes that would be required to shift farms from being economically unviable to economically viable.

1. Introduction

The analysis outlined in this report examines the impact on the distribution of Pillar I direct payment income supports, family farm income and agricultural output of a defined CAP reform implementation option, agreed with DAFM officials, using the Teagasc National Farm Survey (NFS). The implementation is based on the CAP Strategic Plan for Ireland submitted to the European Commission in December 2021.

Ireland's National Strategic Plan includes:

BISS: a ring-fenced percentage of the direct payments ceiling to be paid as a Basic Income Support for Sustainability (BISS)

Eco Schemes: there is an allocation of 25% of the direct payments ceiling to eco-schemes, reflecting the strong environmental ambition contained in the CAP programme.

CRISS: redistribution of funds by front loading of Direct Payments through Complementary Redistributive Income Support for Sustainability (CRISS)

Capping: further continuation of capping of payments

Internal convergence: continuing convergence of payment entitlement values.

National Reserve: A minimum ring-fenced sum for generational renewal (3%) which can be met through a combination of Pillar I and Pillar II measures is also included in the Strategic Plan.

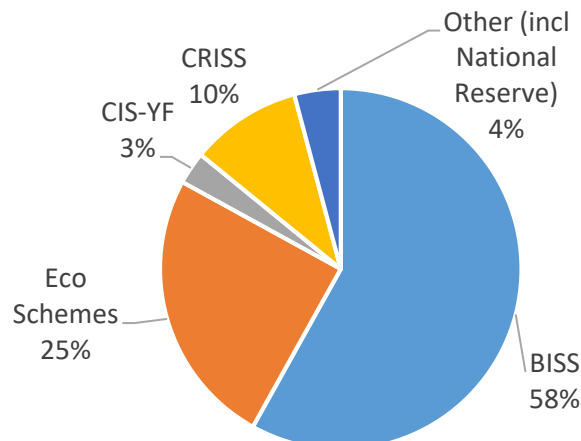
A summary of the main features of the CAP Strategic Plan are outlined in the following text box.

CAP Reform 2023-2027

Ireland Pillar 1: Key Features in National Strategic Plan

- Overall Pillar I CAP budget for Irish farmers (€1.186 billion p.a.)
- *Basic Income Support for Sustainability (BISS)*
 - Pillar I budget allocation €728m p.a.
 - 3% of which is withheld for a National Reserve
 - Replaces the *Basic Payment Scheme* from the previous CAP round
 - Further convergence in distribution of this payment occurs
 - Convergence towards 85% of the average by 2026
 - Implies an average BISS payment of €156.18 per ha by 2026
 - A minimum BISS payment of €93.71 per ha
- *Voluntary Eco-Scheme*
 - Pillar I budget allocation of €297m p.a.
 - Accounting for 25% of Pillar 1 budget
 - To be paid on a flat rate basis to qualifying farmers
 - Payment amount per hectare will depend on how many farmers apply
- *Complementary Income Support for Young Farmers (CIS-YF)*
 - Pillar I budget allocation around €35m p.a.
 - For farmers aged <40yrs
 - Support payment for up to 50 ha of land @ €196 per ha in 2023
- *Complementary Redistributive Income Support for Sustainability (CRISS)*
 - Pillar I budget allocation about €118.6m p.a.
 - First 30 hectares are eligible @ €43 per hectare
 - Farms larger than 30 hectares get this payment for the first 30 hectares only

Proposed decomposition of Pillar I Budget for Ireland



The Teagasc NFS is an annual representative survey of Irish farmers which is used to collect and report official statistics on farm level agricultural output, costs and income and provides the Irish element of the EU Farm Accountancy Data Network's dataset. The Teagasc NFS sample is a stratified random sample of the Irish agricultural farm population and its sampling frame is designed to be representative of 97% of Irish agricultural production. Full details of the 2019 Teagasc NFS sample can be found in the appendices of the 2019 Teagasc NFS report (Donnellan et al., 2020).

Given that the Teagasc NFS sampling frame is narrower than the full population of Irish farms that are eligible for direct income supports under the CAP (very small farms are excluded from the annual Teagasc NFS), it cannot be used to derive the per hectare and per unit of agricultural activity payment levels associated with different CAP reform implementation options. Hence, prior modelling carried out by the Department of Agriculture, Food and the Marine (DAFM), using the full population of Irish farmers that claimed Basic Payment Scheme (BPS) payments based on 2021 entitlements was used to inform the average BPS unit values. The approach taken follows the approach used in modelling the implications of the 2013 reform of the CAP that is described by McPhillips and Hanrahan (2012). These values were required to model alternative convergence payments options as proposed by the European Commission and/or the European Parliament as part of the CAP reform negotiation process.

The key advantage of using the Teagasc NFS to conduct the analysis of different CAP payment distribution options presented in this report is the capacity of NFS based analysis to provide microeconomic information on

- family farm income (FFI),
- agricultural output and
- economic viability.

While the BPS database can be used to relate BPS payments to standardised output levels for each farm based on administrative data, the absence in the BPS database of farm level cost of production information (such as that contained in the Teagasc NFS) means that it cannot provide information on how the redistribution of support would affect farm income, nor can the BPS database provide insights on the potential output impacts of alternative CAP reform policy implementation choices.

The remainder of this report is structured as follows: Section 2 defines the CAP reform implementation scenario analysed, along with model output from the results of the analysis undertaken by DAFM using its BPS dataset. Section 3 outlines the analysis undertaken using the Teagasc NFS dataset and the results obtained from this analysis are presented. Section 4 summarises the research findings and provides some conclusions.

2. CAP Reform implementation scenarios analysed

In the CAP Reform process, there were a wide range of potential implementation options available to Ireland (and other Member States) relating to the Direct Payments regulation. Teagasc has not attempted to analyse all of the possible CAP reform implementation options here, rather a series of analytical exercises were carried out during the course of 2021 and 2022, which are outlined below:

- In June 2021, three separate scenarios, specified by DAFM, were examined, each relating to different convergence models, differing levels of support for young farmers (CISYF) and

different allocations of fund to the Eco scheme. These three scenarios were considered most relevant at the time of analysis¹;

- Following the analysis carried out in June 2021, there was political agreement at an EU level regarding some elements of how the future CAP would be implemented. In particular, it was agreed that a redistributive payment scheme (Complementary Redistributive Income Support for Sustainability, CRISS) would be mandatory in the next CAP implementation. Hence, an additional two scenarios were analysed to determine the impact of the addition of the CRISS payment, in addition to alternative BISS and eco rates, to farm incomes, output and viability. The results of these two additional scenarios were examined in November 2021².
- **Finally, one specific scenario was included in the CAP Strategic Plan submitted to the European Commission in December 2021 and the outcome of this scenario was examined and reported here in this document.**

In the scenario analysed in this report, the DAFM internal convergence model is used to determine the farm level payment under the Basic Income Support for Sustainability (BISS), which replaces the current BPS. In addition, the implementation of the Pillar I Eco Scheme occurs on a flat rate basis. This means that a farmer's eco payment per hectare in the CAP reform process will not be paid in direct proportion to their BPS payment per hectare, which was the case in relation to the Greening payment (CAP 2014-2021) which was not paid as a flat rate payment. However, the new BISS payment will be proportionate to the existing BPS and Greening payment combined. The proportionality factor applied to all farms will be equal to the ratio of the budgetary ceiling allocated to the BISS and the total Pillar I national budgetary ceiling available. A redistributive payment in the form of a CRISS payment is also included in this analysis.

