

Food price monitoring and observatories: an exploration of costs and effects

Summary and Executive Summary



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LEI Memorandum 13-058

June 2013

Project code 2273000397

LEI Wageningen UR, The Hague

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LEI Memorandum 13-058

16 p., fig.

Project BO 12.06-002-026, Mededinging en Transparantie 2012 (Competition and Transparency 2012)

This study was carried out under the Entrepreneurship and Innovation Policy Support Programme of the Ministry of Economic Affairs.

This publication is available at www.wageningenUR.nl/en/lei

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Summary

S.1 Key findings

Price observatories, as set up in Spain and France, are very expensive to run. This is mainly due to the continuous, supplementary primary data collection by government and business.

1. The additional prices collected and published by the Spanish observatory are barely used by chain parties. However, in Spain the chain studies by the observatory have to a significant extent contributed towards the establishment of trust between actors in the chain.
2. The French observatory is still young and support for it has yet to grow. The main aim is to reduce tensions within the chain. The practical goal is to set reference prices for a large number of fresh products. It is not yet clear what this approach method will yield. The methodology has limitations in terms of approximating the complex reality, and demands time-consuming (and costly) efforts from businesses.
3. Food price monitoring is defined here as the recording and analysis of prices and/or price indices throughout the food chain. This study relates to price monitoring by or on behalf of government. This is generally based on historic data at a high level of aggregation. That may also involve analysing changes in gross margins. Price observatories often have additional and further-reaching activities.
4. The Belgian Price Observatory reports on food prices, among other things, every quarter. Like Eurostat's European Food Prices Monitoring Tool (FPMT), it makes use of existing price statistics. The advantage is that the costs are limited and that these instruments can nevertheless improve the understanding of pricing among policy-makers and interest groups. This type of price monitoring can be the point of departure for more detailed scientific analysis.
5. The German government considers the existing price statistics to be adequate for monitoring the agrarian markets and there is no special attention in the form of a price observatory.
6. In the Netherlands, less official, representative and aggregated price information is available compared with France, Spain and our neighbouring countries; indeed such information is in danger of disappearing completely. This relates to prices at wholesale level or ex-processing as well as ex-farm prices. This is not because the Netherlands does not have an observatory of its own. First of all, underlying price data may be lacking within the market; however it may also be that the collection of this price information is considered to be too expensive, or is left to private parties. If it is necessary to perform price studies due to crises or conflicts, these prices will need to be collected as supplementary information
7. The effect of greater transparency on prices is dependent on the market context. In markets with many suppliers and customers in which little is known about prices, greater transparency will lead to lower search costs and more transactions. This may result in lower end prices for consumers. The distribution of effects between chain parties cannot be known in advance. In concentrated markets, the result may be an excess of transparency: if prices are published which are too up-to-date and company-specific, actors will be able to start coordinating prices with each other.
8. Price transparency therefore does not offer a solution for unequal power relationships in the chain.

9. Figure S.1 presents an overview of options for more intensive price monitoring in the Netherlands as well as the costs.

Figure 1.1	Costs of more intensive price monitoring and research in the Netherlands a)
	- A food price barometer based on the model of the European Food Prices Monitoring Tool (FPMT) (approximately 80,000 euros per year) - Annual studies into pricing or price transmission in the chain (with ad hoc additional price gathering: approximately 150,000 euros per study) - An observatory on the French model (approximately one million euros per year) - Supplementary primary data collection (to be coordinated by market and government; costs dependent on package of extra data) - fruit and vegetables sector: ex-farm - all sectors: trade and processing
a) With the exception of the first option, in all cases there are additional compliance costs for business, which have not been included in the above costs for the government. Source: this study.	

