# The High Cost of Cutting the Surplus Agricultural Products Grant

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# Executive Summary

- Since the COVID-19 pandemic began, the number of Texans seeking food bank assistance has risen 200%. This dramatic increase in food insecurity has caused immeasurable stress and suffering, eroding the health and wellbeing of people across the state. In the midst of this greatly increased need for help, the surplus agricultural products grant, a key aspect of food bank support, has been drastically cut.

- Hunger involves quantifiable economic costs in the form of increased health care and social service needs, inferior educational outcomes, and lost productivity.

- The Perryman Group estimates that in a typical year, recently implemented cuts would cost the Texas economy **$34.5 million** in gross product and **361** job-years of employment. Over time, however, the economic harms rise to a cumulative estimated **$239.0 million** in gross product and **2,292** job-years of employment. Economic harms spread across the entire economy.

- The recently implemented cut would lead to reductions in taxes of almost **$2.1 million** to the State and **$925,000** to local governments. The estimated increase in State costs for health care would be **$3.3 million**, with another **$238,000** for education. The cumulative fiscal losses per year of reduced funding total almost **$6.5 million**.

- For every dollar of reduced funding, the State loses **$1.04** in tax receipts over time, with increases in health care and education outlays pushing the total State cost per dollar of cuts to **$2.81**. Adding in the lost tax revenues to local governments yields total losses of **$3.27** per dollar in cuts.

- The bottom line is quite simple: **if people have access to quality food in times of need, the net benefits to the state both economically and fiscally (in terms of reduced health care and education costs and increased productivity and tax revenues) greatly exceed the costs**. Conversely, cuts which increase food insecurity will cause lasting harms. The choice is obvious.

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# Introduction

Since the COVID-19 pandemic began, the number of Texans seeking food bank assistance has risen 200%. This dramatic increase in food insecurity has caused immeasurable stress and suffering, eroding the health and wellbeing of people across the state. In the midst of this greatly increased need for help, the surplus agricultural products grant, a key aspect of food bank support, has been drastically cut. The amount of the cuts would have supported nearly 20 million pounds of free produce for Texans.

> The well-being of the individuals and families who are affected is reason enough to fully fund this crucial aspect of the food bank system. However, hunger also involves quantifiable economic costs in the form of increased health care and social service needs, inferior educational outcomes, and lost productivity.

The surplus agricultural products grant builds on the longstanding relationship between Texas food banks and the Texas Department of Agriculture whereby farmers can donate surplus produce to be used by families. The relationship between healthy foods such as fresh produce and better health outcomes is widely recognized. Poor diets contribute to a number of conditions ranging from diabetes to obesity.

The well-being of the individuals and families who are affected is reason enough to fully fund this crucial aspect of the food bank system. However, hunger also involves quantifiable economic costs in the form of increased health care and social service needs, inferior educational outcomes, and lost productivity. Health care needs of people who are food insecure are higher due to increased incidence and severity of disease. Health outcomes are also worse, reducing productivity and lifetime earnings. In addition, education expenses are higher and outcomes are inferior. Food insecurity is associated with a greater need for intervention such as special education, and education and achievement levels (and, hence, lifetime earnings) are negatively affected even by brief periods of hunger. This problem has been

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pervasive in Texas for many years, and the pandemic has made it dramatically worse.

These costs multiply as they work their way through the business complex and are largely borne by the whole of society. In particular, the health and education effects are primarily funded through State programs providing health services to the indigent, local taxpayer funding of uncompensated care, and public funding of education.

Higher food insecurity raises these costs, causing notable economic and fiscal harms. While the pandemic has certainly caused budget issues, this spending reduction would have particularly damaging effects. Moreover, the State would lose more in tax receipts over time than the amount of the cut, in addition to facing higher outlays for education and health care due to increased hunger.

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# Economic Harms

Any economic stimulus, whether positive or negative, leads to dynamic responses across the economy. The Perryman Group has developed complex and comprehensive models over the past four decades to measure these dynamic responses.

> Any economic stimulus leads to dynamic responses across the economy.