A description of the scenario examined is presented in the text box below³.

Scenario Descriptions

STRATEGIC PLAN:

- Eco scheme is set at 25%;
- CISOYF is set at 3%;
- CRISS is set at 10%;
- Convergence is set at 85%.

Under this scenario the share of the national direct payment ceiling that is allocated via the Basic Income Support for Sustainability (BISS) is maximised. The average BISS payment in 2023 in this scenario is €156.18 per hectare and the average Eco scheme payment is €77 per hectare.

In scenario analysed, the internal convergence model uses a minimum payment level per hectare for 2026 (the final year for the internal convergence process) equal to 85% of the average BISS payment level per hectare. In the STRATEGIC PLAN scenario, farmers with initial payment values of between

¹ The three scenarios examined in June 2021 were based on assumptions relating to European Commission documentation relating CAP post 2020 reform options (European Commission 2018a, European Commission, 2018b, European Commission 2018c).

² The two scenarios examined in November 2021 were based on the DAFM scenarios specified in the modelling exercise document in DAFM (2021b).

³ A title of STRATEGIC PLAN is specified in this document, to reflect that the scenario examined is based on the details of the CAP Strategic Plan for Ireland submitted to the European Commission in December 2021.

90% and 100% of the average BISS payment level would see no change in the level of their BISS payment under the internal convergence process. Farmers with initial payment values less than 90% of the average BISS payment level would see the level of their BISS payment increase over the period to 2026, while farmers with an initial payment (BPS and Greening) levels per hectare in excess of the average level would see their BISS payments per hectare decline over the period to 2026. In the STRATEGIC PLAN scenario, convergence is set to at least 85% of BISS national average payment entitlement unit value by 2026.

In the scenario analysis presented below, we look at the income support distribution, family farm income impacts, economic viability impacts and potential agricultural output impacts using the financial ceilings for 2026 that were detailed by DAFM (2021). This means that a deduction of 3% of the ceiling to fund the National Reserve (NR) and a discrete amount allocated to coupled support are both factored into the analysis for the purpose of the BISS payment levels.

The scenario analysed along with the budgetary allocations used in the scenario are summarised in Table 1. In the STRATEGIC PLAN scenario coupled support is set at a discrete amount of €7 million per annum and the NR is set at 5% of the BISS ceiling.

Table 1: Budgetary allocations associated with STRATEGIC PLAN scenario analysed

	STRATEGIC PLAN
National Ceiling (Based Draft Reg)	€1,186bn
CISYF (3%)	€35m
Coupled Income Support	€7m
Eco Scheme (25%)	€297m
CRISS	€118.6m
BISS Ceiling	€728m
National Reserve (3% BISS Ceiling)	€35m
BISS after National Reserve	€693m
Convergence by 2026	85%
Max Unit Value applied 2026	€285 per ha

Source: DAFM, direct communication September 2021

For the scenario analysed, the BPS database was used by DAFM to derive the average BISS payment level. This reflected the 2021 entitlements associated with the full population of farms in the database, the total receipts on each of these farms under the BPS (and Greening), and the direct payment ceiling available to the BISS in 2026. These average BISS and eco scheme payment level per hectare and the associated 60% minimum payment level as well as the 90% threshold used in the application of the internal convergence model in the STRATEGIC PLAN scenario are reported in Table 2.

Table 2: CAP Reform Implementation Scenario Subsidy Rates (Reference year 2026 versus 2019)

STRATEGIC PLAN	
Deduction co-efficient to arrive at BISS ceiling	.58
National average BISS payment per ha (2026)	€156.18
National Minimum Payment (% rate)	60%
Target percentage relative to average (i.e. 90%)	90%
% increased (33.3% of difference)	33.3%
% reduction co-efficient required to fund convergence	50%
Limit for top-up € per ha	140.56
Min payment € per ha	93.71
Convergence rate	132.75

Source: DAFM, direct communication January 2022 and Authors' own calculations

Table 2 also reports the coefficients used to determine the magnitude of the reduction in the BISS for 'losing' farmers that arises from the internal convergence process. This coefficient is based on the amount of funds that are required to finance the increases in payments that arise from the convergence process for 'gaining' farmers.

3. CAP Reform scenario analysis using the Teagasc NFS database

In Section 2 the information required to simulate the static impact of the scenario using data on farms within the Teagasc NFS was presented. In this section the impact of the scenario is reported.

Teagasc NFS data from 2019 are the main source of data used in this analysis. In 2019 the Teagasc NFS surveyed a representative sample of 878 farms representing a farm population of 92,190 farms. Very small farms, those with a standard farm output of less than €8,000 are excluded from the annual NFS sampling frame. There are over 40,000 of these so called 'small farms' which are not represented in the NFS, but which would be included in the DAFM BPS. While the exclusion of over 40,000 farms might seem considerable, it has to be borne in mind that these farms are very small; collectively they produce less than 3% of total agricultural output, represented by the Teagasc, NFS. However, to ensure the accuracy of the analysis conducted using the NFS database, the DAFM BPS database has been used when required to provide necessary data, such as average, minimum and maximum payment levels for the purpose of convergence.

Although the Teagasc NFS excludes a cohort of the farm population, for the purposes of analysis of the implications of the scenarios, it does offer considerable advantages over the DAFM BPS database. The Teagasc NFS produces a full financial record for all farms and thus it is possible to ascertain the importance of the Pillar I income support subsidies to overall family farm income, to calculate the profitability of production on the farm, the level of output generated by the farm, as well as generating an indicator of economic viability for each farm. Using the Teagasc NFS data, the impact of the CAP reform implementation scenario on farm income can be simulated and information on the level of output generated by farms whose payments increase or decrease under the different CAP reform implementation options can be analysed.

However, it should be noted that the results from the Teagasc NFS analysis are likely to underestimate the number of farmers whose payments would increase under the convergence models, as the majority of the 40,000 small farms that are excluded from the Teagasc NFS sampling frame are most likely to see their payments increase. It is also important to note that the Teagasc NFS represents 97 percent of farm output (of the systems represented by the Teagasc, NFS), this means that results relating to the potential impact of a given policy choice on agricultural output are representative for the sector as a whole.

3.1 Methodology

The income analysis conducted using the Teagasc NFS is a static analysis.⁴ Hence, while the value of the Pillar I subsidies received under the different payment schemes within the CAP reform implementation scenario on each farm changes relative to the status quo, all other components of farm income (i.e. output produced, inputs used and markets prices paid and received) are assumed to remain unchanged. Therefore, the analysis does not allow for any market effects that may occur as a result of the policy scenario, nor does it account for any changes in production plans or structural changes that farmers may make as a result of the changing CAP reform implementation scenario analysed. Of course were farmers to make changes to their production levels that would also have implications for their input requirements.

