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## Global Figures: Tools for Observing and Governing Agricultural Markets (1880s-1940s)

### Introduction

*Chiffrer le monde. Outils pour observer et gouverner les marchés agricoles (années 1880-1940)*

**Federico D'Onofrio and Niccolò Mignemi**

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## **Global Figures: Tools for Observing and Governing Agricultural Markets (1880s-1940s) Introduction**

The decline in transport and communication costs during the second half of the 19th century pushed forward the integration of local agriculture in international markets. Looking at these dynamics, historians have emphasized the ability of markets to induce structural changes and promote economic growth.<sup>1</sup> At the same time, they have shown that, for farmers and consumers, these developments entailed a proliferation of intermediaries, the growing power of trusts, and a perception that the new markets were unfairly tilted against farmers. The American populist movement and the protectionist agricultural movements in Europe arose partly in response to this situation, as state and business actors became increasingly aware of the interconnection between domestic and global issues.

While the existing literature has focused on its economic effects and social impact, the expansion of global markets went hand in hand with a unprecedented need for global figures as tools for knowledge and governance of these markets, their opportunities and dangers. Information availability proved, in fact, to be an asset no less strategic and valuable than the control over foodstuffs and raw materials. The three articles featured in this issue of *Histoire & Mesure* investigate the emergence of the informative infrastructure that underpinned attempts at taming global markets in the period from the 1880s to the mid-20th century. They draw particular attention to the variety of actors involved and the initiatives taken to withstand such turbulent decades for the world economies. Aashish Velkar's contribution describes how the London Corn Trade Association (LCTA), starting in the late 19th century, created a "private legal system" based on standardized contracts, a grading system, and arbitration procedures, thus enabling smooth transactions. Federico D'Onofrio and Niccolò Mignemi track the evolution of what is probably the

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1. G. FEDERICO, 2005; P. LAINS & V. PINILLA, 2009; V. PINILLA, 2009.

first international provider of harvest statistics, namely the Bureau of Statistics of the International Institute of Agriculture (IIA), from its foundation in 1905 to its demise in the wake of the Second World War. Looking at the Foreign Agricultural Service of the United States Department of Agriculture (USDA) and its predecessors, Hannah Tyler, for her part, explores the multiverse that enabled American farmers to benefit from the position of the country as a global seller.

The timeframe we have chosen to investigate these developments is particularly significant as it is bounded by two turning points. In the late 19th century, international trade was a driving force of the second agricultural revolution identified by Paul Bairoch,<sup>2</sup> but it proved disruptive as well, on both sides of the Atlantic. The spectre of the “grain invasion” haunted European agrarian elites, while monopolies became an increasing concern for American farmers as the control of merchants and transport companies over trade flows grew in strength.<sup>3</sup> The multiple overlapping crises of the 1880s thus contributed to a backlash against globalization and to the emergence of nationalist ruling classes. The chronological endpoint corresponds to the emergence of a new geopolitical order at the end of the Second World War, opening the era of the so-called mercantile-industrial food regime characterized by fossil fuel energy and state subsidies.<sup>4</sup> Recently, historians have placed increasing emphasis on the dynamics and the technoscientific innovations that prepared and finally enabled the great acceleration that disrupted rural worlds from the 1950s.<sup>5</sup> While continuities certainly exist, the interwar transition and the establishment of a new food regime in the Cold War era seem to represent significant breaks in the governance of the agricultural markets, as confirmed by the existing literature on the Food and Agriculture Organization of the United Nations and the international agencies specialized in this domain.<sup>6</sup>

Overall, the contributions featured in this issue cover an uneasy period when international trade was reaching unprecedented levels but was also contested, subjected to various regulations, and sometimes severely impeded.<sup>7</sup> To characterize the period that started in the 1870s, some historians point to the emergence of an agro-industrial knowledge society stretching across the

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2. P. BAIROCH, 1989.

3. K. H. O’ROURKE, 1997; A. KLEIN, K. G. PERSSON & P. R. SHARP, 2020.

4. H. FRIEDMANN & P. McMICHAEL, 1989; H. FRIEDMANN, 2005; C. MARTIIN, J. PAN-MONTOJO & P. BRASSLEY, 2016; F. KRAUSMANN & E. LANGTHALER, 2019.

5. C. BONNEUIL & F. THOMAS, 2010; J. HARWOOD, 2012; L. FERNÁNDEZ PRIETO, J. PAN-MONTOJO & M. CABO, 2014; M. LYAUTEY, L. HUMBERT & C. BONNEUIL, 2021; M. LYAUTEY & C. BONNEUIL, 2022.

6. R. JACHERTZ & A. NÜTZENADEL, 2011; C. KNAB & A. RIBI FORCLAZ, 2011; C. A. PERNET & A. RIBI FORCLAZ, 2019.

7. A. NÜTZENADEL & F. TRENTMANN, 2008; G. FEDERICO & A. TENA-JUNGUITO, 2017.

North Atlantic and fuelling technological transfers.<sup>8</sup> Others stress the creation of regulatory mechanisms in national and – to a lesser extent – international markets.<sup>9</sup> Focusing on the issues connected to data and measurement, the authors in the present issue combine these two different perspectives. They show how scientific expertise and professional networks, alongside government regulation and private arrangements, helped to shape today's world markets.

