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Re: OECD FOOD CHAIN ANALYSIS NETWORK MEETING
FMB Responses

The OECD Secretariat is preparing a report on food price formation for the November 2014 Working Party on Agricultural Policies and Markets (APM). A scoping paper (TAD/CA/APM/WP(2014)16) describing this project was presented at the May 2014 APM. In that context we are seeking some direct input from your delegation on the activities undertaken in your country to look at food price formation issues.

We would like to ask you to update - if relevant - the information that was provided by your delegation three years ago through a survey of activities in food price formation, transparency and monitoring along the chain in the context of the 3rd Food Chain Analysis Network (FCAN) meeting.

Information was sent through Steve Crutchfield and on to Steve Neff. Attached.

In addition to this update, we are looking for information concerning the role of institutions in providing food price formation data and analysis. Case studies based on countries' experiences will be presented in the paper. To prepare the case studies, would you please provide information on the following set of questions?

1. Is there a monitoring entity of food prices, food price transmission and/or of contractual arrangements along the chain in your country? What is its name? When was it established? Does it look specifically at certain products/sectors?

Yes. The Bureau of Labor Statistics, U.S. Dept of Labor (BLS) measures and tracks average prices for farm, wholesale, and retail foods on a monthly basis for the United States. The BLS does not account for or measure contractual arrangements. It also does not formally measure price transmission, beyond measuring prices and price changes at various stages of processing.

The Economic Research Service, U.S. Dept of Agriculture (ERS) forecasts retail and wholesale food price inflation and also measures price transmission using BLS data.

2. What is the rationale behind the existence of this monitoring entity? What does it add to what was done in the past in terms of monitoring food prices in your country?

ERS lacks information to comment on this with respect to BLS. ERS forecasts food price inflation to inform policy implementation and adjustment as it concerns food assistance programs and to keep consumers, the media, and industry professionals informed as to develops in the food sector. Prior to ERS, to my knowledge, the U.S. government did not forecast retail food prices.

3. Can you identify three key objectives of this institutional initiative? Have they been reached? Did you set up an assessment process? Can you describe experiences that were not as successful?

No information to report.

4. Who are the "clients" of this monitoring entity: government, specific stakeholders along the chain, consumers? How do they use the tool to your knowledge?

The primary client is industry, usually wholesalers or food service professionals but also retailers. These clients are interested in forecasting expenditures and making budgetary decisions.

Media contacts comprise the second most frequent source of inquiries related to information on retail food prices. ERS research and results from the forecasting models constantly serve as the primary information source for new articles on food prices. Through the media, U.S. consumers gain knowledge about food price inflation.

A third group of contacts are researchers throughout academia and other government agencies, who are interested in refining forecasting techniques or studying issues related to market power or price transmission in the food sector.

5. What is the cost of getting this monitoring entity up and running in terms of:
- Involvement of ministries, statistical offices, stakeholders along the chain
- Financial implications for its regular functioning

The activity is performed in the Food Markets Branch by 2 economists and maintaining this topic page and fielding related inquires requires an average of 15% of their time, historically.

6. What are the future plans for this entity?

The forecasts are being applied to food expenditures across demographic groups in the U.S., which may lead to an expansion of the topic page.

7. If you do not have such a monitoring entity, are data on food prices at different levels of the chain available publicly? Is food price transmission or transparency an important issue for your government, for consumers and for stakeholders along the chain? Is there a plan to set up a monitoring entity? Did you have one in the past and why did it stop operating?

No information to report.

8. Does the private sector have a demand for and willingness to provide greater transparency regarding price formation along the food chain according to your experience?

No information to report.

9. Have you identified impediments to price transmission along the food chain? What policies do you think might help mitigate those impediments? Have policy actions been taken? For example, have measures been taken to ensure that food markets are competitive and integrated in your country? What is your assessment of their effectiveness? Are any future policy initiatives affecting relationships along the food chain in the pipelines?

Most policy related to food prices and transmission, to my knowledge, has related to antitrust in the wholesale sector or farm-level price floors.

We do not have the expertise to comment on competitiveness issues.

