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Analysis

Organic Food Retailing and the Conventionalisation Debate[☆]Marion Desquilbet^{a,*}, Elise Maigné^b, Sylvette Monier-Dilhan^b^a Toulouse School of Economics, INRA, 21 allée de Brienne, 31015 Toulouse cedex 6, France^b Centre INRA Toulouse Occitanie, Observatoire du Développement Rural, 24 Chemin de Borde Rouge, Auzeville – CS 52627, 31326 Castanet Tolosan cedex, France

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ABSTRACT

We propose an empirical study of French sales in conventional food retailing and in specialised organic stores for 2012. We examine the plant or animal origin of food products, as an indicator of the environmental and health impacts of sales, and their degree of processing, as an indicator of their health impact. The results indicate that sales of organic food products are more plant-based and less processed in specialised organic stores than in conventional retail stores, two criteria for a better health and environmental impact. In conventional stores, organic sales are more plant-based and less processed than conventional sales. Organic sales in conventional stores show some specificity, having the highest share of particular product ranges lacking a clear health or environmental impact, such as processed culinary ingredients or unprocessed or minimally processed animal products. Building a typology of buyers in conventional stores, we find that even purchases by buyers with the highest organic purchase intensity in conventional stores are less plant-based and more processed than average purchases in specialised organic stores. Our results characterise to what extent some of the holistic environmental and health impacts of organic agriculture are lower in conventional retail stores than in specialised organic stores in France in 2012.

1. Introduction

Sales of organic food products, while remaining relatively small, are increasing significantly in developed countries. In terms of sustainability, the effects of this increase are subject to debate. The contribution of this research is to analyse sales of conventional versus organic food products by retailers in France in 2012, distinguishing between sales in the major retailing networks of organic products, conventional retail stores and specialised *organic stores*; to our best knowledge, this approach is new in the field. Sales structures are characterised in terms of two indicators that can be identified within our data: the plant-based versus animal-based nature of products and their degree of processing.

Current food systems raise many sustainability issues. They impact air, water and soil pollution, biodiversity, ecosystems, energy use and climate change, with negative effects on human health and the environment (Foley et al., 2011; Bourguet and Guillemaud, 2016; Sutton and van Grinsven, 2011). The ongoing nutritional transition towards more animal products, vegetable oils and sugar, to the detriment of basic plant-based products, accentuates these deleterious effects (Tschamtké et al., 2012; Kearney, 2010). Worldwide, many people are overweight, some of them obese, while many others are chronically undernourished (World Health Organization, 2015; FAO et al., 2017;

Allen et al., 2011). Social and equity related dimensions are also key dimensions of a food system, pointing to both what is produced and by whom (Pretty et al., 2010). In this context, a major challenge for the coming period is the transition towards sustainable food systems, that is, food systems that ensure food security and nutrition for all now and in the future and that provide food that is healthy, of sufficient quality and quantity, affordable, safe and culturally acceptable (HLPE, 2017; Johnston et al., 2014).

Increasing awareness of issues raised by chemically intensive food systems has contributed to the sizable growth of organic farming, a production method that excludes synthetic fertilisers and pesticides. The global organic food market has nearly tripled in ten years, from \$24.7 billion in 2003 to \$70.1 billion in 2012 (Agence Bio, 2014). Growth in demand for organic products is driven mainly by considerations related to health, product quality and the environment (Hughner et al., 2007). However, the development of organic farming has generated controversies that revolve around two main elements.

First, some critics point to the lower yields obtained by organic farming compared with conventional farming. To produce the same quantity of a given crop, more land must be cultivated with organic farming than with conventional farming, leading some authors to conclude that organic farming may have negative impacts on

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Abbreviations used in this article

PAC (plant, animal and combined) classification of food products that separates plant-based products (or plant products, i.e., foods from plants); animal-based products (or animal products, i.e., foods from animals, including meat, fish, egg, milk, cheese, and yogurt); and combined products (foods from both plants and animals).

NOVA (a name, not an acronym) food classification that categorises foods according to the extent and purpose of food processing (Monteiro et al., 2016).

Conventional stores conventional large and medium size retail stores, which sell both conventional and organic food products

Organic stores retail stores from the specialised organic retail channel, which sell only organic products

biodiversity and greenhouse gas emissions, offsetting the environmental gains associated with this production method (Kirchmann and Thorvaldsson, 2000; Trewavas, 2001; Emsley, 2001; Hodgson et al., 2010; Gabriel et al., 2013; Pickett, 2013; see Tuck et al., 2014 for a discussion). This analysis is consistent with the analysis that a land-sparing strategy (intensive farming that leaves more room for natural areas rich in biodiversity) may encourage the conservation of more biodiversity than a land-sharing strategy (lower-yield farming that allows for a share of cultivated land between agricultural production and biodiversity but that uses more land to produce the same amount of a crop) (Green et al., 2005).

