

Agricultural Export Promotion Programs Create Positive Economic Impacts

Jeffrey J. Reimer, Gary W. Williams, Rebekka M. Dudensing, and Harry M. Kaiser

JEL Classifications: Q17, Q18, F13

Keywords: Export Promotion, Export Subsidy, USDA Market Development Programs

Do export promotion and related market development programs successfully achieve their objectives? Are they cost effective and a profitable investment of public funds (Kaiser et al., 2005)? This article highlights recent research that assesses how the United States economy is affected by private- and taxpayer-funded promotion activities. Recent studies suggest that U.S. market development programs, which promote U.S. agricultural exports and producer welfare, also have positive net effects on the rest of the economy as measured by changes in GDP and jobs. Private-sector contributions to these programs have been growing, and these efforts may become more necessary as products become further differentiated and specialized.

Why are Export Promotion Programs Needed?

Favorable agro-climatic conditions, infrastructure, economic institutions, and well-managed farms and firms place the United States firmly among the world's largest exporters of food and agricultural products. Access to world markets, which enables producers to achieve economies of scale in production and distribution that enhance the competitive advantage of U.S. products, further enhances efficiency.

Even given these advantages, there can be a strong need to promote exports since agricultural and food products are becoming increasingly differentiated. Many of the United States' core advantages are in quality and other non-price factors that serve to differentiate U.S. products from those of other global suppliers. These differences must be communicated to potential overseas buyers to ensure that these attributes are understood and valued.

Who should invest in marketing and promotional efforts? If the source of differentiation occurs above the level of an individual firm, such as at the level of a region, there are likely many producers involved. Any expenditure on export promotion will be *nonexclusive* in the sense that once funds are spent, it will not be possible to exclude non-participating producers from benefiting. In addition, export promotion is *nonrival* in the sense that the benefits from export promotion undertaken by some do not preclude others from also realizing benefits. As a result, there is a market failure in the sense that the marginal social benefit of market promotion likely exceeds the marginal benefit to any one individual. These conditions result in the classic free-rider problem typical of public goods; no single producer will have an incentive to spend scarce resources on promotion, resulting in underinvestment in market promotion.

How Is Export Promotion Carried Out?

The United States government has long been involved in addressing the collective action problem of export market promotion (Kaiser et al., 2005; De Baere and du Parc, 2009). The Foreign Agriculture Service (FAS) administers several programs intended to help U.S. agricultural industries combat the free-rider problem in their efforts to build, maintain, and expand overseas markets for food and agricultural products. Known collectively as the *USDA*

export market development programs, these efforts consist of several separate programs administered through the FAS.

Chief among these programs are the Foreign Market Development (FMD) Program and the Market Access Program (MAP), which overlap considerably in both their form and their function, with a few differences highlighted below. Both programs are public-private partnerships between the FAS and non-profit U.S. agricultural trade associations, farmer cooperatives, non-profit state-regional trade groups, and small businesses to conduct overseas marketing and promotional activities. To encourage these private organizations to invest in U.S. export promotion, the government provides additional funds to leverage total export promotion activities.

The FMD program focuses on trade servicing and trade capacity building by opening, expanding, and maintaining long-term markets for U.S. agricultural products. FAS partners with U.S. agricultural producers and processors represented by non-profit commodity or trade associations called cooperators. The FMD program was first established in 1956 under authority of Public Law 480 and then reauthorized by Title VII of the Agricultural Trade Act of 1978. The program currently provides funding to 23 agricultural trade organizations for generic promotion of U.S. agricultural exports (U.S. Department of Agriculture, 2017).

The MAP program promotes U.S. agricultural product exports by focusing on consumer promotion, market research, trade shows, and trade servicing. This program does generic and some brand promotion and is used by organizations promoting exports of processed products, fruits, vegetables, nuts, and bulk and intermediate products. The MAP program began in 1985 and currently provides funding to help promote agricultural and food exports for more than 62 non-profits and cooperatives (U.S. Department of Agriculture, 2017).

Both the FMD and MAP use Commodity Credit Corporation funds authorized by Congress to partially reimburse the costs of activities undertaken by eligible U.S. trade organizations to create, expand, and maintain commercial export markets for U.S. agricultural, fish, and forest products. Both programs require participant contributions, although the requirements for FMD and MAP differ in minor ways. The MAP is also distinct in that it incorporates a significant consumer market development component—including consumer exhibits, electronic and print media advertising, point-of-sale promotion, and brand development. The MAP additionally covers other activities such as market research and trade team exchanges and tends to focus on higher-valued commodities or products for which consumer market development is likely to produce a more immediate export response.