Hunger negatively affects lifetime earnings and productivity and involves a substantial social cost. As the potential output from workers not available due to health issues and social dysfunction is lost, society foregoes the total output the worker would have produced. Negative effects occur through the supply chain and consumer spending is reduced due to lower payrolls. The Perryman Group's dynamic impact modeling process captures the overall social costs as they ripple through the economy.

The general approach used by The Perryman Group in measuring the costs of hunger is known as an "incidence study," which evaluates the effects of changing food security and quality during a given period (a single year of recent funding cuts in this case) over the lifetime of the affected individuals. This approach is commonly used in studies of health and social issues and is appropriate for policy evaluation.

Methods used in this analysis are summarized on the following page, with additional detail in Appendix A.

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## Measuring Economic and Fiscal Impacts

Any economic stimulus, whether positive or negative, generates multiplier effects throughout the economy. In this instance, as grant amounts are decreased, food insecurity increases. The economic costs of hunger and related factors has been empirically measured; The Perryman Group used reliable academic and professional studies to estimate direct costs, which were then used in the impact assessment process.

The Perryman Group's dynamic input-output assessment system (the US Multi-Regional Impact Assessment System, which is described in further detail in the Appendices to this report) was developed by the firm about 40 years ago and has been consistently maintained and updated since that time. The model has been used in hundreds of analyses for clients ranging from major corporations to government agencies and has been peer reviewed on multiple occasions. The impact system uses a variety of data (from surveys, industry information, and other sources) to describe the various goods and services (known as resources or inputs) required to produce another good/service. This process allows for estimation of total economic impacts (including multiplier effects). The model used in the current analysis reflects the specific industrial composition and characteristics of Texas.

The reduction in economic activity also negatively affects tax receipts to the State and local governments.

Total economic effects are quantified for key measures of business activity (further explained in Appendix A):

- **Total expenditures** (or total spending) measure the dollars changing hands as a result of the economic stimulus.
- **Gross product** (or output) is production of goods and services that will come about in the area as a result of the activity. This measure is parallel to the gross domestic product numbers commonly reported by various media outlets and is a subset of total expenditures.
- **Personal income** is dollars that end up in the hands of people in the area; the vast majority of this aggregate derives from the earnings of employees, but payments such as interest and rents are also included.
- **Job gains** are expressed as job-years of employment for temporary or multi-year stimuli and jobs for ongoing effects.

Monetary values were quantified on a constant (2020) basis to eliminate the effects of inflation. See the Appendix for additional information regarding the methods and assumptions used in this analysis.

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The Perryman Group measured

- annual costs to the state economy based on the portion of lifetime effects of hunger observed in a typical year that would be caused by the funding cuts and
- cumulative, lifetime effects of the cuts and the resulting costs associated with increased hunger.

> Over time, the recently implemented cut to the surplus agricultural products grant lead to cumulative losses of an estimated **$239.0 million** in gross product and **2,292** job-years of employment.

The Perryman Group estimates that in a typical year, the recently implemented cut would cost the Texas economy **$34.5 million** in gross product and **361** job-years of employment.

Over time, however, the economic harms rise to a cumulative estimated **$239.0 million** in gross product and **2,292** job-years of employment. Economic harms spread across the entire economy.

| Texas Losses from the Recently Implemented Cut in the Surplus Agricultural Products Grant | | | | |
|---|---|---|---|---|
| | **Total Expenditures** (Millions of 2020 Dollars) | **Gross Product** (Millions of 2020 Dollars) | **Personal Income** (Millions of 2020 Dollars) | **Employment** (Job-Years) |
| Annual Costs in a Typical Year | -$72.573 | -$34.514 | -$22.482 | -361 |
| Cumulative Lifetime Costs | -$529.570 | -$239.017 | -$145.547 | -2,292 |
| Note: Based on reduced productivity and the increased costs of education and health care due to higher food insecurity and The Perryman Group's estimates of total economic effects as they ripple through the economy. Cumulative lifetime costs in 2020 dollars discounted at a 3% real rate. A job-year is one person working for one year, though it could be multiple individuals working partial years. Additional definitions of terms and explanation of methods and assumptions may be found on page 4 of this report and in the Appendix. Source: US Multi-Regional Impact Assessment System, The Perryman Group | | | | |

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# Fiscal Effects

Increased costs for health care and education due to hunger involve notable fiscal effects. In addition, the economic harms associated with increased food insecurity lead to decreases in tax receipts to the State and local government entities including counties, cities, schools, and special districts. Taxes lost are estimated based on the decrease in economic activity such as retail sales (quantified by The Perryman Group and described in the preceding sections) as well as reductions in property values and the related taxes.

