Technical Memorandum

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California Farm Water Coalition

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RE: **Analysis of U.S. Food Prices**

This technical memorandum summarizes the approach and results of a comparison between U.S. food prices relative to other countries. The purpose is to demonstrate the relative affordability of food in the U.S., which is driven predominately by efficient agricultural production.

1.0 Geographic Scope

The analysis focuses on other high-income countries around the world and the "G8" group of highly industrialized nations as the two points of comparison. Identification of high-income countries was based on a report published by the U.S. Department of Agriculture titled *International Evidence on Food Consumption Patterns, an Update Using 2005 International Comparison Program Data*.[1] This report examined the factors that influence food demand among countries with differing income levels. The report divided countries into low, middle, and high income categories based on their income relative to that of the U.S. A high income country was defined as one with a per capita income equal to or greater than 45 percent of the U.S. level or per capita gross national incomes above $11,115. Using this definition, 28 high-income countries worldwide were identified (other than the U.S.): Australia, Austria, Belgium, Canada, Cyprus, Denmark, Finland, France, Germany, Hong Kong (China), Iceland, Ireland, Italy, Japan, Kuwait, Luxembourg, Malta, Netherlands, New Zealand, Norway, Portugal, Qatar, Singapore, Spain, Sweden, Switzerland, Taiwan (China), and the United Kingdom.

An alternate method of comparing relative food prices across countries was also evaluated. This approach examined the eight most industrialized nations, otherwise known as the G8: Canada, France, Germany, Italy, Japan, Russia, United Kingdom, and the United States. All of the G8 countries are also included in the high-income countries identified in the USDA report except Russia, which is considered a middle-income country. For analytical purposes, U.S. was omitted from the G8 country grouping when conducting the comparison of food prices.

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[1] USDA, Economic Research Service, 2011, *International Evidence on Food Consumption Patterns: An Update Using 2005 International Comparison Program Data*. Prepared by Andrew Muhammad, James L. Seale, Jr., Birgit Meade, and Anita Regmi. Technical Bulletin No. (TB-1929), 59 pp, March 2011

2.0 Data Sources

The primary data source used for this analysis was obtained from a report published by the World Bank titled Global Purchasing Power, Parities and Real Expenditures prepared as part of the 2005 International Comparison Program (ICP).[2] The ICP report includes a global dataset that can be used to compare economic activity and price levels between economies in different regions. Included as part of the dataset were statistical indicators on Gross Domestic Product (GDP), total consumption spending, and food/non-alcoholic beverage spending, which were used to compare price data and estimated purchasing power parities of the world's economies. All of the data were benchmarked to 2005 regardless of the year in which the data were collected and all currency was reported in 2005 U.S. dollars.

3.0 Approach and Methodology

GDP and per-capita consumption are basic indicators of economic productivity and well-being. Consumption is defined by the ICP report as the total value of household final consumption expenditures, expenditures by non-profit organizations and charities serving households, and government expenditures on individual consumption goods and services, such as education and health care. On average, individual consumption constitutes 69 percent of GDP across the world. Therefore, the regional distribution of individual consumption per capita is very similar to that of GDP per capita.

For this analysis, per-capita spending on food and non-alcoholic beverages[3] was calculated as a percentage of total consumption for all countries considered in the analysis, including the U.S., other high-income countries, and the G8 countries. Next, the percentage spent on food and beverages was multiplied by total per-capita consumption on food and beverages in the U.S. to get a comparable dollar value. The results were then weighted for each country by its total GDP so to ensure comparability with the U.S. Per-capita spending estimates were adjusted using the Consumer Price Index[4] (CPI) for food to index spending values up to 2010 price levels and were multiplied by the average number of persons per household in the U.S. to derive household estimates. Lastly, the relative spending differences were calculated between the U.S. and other countries considered in the analysis.

