

SECOND OXFORD MEETING ON FOOD SYSTEM IMPACT VALUATION

The Queen's College, University of Oxford, 27-28 March 2018
Hosted by the Food Systems Group, Environmental Change Institute, University of Oxford

Summary

- Major food companies have tremendous direct and indirect impacts on health, society, and the environment through their global value chains, product design, ingredient choice and advertising. A Trucost 2012 report highlighted that the food sectors' environmental costs were estimated to be 224% higher than their financial earnings; the only sector for which environmental costs outweighed earnings.
- The measurement and monetised valuation of impacts is an emerging method for companies, investors, and, potentially, regulators and consumers, to account for positive and negative impacts of the food sector on society's shared natural and social capital.
- Present impact valuation methodologies are diverse and nascent. Impact valuation methodologies are beginning to be used for business risk and ESG reporting in the financial sector. It is unclear yet the amount of transformation of the food system these uses will drive. The methodologies are currently not fit for regulatory use or economic policy. Given the wide range of methods and their imprecision it remains difficult, and in most cases, inappropriate, to apply them to, for example, regulatory limits, measuring compliance, comparison of vendors' products, taxation, transfer payments, and litigation.
- Recognising the potential scale of the benefits of impact valuation, and also the scale of the challenges to its realisation, a collective of food companies, NGOs and academics formed the Food System Impact Valuation Initiative (FoodSIVI) to further the development of impact valuation. The Oxford Meetings on Food System Impact Valuation are designed to foster collaboration and exchange between leading environmental and food systems scientists, data scientists and technologists, policy and legal academics, civil society groups pushing for policy change, and companies at the forefront of integrated reporting of environmental, social and health impacts in the food system.
- The Second Oxford Meeting on Food System Impact Valuation (Oxford; March 27-28, 2018) focussed on current research needs and standardisation and interoperability of current methods. It was attended by representatives from Arla Foods, Danone, Mondelez, Nestlé, Novartis, Olam, Sainsbury's, Yara, Quantis, PRé Sustainability, EAT Forum, Global Alliance for the Future of Food, GODAN (Global Open Data for Agriculture and Nutrition), Sustainable Food Trust, WBSCD, WRAP, WWF, and academics from UK, EU and US universities. It was co-convened by the academic leads of FoodSIVI; the University of Oxford's Food Systems Programme, the Environmental Law Program at Pace University's Elisabeth Haub School of Law, and UC Davis' Agricultural Sustainability Institute.
- The Second Oxford Meeting identified:
 - standardisation and interoperability as an urgent priority, to accelerate change in food systems through
 - integrated environmental, social and health impact reporting of food companies
 - enabling 'true cost' public procurement of food products
 - that without interoperability, impact valuation methods and initiatives risked fragmentation like ecolabels and a diluted effect on food system transformation
 - the need for a fully system perspective to integrate environmental, social and health externalities together
 - the capability of big data and technology to accelerate the interoperability and use of impact valuation
 - research gaps in:

- valuation of health impacts – the Meeting members roundly agreed on
 - the need for the context of the individual in health impact valuation and integration of such a method with environmental and social valuation
 - the current lack of an agreed method
 - how to bring together different groups and existing methods to produce agreed and transparent values for integrated reporting and public procurement
 - incentivising the digital transaction of environmental and social data along supply chains through
 - leveraging capital dividends from financial ESG incentives (loan discounts, green bonds, ETS credits, etc.)
 - public procurement as a lever
- the need for legitimacy and transparency in impact valuation methods
- These needs were commonly agreed, and deemed necessary to be solved to accelerate standardisation and the potential transformative use of impact valuation.
- Significant progress on these needs could be achieved within a 4 year timeframe. The FoodSIVI Steering Group has developed a 4 year plan of core research and project development, with staff headquartered in Oxford. Designed to address the above needs, it will further the potential of impact valuation for leveraging political and financial capital to reduce the externalities of the food system, and realise pre-competitive private and public funded research projects amongst industry, academia, government, and civil society networks initiated during the first two Meetings.
- Overall, the plan will complement current valuation methods and form research initiatives targeting their gaps and their lack of interoperability. It is intended that research will align with the initiatives of the Natural Capital Coalition and Social & Human Capital Coalition, the WBSCD-EAT FReSH programme and corporate integrated reporting initiatives.
- Details of the workplan are available in a separate document. The Steering Group will seek core funding for the plan during the second quarter of 2018.