If farmers view decoupled payments as being de facto coupled to production, then it follows that a loss in support would be expected to have negative consequences for production levels and the opposite also holds true, with a gain in decoupled support possibly having a positive consequence for production levels from that cohort of farms. In order to estimate the amount of output that may be “at risk” due to a reduction in farm income, the proportion of output that is generated by farmers that experience a payment increase or decrease under the scenario is presented.

Output measures are arrived at by aggregating the total value of output of various products on all farms. For example, the value of beef output on specialist cattle and also on non-specialist farms is estimated.

3.2 Results of Analysis Using the Teagasc National Farm Survey

The simulated effect on FFI at a farm level reported, as a result of the CAP reform scenario, will depend on (i) an individual farm’s starting position in terms of its level of BPS and Greening payment per hectare, since this determines whether the farmer under the convergence process sees an increase or decrease in its BISS payment per hectare and (ii) the overall importance of Pillar I direct income subsidies in the farm’s overall FFI.

The impact of various CAP reform implementation scenarios on FFI will, to a large extent, depend on the importance of the BPS and Greening payment to overall FFI. As can be seen in Figure 1, the existing importance on average of the combined BPS and Greening supports to farm income varies

⁴ As explained in the text the main body of data used in the analysis is the Teagasc NFS, which excludes farms with a standard farm output of less than €8,000. Whilst these so called ‘small farms’ are not included in the annual survey, a special survey of these farms was conducted in 2015. A separate analysis of this data from 2015 was carried out to examine the impact of the three CAP scenarios on family farm income (FFI), agricultural output and economic viability and presented in Appendix I. This analysis must be interpreted with prior knowledge that these farms represent less than 3% of total agricultural output.

substantially across farm systems. In general, specialist dairy farms tend to have a lower reliance on direct payment support as a source of FFI compared to the other farm systems, while specialist cattle systems (Cattle Rearing and Cattle Other) tend to be the most reliant on direct income support.

The reliance of FFI on Pillar I subsidies varies year on year depending on the market return to production. It was necessary to select one historical year on which to base the simulation of CAP reform options, with 2019 being the year chosen. Considering the variability in farm incomes across systems in recent years, 2019 appears to be the most representative of a normal year for the majority of farmers. In 2019 the combined BPS and Greening payments accounted for 25 percent of FFI on specialist dairy farms, as compared to 86 percent on cattle rearing farms, 79 percent on cattle other farms and 78 percent on sheep farms. Thus, other things being equal, a 10 percent reduction in the combined BPS and Greening payments received by specialist dairy farms would reduce FFI by 7 percent, but the same 10 percent reduction in these supports would lead to approximately a 25 percent reduction in FFI on Cattle farms.

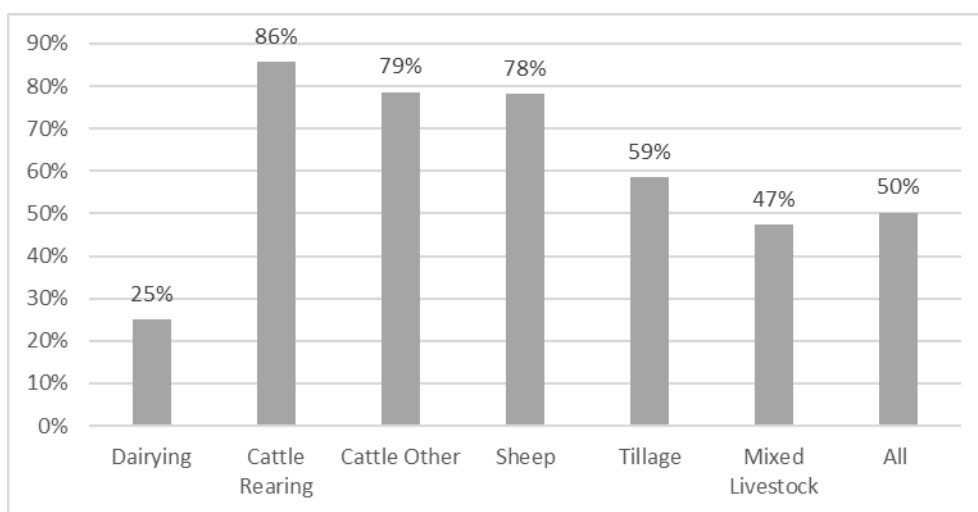


Figure 1: The Importance of the BPS and Greening Payments to Farm Income in 2019 by Farm System

Source: Teagasc National Farm Survey 2019

Figure 2 shows the average family farm income (FFI) across all farms in the Teagasc NFS in 2019, along with the simulated average income under the CAP reform implementation scenario. Across all sizes and systems of the 92,190 farms represented in the NFS in 2019, the average family farm income was €23,576. As can be seen, relative to 2019, average FFI falls under the modelled scenario. Income is approximately 3 percent lower in the STRATEGIC PLAN scenario relative to 2019.

This reduction in income relative to 2019 is due to two factors. The first is the reduction in the size of the Pillar I direct payments financial ceiling required to fund the CIS-YF, the BISS national reserve and the coupled payments. The second reason why the Teagasc NFS analysis shows family farm income would be lower under the STRATEGIC PLAN scenario is due to the nature of the Teagasc NFS sampling frame. The sampling frame used in the NFS excludes many farms of small economic size (less than €8,000 standard output) that would gain under the internal convergence process. It should be noted that whilst income levels do not fall dramatically between the Status Quo and the scenario, the nature of the convergence and CRISS implementation process means that payments will be redistributed from larger and higher income farms to smaller and lower income farms.

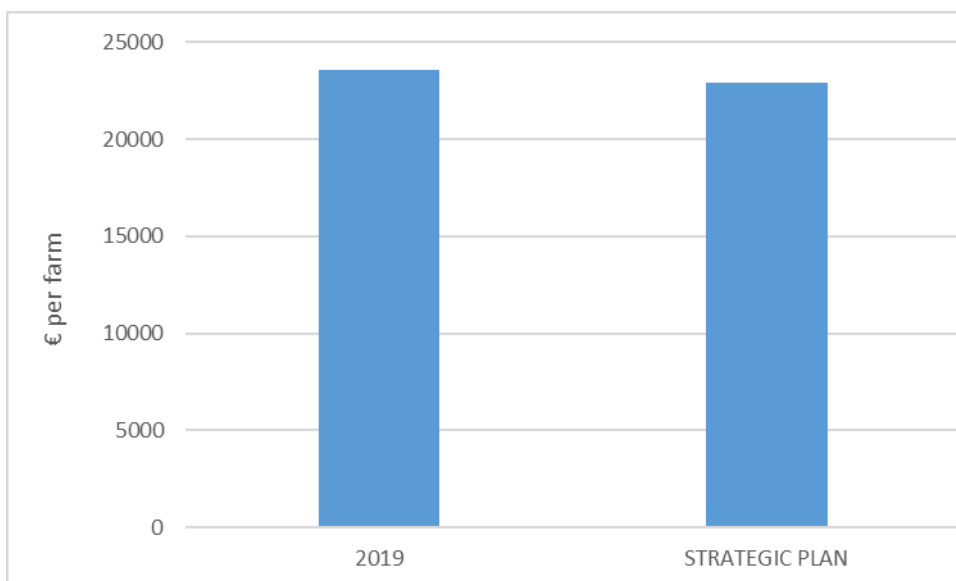


Figure 2: Average Family Farm Income for All Farms in 2019 and under the STRATEGIC PLAN CAP Reform Scenario

Source: Teagasc National Farm Survey 2019 and authors own analysis

The absolute impact of the CAP reform implementation scenario on average income levels are highest on specialist tillage and dairy farms, with tillage farms incurring the largest reductions in monetary terms, with dairy farms in close second place. By contrast, specialist sheep farms and cattle rearing farms on average experience a slight increase in income.