How Does Export Promotion Fit with International Trade Agreements?

The role of export promotion programs within the world trading system is addressed by the World Trade Organization (WTO) Agreement on Agriculture (AoA). Programs involving export promotion are generally considered to be exempted under the so-called *green box* policies listed in Annex 2 of the AoA (De Baere and du Parc, 2009). Green box policies are government interventions in the economy that are not supposed to have an effect on the exports or imports of a commodity. Export subsidies and foreign food aid, for example, are likely to have these effects and are not considered green box policies. However, many policies are considered green box, including “marketing and promotion services such as market information, advice and promotion relating to particular products” (WTO, 2016).

The green box exemption for marketing and promotion services is particularly important because the USDA export market development programs are widely considered to fall under this exemption. Unlike export subsidies, market development programs are unlikely to lower the prices paid by foreign buyers and are therefore mostly unrestricted by the WTO (De Baere and du Parc, 2009). Market development programs are mainly about providing information and technical assistance. The public-private nature of the programs is another distinctive feature relative to other government interventions in the agricultural economy.

Current Status

FMD and MAP are currently funded under the 2014 Farm Bill at \$34.5 million and \$200 million, respectively. However, these programs are subject to sequestration reductions. Sequestration was set at 6.8% for fiscal year

2016. As result, FMD and MAP were funded in fiscal year 2016 at \$32.2 million and \$186.4 million (Figure 1). Sequestration has impacted funding for these programs since the Budget Control Act of 2011.

Nonetheless, total annual spending on export market promotion by the U.S. government and its industry partners has been increasing sharply, reaching record levels in 2013 and 2014 (Figure 1). (The year 2014 is the most recent year of data available at the time of writing, U.S. Department of Agriculture, 2017.) The increase is primarily the result of increasing contributions from the program’s industry partners, which accounted for a record 71% of the total of the two programs in 2014 compared to 59% in 2009 and 61% in 2004. The growth in industry contributions suggests that the industry recognizes the success of USDA export market promotion programs.

How Effective Is Agricultural Export Promotion?

Over the years, commodity promotion programs, including export promotion, have been subject to both legal and economic concerns as to whether they are effective uses of producer and taxpayer funds. Numerous economic evaluation studies have examined the economic returns from such programs. In reviewing these studies, four main conclusions emerge.

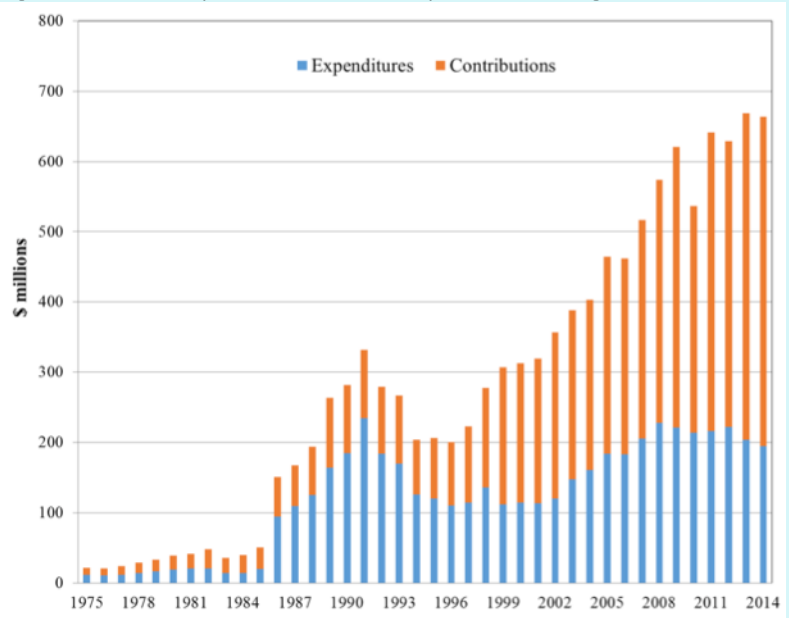
Export Promotion Programs Increase Foreign Demand

A review of the evaluations of 25 individual commodity export programs shows that all but one report a positive and statistically significant relationship between export promotion and foreign demand (Williams et al., 2016). The studies estimate export promotion elasticities, which measure the percentage by which exports change given a 1% increase in market promotion expenditure. The estimated promotion elasticities range from a low of -0.085 (and not statistically significant) to a high of 0.625 , with an average of 0.256 . If commodities are grouped into bulk and high-value categories, the associated promotion elasticities were 0.1482 and 0.1774 , respectively (Williams et al., 2016).

