Impact of the EU's Green Deal on the livestock sector

Executive summary

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Introduction

The EU's Green Deal will have a major impact on European food value chains and define how the food system will be reshaped. At the same time, several specific elements and implications of the underlying policy documents are unknown (policy measures, targets and national implementation), as well as their impacts on many parts of the European (and also global) food value chains. In this policy paper, the expected effects and trade-offs of the Green Deal are discussed for the EU livestock sector, with a view to the possibilities and challenges to reach the targets. In terms of methodology, the paper is based on a literature review and consultations with sector and theme experts. It also integrates the relevant results of the Green Deal study commissioned by CropLife Europe[1], while the market impacts are largely based on a recent study by JRC[2]. In addition, this paper includes a number of farm type and case specific income assessments. The stylized calculations take into account the heterogeneity in farming and Member State conditions and rely on information from the FADN data.

Main results

- Achieving the EU's Green Deal objectives may lead to a reduction of livestock production in the order of 10 to 15 percent. This is mainly driven by the objective to halve nutrient losses (e.g. reducing Gross Nitrogen Balance (GNB) surpluses). Part of this has to be realized by lowering manure production and herd size. In some cases the decrease in production volume would lead to more than proportional price increases.
- Agricultural product market conditions are of key importance in determining the impacts on revenues and farm income. Costs (notably related to feed) are likely to increase, although it is difficult to quantify this (partly due to uncertainties with regard to world market responses and partly due to the incomplete coverage of F2F and BD measures in the impact assessments; e.g. unknown impact of reductions in food waste and shifts in diets).
- The (short-term) impacts on farm net income are diverse and influenced by various factors such as prices, region-specific impact of environmental constraints, changes in CAP direct payments, development of costs (e.g. purchased feed, fertilizer, etc.), and subsidies compensating for costs associated with the adoption of specific measures. In some cases, i.e. beef and pigs, the projected price increases play a strong role in making the estimated income impacts strongly positive. However, these projected price increases may be overstated.
- Without incentive payments there are serious extra negative impacts on net farm income foreseeable due to the increase in costs associated with the set of different measures that farmers would need to take. Under a voluntary policy regime this would lead probably to low

[1] Bremmer et al (forthcoming) Impact Assessment Study on EC 2030 Green Deal Targets for Sustainable Food Production; Effects of Farm to Fork and Biodiversity Strategy 2030 at farm, national and EU level. Wageningen, Wageningen Economic Research.

[2] Barreiro-Hurle et al., (2021). Modelling environmental and climate ambition in the agricultural sector with the CAPRI model. Exploring the potential effects of selected Farm to Fork and Biodiversity strategies targets in the framework of the 2030 Climate targets and the post 2020 Common Agricultural Policy, EUR 30317 EN, Publications Office of the European Union, Luxembourg.

degrees of measure adoption. Under an obligatory measure adoption policy regime, the exercise shows the need for additional income support and/or innovation to counteract the negative income effects.
- As the environmental problems and biodiversity challenges are spatially differentiated, regionalized tailored policy approaches are recommended. A targeted policy approach, both by and within Member States, will be important to deal with the local particularities. The new delivery model of the CAP will be helpful in this regard as it facilitates such a tailored policy implementation approach. But in addition to this also more budget may be needed when the wish is to simultaneously achieve all objectives while compensating farmers for the efforts they have to make.
- To the extent a tailored policy approach will not be realized, one may expect a regional divergence of production and associated net farm income impacts. In particular, regions where there is a high pressure on the environment (as for example measured by the gross nitrate surplus per hectare) will face a competitive disadvantage and declines in the volume of production.
- More generally the competitive position of EU farmers relative to those outside the EU is likely to worsen. Here the degree to which border measures (e.g. existing TRQ and import tariff structure) will protect EU farmers (thereby sustaining price increases as a response to a decline in EU domestic production) will be important. As regards the climate objective, adjustments in trade may also negatively affect the effective realization of the objective (leakage).

Other outcomes
- The fertilizer (sales -20 percent) and nutrient loss reduction (-50 percent) objectives are the most restrictive ones. Alongside the need to apply a set of technical measures, it also leads to herd reduction, necessary to achieve the nutrient loss reduction objective. In addition these measures contribute to a reduction of crop production and feed supply, with an expected negative impact on the cost structure (competitiveness) of EU livestock farmers.
- Until 2030 achieving the climate objective can go together with achieving the GNB surplus reduction. Although this will require the adoption of a significant number of measures, this will not lead to climate-driven herd reductions.
- The pesticides reduction objective negatively affects EU feed production (volume) and quality (mycotoxins), which may induce some feed price increase, with a negative impact on the margins of livestock farmers.
- The objective to reduce antimicrobials (-50 percent) will require specific farm management measures, but there are empirical cases suggesting that it will be feasible to achieve this objective, without lasting negative impacts on production.
- With respect to animal welfare two cases have been identified that could negatively affect farm incomes of involved farms: the objective of ending the use of cages in poultry and potential welfare regulation impacts on animal transport for the veal sector.
- The organic production (25 percent of land area) objective cannot easily be translated into the impacts that it is likely to have on livestock production activities per se. In general, the impact of an increase in organic cropping area is expected to have a negative impact on total crop and feed availability in the EU.
- The impact of achieving the biodiversity objectives may be serious. There is a high share of habitats at an unfavorable status (more than 70 percent), this share has to be reduced to about 50 percent by 2030. Achieving this goal is likely to require higher ammonia emission reductions from the livestock sector, but these reductions would have additional consequences (measures, costs, herd reductions) to be taken into account.