The implications of the CAP reform scenario for income on cattle farms differs depending on whether cattle rearing or cattle other farms are examined. In the scenario cattle rearing farms on average experience a slight increase in income, whilst on cattle other farms, on average, income would decline by 8 per cent, but the absolute loss of income is less than that occurring on the average tillage or dairy farm.

The findings indicate that losses in the BISS payment from application of the internal convergence model (and the CRISS and eco payments) in the scenario are on average not sufficient to offset any effects from external convergence (the reduction in Ireland's national Pillar I budgetary ceiling to address differences in the average level of support available across the EU MS) and the negative impact of the reductions in the budget ceiling associated with the deduction required to fund the BISS national reserve, coupled payments and young farmer payments⁵.

It should be noted that the data displayed in Figure 3 are system averages and conceal the considerable income variation that exists within each of these Teagasc NFS farm systems. The variable impact of the scenario within the individual farm systems is discussed in more detail in the ensuing

⁵ Internal convergence is a provision in the CAP programme to redistribute funds between farmers within a country; those with higher value entitlements see a reduction in payments while those with lower value entitlements see an increase in payments.

External convergence seeks to improve the performance of the CAP through the reduction in disparities of the level of direct payments between Member States to obtain a more balanced distribution of direct payments. The national ceiling for Member States where the average payment per hectare is below the EU average is gradually increased, while the national ceiling of those Member States above the EU average is adjusted downwards.

sections of the report. Likewise, the value of output that is generated by losing and gaining farms is presented and discussed for each system.

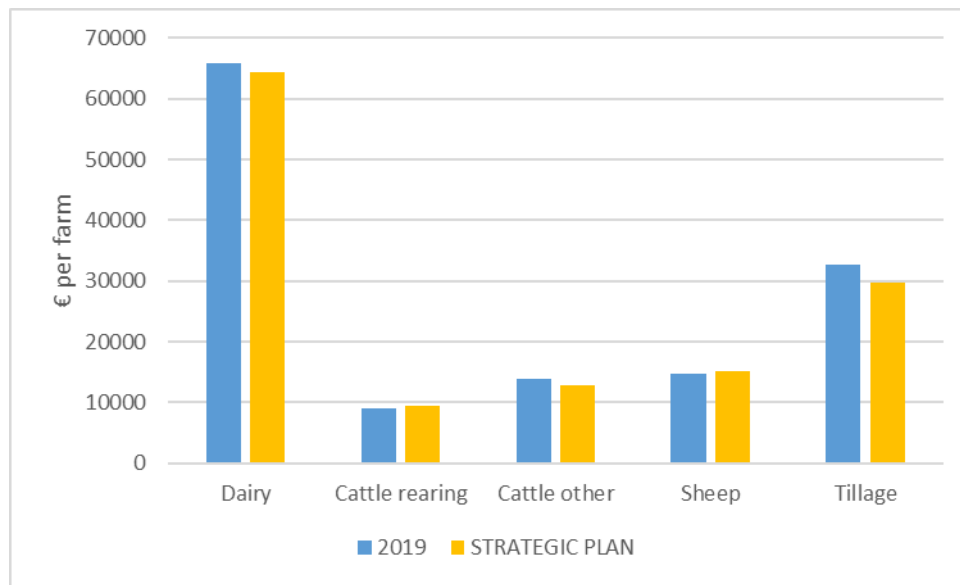


Figure 3: Average Family Farm Income by System in 2019 and under STRATEGIC PLAN CAP reform implementation scenario

Source: Teagasc National Farm Survey 2019 and authors own analysis

3.2.1 Dairy farms and dairy output

Figure 4 presents the percentage of dairy farms that gain or lose under the CAP reform implementation scenario relative to the FFI position in 2019. The extent of their gains/losses is also displayed. Figure 5 charts the proportion of milk output on farms that are gaining or losing in the scenario. It should be noted that output is measured in value terms and in the case of dairy, it represents the value of milk sales.

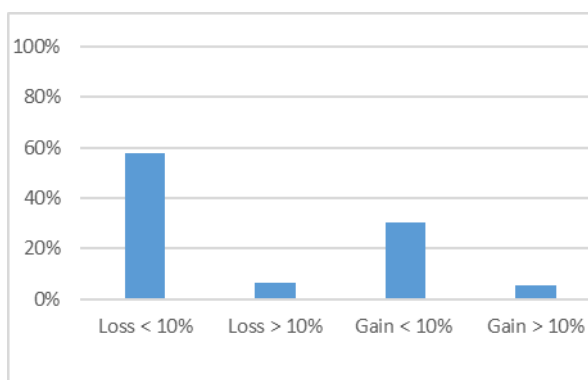


Figure 4: Percentage of Dairy Farm Numbers by Gain/Loss Category

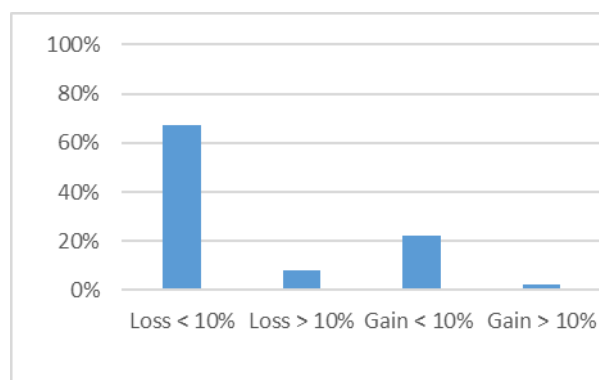


Figure 5: Proportion of Milk Output by Gain/Loss Category

Source: Teagasc National Farm Survey 2019 and authors own analysis

In general, the majority of dairy farms are worse off than they were in 2019 in the CAP reform implementation scenario. The percentage of dairy farms gaining from the reform scenario was 36 percent. The majority of dairy farms experience a positive or negative income change of less than 10

percent. Of those dairy farms that experience an income change greater than 10 percent, for the majority the impact is negative. For dairy farms, 6 percent would experience income losses of greater than 10 percent of income under the STRATEGIC PLAN scenario, with 5 percent of dairy farms seeing income gains of 10 percent or more under the STRATEGIC PLAN scenario.