Impacts on Foreign Export Demand Are Relatively Small

While these impacts are statistically significant, especially when compared with other demand factors such as price and exchange rates, the impacts of promotion on foreign export demand are relatively small. This is not to say that promotion is ineffective but simply that it is less impactful, on average, than the main traditional export demand drivers. This typically holds in domestic markets for domestic advertising expenditures as well. In the case of export promotion, recent studies find that the USDA export market development programs provide an annual average lift of 15.3%, 8.0%, and 6.7% to the value, volume, and aggregate price of U.S. agricultural exports over the history of the program (1977–2014). Over this period, the programs generated a total of \$309.7 billion in additional export value and 437.0 million metric tons of additional export volume (Williams et al., 2016).

Figure 1: USDA Export Market Development Funding, 1975-2014



Expenditures = Government FMD and MAP spending.

Contributions = Industry contributions to export promotion.

Source: FAS/USDA

Benefits Are Very Large Relative to Costs

In the studies reviewed, the net benefit-cost ratio (BCR) averages 10.81 across a large range of individual commodity export promotion programs, implying that the measured net benefits of export promotion were 10.81 times their costs. The lowest reported BCR found in the course of this study was 0.71, in a study of branded beef exports by Leister, Capps, and Rosson (2010). Since this BCR was less than one, the costs incurred outweighed the revenue generated by the promotion. This type of finding is rare, however, and even in that study there was a positive and statistically significant effect on export demand resulting from the promotion activities. Overall, USDA export market development programs have been found to generate an additional \$28.3 in export revenue per dollar spent on promotion, and \$13.9 after expenditures are taken into account (Williams et al., 2016). Questions sometimes arise about the credibility of the high reported BCR estimates for agricultural export (as well as domestic) promotion programs. BCRs are generally large because marketing expenditures are very small relative to product value, and therefore only a small demand effect is needed to generate positive and large returns.

Programs Are Vastly Underfunded from an Economic Optimality Standpoint

Studies find that BCRs for USDA export market development programs and individual commodity export promotion programs tend to be large. This suggests that increasing the level of expenditures on those export promotion programs would be highly profitable for the U.S. industries investing in these programs. Alternatively, U.S. food and agricultural exporters forego substantial additional profits by not increasing their levels of export promotion funding. As noted, private industry appears to be increasingly responsive to this logic since it has been greatly increasing its absolute and relative share of promotion expenditures (Figure 1).

Studies of export promotion effectiveness do not generally include details on bilateral trade patterns or the possibility of imperfectly competitive behavior in international markets. There are important exceptions—such as Henneberry, Mutondo, and Brorsen (2009)—but in the end the results of such studies do not substantively change the conclusions reached above.

Beyond the Export Sector

Changes in foreign import demand could theoretically generate a range of economic impacts in the United States related to jobs and other economic indicators. When the agriculture industry makes an export sale, or any final demand sale, a portion of production expenses are paid to input suppliers and to employees. These businesses and households in turn make purchases in the economy, stimulating additional economic activity. This *multiplier effect* recognizes that the total effect on output, employment, personal income, and government revenue in the region is greater than the initial dollar value of the added exports.

Different studies have tried to measure the secondary effects of USDA export market development programs. For example, Kaiser, Richards, and Keeney (2016) capture the broader, economy-wide impacts of the additional export revenue generated by the programs using a computable general equilibrium (CGE) model. Examining six fresh fruit export promotion programs using econometric methods, they find that total export revenue would have been \$621.3 million in 2014 without any export promotion, or 31.5% lower than actual revenues in that year (\$907.5 million). Using their CGE model, they find that there would have been 5,549 fewer jobs and \$228.7 million less in employment income among the industries of concern and \$459 million less in total economic output had export promotion for these six fruits not existed.