10. Additional information and research.

Report on the mandatory price reporting system developed by USDA's Agricultural Marketing Service.

This study focuses on fed cattle markets to compare the mandatory price reporting system developed by USDA's Agricultural Marketing Service in 2001 with the previous voluntary reporting system. The study evaluates whether the mandatory system has improved the amount and quality of information available to the market. We find that prices received with formula purchasing arrangements, which were not comprehensively reported under the voluntary system, appear to closely match prices received with negotiated purchases. The trend toward formula purchases has slowed since mandatory price reporting was implemented, and the volume of cattle moving under negotiated purchases has increased. Futures prices did not seem to respond to prices under mandatory reporting; however, the mandatory data seem to better represent market conditions. Other market factors such as cyclically low cattle inventories and the discovery of BSE in North America may have influenced the shift back to negotiated cash transactions.

Journal article titled "Procurement price relationships for fed cattle and hogs" from Agribusiness 2012.

Reduced reliance on cash markets for fed cattle and hogs raises questions about the role of cash prices in price discovery. Weekly data from mandatory price reports were used to determine whether cash market prices were cointegrated with and exhibited Granger causality with other procurement prices. Cash prices were cointegrated with all but one cattle and one hog procurement price series over the 2001–2010 period. Cash market prices Granger cause all other procurement

prices and bidirectional causality was found in some but not all cases. Results for three 3-year subperiods showed some decline in cointegration and causality for hogs. The cash market remains important for price discovery but continuing market thinness, especially in hogs, raises questions regarding viability of the cash market in the future.

Food Price Formation Scoping Paper
Response from Food Markets Branch

The USDA Economic Research Service (ERS) forecasts annual changes in retail food prices at the national level. The Bureau of Labor Statistics (BLS) publishes the Consumer Price Index (CPI) to measure national changes in retail food prices as well as the Producer Price Index (PPI) for farm and wholesale prices. ERS forecasts changes in these indices and maintains a Food Price Outlook Topic Page where these forecasts are updated monthly, as needed. Additionally, ERS accompanies forecasts with a discussion of the most important changes in the CPI and PPI from the past month and the rationale behind any forecast adjustments, if applicable.

The CPIs of most interest to ERS customers are the Food CPI, which measures changes in all retail food prices, and the Food-at-Home CPI, which measures changes for supermarket, or grocery, prices. Given the disparate nature of these large categories, ERS analyzes and forecasts several smaller CPIs, which are specific to food categories and collectively comprise the larger indices. Currently ERS provides individual forecasts for beef, pork, other meats, poultry, fish and seafood, eggs, dairy, fats and oils, fresh fruits, fresh vegetables, processed fruits and vegetables, sugars and sweets, cereals and bakery products, nonalcoholic beverages, and other foods. BLS provides relative importance figures for each of these CPIs, which are estimates of the shares of food spending U.S. households allocate to these food categories, on average. ERS weights the forecasts for the respective food categories to develop overall forecasts for food and food-at-home.

The forecast methodology for the category-specific CPIs depends on data availability. When possible, ERS uses a multi-stage pass-through approach, drawing upon the historical relationships among prices across sectors in U.S. agribusiness. For example, to forecast the Cereal and Bakery Products CPI, ERS conducts wheat farm price forecasts, which are in turn used to forecast processed wheat flour wholesale prices, which are in turn used to forecast the CPI for retail foods within this category. When the upstream data, typically via relevant PPIs, are not available, ERS uses an augmented autoregressive approach that forecasts based on historical movements, seasonality, and current macroeconomic conditions.

The forecasting procedure, and research on food price formation and price transmission in general, has been informed by the Food Dollar Series, another ERS data product. The Food Dollar Series estimates the respective contributions of all of the industries involved in producing and distributing retail food, in percentage terms. This research indicates that some of the larger shares of the retail food dollar in the U.S. correspond to agricultural commodities and energy prices. The 2012 Food Dollar indicates that farm and agribusiness account for 18.2 percent of the retail food dollar, while energy accounts for 6.3 percent. Accordingly, national measures commodity and energy prices changes factor into the food price forecasts and dramatic changes in either often result in forecast adjustments.