Figure 5 presents the proportion of milk output on farms that are gaining or losing under the STRATEGIC PLAN scenario. The greatest proportion of milk is produced by farms that lose under the scenario, while most of the output is produced on farms that would experience income changes of less than 10 percent in either direction. Under the STRATEGIC PLAN scenario, dairy farms experiencing changes in income of greater than 10 percent in either direction produce just 11 percent of milk output.

3.2.2 Tillage farms and crop output

Figures 6 and 7 present the FFI change and crop output share results for specialist tillage farms and crop output. Output is again measured in value (rather than volume) terms and includes the value of crops grown on both specialist tillage and non-specialist tillage farms.

Similar to the results for dairy farms, only a very small proportion of specialist tillage farms gain under the STRATEGIC PLAN CAP reform implementation scenario relative to the 2019 position. However, in contrast to the implications of the scenario for dairy farm incomes, a considerable proportion of specialist tillage farms would experience negative income effects of 10 percent or more under the CAP reform implementation scenario. Under the STRATEGIC PLAN scenario approximately 40 percent of specialist tillage farms would see their income fall by 10 percent or more relative to their position in 2019. These large scale negative income effects are also evident when the results are expressed as a proportion of crop output. Figure 7 shows that a considerable proportion of crop output is produced on farms with incomes which are simulated to experience a significant (>10%) drop in income.

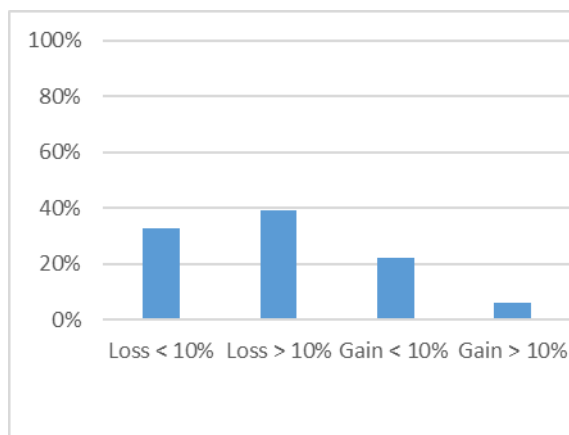


Figure 6: Proportion of Tillage Farm Numbers in Gain/Loss Income Categories



Figure 7: Proportion of Crops Output in Gain/Loss Categories

Source: Teagasc National Farm Survey 2019 and authors own analysis

3.2.3 Sheep farms and sheep output

The results for sheep farms are presented in Figures 8 and 9. Again sheep output is the value of sheep produced and includes that output value produced by specialist and non-specialist sheep farms. In other words it represents sheep output produced on all farms across the population.



Figure 8: Proportion of Sheep Farm Numbers in Gain/Loss Income Categories



Figure 9: Proportion of Sheep Output in Gain/Loss Categories

Source: Teagasc National Farm Survey 2019 and authors own analysis

Unlike dairy and tillage, the story for specialist sheep farms is more mixed in terms of the proportion of sheep farms (and sheep output) represented by income gain and loss categories. Slightly over 50 percent (54 percent) of specialist sheep farms represented by the Teagasc NFS would gain under the STRATEGIC PLAN scenario relative to 2019. Of the farms that gain under the scenario, a larger proportion of these farms experience gains of over 10 percent compared with the income levels experienced in 2019.

It is interesting to note that whilst Figure 8 shows a mixed picture in terms of gainers and losers on specialist sheep farms, the data in Figure 9 shows that the proportion of sheep output produced by farms that gain under the reforms remains significantly less than the proportion of sheep output that is produced by farms that lose under the reforms. This data suggests that farms losing direct income support as a result of the reform scenarios account for a greater proportion of sheep output than those gaining.

3.2.4 Cattle farms and beef output

Figures 10 and 11 present the percentage of specialist cattle rearing and cattle other farms that gain or lose under the CAP reform implementation scenario relative to the starting position in 2019.



Figure 10: Proportion of Cattle Rearing Farm Numbers in Gain/Loss Income Categories



Figure 11: Proportion of Cattle Other Farm Numbers in Gain/Loss Income Categories

Source: Teagasc National Farm Survey 2019 and authors own analysis

It is interesting to note that the pattern is different for the two specialist cattle systems. The proportion of farms losing under the reform scenario is greater for cattle other (mainly finishers) farms than it is for cattle rearing farms.

Figure 12 presents the proportion of beef output generated by farms producing cattle that are gaining or losing under the CAP reform implementation scenario. It is important to note that this output figure combines the cattle output generated by the cattle rearing and cattle other farms and also includes the value of beef produced on dairy, tillage and sheep farms. In general there is a significantly greater proportion of beef output produced on farms that are losing income than there is on farms experiencing an income gain. In the STRATEGIC PLAN scenario the greatest proportion of beef output is produced on farms experiencing a less than 10 percent income loss.

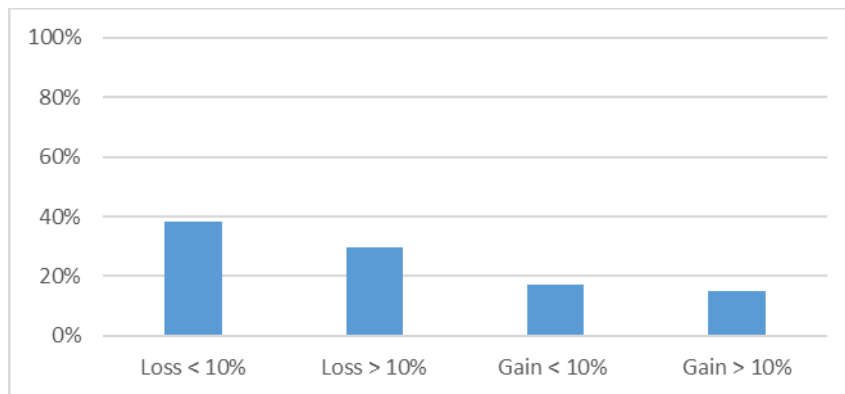


Figure 12: Proportion of Beef output in Gain/Loss Income Categories

Source: Teagasc National Farm Survey 2019 and authors own analysis

3.2.5 All farms and aggregate farm output

In summary, Figures 13 and 14 present the impact of the scenario on the income of all farms and on all farm gross output.