Williams et al. (2016) similarly measure economy-wide effects with a CGE model, considering the full range of commodities and products supported by USDA export market development programs. The opportunity costs of diverting public funds to export promotion were explicitly represented; this is not often done in the literature, although there are exceptions such as Kinnucan and Christian (1997). Over the 2002–2014 period, USDA export market development programs were calculated to benefit the farm economy by adding an annual average of \$8.7 billion to farm cash receipts, \$1.1 billion to farm income, and \$1.0 billion to farm assets.

Another feature of the Williams et al. (2016) study was a comparison of the above CGE-based results with those of an IMPLAN (2011) input-output model (see Box 1). The CGE model assumes full employment in the economy and flexible prices for labor, capital, and other inputs. The input-output approach assumes less-than-full-employment,

meaning that growth of employment in the overall economy could occur in response to export promotion. Wage rates and all other prices, meanwhile, were fixed. Under this input-output methodology, USDA export market development programs is calculated to have added an average \$8.4 billion to farm cash receipts annually, \$2.1 billion to farm income, and \$1.1 billion to farm assets. These results were comparable to those of the CGE approach. Since the underlying assumptions were so different, they provide a robustness check regarding how the macro-economy responds to these programs.

Box 1:

Most export promotion studies use econometric methods to quantify the impact of export promotion on the level and value of agricultural exports. There are alternative ways to translate these impacts into job, wage, and economic welfare measures in the economy beyond the agricultural sector. These latter effects are sometimes estimated with computable general equilibrium (CGE) models that represent the economy as a system and characterize producers and consumers as reacting to changes (Reimer, Weerasooriya, and West, 2015). While the CGE approach might be called a flexible-price model, another approach is a fixed-price input-output model. One such example is the IMPLAN model (IMPLAN, 2011), which has been used to quantify impacts of many USDA programs (Peters, 2014; Golden et al., 2016). These models are easier to develop and apply but do not account for agent responsiveness and general equilibrium constraints on the economy, including opportunity costs.

The programs also generated increased employment across the entire agri-food sector by approximately 90,000 jobs over the 2002–2014 period when full employment is assumed. Under this modeling assumption, workers were drawn into the agri-food sector from other sectors of the economy, predominantly the manufacturing sector (29,000 jobs) and the service sector (61,000 jobs). Small associated output contractions occur in the U.S. manufacturing and service industries (0.2% and 0.03%, respectively) along with small rises in average output prices in those sectors (0.02% and 0.05%, respectively).

Even when the cost of these programs—which require funds from taxpayers and private enterprise—are taken into account, studies that have considered the broader economy tend to find net benefits at that level. Depending on employment assumptions, the Williams et al. (2016) study shows that the programs benefited the macro economy by adding \$7.1–\$39.3 billion in overall economic output, \$4.4–\$16.9 billion in GDP, and \$1.7–\$9.8 billion in labor income each year. That analysis also estimates that USDA export market development programs helped raise wages by 0.6% and U.S. economic welfare (measured as equivalent variation) by \$2.4 billion, denoting a positive change in the well-being of U.S. citizens as a whole.

Regional Impacts of USDA Export Market Development Programs

Some studies examine individual commodities and therefore provide a regional analysis essentially by design. For example, Kinnucan and Christian's (1997) study of almonds is mostly about California, while Leister, Capps, and Rosson (2010) focus on beef export market promotion to Guatemala. By contrast, the Williams et al. (2016) study was conducted at a national level but used separate IMPLAN models for each of four U.S. census regions. Because the Midwest produces the largest share of the exported agricultural output (by dollar value), it was found to have experienced the greatest economic benefit, followed by the South and West (Williams et al., 2016). Although labor income was similar in the South and West, lower per worker wages resulted in higher employment impacts in the South. In the Northeast, the GDP contribution of food processing exceeded that of production agriculture, while farmers were more affected in the other regions. So another general conclusion from this and commodity-specific studies is that effects of USDA export market development programs are not equally distributed across the U.S. landscape, even as they have a positive effect on economic variables such as GDP and jobs.