The insights drawn from the forecasting procedure, in conjunction with recent and ongoing research at ERS, have demonstrated that the potential impacts of commodity and energy price volatility on retail food prices are limited. This is corroborated by the impacts of severe weather events in recent U.S. history on the Food and Food-at-Home CPIs. The vast majority of the retail food dollar in the U.S. is accounted for by industries and factors that vary little over time, including the costs associated with food services or retail trade, and food processing. Therefore, even very large swings in input costs rarely have substantial impacts on average retail food prices, as measured by the CPI. For example, in 2011, the average farm price of corn, wheat, and soybeans increased 31 percent. However the Food CPI rose only 3.7 percent. The 2012 drought that affected the Midwestern U.S. devastated the field corn and soybean crops to a historic degree. Yet the Food CPI increased only 1.4 percent from 2012 to 2013, an increase much lower than the historical year-over-year average.

Another factor behind the relatively small impact of input costs on retail food prices is the multiple stages of production associated with the U.S. food supply system. For many foods, particularly those that are shelf-stable or nationally-branded in supermarkets, it can take between two months and a year for commodity price changes to have impacts on retail prices. Contracts, processing, packaging, and transportation all delay the transmission. For highly perishable foods, which typically undergo little processing, for example meats or produce, the price transmission process can be much shorter, often occurring within a single month.

Standard economic theory posits that prices in any industry may increase with concentration, or as the number of competing firms decreases. At the national level this is difficult to incorporate into forecasts, as national concentration is often not related to local conditions and the time frame for structural change is rather long. However using a combination of proprietary data and the CPI, ERS has established that there may be a significant connection between food price inflation and changes in market structure at the city level. Cities where the food retail sector has grown more concentrated in the past decade have, on average, undergone significantly higher food price inflation.

Recent Issues and Research

ERS economists conduct research on a variety of topics directly related to the U.S. food supply chain and distribution system. This research provides a better understanding of issues such as price analysis, market competitiveness, price transmission, and retail behavior.

Are Healthy Foods More Expensive? It Depends on How You Measure the Price—Most Americans consume diets that do not meet Federal dietary recommendations. A common explanation is that healthier foods are more expensive than less healthy foods. To investigate this assumption, the authors compared prices of healthy and less healthy foods (defined as foods that are high in saturated fat, added sugar, and/or sodium, or that contribute little to meeting dietary recommendations) using three different price metrics: the price of food energy ($/calorie), the price of edible weight ($/100 edible grams), and the price of an average portion ($/average portion). They also calculated the cost of meeting the recommendations for each food group. For all metrics except the price of food energy, the authors found that healthy foods cost less than less healthy foods (May 2012).

The Relationship Between National Brand and Private Label Food Products: Price, Promotions, Recessions, and Recoveries—Over the past two decades, private label food products have grown steadily in sales and often directly competed for market share with national brands. This competition lowered prices and increased consumers' product choices. This report analyzed the relationship between private label and national brand product prices and in-store promotions for two major U.S. grocery store chains during the 2007-2009 recession and the following year (2010). Retailers promoted private label products (via price discounts) strategically in response to national brand pricing promotions to protect private label market share during national brand promotions. However, the extent of the retailer response varied widely across supermarket departments and was affected by both the density of food stores and the market share of supercenters within a market area. These findings hold true regardless of the state of the economy, although the magnitude of the interaction between national brands and private labels will differ in times of recession and recovery (December 2011).

How Retail Beef and Bread Prices Respond to Changes in Ingredient and Input Costs—The extent to which cost changes pass through a vertically organized production process depends on the value added by each producer in the chain as well as a number of other organizational and marketing factors at each stage of production. Using 36 years of monthly Bureau of Labor Statistics price indices data (1972-2008), ERS modeled pass-through behavior for beef and bread, two retail food items with different levels of processing. To allow for the presence of structural breaks in the underlying long-term relationships between price series, both farm-to-wholesale and wholesale-to-retail price responses were modeled. Broad differences in price behavior were found not only between food categories—retail beef prices respond more to farm-price changes than do retail bread prices—but also across stages in the supply chain. For both bread and beef, the pass-through from wholesale to retail was weaker than that from farm to wholesale (February 2011).