4.0 Results

It is estimated that the average U.S. household spends approximately 6.2 percent of their total spending, or $5,945 per year ($2010 dollars), on food and non-alcoholic beverages. The weighted average spending on food and non-alcoholic beverages for other high-income countries around the world is estimated to be approximately 10.2 percent of total spending, or $9,765 annually. Based on these values, the relative difference between food and beverage spending in the U.S. and other high income countries is **$3,820** per

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2 World Bank, 2008, *Global Purchasing Power, Parities and Real Expenditures*, 2005 International Comparison Program,

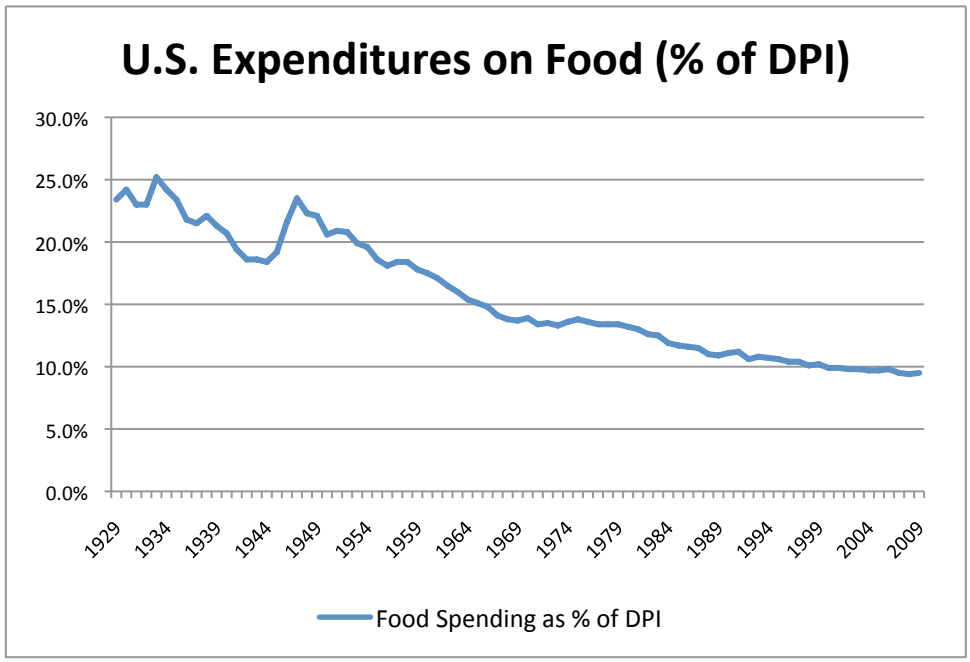
3 Food and nonalcoholic beverages represent food products and nonalcoholic beverages purchased for consumption at home. Excluded are food products and beverages sold for immediate consumption away from the home by hotels, restaurants, cafés, bars, kiosks, street vendors, automatic vending machines, and so forth; cooked dishes prepared by restaurants for consumption off their premises; cooked dishes prepared by catering contractors, whether collected by the customer or delivered to the customer's home; and products sold specifically as pet foods.

4 The CPI is a commonly used measure of inflation. The CPI is used to adjust economic data for price changes and translate it into inflation-free dollars.

household per year. On a percentage basis, other high-income countries spend about 64 percent more on food and beverages compared to the U.S.

The cost differences are even greater when evaluating the G8 countries (excluding the U.S.). The weighted average spending on food and non-alcoholic beverages in the other G8 countries is about 11.0 percent of total spending, or $10,451 per household, with a difference relative to the U.S. of **$4,506** per year. In other words, food and beverages cost about 76 percent higher in the G8 countries relative to the U.S.

Data were also collected data on U.S. food spending as a proportion of total disposable income (DPI) over time to illustrate trends in food costs. In the U.S., spending on food as a percentage of DPI has been declining for almost 80 years. Since 1929, spending on food at home (as a percentage of DPI) has steadily decreased from 20.3 percent to 5.5 percent in 2009. Spending on food away from home has increased slightly from 3.1 percent in 1929 to 3.9 percent in 2009. The combined food spending for food at *home and away* (illustrated in the figure below) has generally declined over time to about 9.5 percent in 2009.[5]



[5] USDA, Economic Research Service. Food CPI and Expenditures, Table 7 –Food expenditures by families and individuals as a share of disposable personal income (http://www.ers.usda.gov/briefing/cpifoodandexpenditures/data/Expenditures_tables/table7.htm), accessed April 12, 2011