S.2 Complementary findings

1. Scientific understanding of pricing will deepen, but the exact nature of price transmission is hard to establish. The costs of studies into price transmission are often high because disaggregated data are required. This calls for ad hoc data gathering for specific chains.
2. LEI collects, calculates, and publishes representative sale prices ex-farm (and prices of inputs). Statistic Netherlands (the CBS) gathers and calculates prices at wholesale level and processing prices and publishes price index figures. Based on scanner data, Statistic Netherlands calculates consumer price indexes and publishes them.
3. Over a period of ten years in Spain, the observatory there has resulted in mutual trust between the parties and a shared analysis among the actors in the trust sector. As such, the most important objective has been achieved. The shared vision is that the Spanish food sector has a structural problem: there are too many small producers compared to a concentrated retail sector.
 - The food chain studies of the observatory which portray gross and net margins are more cost-effective than the additional primary price collection, because they are generally valued, have contributed to the achievement of the objectives to a significant extent and the studies require much lower additional costs.
 - The government and chain parties have jointly concluded that 'fine-tuning' is required. For this reason, two laws have been drafted. The first provides a basis the foundations for drawing up voluntary 'codes of practice' between buyer and supplier. The observatory will also become a food *chain* observatory which seeks to promote good trade practices. It is expected that the latter will promote cooperation between food producers.

S.3 Methodology

The Ministry of Economic Affairs asked what the costs and effects of a food price observatory and more intensive price monitoring would be for the Netherlands. In the first instance, price observatories such as those which exist in Spain and France were considered. Face-to-face interviews were conducted in these countries with individuals involved in the observatories, but also with chain parties, in order to catalogue costs and effects. The Belgian Prices Observatory, the European 'Food Prices Monitoring Tool' and the

price monitoring in Germany were examined in more general terms using the literature, the internet and presentations to the 'High Level Forum for a better functioning Food Supply Chain'. In order to be able to compare properly, Dutch price monitoring was also described.

In a literature study, it was ascertained on the basis of economic theory what transparency means for pricing and which new approaches - in addition to the more 'standard analyses' - are used to study price transmission.

1 Executive Summary

1.1 Background

Various European governments have set up observatories for monitoring food prices in an effort to determine the reasons for the growing volatility in the prices of agricultural products and to introduce transparency in the price structure in the different stages of the food production chains. The two best-known examples are in Spain and in France. Such institutes have a permanent staff and, besides monitoring price trends in the food production chains, they carry out additional studies to, for example, find out more about the mechanisms of price transmission or price formation in food chains. In 2009, the EU member states introduced the 'European Food Prices Monitoring Tool' (FPMT) which draws comparisons between price trends in the different countries and sectors. The European Parliament now wishes to extend these activities.

Confronted with discussions on more intensive forms of government price monitoring, the Dutch Ministry of Economic Affairs asked LEI Wageningen UR to explore the costs and effects thereof. There is no food price observatory in the Netherlands, but Statistics Netherlands (CBS) and LEI Wageningen UR do publish the nominal prices and price indices of a large number of products at different levels in the food production chain. In addition, ad hoc studies are carried out in the Netherlands on price formation in the chain.

1.2 Scope

This study explores price monitoring by or for the government. It is based largely on historical data with a high level of aggregation. Food price monitoring is understood here as the determination and analysis of prices and/or price indices across the entire food chain. The activities may also extend further to analyses of the developments in gross margins. Though price observatories often engage in wider and more numerous activities, a number of countries appear to have bundled the regular data collection activities (also price data) under this single heading.

We explore the costs and effects of institutes that have started additional activities, namely: the food price observatories in France and Spain, the price observatory in Belgium and the European Food Price Monitor. Interviews were held with consumers and producers' organisations in France and Spain. Only the extra costs for the additional activities are defined (the 'partial budgeting' method). We also describe the regular food price monitoring system in Germany and the Netherlands.

1.3 Observatories and monitoring

1.3.1 Observatory of Food Prices and Margins in France¹

The aims of the observatory as defined by Boyer (2011) and Boyer et al. (2011) are listed below.

1. To provide transparency. To facilitate deeper insight into price formation mechanisms in the food chain. Greater transparency in the markets will make them function more effectively.
2. To generate knowledge. Pooling information will help to paint a clearer picture of agrochains. Information-sharing will encourage and improve dialogue between chain actors, consumers and policy makers.

¹ <https://observatoire-prixmarges.franceagrimer.fr/observatoire/Pages/default.aspx>

3. To provide references. The observatory can add to the pool of reliable economic information on costs and prices, which could serve as a 'learning tool' for chain partners, consumers, and policymakers. Exchanging information on costs and profits will build trust among the chain partners.
4. To boost development. The collection of economic information can enhance sustainable development in the agrifood sector in the long term without compromising the interests of the French consumer.