The three articles share a common interest in the emergence of a cognitive infrastructure of trade in agriculture that they analyse through the lens of the actors and the sites involved in the production and dissemination of information. The category of cognitive infrastructure frees their perspectives from a narrow focus on either statistics or metrologies and standards. In fact, this category encompasses diverse kinds of information and the practices of production, collection and distribution that enabled information to produce effects on markets. While existing narratives draw attention to the emergence of metrologies and common standards at the national level,<sup>10</sup> this issue explores how specific knowledge tools and coordination frameworks were implemented – involving governments, international organizations, and business groups – in response to the globalization of agricultural markets. The growing world trade in foodstuffs and raw materials needed standards, grades, data, and statistics, just like it needed roads, steam engines, and telegraph cables. Looking at the cognitive dimension thus provides a fresh perspective on the emergence of global agricultural commodities. It allows us to expand the debate on the role of modern states in ensuring the institutional and political conditions for trade expansion.

Information on crops and quality standards were part of the infrastructure of markets, but also goods that had to be provided and paid for, either by governments as a public good, or by private suppliers as a variously accessible commodity. Starting from different geographical and chronological contexts, the three articles here examine the array of possible agendas, funding schemes, and collaborations among scientific, governmental and professional actors that made the supply of information possible. Aashish Velkar's study of the practices of the LCTA highlights the role of business organizations not only in setting standards and measures but also in sharing items of information (on contracts and grade) that were essential for the functioning of 20th century commodity markets. The categories institutionalized by the practice of the London corn traders extended – thanks to the influence of such a major market – well beyond the City, shaping standards and facilitating the acceptance of different quality conventions in Europe and North America. In this case, information remained essentially a club good, shared equally

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8. D. FITZGERALD, 2003; E. S. ROSENBERG, 2012; J. AUDERSET & P. MOSER, 2018.

9. N. KONING, 1995; A. CHATRIOT, E. LEBLANC & É. LYNCH, 2012; P. MOSER & T. VARLEY, 2013; A. CHATRIOT, 2016.

10. W. CRONON, 1991; A. STANZIANI, 2005.

among the association's members. Hannah Tyler, for her part, describes how and why, in the 1920s, the USDA decided to establish its overseas information service, which eventually became the Foreign Agricultural Service. The collection of data and time series on other countries was intended here to monitor and forecast supply, demand, and competition in international agricultural markets, with a view to steering the export-oriented activities of US farmers. Building the "foreign eyes of American farmers", the idea was to provide information as a public good, subsidized by the government to address an essentially domestic problem. The case analysed by Federico D'Onofrio and Niccolò Mignemi thus represents an intermediate and pivotal point in this evolution from the corporatist forms of the late 19th century to the statist management of information in the interwar period. The IIA was created to resolve issues of information asymmetry, by making markets more transparent and counterbalancing the power of private forecasters whose bulletins were potentially capable of spreading false reports and encouraging toxic speculation. Initially inspired by ideals of farmer self-organization, the institute turned into an intergovernmental organization reliant on official data and government funding.

In the present issue, the "visible hands" – in Velkar's wording – that produced, collected, stored, and distributed information across markets may have different forms. Be it a government, a private or international organization, the three case studies suggest that the real impact of data cannot be separated from considerations on the social and economic interests that had to share the costs and profits associated with information production and circulation. At the heart of market functioning, the ancient *privilège de l'information*, in other words, "the inestimable advantage of a good communications network at a time when news travelled very slowly and at great cost"<sup>11</sup> was reshaped but not removed by the growth in traded volumes and the densification of interconnections that protectionist barriers hindered but did not stop. These dynamics were especially visible in the years preceding the First World War and the interventionist turn in the economy. Alain Desrosières, for instance, aptly captured one dimension of state intervention in the era of classical liberalism, namely the provision of statistics to make markets work.<sup>12</sup> However, he failed to focus on the market for statistics – a product with competing suppliers, both governmental and private.

Looking at the interplay between governmental and non-governmental actors, and the possible combinations of official and unofficial data, the three articles seek to broaden these traditional state-centric and fundamentally national narratives. While the role of scientists, civil servants and policymakers

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11. F. BRAUDEL, 1979, p. 353 (for the English quotation, see *Civilization and Capitalism, 15th-18th Century*, vol. 2: *The Wheels of Commerce*, New York, Harper and Row, 1982, p. 400).

12. A. DESROSIÈRES, 2003, pp. 554-558.

figured prominently in the social studies of quantification,<sup>13</sup> recent literature has, in fact, emphasized the variety of actors involved in the production of data and the implementation of norms. It has also highlighted the role of both international organizations and transnational interest groups in creating the knowledge infrastructure of agricultural trade.<sup>14</sup>

Moving from the LCTA's standardized contracts and grading system to the IIA's statistical unification project and then to the USDA surveys, the present issue furthers the debate on the various forms of market governance. It shows that the rise of global figures following the crises of the 1870s-1880s brought about a fundamental change not only in the quantity but also in the quality of the information available on agricultural markets. If the grading system described by William Cronon had allowed to "buy and sell grain as commodity almost independently from grain as crop",<sup>15</sup> global information provided the infrastructure through which this new language of commensurability could rapidly connect and ultimately shape increasingly distant markets. Agriculture was, in fact, at the forefront of a world information economy that developed well before the advent of information technologies and big data at the eve of the 21st century. The three articles here investigate these evolutions, looking at the organizational or regulatory schemes designed by a variety of actors to make interconnections and exchanges more effective, profitable or transparent. As valuable as foodstuffs and raw materials, global figures thus deserve to be studied from the viewpoint of the conditions of their production, circulation and access.

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13. A. NÜTZENADEL, 1997; A. STANZIANI, 1998; E. DIDIER, 2009; F. D'ONOFRIO, 2016.  
14. F. D'ONOFRIO, 2017; F. G. VON GRAEVENITZ, 2017; N. MIGNEMI, 2017; Q. SLOBODIAN, 2018.  
15. W. CRONON, 1991, p. 146.

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