A Revised and Expanded Food Dollar Series: A Better Understanding of Our Food Costs—ERS's new food dollar series measures annual expenditures on domestically produced food by individuals living in the United States, replacing the old marketing bill

series. The new food dollar series is composed of three primary series, shedding light on different aspects of evolving supply chain relationships. The *marketing bill series*, like the old marketing bill series, identifies the distribution of the food dollar between farm and marketing shares. The *industry group series* identifies the distribution of the food dollar among 10 distinct food supply chain industry groups. The *primary factor series* identifies the distribution of the food dollar in terms of U.S. worker salaries and benefits, rents to food industry property owners, taxes, and imports. Each of the three primary series is further disaggregated by commodity groupings (food/food and beverage), expenditure categories (total food expenditures, food at home, food away from home), and two dollar denominations (nominal, real) to provide detailed information about modern food supply chains. This report covers the input-output methodology behind the new food dollar series, makes comparisons with the old marketing bill series, and presents several key findings of the new series (February 2011).

How Much Lower are Prices at Discount Stores? An Examination of Retail Food Prices—Nontraditional stores, including mass merchandisers, supercenters, club warehouses, and dollar stores, have increased their food offerings over the past 15 years and often promoted themselves as lower-priced alternatives to traditional supermarkets. How much lower are food prices at these stores? In order to better understand nontraditional stores' impact on the cost of food, ERS analysts evaluated food price differences between nontraditional and traditional stores at the national and market level, using 2004-06 Nielsen Homescan data. Findings show that nontraditional retailers offered lower prices than traditional stores even after controlling for brand and package size. Comparisons of identical items, at the Universal Product Code (UPC) level, showed an expenditure-weighted average price discount of 7.5 percent, with price differences ranging from 3 to 28 percent lower in nontraditional stores than in traditional stores. Nontraditional stores in metro areas—with a higher-than-average market share—had smaller and less frequent price discounts than stores in areas with a lower market share (October 2010).

Survey of activities in food price formation, transparency and monitoring along the chain

The objective of this initial meeting is to exchange information and experiences with respect to new initiatives and ongoing activities in capitals on understanding and monitoring the issue of price formation and transmission throughout the chain from producers to consumers. It is the intention of the Network to be as inclusive as possible for this topic thus encouraging the participation of different stakeholders either directly or indirectly through their delegation.

To the extent possible the OECD Secretariat will attempt to briefly summarise what Members consider to be the main economic policy issues in the price formation and transmission of food prices along the chain for the different stakeholders and how these are being addressed in capitals. The attached survey is to provide the OECD Secretariat with information for the summary to be distributed prior to the meeting.

I Are price formation, transmission and transparency issues along the food chain important and if so for which stakeholders and why?

Retail food prices and their determinants are central to the research program of the Food Economics Division (FED) of the USDA Economic Research Service (ERS). Food price analysis supports research related to food access and security, the demand for healthful and safe foods, and the impact of structural changes in food retail on consumer welfare. ERS research is of interest to government policymakers, academic researchers, industry and trade groups, the media, and consumers.

II. What are the three most important issues with respect to food prices that have raised concern over the recent period ?

The three most important factors driving retail food prices in 2011 are rising commodity prices, rising fuel prices, and strong global demand for U.S. agricultural products(partly driven by a weakened U.S. dollar). These three factors are closely interrelated. The three most important issues in the eyes of our customers, as we understand based on inquiries, are the food price outlook for 2012, the impacts of weather-related shocks to agriculture for specific food categories, and domestic biofuel policy.

III. Have you undertaken any institutional initiatives in recent years to improve your understanding of impacts of price formation, transmission and transparency on stakeholders in the food chain? Do these involve more than one ministry or units in a ministry, and if so which? These should include new working groups, new statistical units and special government offices and how they are administratively set up and operate. Any cross department activities in this area would be of particular interest.