The observatory makes reconstructions of the retail prices and the gross and net margins for beef, pork, poultry, and dairy products, and for fruit and vegetables at each stage in the value chain. These reconstructions are also called references.

The observatory in its current form is still 'young'. Its staff members say that support is still limited. This view was echoed during interviews with stakeholders. The industry is particularly critical, claiming that they get nothing in return for all the time and effort they spend on collecting and submitting price and cost data, because results in the form of average prices and gross and net margins are far too removed from reality to be of any use. The staff themselves concede that the approach is too narrow, given the complexity of the markets. Insight into the actual net margins will continue to be limited because of the product-based approach. At the end of the day, at retail level costs can be attributed to a wide range of products and to different business units. The reference prices are, however, used by consumer and farmer organisations to track trends.

On the positive side, the industry and the retail organisations say that the work of the observatory and the steering group does create a platform where they can come together. Some say that the activities have actually calmed things down. The retail organisations say that they hope relations will improve between the chain partners and the consumers under the aegis of the observatory. They have been afforded an opportunity to be straight with one another. Farmers' organisations are also hopeful that the observatory will help to improve relations. The efforts of the observatory have not, however, made consumer organisations or suppliers any less suspicious of supermarkets.

So far, the results delivered by the observatory have exposed inefficiencies in the industry and the agricultural sector that need to be tackled. Basically, the observatory has made them take a long hard look at themselves. This is regarded as positive, but it could also trigger a downturn in prices.

The extra funding for the observatory relates to:

- The post of secretary-general (one FTE);
- Five FTEs stationed at FranceAgriMer¹, for the additional activities (directly involved in the collection of supplemental primary data). Other organisations (including INSEE²) will also be called upon to contribute capacity. Although this capacity will further the activities of the observatory, it is not on the payroll so no allowances are made for it in the budget;
- The collection of supplemental primary data at processing and retail level is funded by businesses. No costs are borne by the government; they are, however, borne by the business community at both levels;
- An initial version of the website in 2011 (16,000 euros) and the systematic actualisation of results on the website (1.5 FTE);
- Conference costs (to be specified).

The extra government commitment in terms of FTEs is limited. The total additional costs work out at approximately 700,000 euros, with the estimated costs of one FTE based on personnel costs in the Netherlands. The French government is collecting extra data (prices and production costs), but the chain partners are picking up the bill here. These 'compliance costs' are not specified.

¹ www.franceagrimer.fr/ Government organisation responsible for implementing policy in the agrifood sector, under the Ministère de l'Agriculture, de l'Alimentation et de la Forêt.

² www.insee.fr/ national institute for statistics and economic studies.

1.3.2 Food price observatory in Spain¹

The primary tasks of the current observatory are as follows (MARM, 2011):

1. Analyse the price structure in the food chain and the influencing factors;
2. Initiate studies to explain the imbalance of power in the market;
3. Promote dialogue, better understanding and cooperation between the interested parties in the chain;
4. Put forward policy proposals to the relevant government authorities and formulate recommendations for all other interested parties.

One of the new tasks of the observatory will be to identify unfair commercial practices. Hence, the food price observatory will become a 'Food Supply Chain Observatory'. If necessary, the Competition Authority can be called in for enforcement. This task will be laid down by law, which is still a draft proposal at present. This bill encourages the development of codes of practice for B2B relationships. Another draft proposal has been prepared to promote cooperation between producers, particularly farmers. The observatory has no special role here.

The current observatory engages in the following activities:

1. A weekly report on developments in the price of 36 fresh products at three points in the food chain (farm, wholesale, and retail). Many of these products involve fresh fish;
2. Detailed analyses of the price structure and price formation in the chain and the main influencing factors (such as trends in the development of consumption, power imbalances in the chain);
3. The organisation of a plenary meeting of all stakeholders;
4. Providing information on the activities, via the observatory website and newsletters.

All the interviewed stakeholders said they were satisfied with the observatory.

The observatory organises plenary meetings three times a year. All the chain partners value the plenary meeting as an opportunity to come together. The consumer and retail organisations even see it as a place for dialogue. The representatives of the processing industry are not too keen on dialogue at the plenary meeting; first, because they feel that there are too many organisations around the table who are not chain partners, and secondly, because the relationships are too delicate to be discussed there.

There was wide appreciation for the studies carried out by the observatory, though they were also criticised for being too static.