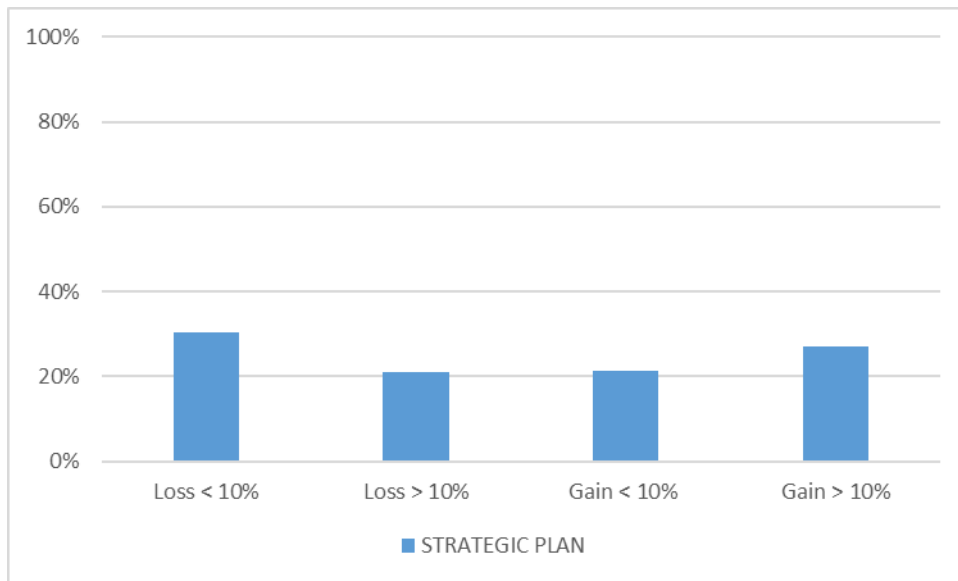


Figure 13: Proportion of All Farm Numbers in Income Gain/Loss Categories

Source: Teagasc National Farm Survey 2019 and authors own analysis

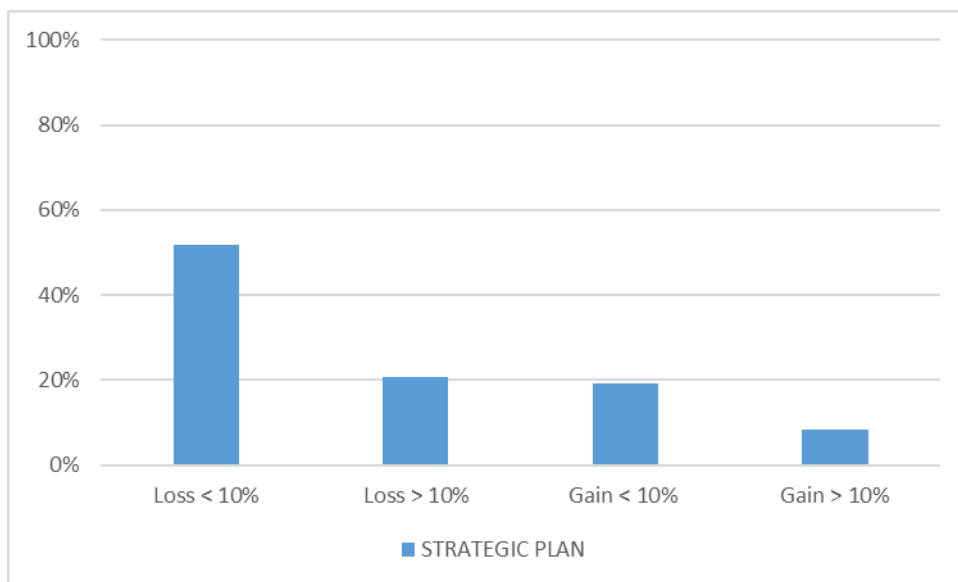


Figure 14: Proportion of All output in Gain/Loss Income Categories

Source: Teagasc National Farm Survey 2019 and authors own analysis

As shown in Figure 13, slightly greater numbers of farmers represented by the Teagasc NFS lose rather than gain under the reform scenario modelled, relative to their income position in 2019. In the STRATEGIC PLAN scenario, most farmers experience relatively small income changes, i.e. changes in FFI of less than 10 percent. For those experiencing more substantial income changes in the STRATEGIC PLAN scenario modelled using the NFS, farms gaining more than 10% of income are greater in number than those losing more than 10%.

The outcome is similar but more pronounced when gross output is considered. Figure 14 shows that the proportion of output produced on farms gaining under the scenario is much lower than the proportion of farms losing under the reform scenario. For example, under the STRATEGIC PLAN scenario, 48 percent of farms would experience an increase in their income relative to the 2019

position (Figure 13), but these farms account for only 27 percent of output (Figure 14). This suggests that the farms that gain under the STRATEGIC PLAN scenario typically produce less output than those that lose under the same scenario. While the majority of output is on farms experiencing relatively small changes in income, there is a far greater volume of output produced on farms that are losing substantial portions of income than there is being produced on those farms that are gaining. Farmers that benefit tend to be less productive (i.e. have a lower output value) than those that are losing. These outcomes suggest that the historical basis of the current distribution of entitlements, historical agricultural production intensities during the reference period used in the 2003 CAP reform, are still largely reflected in the different production intensities per ha observed on farms in the 2019 Teagasc NFS.

3.2.6 Economic Viability

A farm business is defined as being economically viable if FFI is sufficient to remunerate family labour at the minimum wage (which is assumed here to be €20,129 per labour unit), and provide a 5 percent return on the capital invested in non-land assets, i.e. machinery and livestock. The impact of the CAP reform scenario was examined in the context of its potential impact on economic viability. Figure 15 presents the economic viability across farming systems in 2019, along with the simulated economic viability percentages in the STRATEGIC PLAN CAP reform scenario.

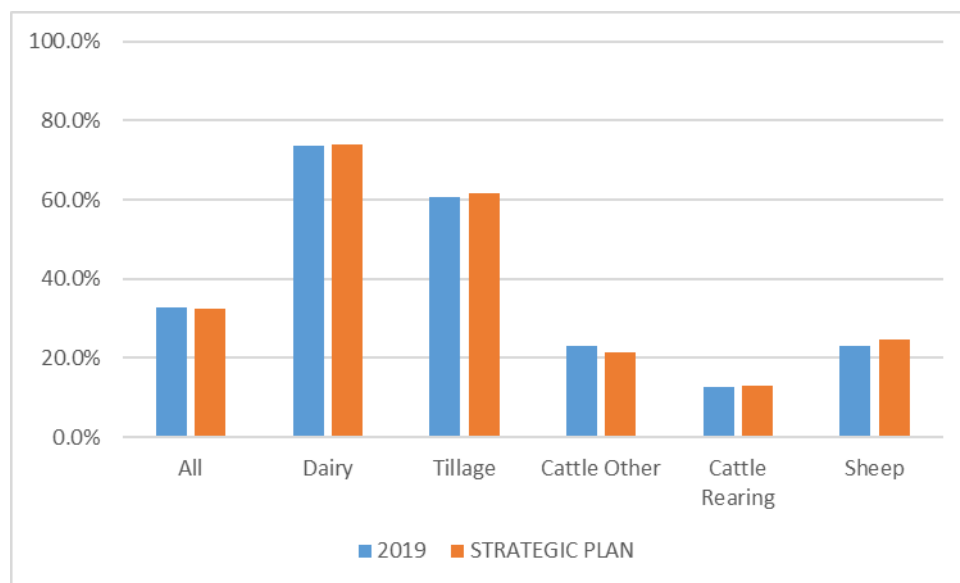


Figure 15: Proportion of Farm Numbers that are Economically Viable in 2019 and STRATEGIC PLAN CAP Reform Scenario

Source: Teagasc National Farm Survey 2019 and authors own analysis

In general, the redistribution of income support associated with the CAP reform scenario has a limited effect on economic viability levels across all farming systems. The level of economically viable farms represented by the Teagasc NFS decreases, but only by a few percentage points. This suggests that in general the gains in income arising from the redistribution of the direct payment envelope under the reform option considered are insufficient to transition significant numbers of farm businesses from being not economically viable toward being economically viable categories.