> When the total fiscal impacts are considered, lost State revenue exceeds savings from cuts to the surplus agricultural product grants.

The Perryman Group estimates that the recently implemented cut would lead to reductions in taxes of almost **$2.1 million** to the State and **$925,000** to local governments. The estimated increase in State costs for health care would be **$3.3 million**, with another **$238,000** for education. The cumulative fiscal losses per year of reduced funding total almost **$6.5 million**.

## Cumulative Fiscal Losses Per Year of Reduced Funding of the Surplus Agricultural Products Grant
### (in millions of 2020 dollars)

| | |
|---|---|
| Lost State Tax Revenue | -$2.056 |
| Lost Local Tax Revenue | -$0.925 |
| Increased Health Care Outlays | -$3.264 |
| Increased Education Outlays | -$0.238 |
| **Total** | **-$6.484** |

Note: Based on fiscal effects of reduced productivity and the increased costs of education and health care due to higher food insecurity. Cumulative fiscal losses in 2020 dollars discounted at a 3% real rate. Additional definitions of terms and explanation of methods and assumptions may be found on page 4 of this report and in the Appendix. Source: US Multi-Regional Impact Assessment System, The Perryman Group

The Perryman Group examined these economic and fiscal effects in light of the State funding savings. When the total fiscal impacts are considered, lost State revenue exceeds savings from cuts to the surplus agricultural product grants, with additional outlays needed for health

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care and education further increasing the negative fiscal impact. For every dollar of reduced funding, the State loses **$1.04** in tax receipts over time, with increases in health care and education outlays pushing the total State cost per dollar of cuts to **$2.81**. Adding in the lost tax revenues to local governments yields total losses of **$3.27** per dollar in cuts.

| Cumulative Fiscal Losses Per Dollar of Reduced Funding of the Surplus Agricultural Products Grant (in millions of 2020 dollars) | |
|---|---|
| Lost State Tax Revenue | -$1.04 |
| Lost Local Tax Revenue | -$0.47 |
| Increased Health Care Outlays | -$1.65 |
| Increased Education Outlays | -$0.12 |
| **Total** | **-$3.27** |

Note: Based on the fiscal effects of reduced productivity and the increased costs of education and health care due to higher food insecurity per dollar of reduced funding. Cumulative fiscal losses in 2020 dollars discounted at a 3% real rate. Components may not sum to total due to rounding. Additional definitions of terms and explanation of methods and assumptions may be found on page 4 of this report and in the Appendix.
Source: US Multi-Regional Impact Assessment System, The Perryman Group

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# Conclusion

The COVID-19 pandemic has dramatically increased hunger in Texas, causing enormous suffering. Even as conditions begin to improve, it will take time for jobs to return and financial stability to be regained. Food banks are facing dramatically increased demand as families across the state seek help.

> If people have access to quality food in times of need, the net benefits to the state both economically and fiscally (in terms of reduced health care and education costs and increased productivity and tax revenues) greatly exceed the costs.

Even after the effects of the virus are mitigated, improvement on the core issues that contribute to poverty and food insecurity, such as education and health care, should be part of any comprehensive solution. Until then, simply providing access to adequate nutrition can eliminate the immediate issues associated with hunger.

The surplus agricultural products grant program is a highly effective way to provide relief and healthy foods to vulnerable Texans, enabling the state's food banks to distribute free fresh produce to those in need. The recently implemented cut would reduce the amounts available for distribution by almost 20 million pounds.

In addition to loss of dignity and suffering it causes, food insecurity contributes to increased costs of health care and education and reduced productivity for those who experience it. In fact, the cuts would cost the State more in revenue than they would save. The moral and humanitarian rationale for reversing the cut goes without saying. The economic and fiscal arguments are also clear and compelling.