The weekly price reports published by the observatory are rarely used by the food chain actors. They paint a picture of the price movements but do not explain them.

Over the years, a consensus has grown among all the stakeholders that the chain is not balanced. The interpretations of the imbalance, however, are different. Some refer only to the structural problem (fragmented production as opposed to concentrated retail); others go a step farther and point to a disproportionate balance of power and unfair trade relations. The supermarket organisations stress the fragmented nature of the agricultural sector in Spain and part of the processing industry. The processing industry complains about the inefficient structure of the agricultural sector and the unfair commercial practices. Farmers and farmers' organisations are more concerned about the unfair commercial relations. The farmers' organisations have, however, recognised a fundamental problem in their own ranks, i.e., there are too many small-scale farmers.

The main contribution made by the observatory lies in the studies it has conducted and the consensus it has helped to build. Everyone agrees that further steps are needed, but also some fine-tuning. This was the idea behind the two pieces of draft legislation referred to earlier and which enjoy the support of all the parties we talked to.

The following additional costs relate to the observatory:

- A staff of ten FTEs, four for MAGRAMA² and six for Tragsatec¹ (interview), a government organisation that provides the ministry with technical assistance;

¹ <http://www.magrama.gob.es/es/estadistica/temas/estadisticas-alimentacion/observatorio-precios/>

² Ministry of Agriculture and the Environment (*Ministerio de Agricultura, Alimentación y Medio Ambiente*, aka MAGRAMA)

- Costs of materials for an extensive chain analysis by the staff: 10,000 euros per study. In the case of updates only costs and prices are adjusted. The costs are then lower (interview);
- 32 monitors who work for the observatory. This price data collection is part of a series of statistics collected periodically in Spain;
- Website, 1.5 FTE;
- Conference costs (to be specified).

The personnel costs alone (based on the average cost level in the Netherlands) amount to over 2.8 million euros a year. Of this, 1.8 million euros are needed for the collection of supplemental price data.

1.3.3 European Food Prices Monitoring Tool (FPMT)²

The FPMT is administered by Eurostat and has two aims (EC, 2009):

- To monitor the consumer prices of comparable food products in all member states in order to assess the distribution of prices and the integration of the internal foodstuffs market;
- To monitor the development of prices in all stages of the chain (agriculture, industry, and retail) for a limited number of products including bread and grain, milk, cheese, eggs, meat (beef, pork, and poultry), fish, oils and fats, apples, potatoes, and sugar and the category of honey, jam, and confectionery.

The FPMT is an important yardstick for measuring the European economy. Amongst other things, it helps to determine the rate of inflation in the different EU countries. Bunte et al. (2011) stress that caution should be exercised when comparing price trends between different countries because, for example, differences may exist in the quality of the products or in the processing flows, or products may be differently defined. It is also difficult to assess price transmission in the chain on the basis of indices, because the share of the ex-farm price in the consumer price can differ from one product to another and between countries.

All things considered, Bunte et al. (2011) conclude that the FPMT has little to offer the business community because the data are too out-of-date and too aggregated, and play no role in mediation between national markets or links in the chain. On the other hand, developments of prices and gross margins envisaged by the FPMT provide a starting point for analysing price transmission in research and policy making, and the additional costs are modest because the FPMT uses existing statistics - which was always the intention.

1.3.4 Price observatory in Belgium³

The price observatory was set up in 2009 with the primary aim of observing and investigating the various components that make up the final price and how they impact on inflation and under the responsibility of the *Instituut voor Nationale Rekeningen* (INR). The price observatory can also ascertain when market forces for specific commodities or services need further investigation (INR, 2013). Every quarterly and annual report provides openings for exploring themes in greater depth. The development of the prices of processed food across the chain has become a more or less permanent theme. The analyses are relatively simple and consist of comparisons between the indices of the aggregated prices. High consumer prices, for example, prompted a study of fresh fruit and vegetables. The INR observatory in Belgium (2013) has come to the conclusion that developments in the price paid by Belgian consumers for tomatoes, leeks, lettuce, and Jonagold apples are determined by the auction prices and that the auction prices are determined by supply and demand factors. The INR also pointed out, however, that price fluctuations are greater in Belgium than in the neighbouring countries of France and Germany.