ERS maintains a briefing room that provides forecasts for retail food prices, including several major categories of food-at-home prices as well as food-away-from-home. These forecasts are revised, as necessary, on a monthly basis along with a discussion of the major price movements over the past month. In the past two years, we have undertaken significant efforts to improve the precision of the forecasting process. A major component of these efforts has been to introduce farm- and wholesale-level food prices more formally into our modelling efforts. ERS's Markets and

Trade Division (MTED) assists FED in our food price analysis by providing institutional knowledge of the relevant commodity markets, much of which is summarized in ERS Outlook Reports. MTED analysts also aid us in responding to external inquiries by fielding questions pertaining to market- and commodity-specific issues.

IV. Are there non-governmental institutions which are involved in the same activities? Please include trade unions , co-operatives, consumer groups or business associations

No external institutions have been involved in the ERS food price forecasting process,

V. Please describe briefly statistical and analytical activities undertaken on a regular or ad hoc basis? Please include special studies and research projects, database development, statistical analyses and other relevant activities.

The aforementioned retail food prices are conducted and revised (if necessary) each month. The briefing room, available at this URL:

http://www.ers.usda.gov/Briefing/CPIFoodAndExpenditures/Data/cpiforecasts.htm

is updated on the 25th of each month or sooner in the event of weekends or holidays. The forecasting process consists of modelling retail food prices for individual categories (e.g. beef) as a function of past, current, and forecasted farm prices, past, current, and forecasted wholesale prices, past and current retail prices, fuel prices and labor wages. When conducting forecasts, researchers have several techniques at their disposal. We have applied several theoretically appropriate techniques to this process for a preliminary period of time and compared forecasts with price realizations in order to determine the most appropriate estimation technique for individual retail food groups. The briefing room also provides a discussion of the notable price changes occurring over the previous month.

In addition to price forecasts, ERS maintains several research programs focusing on food prices, with issues including transmission and variation, in the United States. Below are several recent examples of published research projects on the relevant topics, including work across ERS and not limited to the FED. For more details on any of these projects please contact any of the authors. For information on research projects currently underway, please contact FED Deputy Director for Research Ephraim Leibtag (eleibtag@ers.usda.gov).

Canning, Patrick. *A Revised and Expanded Food Dollar Series: A Better Understanding of Our Food Costs,* ERR-114, U.S. Department of Agriculture, Economic Research Service, February 2011.

Leibtag, Ephraim, and Aylin Kumcu. *The WIC Fruit and Vegetable Cash Voucher: Does Regional Price Variation Affect Buying Power?* EIB-75. U.S. Dept. of Agriculture, Econ. Res. Serv. May 2011.

Mathews, Kenneth and Rachel Johnson. *Cattle Sector Production Practices and Regional Price Differences.* LDP-M-202-1. U.S. Department of Agriculture, Economic Research Service, April 2011.

Roeger, Edward and Ephraim Leibtag. *How Retail Beef and Bread Prices Respond to Changes in Ingredient and Input Costs,* ERR-112, U.S. Department of Agriculture, Economic Research Service, February 2011.

Stewart, Hayden, Jeffrey Hyman, Jean C. Buzby, Elizabeth Frazão, and Andrea Carlson. *How Much Do Fruits and Vegetables Cost?* EIB-71, U.S. Department of Agriculture, Economic Research Service. February 2011.

Trostle, Ron, Daniel Marti, Stacey Rosen, and Paul Westcott. *Why Have Food Commodity Prices Risen Again?* WRS-1103, U.S. Department of Agriculture, Economics Research Service, June 2011.

Todd, Jessica E., Ephraim Leibtag, and Corttney Penberthy. *Geographic Differences in the Relative Price of Healthy Foods,* EIB-78, U.S. Department of Agriculture, Economic Research Service, June 2011.

Wendt, Minh and Jessica E. Todd. *The Effect of Food and Beverage Priceson Children's Weights.* ERR-118, U.S. Department of Agriculture, Economic Research Service. June 2011.