The bottom line is quite simple: **if people have access to quality food in times of need, the net benefits to the state both economically and fiscally (in terms of reduced health care and education costs and increased productivity and tax revenues) greatly exceed the costs**. Conversely, cuts which increase food insecurity will cause lasting harms. The choice is obvious.

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# Appendix: Methods Used

## US Multi-Regional Impact Assessment System

### Overview

The US Multi-Regional Impact Assessment System (USMRIAS) measures multiplier effects of economic stimuli. The USMRIAS was developed and is maintained by The Perryman Group. This model has been used in hundreds of diverse applications across the country and has an excellent reputation for accuracy and credibility; it has also been peer reviewed on multiple occasions and has been a key factor in major national and international policy simulations.

The basic modeling technique is known as dynamic input-output analysis, which essentially uses extensive survey data, industry information, and a variety of corroborative source materials to create a matrix describing the various goods and services (known as resources or inputs) required to produce one unit (a dollar's worth) of output for a given sector. Once the base information is compiled, it can be mathematically simulated to generate evaluations of the magnitude of successive rounds of activity involved in the overall production process.

There are two essential steps in conducting an input-output analysis once the system is operational. The first major endeavor is to accurately define the levels of direct activity to be evaluated. The Perryman Group has measured the cost of hunger and benefits of initiatives to reduce food insecurity on several occasions. The firm's comprehensive 2014 study ("Hunger: Economic Perspectives – Sustainable Solutions") provided the most comprehensive assessment available regarding the true economic cost of hunger in the US as well as practical approaches to its elimination at the time it was published. Since then, the study has served as the basis for hunger-related initiatives in a number of areas throughout the country.

The Perryman Group's analysis makes use of reliable academic studies demonstrating that food sufficiency and quality are linked to improved cognitive capabilities and academic performance in school-age children, as well as reduced obesity.[1] With regard to the outlays for health care services, the process was

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[1] See, for example Rausch R. (2013) Nutrition and Academic Performance in School-Age Children The Relation to Obesity and Food Insufficiency. J Nutr Food Sci 3: 190. doi:10.4172/2155-9600.1000190.

similar to that used in prior studies.[2] Specifically, available academic studies which provided information on (1) the relative incidence of various health consequences among the hungry and food insecure population and (2) the costs associated with those outcomes were used to provide estimates of the incremental medical outlays resulting from hunger issues.

These inputs were used in a simulation of the input-output system to measure total overall economic effects of the increase in hunger specifically associated with the recent cuts to the surplus agricultural products grant. The system used reflects the unique industrial structure of the Texas economy.

## Model Structure

The USMRIAS is somewhat similar in format to the Input-Output Model of the United States which is maintained by the US Department of Commerce. The model developed by TPG, however, incorporates several important enhancements and refinements. Specifically, the expanded system includes (1) comprehensive 500-sector coverage for any county, multi-county, or urban region; (2) calculation of both total expenditures and value-added by industry and region; (3) direct estimation of expenditures for multiple basic input choices (expenditures, output, income, or employment); (4) extensive parameter localization; (5) price adjustments for real and nominal assessments by sectors and areas; (6) comprehensive measurement of the induced impacts associated with payrolls and consumer spending; (7) embedded modules to estimate multi-sectoral direct spending effects; (8) estimation of retail spending activity by consumers; and (9) comprehensive linkage and integration capabilities with a wide variety of econometric, real estate, occupational, and fiscal impact models.

The impact assessment (input-output) process essentially estimates the amounts of all types of goods and services required to produce one unit (a dollar's worth) of a specific type of output. For purposes of illustrating the nature of the system, it is useful to think of inputs and outputs in dollar (rather than physical) terms. As an example, the construction of a new building will require specific dollar amounts of lumber, glass, concrete, hand tools, architectural services, interior design services, paint, plumbing, and numerous other elements. Each of these suppliers must, in turn, purchase additional dollar amounts of inputs. This process continues through multiple rounds of production, thus generating subsequent increments to

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[2] Shepard, Donald S, Elizabeth Setren, and Donna Cooper, *Hunger in America: Suffering We All Pay For*, Center for American Progress, October 2011; Brown, J. Larry, et al., *The Economic Cost of Domestic Hunger: Estimated Annual Burden to the United States*, June 5, 2007.

business activity. The initial process of building the facility is known as the *direct effect*. The ensuing transactions in the output chain constitute the *indirect effect*.