¹ Public organisation that provides the ministry with technical assistance

² http://ec.europa.eu/enterprise/sectors/food/competitiveness/prices_monitoring_en.htm. Also available via <http://www.google.com/publicdata>, select: Eurostat, select: Food supply chain monitor.

³ <http://economie.fgov.be/nl/fod/structuur/Observatoria/Prijzenobservatorium/>

It was the intention from the outset that the observatory would request very few additional resources as it would get the most relevant data from existing institutional sources. The Federal Parliament has been asked to extend the research domain of the observatory.

1.3.5 Price monitoring in Germany

There is no price observatory in Germany. The Federal Ministry of Food, Agriculture and Consumer Protection (*Bundesministerium für Ernährung, Landwirtschaft und Verbraucherschutz* aka BMELV) coordinates the collection of data on the agricultural and food market at federal and state level. The BLE¹ (Federal Institute for Agriculture and Food/*Bundesanstalt für Landwirtschaft und Ernährung*), which falls directly under the BMELV, is responsible for collecting and processing the information. The BLE statistics are available online. One important BMELV publication is the *Statistischer Monatsbericht*, which appears once a month and reports price developments and production volumes for agricultural products. The Federal Statistical Office (DESTATIS) collects the prices of processed products. Every month it publishes on its website² the selling prices and price indices of agricultural products, the producer price indices for a large number of processed food products and the consumer price indices. This is carried out in association with the Statistical Offices of the individual states.

AMI, Agrarmarkt Informations-GmbH³, is closely affiliated to the German Farmers' Association. AMI supplies additional statistics upon request to a number of states. AMI is a private player that works on a profit-making basis. It collects and analyses data on the agricultural markets (livestock and meat, fruit and vegetables, dairy, flower cultivation, eggs and poultry, and organic crops), including price data, and formulates prognoses for market developments in the short and long term.

The German government takes the view that the current market and the price information provisions for food and agriculture, which comprise a combination of private and public initiatives, are sufficient to cover the demand. Bohlen (2011) explains: 'The current collection and analysis of statistics works efficiently and is entirely capable of monitoring developments in the agricultural markets.'

1.3.6 Price monitoring in the Netherlands

Data on the prices of food products in the Netherlands are collected mainly by LEI Wageningen UR⁴ (selling prices of agricultural products and the costs of production) and Statistics Netherlands (CBS)⁵ (prices from the processing industry and consumer prices, which are published as producer and consumer price indices). The activities of Statistics Netherlands contribute to the official price statistics in the Netherlands. At the same time, some price data (on processed products and export) are collected by the Product Boards. Ad hoc collection of price data is carried out by the Dutch Competition Authority (*Nederlandse Mededingingsautoriteit/NMa*).

A full list of the goods (inputs and outputs) for which LEI Wageningen UR collects price data can be found in De Bont & Bolhuis (2006). Prices or price indices are published once a month⁶ by, amongst others, the barometer for agricultural sectors, which shows the current production and market developments in different sectors besides providing price information. This barometer reports the selling prices of suckling pigs and porkers, free range eggs, milk, beef cattle, and broilers. As LEI Wageningen UR has databases containing the monthly and annual prices in recent decades, analyses can be performed for research or policy purposes. These analyses are used, for example, to draw up end-of year income forecasts for agricultural businesses.

¹ http://www.ble.de/DE/01_Markt/10_Statistik/statistik_node.html and www.bmelv-statistik.de

² <https://www.destatis.de/DE/Startseite.html>

³ <http://www.ami-informiert.de/> AMI can be seen as the successor to ZMP (*Zentrale Markt und Preisstelle*) which was financed through product levies until they were statutorily abolished.

⁴ <http://www.wageningenur.nl/en/Expertise-Services/Research-Institutes/lei.htm>

⁵ <http://statline.cbs.nl/statweb/>

⁶ See <http://www.wageningenur.nl/en/Expertise-Services/Research-Institutes/lei/Statistics.htm> or <http://www.barometer-agrarische-sectoren.nl/>

Price data are collected in order to meet the criteria for the representativeness and definition of a product (De Bont & Bolhuis, 2006). Representativeness is turning into a problem, particularly for ex-farm selling prices, because prices are no longer freely available in the market. As a result, the collection of price data has become an expensive exercise and has been left to private players. For example, Dutch auctions have stopped publicising price information on fruit and vegetables because it was putting pressure on the price of superior quality products. In such cases, LEI calculates and publishes only price index figures.