Highlight of the report - Estimated impacts on net farm incomes
A main contribution of this policy paper is the assessment of the potential impacts of the F2F and BD strategies on livestock farm incomes. The consequences on farm net income have been analyzed for thirteen farm cases, taking into account market conditions as these have been projected by the JRC technical report, and assumptions with respect to the CAP subsidies to facilitate voluntary adoption of environmental and climate measures by farmers. The farms were

chosen in such a way that they reflect the heterogeneity of EU agriculture with respect to sectors, production systems and soil conditions. The simulated impacts on net farm income show a large variation between cases (Figure 1).

- The average income loss for the dairy cases is 32 percent. In particular, relative high income reductions are expected for the two Dutch cases, which is driven by on the one hand the relatively strong production decline that has been projected, while also the production adjustments that are enforced in the peat area (*Zuid-Holland*) have a strong negative income impact. The results obtained in these cases may be typical for intensive dairy production systems also elsewhere within the dairy belt region (EU Commission, 2015).
- The income impacts for the cattle cases (*Pay de la Loire, Galicia*) are positive. This is mainly driven by the significant beef price increases that have been used as an input to the simulations.
- The income impacts for intensive livestock productions (granivores) are in all cases positive (especially for the Denmark and Hungary cases, followed by *Aquitaine*). This result is driven by the strong market impact (following the JRC study a projected pork price increase of more than 40 percent is assumed). For the granivore-farms, the feed costs have an important share in the intermediate costs (this also holds for the veal farms). As such, these types of farms are relatively sensitive to what happens to their feed costs.

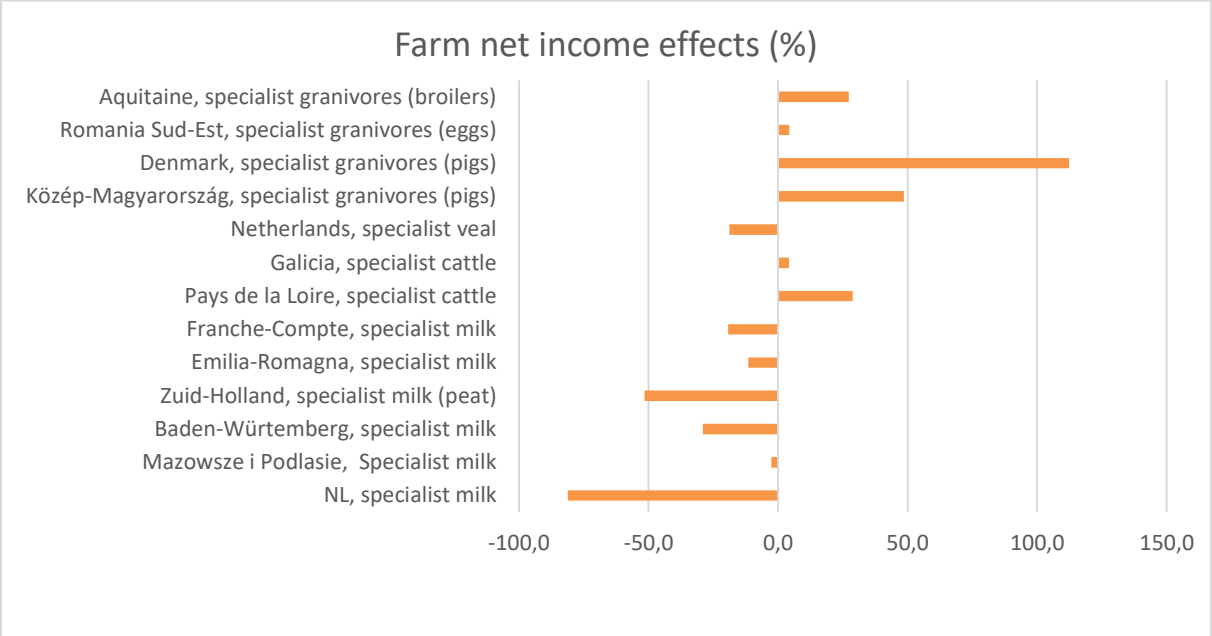

Figure 1 *Potential impacts of F2F and BD strategies on farm income (percentage changes) for selected farm cases*
Source: Authors.

- For those cases where the projected market price increases were found to be rather extreme, i.e. beef and pork, a sensitivity analysis has been done. In this analysis the income effects for the dairy, beef and pork cases were calculated, assuming price increases of 15% for all three products, rather than 2% (dairy), 24% (beef) and 41% (pork).
    - The most notable effects are observed for intensive livestock production (granivores, pigs). In these cases, the lower price leads to clearly negative net income effects for both the Denmark and Hungarian granivore farm cases, with the Aquitaine broiler case being an exception.
    - For the beef and veal cases, which now face lower price increases, the impact on farm net income is also negative (on average a decline of 18 percentage points). In the extensive beef production case (Galicia) the income effect becomes slightly negative.

    - On the other hand, the dairy farms' income improves (on average farm net income increases by 33 percentage points and becomes positive for the *Baden-Würtemberg* and *Mazowsze i Podlasie* and *Emilia Romagna* cases).
- A second sensitivity analysis provides further insight as to what would happen to farm incomes, when farmers have to bear the burden of the costs of measures that have to be taken and no or limited policy support/budget would be available. The impacts on the net farm income of the considered cases would be worse (on average 28 percentage points lower than in the baseline case with compensatory payments). This shows that without compensatory payments, voluntary adoption of measures could be a problem, as it would go at the cost of farm profitability and farmer incomes.