

Session 1 – Answers have been edited for clarity

On the wheat to bread supply chain, can you further specify the impact of increased contracting all along the value chain – from seeds to farmers, to ingredients for bakeries?

Ivan Duric – IAMO: From our analysis, for example, the price transmissions analyses, we did not include any specific issues related to contracts. But what we can see from the market power analysis is that those who do not have contracts with co-operatives or unions have lower bargaining power. Hence, even if they have individual contracts, and there are existing market imperfections within the value chain, contracts do not help much; which showcases how important implementation of unions [i.e., Producer Organisations and Inter Branch Organisations] are, especially evident in the tomato case study. That helps to regulate these contract issues and then helps with gaining bargaining power

On the price transmission, did you see a rockets and feathers effect? Price increases transmitted quickly downstream, but decreases less quickly?

Ivan Duric – IAMO: Due to the lack of data access for many of the specific value chains, VALUMICS conducted the price transmission data especially for salmon and dairy value chains. The focus was for example on the case of salmon value chain, how the price signals were transmitted from the main exporting market to the main importing market in the EU and how it affects the EU markets. Regarding price asymmetries, we did not conduct typical tests but what was done were tests on how some specific positive shocks from the salmon market in Norway affect each level of the chain both in France and in Poland. We have identified that prices at the retail level in France react much faster, 50% of deviations are adjusted within a 10-week period. Wholesale prices are adjusted in about 6 months' timeframe. Those dynamics we looked at mainly, more specific details were not possible because of data restrictions.

What do you consider novel feed? Why was it chosen?

Nick Holden, UCD: In our work it was insect protein, there are others, such as refining of grass to a concentrated protein that could be considered as an alternative. Novel feed is something that is not in the conventional livestock feed chain now (common feed is cereal crops, protein crops, grass etc.). The reason for the selection of the novel feed was that insect feed can be consumed by both cattle and salmon. What we wanted was to ensure a methodological and a conceptual consistency across the different chains, in terms of making a comparison between the two, we were concerned with the kilo of food consumed, that was the function that we worked with. We did not want to have very different scenarios for the different products we wanted to look for solutions that were perhaps generalisable to animal-based food chains, rather than a specific circumstance.

VALUMICS is a very interesting project and presentations with examples from four different case areas. Are there some general reasons for the case area differences and similarities? For example, general societal context of production trade, consumption patterns, sustainability context concerns?

Antonella Samoggia, UNIBO: Regarding the tomato case study and the reason why we selected it. We had a lot of background from previous work on the tomato case, knowledge on the specific dynamics of governance and where the political expectations and investments had been made regarding the chain. In VALUMICS we had the opportunity to go more in depth on the economic dynamics underpinning some of the choices made in the past and the impacts those made. Therefore, the tomato value chain represented an interesting case for the VALUMICS project. Looking at this region (Emilia Romagna) there was also the opportunity to look at the consumption patterns due to the high level of consumption of the product and to represent a fruit and vegetable value chain. All those different reasons contributed to the decision amongst the VALUMICS partners. The socioecological sustainability concerns, we wanted to address this with research and with the available data to create findings for this chain.

David Barling - UH: The fact is that each chain has a different set of dynamics, based around the structural features and the nature of the product involved. Although there are similarities, we can find also find differences, and that is one of the lessons that comes out of the research in terms of policy interventions. This will be addressed later in the conference.

Can you provide more granular reflection on profitability patterns across Europe; Are the patterns of profitability similar in Western and Central and Eastern Europe?

Matthew Gorton – UNEW: We broke down the analysis and looked at it for some of the leading countries. We find a similar set of patterns in terms of firm and industry level effects. For example, when looking at Poland in greater depth, there is a very similar picture compared to the rest of Europe. Some of the drivers of profitability in terms of the nature of the market structure and the firm level factors seem to be universal.

Can this model be applied to other food value chains than the already explored wheat to bread and tomato chain? How realistic is the model, and can it be made more "realistic"?

Sean McGarraghy – UCD: When we started off, we tried to make the model as generic as possible by identifying the commonalities between the different chains. We came up with a very general producer, processor, wholesaler, and retailer, that are the four main actors along the chain. Consumers occur in the model; however, their behaviour is simple, the model has four factors in consumption choice, green/organic and non-green/not organic products. With the generic model we adjusted it to suit what was the most important aspects in the French wheat to bread case. Because we had worked on the generic model,

we were able to work with it further and make some changes to develop it for the tomato to processed tomato value chain. Currently it is being developed further for the salmon-to-salmon fillet value chain. Because of the generic structure then the answer is yes that you could extend the model, with the work required to do so it is difficult as the project is ending, however it provides the opportunity to work with it further in future work. **The model can be extended to other food value chains because the model was developed as a generic model in the beginning.**

In terms of how realistic the model is, it is always a fraught question in any modelling exercise, as George Box famously said, “all models are wrong, but some are useful”. The point of any model is to pick out what is relevant and important and to try to capture that in the model. There is always a selection process involved. We selected what was important to the food value chains that we modelled. We could make it more realistic by adding more richness to the actors’ behaviours. This takes more effort, and the model becomes more realistic, however it takes longer to run. Therefore, there is a trade-off between computational real time and realism. The answer is yes it can be done but it is not a trivial matter.