Workshop content

- Opened by Sir Charles Godfray, Director of the Oxford Martin School, and Pavan Sukhdev, International President of WWF and Study Leader of the UN led TEEB initiative, the Second Meeting had three sessions and six panels focussed on: (i) current integrated natural capital valuation reporting of food companies and current methods for health impact valuation; (ii) current data requirements for impact valuation and the potential role of big data and technology; and, (iii) public policy shaped and/or enabled by impact valuation and legal barriers to realising impact valuation.
- While opening the meeting and welcoming delegates to Oxford, Sir Charles Godfray reiterated the notion of “public money for public good” and that food policy should incentivise natural and social capital benefits provided by farmers and companies.
- Pavan Sukhdev’s address highlighted the urgency for standardization and consistency, and the breadth of the TEEB AgriFood method as a comprehensive framework for the inclusion of natural capital risk in business decision-making. Pavan noted the interest or demand of investors for natural capital considerations and their dissatisfaction with current reporting, raising that investors and regulators favour integrated reporting of economic, natural and social performance.
- Panel 1A concerned operationalising the Natural Capital Protocol and the Social and Human Capital Protocol, and current integrated reporting of food companies. The panel presented case studies from multinational food companies that have implemented impact valuation approaches in their decision making. Impact valuation can be used in various divisions of a food company: in procurement to advise farmers in the supply chain about best agricultural practices, in finance to prioritize ESG programs, or with investor relations to highlight an organisation’s benefits for society and the business. The panel also

identified important differences between the environmental and social and human dimensions. Environmental aspects usually can be expressed quantitatively, and mostly result in negative impacts from the baseline (higher environmental impacts than in the absence of a human intervention). The social and human aspects are sometimes difficult to express quantitatively (let alone to express in monetary units), and they can be positive or negative, as compared to a baseline of no human intervention (for instance child labour as a negative impact vs. training programs as a positive one).

- Panel 1B concerned valuing health impacts due to the food sector. The panel noted that valuation of social and particularly health impacts were more difficult to measure and value than financial and environmental impacts. The panel presented case studies of estimating indirect and direct impacts on human health from the operation of food companies. Indirect effects included social improvements in developing communities such as water and sanitation, cooking conditions (e.g. particulate matter from internal stoves), reduction in deforestation, and child labour and nutrition. Positive and negative direct human health impacts of food consumption were presented using each of a top-down and bottom up valuation. DALYs (Disability adjusted life years) were the economic metric used in both studies. The top-down approach involved determining the major factors resulting in lost DALYs for a population, and then associating food consumption to those factors. The bottom-up approach involved modelling how food consumption change known human health risk factors such as cholesterol and blood pressure, and using medical health studies to estimate changes in DALYs from increases or decreases in the risk factors. The panel discussed the advantages and disadvantages of each method. Audience responses focussed mostly on the complexity in attributing health changes to food consumption, e.g. variation of impact on subpopulations with differing biological and physical activity characteristics, evaluating products in the context of diets, the role of advertising, and the ability and incentive of companies to limit consumption.
- The Meeting included a Public Panel at The Queen's College's Shulman Auditorium titled "The true cost of food: can we afford it and how do we change it?" Chaired by Sam Bickersteth (Rockefeller Foundation Economic Council on Planetary Health), the panel members were Lauren Baker (Global Alliance for the Future of Food), Patrick Holden (Sustainable Food Trust), David Barling (University of Hertfordshire), Ian Noble (Mondelēz International), Duncan Williamson (WWF-UK) and Stephen Nelson (DEFRA). Several panellists made strong appeals for the need to include in the price of food the externalities borne by nature and society during its production, processing, and consumption. It was noted by panellists that price is the most important aspect to consumers, environmental concerns often the lowest, and linking natural and social cost to price would incentivise lowering the externalities. Audience members noted the complexity in navigating what are 'good' foods to buy and the high level of processing in modern food stuffs. The point was raised that if the costs of the full lifecycle of food are not paid for directly, they will be still paid for in taxes to address the consequences of deforestation, climate change, public healthcare costs, etc. The externalities will not 'go away' and will re-emerge elsewhere in the economic system. Politically, increasing the cost of food was viewed as unlikely to happen. It was noted that taxes, like sugar or meat taxes as discussed by audience members, are only one of the mechanisms to incentivise lowering the cost. In a UK "food policy" a suite of measures are needed to act holistically on the whole system. True cost accounting was not just about taxation, but first and foremost a method to account for the externalities produced, where, how much, what type, when, by whom? To be most effective there need to be international sustainability standards in the food system to account for natural, social and health impacts, similar to, and as an extension of, international accounting standards developed during the twentieth century.
- Panel 2A concerned current data for impact valuation. The panel noted the majority of impact estimates concern GHG emissions and water, and that LCA databases are the primary data source used. There are a range of private and public databases, with the most detail in private databases. Gaps include spatiotemporal details, post-farm gate stages, post-retail stages, consumption, estimates of ecosystem services and social impacts. Particular gaps noted in private databases for issues of concern to clients were pollination, biodiversity, soil health, and marine plastics pollution. Other data included the detailed examination by companies of some of their own supply chains, and hybrid approaches where missing data were interpolated by top-down estimates such as market share or population level consumption. The panel noted there was not enough data accessible for impact valuation, especially for holistic valuation,