The interpretation of the results relating to economic viability levels and changes therein under the modelled CAP reform scenario is facilitated by additional information relating to how much income levels would need to change to bring farms which are not currently economically viable up to income levels that would make them viable. These levels are presented in the boxplot in Figure 16. For those farms in the NFS sample that are non-viable farms in 2019, this boxplot visualises the statistical distribution of the changes in the FFI levels that would be required to make these farms economically viable. Figure 16 shows that the 50th percentile (the median) family farm income change lies at approximately €12,500, meaning that 50% of non-viable farms would require an increase in income of this amount or higher to bring their income levels to the point where they would be considered economically viable at current activity levels.

The detail presented in Figure 16 also shows the 10th, 25th, 75th and 90th percentile, which can be interpreted in the same way as the 50th percentile. So for the 90th percentile, an increase of €33,393 is required to transition 90% of currently non-viable farms to an economically viable status; for the 10th percentile, to transition 10% of the currently non-viable farms to an economically viable status would require an increase in income of €2,881.

Earlier in the analysis, Figure 2 in particular, it was outlined that the average income changes across farming systems, associated with the CAP reform scenario, was relatively small, whereas a large number of farms, as evident from Figure 16, would require a much more significant change in income to bring farms up to the economic viability threshold. In short, the relatively small size of the income changes produced by the CAP scenario, implies that economic viability would not change significantly.

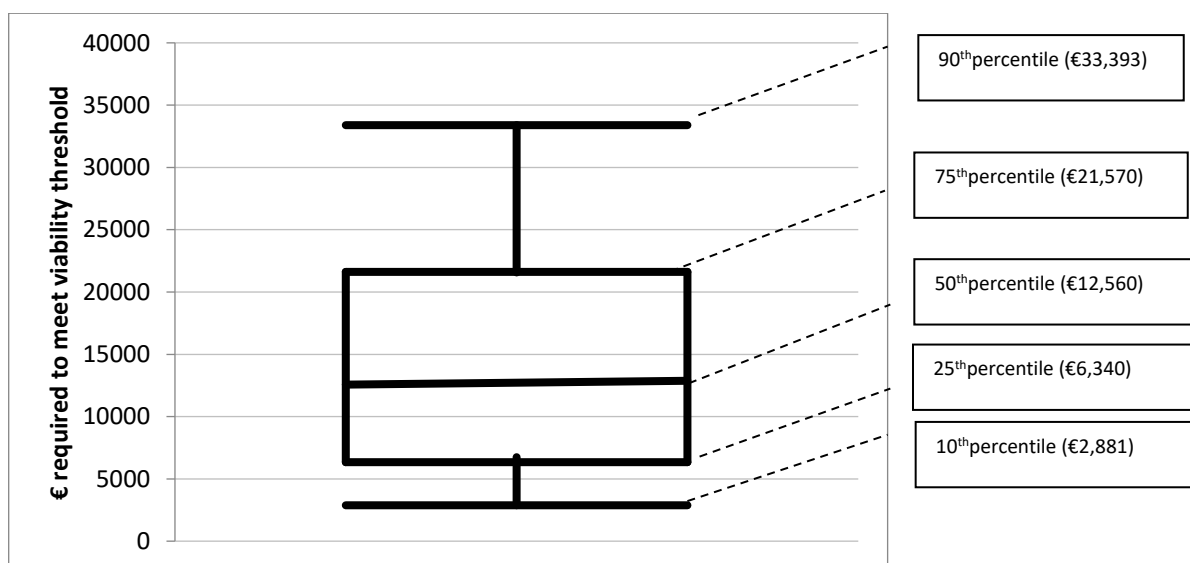


Figure 16: Boxplot Gap between 2019 FFI Income levels and Economic Viability Threshold for Non Viable Farms in 2019 NFS sample

Source: Teagasc National Farm Survey 2019 and authors own analysis

4. CAP Reform implementation scenario analysis: Conclusions

Section 3 reported the findings of research conducted on the impact of the STRATEGIC PLAN CAP reform implementation scenario on the distribution of direct income support, on family farm incomes, agricultural output and economic viability. The results presented here compliment the earlier set of scenarios and results carried out on the data from the Teagasc, NFS, which were considered most

relevant at the time of analysis, but did not include the final set of assumptions included in the CAP Strategic Plan for Ireland submitted to the European Commission in 2021. The analysis presented here is based on the details of the CAP Strategic Plan of December 2021.

A decision to implement a convergence strategy in this CAP reform implies reduced levels of income support for some cohorts of the population, whilst providing additional levels of income support to other cohorts. For most farmers the change in income that would be experienced is relatively small.

From the Teagasc NFS data presented in this paper, it appears that the level of output produced by farms gaining is less than the output produced by the farms that are losing under the reforms. The implication is that farmers that benefit tend to produce less output.

Finally, the data presented does not appear to signify significant positive gains in terms of the numbers of farms reporting economic viability, as the change in incomes that result are small relative to the scale of the income changes that would be required to make many farms viable.

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Appendix I - Results of Analysis Using the Teagasc National Farm Small Farm Survey (Base year 2015)

As explained previously in the text, the main body of data used in the analysis presented previously in the report is based on the 2019 Teagasc NFS sample, which excludes farms with a standard farm output of less than €8,000. Whilst these so called ‘small farms’ are not included in the annual survey, a special survey of such small farms was conducted in 2015. A separate analysis of this 2015 data was carried out to examine the impact of the CAP scenario analysed in the body of this report on family farm income (FFI), agricultural output and economic viability.

Readers should note that the base period for this analysis is 2015, rather than 2019, which was the base period for the main body of the survey presented in section 3.

Figure A1 shows the average family farm income (FFI) across all farms in the Teagasc NFS Small Farm Survey, carried out in 2015, along with the simulated average income under the CAP reform implementation scenario. Across all sizes and systems of the small farms in the NFS in 2015, the average family farm income was approximately €3,000 per farm for these small farms.