You talked about measures with a transdisciplinary approach -can you say a bit more about what that would look like and give examples of that in practice?

Arlind Xhelili – CSCP: The transdisciplinary approach is about relying on various disciplines when trying to understand consumer behaviours and the various related behavioural determinants. These can range from social sciences and humanities, economics, psychology and cognitive science etc. Bringing insights of such disciplines together, in the context of human/consumer behaviour, can support the creation of better solutions/actions plans that reflects people’s reality. Such an approach, in turn, could support increasing quite a lot the effectiveness degree of such solutions. The second report in the Valumics consumer analysis series provides a number of practical examples (that have taken place) which have relied on transdisciplinary approaches to understanding and changing consumers behaviours. While the fourth report, which is on multi-stakeholder recommendations to shifting the transition towards more sustainable and healthier patterns, portrays a number of multi-stakeholders recommendations that can be considered transdisciplinary and waiting to be leveraged and materialised in practice. We invite you to have a look at those!

How did the Corona crisis influence behaviour change and did you see any influence on the cases of the VALUMICS study?

Jan Doerrich – REWE: During the first week of the pandemic, everything was turned upside down when it came to the behaviour change study. Nothing could be predicted, and it was a change of short notice. It was not the blueprint decided. Shortly after, 2-3 months the business was turning back to normal with food retail chains, for example there were not many out of stock situations to handle like in other sectors. What had a real influence in terms of the “choice editing” was the whole issue of packaging. It is high on the agenda of

almost every retailer in Europe. Reducing packaging material and selling more loose fruit and vegetable. There was a certain negative correlation between implementing this change and hygienic procedures that were affected by the pandemic. Consumers were buying more packaged options. This was a big change. Hopefully this can be implemented soon as the need for this is clear. This is a big issue; we need to reduce packaging. It is a must have going forward. When it comes to “choice expansion”, we witnessed that the topic of regional production became an even more important topic. Short supply chain and logistics. People wanted to know more about where the products were coming from. In addition, a connection to more sustainable and organic production. This was a positive surprise from a CSR management perspective as the belief was more towards that the key issue would be pricing and this is not the case. We are still to see the full effect of the pandemic and the willingness to pay as people must spend their incomes wisely. One learning was the positive evidence that consumers wanted high quality regarding sustainability.

Could you say some more about the legislative support you would like to see as a company to level the playing field? Could you say a bit more on what you would like to see as an industry actor from policy to help you to do the kind of things you have been doing and to help others do the same?

Jan Doerrich – REWE: The level playing field was important in the cases of where the consumer is not offered the choice or is not made aware of the choice and where there is lack of transparency in food product offerings. Transparency is a key issue to all the topics. Only if consumers know they can choose, we need to supply different types of products, but consumers need to be made aware of the consequences of their choices. The key issue of the level playing field is transparency for the future.

Session 2 - Answers have been edited for clarity

Are there other scenarios that could have been considered and how did you choose which ones to focus on?

Pierre-Marie Aubert IDDRI: The scenarios that were developed at the very beginning of the project and the idea put forward by our partners was the idea to have politically contrasting pathways to reach sustainability and to reach the targets put forward. What we did was to explore the sensibility of the results to alternative hypotheses beyond the market and local societal led scenarios presented today by modelling two additional scenarios. This was to showcase the range of options that we have and show options beyond something with only market focus and rather put forward the multi-dimensional perspective that is policy challenging.

The case of salmon Aquaculture – Why did you only speak to industry stakeholders?

Nina Maria Saviolidis, Uol: We talked to industry actors mostly to explore their perspective on aquaculture transition. The reasoning was to explore where powerful people are in

these positions and what their outlook on the future is. Also, to hear if they were aware of the challenges ahead and how they see themselves reacting to those. We did not have time and resources for a full stakeholder assessment. What we did instead to cover the other dimensions was to read policy documents to get the government perspectives and we read newsletters and articles to gauge from civil society opinions on the issues.

Integrating fish into food policy – can you identify any specific opportunities and where are the gaps where that is not being factored in? What are the quick wins on that in terms of where we could be including it?

Nina Maria Saviolidis, UoI: From our perspective it is an academic issue, there is lack of research on the topic which the Blue Food assessment could help us with. We tend to say seafood, and everything is included in that category, even though there are huge differences in methods of production, different species, different areas even. The difference between farmed seafood and caught seafood. The question is also on how to integrate health and sustainability when it comes to seafood which is a very nutritious food product.

Sigurdur Bogason UoI: It is also the fact of cultural heritage, in countries like Portugal, Spain, Iceland and Norway as we are sitting on the ocean and used to consume a lot of seafood. For other countries it is more likely to be the case of the opportunity to go out to a restaurant for a fancy meal when consuming fish. It depends. Also, regions within countries, for example in the coastal region of Brittany in France people generally know a lot about fish. So, this is a cultural issue as well. The national policies, I have noted that the Finish national policy on healthy diets includes fish while many other countries do not. I do not know what the cause for this is. It might be that some countries focus on promoting more agricultural foods closer to their own production. How to make the shift from this cultural issue. The beneficial outcome of the Blue Foods assessment shows that the diet can be so much healthier if it is based on seafood produced in a sustainable way.