and it was raised that the Natural Capital Coalition has a new data initiative. Impact valuation for business decision-making is often contextual and needs data for that context. LCA is based on global or national averages and is not context specific. The panel noted the many sustainability tools and frameworks based on LCA data and ecosystem models, and the needs for standards. Spatiotemporal impact data, from specific supply chains and along their breadth, is one of the potential contributions from big data and technology solutions such as blockchain.

- Panel 2B concerned the role of big data and technology for environmental, social and health impact data in food systems. The panel noted existing data science concerning food, where small and large research bodies are already building standardising food ontologies (vocabularies with relationships) around agriculture, food science, personal biochemistry, supply chains, etc. These ontologies form a web and standardized language (like html and the internet) allowing the description of food production, processes and consumption, allowing data around different aspects of food to be connected and interoperable, and allowing connection between sensors and hardware. It was noted though that most of the focus, existing investment, and research, is concentrating on food safety and personalised health applications, not on tracking environmental and social externalities created by the food system. The panel view was the technology is there, business opportunities exist, what was required was incentives for building the infrastructure and standards requires for the transaction of environmental and social data down the value chain, and considerations around data security, integrity, ownerships, accessibility, and transparency.
- Panel 3A concerned the use of current impact valuation methods to inform public and private policy. The panel agreed that true cost accounting showed that the current food system needs to change but questioned the nature of the change that it offers. They voiced the concern that impact valuation methods accept the status quo of the current food system and its operations. This acceptance can lock the food system into its current key drivers notably, the industrialisation of (food and feed) commodities. Commodity production and its re-assembly as ingredients in processed and manufactured foods and feed reflects degrees of corporate control over decision-making in the food system. The panel raised the point that the agency of small holders that make the vast majority of the world's food producers needed to be introduced into these policy debates. They reflected that these concerns around participation and public and private policy processes could well take the debates beyond the boundaries of the food system.
- Panel 3B concerned legal barriers in the development and use of impact valuation tools and the potential of public procurement to incentivise change in the food system. The panel noted that legal systems play a critical role in the standardization and implementation of impact valuation. Key public governance tools include public procurement laws, product disclosure requirements, and food production regulatory standards. Markets for food are highly regulated. For instance, EU law contains extensive food product labelling requirements governing both mandatory and voluntary disclosures. Even where food system governance is primarily driven by private actors, consumer protection laws, privacy laws, and tort law shape data gathering and sharing. It was noted that impact valuation tools pose challenges for these legal structures because they involve complex causal chains, thus making it difficult to connect harms to particular actors in the food system, and they intersect numerous legal jurisdictions with different standards. The panel raised the issue of international trade law, noting that, in the context of public governance, it may restrict that using environmental and social impact criteria to regulate or impose levies on imported goods. The panel noted public procurement was a loophole, where government actors can adopt standards for purchasing products that satisfy environmental and social criteria even if those products are more expensive than conventional products. Effectiveness of law in adopting impact valuation tools to achieve change and in regulating private adoption of impact valuation tools depends on the criteria adopted, and so the law can only be as effective as the underlying impact valuation methods.
- Closing remarks noted that achieving the necessary food system transformation needs better tools to assess the impacts across a better-balanced set health, business and environmental outcomes. The Second Oxford Meeting of the Food System Impact Valuation Initiative significantly refined the vision of an integrated, multi-sectoral endeavour to this end. The need now was to develop a small number of well-targeted, fundable projects with which to launch the research phase. Also needed was to build appropriate infrastructure to coordinate and manage the Initiative. The Steering Committee will be working on both these aspects in the coming months.