For More Information

De Baere, P., and C. du Parc. 2009. "Export Promotion and the WTO: A Brief Guide." Geneva: International Trade Centre. Available online: http://legacy.intracen.org/publications/Free-publications/Export_Promotion_WTO.pdf

- Golden, J.S., R.B. Handfield, J. Daystar, B. Morrison, and T.E. McConnell. 2016. "An Economic Impact Analysis of the U.S. Biobased Products Industry." Washington, D.C.: U.S. Department of Agriculture, October. Available online: <https://www.biopreferred.gov/BPResources/files/BiobasedProductsEconomicAnalysis2016.pdf>
- Henneberry, S.R., J.E. Mutondo, and B.W. Brorsen. 2009. "Global Welfare Impacts of U.S. Meat Promotion Activities." *Agricultural and Resource Economics Review* 38(3):418–430.
- Leister, A.M., O. Capps, and C.P. Rosson, 2010. "The Economic Effects of New Product Beef Promotion in Guatemala." *Journal of Food Distribution Research* 41(2):1–11.
- IMPLAN Group, LLC. 2011. "IMPLAN System." [2010 data, downloaded December 2015]. Huntersville, NC. 2011.
- Kaiser, H.M., J.M. Alston, J.M. Crespi, and R.J. Sexton. 2005. *The Economics of Commodity Promotion Programs: Lessons from California*. New York: Peter Lang.
- Kaiser, H.M., T.J. Richards, and R. Keeney. 2016. "A Benefit-Cost Analysis of the Market Access Program on U.S. Fresh Fruit Exports." Washington, D.C.: U.S. Department of Agriculture, Foreign Agriculture Service
- Kinnucan, H.W., and J.E. Christian. 1997. "A Method for Measuring Returns to Nonprice Export Promotion with Application to Almonds." *Journal of Agricultural and Resource Economics* 22:120–132.
- Peters, M. 2014. "Guidelines for Economic Impact Analysis with IMPLAN." Washington, D.C.: U.S. Department of Agriculture, Natural Resources Conservation Service Economic Technical Note TN 200 ECN, December. Available online: <https://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=36604.wba>
- Reimer, J.J., S. Weerasooriya, and T. West. 2015. "How Does the Supplemental Nutrition Assistance Program Affect the United States Economy?" *Agricultural and Resource Economics Review* 44(3):233–252.
- U.S. Department of Agriculture. 2017. Expenditures under Foreign Market Development and Market Promotion Programs. FAS records, Washington, D.C.
- Williams, G.W., J.J. Reimer, R.M. Dudensing, B.A. McCarl, H.M. Kaiser, and J. Somers. 2016. "Economic Impact of USDA Market Development Programs." Memphis, TN: Informa Economics. Available online: <https://www.fas.usda.gov/sites/default/files/2016-10/2016econimpactsstudy.pdf>
- World Trade Organization. 2016. "Agreement on Agriculture." Available online: https://www.wto.org/english/docs_e/legal_e/14-ag_01_e.htm#article1

Author Information

Jeffrey J. Reimer (jeff.reimer@oregonstate.edu) is Professor, Department of Applied Economics, Oregon State University, Corvallis, OR.

Gary W. Williams (gwilliams@tamu.edu) is Professor and Co-Director of the Agribusiness, Food and Consumer Economics Research Center, Department of Agricultural Economics, Texas A&M University, College Station, TX.

Rebekka M. Dudensing (rmdudensing@tamu.edu) is Associate Professor and Extension Economist, Department of Agricultural Economics, Texas A&M University, College Station, TX.

Harry M. Kaiser (hmk2@cornell.edu) is Gellert Family Professor of Applied Economics and Management, Charles H. Dyson School of Applied Economics and Management, Cornell University, Ithaca, NY.

Acknowledgements and Disclaimers

The information in this article is based in part on a study prepared for U.S. Wheat Associates, USA Poultry and Egg Export Council, Pear Bureau Northwest, and the Foreign Agriculture Service of the U.S. Department of Agriculture. The authors gratefully acknowledge the extensive contributions of Joseph Somers of Informa Economics, Inc., to that study and the critical input of Bruce A. McCarl, Professor, Department of Agricultural Economics, Texas A&M University. The views expressed in this article, however, are strictly those of the authors.

©1999–2017 CHOICES. All rights reserved. Articles may be reproduced or electronically distributed as long as attribution to Choices and the Agricultural & Applied Economics Association is maintained. Choices subscriptions are free and can be obtained through <http://www.choicesmagazine.org>.