Fabrice DeClerck, EAT Foundation: What we found in the Blue Food Assessment - papers ([BFA](#)). Looked at health, environment and on average, the environmental footprint of blue food compared to that of poultry is often better. Including shellfish production that has zero feed, zero land, zero fresh water, and even habitat creating in some cases. So, the potentials there are significant. As you mentioned culture; Belgians are used to eating mussels and Germans probably less so. The health piece, similarly, blue foods, fish, shellfish, and algae are often nutrition positive. This is a protein source that is nutrition dense and has high extremely high nutritional value. In the EAT Lancet Commission the recommendation is 0-700 gr per week of blue foods, but we will refine that in our next round. There exist twenty-five hundred edible species with for the most part nutritional value. By bringing these to our plates and including these more regularly in our diets - if they are produced sustainably - then the Blue Foods to seem to present an interesting and positive solution. When talking

about marine aquaculture, sharing infrastructure with an offshore wind is an option worth considering. There are opportunities in how we can get industries to think about synergies and collaborations or sharing infrastructures as well as behaviour change. In China, I remember being told that who are we to tell China what is an aspirational diet is? They should be able to eat as much meat as they want. Which is ironic because in California now the most aspirational foods are a noodle bowl or sushi. How do we make a healthy, sustainable, and social part of the aspiration of foods is the pressing question?

David Barling, UH: The fish, whether wild or caught a classic example where you need to integrate health priorities and environmental sustainability. There are positives in the former, but we are aware that there are implications in the latter for either caught or farmed fish. It is a classic example of how to integrate those two elements before you start looking at the social and economic dimensions.

How will we get the true costs of food products implemented, that incorporate their external costs in their pricing?

Fabrice DeClerck, EAT Foundation: In my opinion, the true cost of food has done a great job of highlighting what is the real cost of food on the externalities on environments but has struggled to propose any magnitudes as to where this could be integrated in either the cost of food or in policies. I am sceptical you are going to be able to pass the cost on to consumers, maybe by repurposing subsidies to put in the true value of restoration would be a public fund for a public good. Which seems to make sense to reduce the cost of production.

Sigurdur Bogason, UoI: The true cost of foods issue is that food production should not depend on subsidies in the long term. They were put into play in the last century, for example the Icelandic fishery industry there are no subsidies. Likewise, the Norwegian aquaculture industry does not use subsidies. The fact is that it is a market driven system, whether perfect or imperfect productions may exist, using subsidies on the big scale like in the CAP and EU Maritime policies defeats the purpose of going towards sustainability. Subsidies are not included in the true cost of food. This is the pink food elephant in the room. How to address this is part of the food system transformation and it will take a long time. The aim should be to get there before 2050.

David Barling UH: It is about thinking about the positive rewards of reducing your externalities as well as the negative punishments or costs imposed on producers and the food value chains responsible for the negative externalities. It is therefore about incentives and rewards as well as tax and levy. It is getting that balance right, moving the overall framework of food production and processing and manufacturing subsidies payments, or the subsidies frameworks support are really the key here, I think.

Elise Huber, IDDRI: From a policy perspective, what is interesting with the issue of the true cost of food is that, on the one hand, it is building momentum - even in the past month, we saw an initiative by 80 organisations that have launched a campaign to promote the carbon pricing of food, so it is really being pushed by civil society. Yet, on the policy level, it remains a touchy subject, especially because it could have negative impacts on certain supply chains, depending on how it is implemented. Whether it is a meat tax or carbon pricing or differentiated VAT tax, this could have different types of impacts and disadvantages for certain supply chains. Obviously, it is a controversial subject. Some of you may have seen that, in the recent discussions on the implementation of the Farm 2 Fork strategy, one of the amendments that have been discussed is the application of a differentiated VAT tax for different food products: it would especially apply the highest level of VAT for meat products and 0% for fruits and vegetables. In the Environment and Agriculture Commissions, this was voted in favour of. The plenary session might be a different story, but it is evident that it is a topic that is discreetly being integrated in the policy discussions, while remaining controversial.

Natalia Brzezina, DG AGRI: One of the core topics that are included in Horizon Europe that of course we are capturing the true cost of food and the scientific community has shown the externalities and the costs of those but despite of the different approaches and frameworks the frameworks of practice are still missing, how we should implement this in practice and translate the theory to reality. This is the core challenge going forward, to reach out to scientific communities and in discussion with all the different actors involved in the food system as this is a debatable concept. It has pros and cons. There are calls in Horizon Europe addressing this topic so the work will be continued.

Comment from Florence Bucholzer: UNFCCC, The Paris Agreement includes references to food security and the national contributions should encompass Agriculture. As regards the EU the fit for 55% (emissions reduction) package proposed by the Commission, specifies parts for climate neutrality including for agriculture and LULCF.