Every month, Statistics Netherlands reports the consumer price index and the accompanying cost price index for a group of foodstuffs. The cost price index is an adjusted shopping basket of products based on the producers' price index for domestic consumption.¹

1.4 Transparency and price transmission

Agricultural producers, food processors, and the wholesale and retail trade will be interested first and foremost in real-time market information or prognoses on prices or production volumes. Price monitoring by the government is, however, based largely on historical data at a high level of aggregation. These aggregated historical price data can form a reference for markets in which transparency is low. In markets with many customers and suppliers, in which little is known about prices, greater transparency will bring down the search costs and encourage transactions, and possibly lower the final consumer prices. The distribution of effects across the chain partners cannot be determined in advance (Stiglitz, 1989; OECD, 2010). In concentrated markets there may be too much transparency. When prices that are too current and too business-specific are made known, the players can attune prices to another, even without actually meeting. The dairy market described by the Federal Cartel Office (*Bundeskartellamt*, 2012) is a classic case in point. The effect that greater transparency will have on prices therefore depends on the actual market context.

Normally, price transmission studies are based on econometric models that estimate the relationships between prices at different levels in the chain. Three aspects are researched (Bunte et al., 2003):

- the extent of price adaptation; how much of the price change in one link is passed on to the other links;
- the speed of the price adaptation; the time needed for a price change to work its way through to the other links;
- asymmetry in the price adaptation; the degree to which differences exist in the adaptations of positive and negative price changes.

In fact, strongly disaggregated price data are needed for researching price transmission in the foodstuffs chain. But these data are expensive to collect and compile. Research on price transmission also figures prominently in the European TransFOP Project², and the first papers it has published suggest that determining the exact nature of price transmission is still a very tricky business. There are considerable differences between countries and chains. The studies do, however, improve insight into all factors that may affect prices.

1.5 Conclusions

As mentioned earlier, the effect of greater price transparency depends on the market context. Price transparency does not therefore offer a ready-made solution for unequal power relationships in the chain.

¹ <http://statline.cbs.nl/StatWeb/publication/?VW=T&DM=SLNL&PA=81460NED&D1=0,3&D2=0-9&D3=132-155&HD=130313-1403&HDR=T,G1&STB=G2>

² http://www.transfood.eu/init_transfop.html

Price observatories similar to those in Spain and France are costly, mainly because of the constant collection of supplemental primary data by the government and the business community.

The additional prices collected and published by the Spanish observatory are barely used by the chain actors. The food chain studies that map out the gross and net margins and the subsequent discussions in the plenary meeting have, however, gone a long way to improving trust between the players in the chain. In the process, the observatory has achieved its principal aim. The food chain studies therefore emerge as a more cost-effective activity than the collection of supplemental primary data.

Like the Eurostat European Food Prices Monitoring Tool, the Belgian price observatory uses existing price statistics. This keeps the costs under control while enhancing insight into price formation for policymakers and interest groups. This method of price monitoring may serve as the starting point for more detailed scientific analyses.

Fewer official, representative, and aggregated prices are available in the Netherlands than in France, Spain and the neighbouring countries. These are wholesale or ex-works prices in general and ex-farm prices in the fruit and vegetable sector in particular. This is not because there is no observatory in the Netherlands, but underlying price data may be lacking in the market, the collection of such price data may be considered too expensive and/or it may be left to private organisations. If price data studies are ever needed in times of crisis or conflict, supplemental collections will have to be carried out.

The report does not argue for the establishment of a food price observatory in the Netherlands. An observatory based on the French model would mean additional costs of around one million euros a year in the Netherlands. The costs would be higher than in France because of the collection of supplemental primary data. The financial burden on businesses is not included in the calculations. However, a simple tool similar to the European Food Prices Monitoring Tool could be developed for the Netherlands. As it would use existing price data, the costs would be limited (approximately 80,000 euros a year) and it would provide insight into price formation for policymakers and interest groups. This type of price monitoring could serve as a starting point for more detailed scientific analyses. The necessity for the collection of supplemental data by the government for the fruit and vegetable sector (ex-farm phase) or for several sectors in the processing phase would have to be discussed and agreed with the market players.

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