One answer to these criticisms is that conventional and organic farming cannot be compared on a production-by-production basis; instead, differences in the composition of conventional and organic diets must be taken into account to compare their effects. On the production side, organic agriculture exhibits differences in terms of crop rotations, associations between crops and livestock, rearing methods and food additives, contributing to a specific balance of different types of production and better nutritional quality (Reganold and Watcher, 2016). On the consumption side, the higher cost of organic products compared to similar conventional products can lead regular organic consumers to adjust the composition of food product bundles to control their expenditures (see Desquilbet et al., 2017, for a description of the driving mechanisms). Moreover, the motivation of organic consumers in terms of nutrition, health, environment and social criteria are likely to guide their diets. Thus, based on survey data in France, Kesse-Guyot et al. (2013) and Baudry et al. (2015) suggest that the regular consumers of organic products have a healthier diet than other consumers, including more vegetables, less meat, less alcohol and fewer sweet products.

The second element of the controversy is the tendency of organic agriculture to develop certain characteristics of the conventional food system, converse to its original intent, with potentially negative impacts on several dimensions of sustainability. This trend has been described in the academic literature as the conventionalisation of organic agriculture, introduced by Buck et al. (1997) and developed, in particular, by Guthman (2004) from the analysis of industrial organic farming in California. Buck et al. (1997) define conventionalisation as agribusiness finding ways to industrialise organic production by reconfiguring farm processes as inputs so they can be produced in the factory and by adding value and asserting control in the processing, distribution, and retailing links of the commodity chain. They find indications of the conventionalisation of organic production in California, particularly at the marketing and distribution end of the commodity chain (regional specialisation, growth in organic imports, growth of intermediaries that coordinate organic food supply chains, brand name marketing and growth in the retailing marketplace). They also describe how conventionalisation occurs at the farm stage (notably with less stringent

agronomic methods, more purchased inputs, a growth in farm size and more near-farm mechanised processing). Conventionalisation covers a wide variety of processes, and its intensity and consequences are debated; overall, however, different authors agree that it is likely to diminish the environmental and social transformative potential of organic agriculture (see the review by Constance et al., 2015, section 9.3).

The literature on alternative food networks shifting away from the industrialised and conventional food sector includes related questions and analyses. Wiskerke (2009) argues that different development trajectories of alternative food networks will have different levels of effectiveness and sustainability impacts. Sonnino and Marsden (2006) reflect that there are no clear boundaries between alternative and conventional food systems and that there is a need for conceptual and methodological tools to explore the nature and dynamics of the alternative sector. Watts et al. (2005) argue that weaker to stronger alternative systems of food provision exist along a spectrum, on the basis of their engagement with conventional food supply chains. They contend that organic agriculture is a weaker alternative system of food provision that is vulnerable to incorporation and subordination within conventional food supply chains because its public label emphasises the foods concerned and not the networks through which they circulate and because consumers consider its high quality to stem mainly from its taste and expected positive health impact. Forsell and Lankoski (2015) discuss the ambiguous impacts of the hybrid nature of alternative and conventional food networks on the different dimensions of environmental, economic and social sustainability. On one hand, alternative foods sold through mainstream retailers gain access to the infrastructure of the conventional network, which may provide advantages through economies of scale and by complementing the insufficient alternative distribution channels. On the other hand, corporate food system actors may weaken practices and even governing standards by limiting or reducing the sustainability impacts of the alternative characteristics inherent to the production of these alternative foods.

Previous literature on the conventionalisation of organic farming has included empirical analyses on the sectors downstream from farming, but focused on the processing stage (Howard, 2009; Johnston et al., 2009). The increase in sales by conventional retailers is presented as a driver of the conventionalisation of organic agriculture in the academic literature but has not been the topic of dedicated empirical research. The strong penetration of conventional retailers into the organic market is also the subject of public concern and debate (Laville and Vidal, 2006; Baqué, 2012; Dion, 2013; Mercury News, 2014; Hielscher, 2017). One issue under discussion is the power of large-scale retailers in negotiations with producers and the resulting downward pressure on prices. This price pressure could encourage the industrialisation of production methods, organic monoculture, regional specialisation and imports from countries in which labour is cheap and conditions are poor for farmers, to the detriment of local employment. Discussions also cover the scope of product bundles supplied in conventional retail stores, including the gustatory quality, possible overpacking and excess advertising of these products. To date, however, no empirical research has examined sustainability indicators of the composition of organic product sales by the main players in organic retailing. This theme is the subject of the research presented here, which characterises the sales structure of food products in the two main retail channels of organic products.

This analysis is applied to the case of France in 2012. With national differences between countries, Europe is characterised by a predominance of organic sales in conventional retail stores; specialised organic retail channels also account for a relatively large share of sales, while direct sales represent a smaller share (IFOAM, 2016, Fig. 7). In 2012, Europe accounted for 44% of the world consumption of organically produced products, just behind North America. Representing 19% of sales of organic food products in the European Union that year, France was the second largest consumer country of organic products in this zone, after Germany. The share of organic products was 2.4% of

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