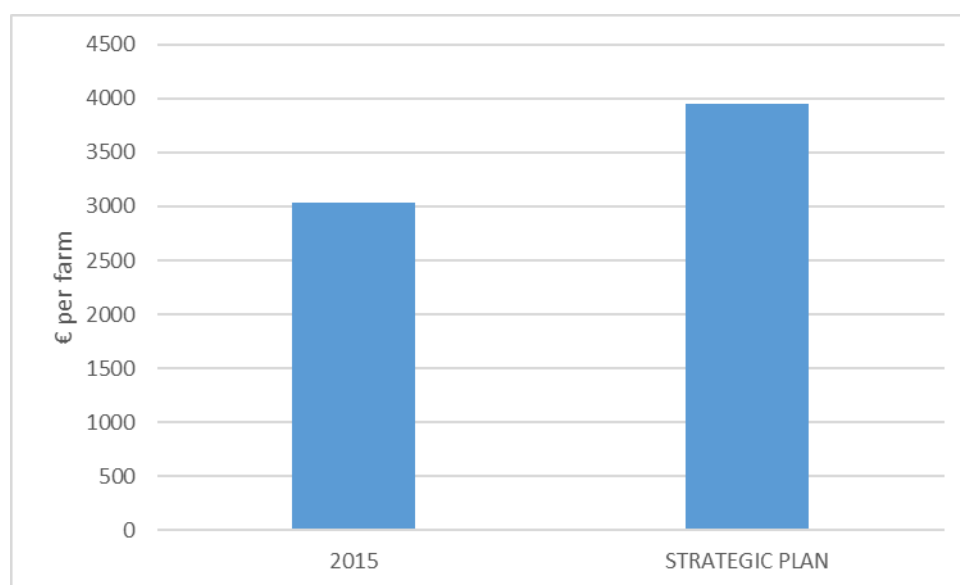


Figure A1: Average Family Farm Income for All Small Farms in 2015 and under the STRATEGIC PLAN CAP Reform model

Source: Teagasc National Farm Survey, Small Farm Survey, 2015, and authors own analysis

Average FFI increases under the modelled scenario, relative to 2015, which is different to the projected outcome presented in Figure 2 for the main body of the NFS, where FFI decreased marginally, on average, for the modelled scenarios compared to 2019. Average family farm incomes of the farms represented by the Small Farm Survey are approximately 30 percent higher in the scenario relative to the income level recorded in 2015.

It should be noted that the data displayed in Figure A1 are population averages across the ‘small’ farming population of approximately 40,000 farms, and conceal the variation that exists across the population of small farms. The variable impact of the CAP reform implementation scenario across the small farms population represented in the 2015 Teagasc Small Farms survey is shown in more detail in Figures A2. Likewise, the proportions of output value produced by the population of farms represented by the small farm survey sample that is generated by losing and gaining ‘small’ farms are presented in Figure A3.

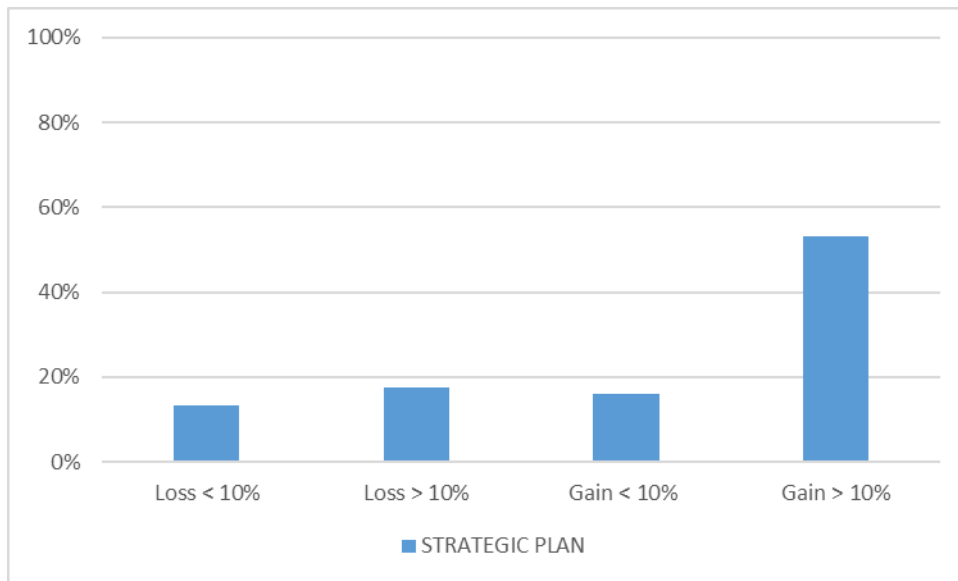


Figure A2: Proportion of ‘Small’ Farm Numbers in Income Gain/Loss Categories

Source: Teagasc National Farm Survey 2015 and authors own analysis

In general, a greater number of ‘small’ farms gain rather than lose under the STRATEGIC PLAN scenario relative to the income position in 2015. In the scenario modelled, most of these small farms experience relatively large percentage changes in income, i.e. greater than 10 percent, with the greatest proportion of farms gaining by more than 10 percent. In other words, in the population of small farms, the percentage increase in income for those gaining tends to be greater than the percentage losses being incurred by those losing.

The outcome is similar but less pronounced when gross output is considered. The proportion of output produced on ‘small’ farms gaining under the STRATEGIC PLAN scenario is lower than the proportion of farms gaining under the considered reform scenarios. For example, under the STRATEGIC PLAN scenario, 69 percent of farms would experience an increase in their income relative to the 2015 position, but these farms account for only 64 percent of output amongst the ‘small’ farm population. This suggests that the farms that gain under the STRATEGIC PLAN scenario typically produce less output than those that lose under the same scenario, amongst the small farm population. In other words, ‘small farms’ that benefit tend to be those farms that produce less marketed output (i.e. have a lower output value) than those that are losing.

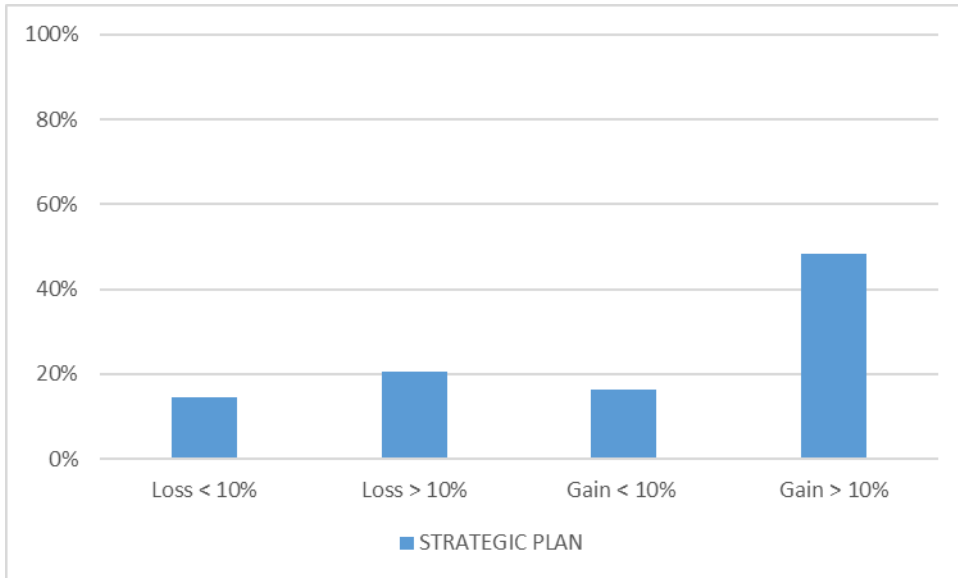


Figure A3: Proportion of 'Small' Farm Output in Gain/Loss Income Categories

Source: Teagasc National Farm Survey 2015 and authors own analysis