Another pattern that arises in response to any direct economic activity comes from the payroll dollars received by employees at each stage of the production cycle. As workers are compensated, they use some of their income for taxes, savings, and purchases from external markets. A substantial portion, however, is spent locally on food, clothing, health care services, utilities, housing, recreation, and other items. Typical purchasing patterns in the relevant areas are obtained from the Center for Community and Economic Research *Cost of Living Index*, a privately compiled inter-regional measure which has been widely used for several decades, and the *Consumer Expenditure Survey* of the US Department of Labor. These initial outlays by area residents generate further secondary activity as local providers acquire inputs to meet this consumer demand. These consumer spending impacts are known as the *induced effect*. The USMRIAS is designed to provide realistic, yet conservative, estimates of these phenomena.

Sources for information used in this process include the Bureau of the Census, the Bureau of Labor Statistics, the Regional Economic Information System of the US Department of Commerce, and other public and private sources. The pricing data are compiled from the US Department of Labor and the US Department of Commerce. The verification and testing procedures make use of extensive public and private sources.

Impacts are typically measured in constant dollars to eliminate the effects of inflation.

The USMRIAS is also integrated with a comprehensive fiscal model, which links the tax payments by industry to the specific rates and structures associated with the relevant State and local governmental authorities.

### Measures of Business Activity

The USMRIAS generates estimates of total economic effects on several measures of business activity. Note that these are different ways of measuring the same impacts; they are not additive.

The most comprehensive measure of economic activity is **Total Expenditures**. This measure incorporates every dollar that changes hands in any transaction. For example, suppose a farmer sells wheat to a miller for $0.50; the miller then sells flour to a baker for $0.75; the baker, in turn, sells bread to a customer for $1.25. The Total Expenditures recorded in this instance would be $2.50, that is, $0.50 +

$0.75 + $1.25. This measure is quite broad but is useful in that (1) it reflects the overall interplay of all industries in the economy, and (2) some key fiscal variables such as sales taxes are linked to aggregate spending.

A second measure of business activity is **Gross Product**. This indicator represents the regional equivalent of Gross Domestic Product, the most commonly reported statistic regarding national economic performance. In other words, the Gross Product of Texas is the amount of US output that is produced in that state; it is defined as the value of all final goods produced in a given region for a specific period of time. Stated differently, it captures the amount of value-added (gross area product) over intermediate goods and services at each stage of the production process, that is, it eliminates the double counting in the Total Expenditures concept. Using the example above, the Gross Product is $1.25 (the value of the bread) rather than $2.50. Alternatively, it may be viewed as the sum of the value-added by the farmer, $0.50; the miller, $0.25 ($0.75 - $0.50); and the baker, $0.50 ($1.25 - $0.75). The total value-added is, therefore, $1.25, which is equivalent to the final value of the bread. In many industries, the primary component of value-added is the wage and salary payments to employees.

The third gauge of economic activity used in this evaluation is **Personal Income**. As the name implies, Personal Income is simply the income received by individuals, whether in the form of wages, salaries, interest, dividends, proprietors' profits, or other sources. It may thus be viewed as the segment of overall impacts which flows directly to the citizenry.

The fourth measure, **Retail Sales**, represents the component of Total Expenditures which occurs in retail outlets (general merchandise stores, automobile dealers and service stations, building materials stores, food stores, drugstores, restaurants, and so forth). Retail Sales is a commonly used measure of consumer activity.

The final aggregates used are **Jobs and Job-Years,** which reflect the full-time equivalent jobs generated by an activity. For an economic stimulus expected to endure (such as the ongoing operations of a facility), the Jobs measure is used. It should be noted that, unlike the dollar values described above, Jobs is a "stock" rather than a "flow." In other words, if an area produces $1 million in output in 2019 and $1 million in 2020, it is appropriate to say that $2 million was achieved in the 2019-20 period. If the same area has 100 people working in 2019 and 100 in 2020, it only has 100 Jobs. When a flow of jobs is measured, such as in a construction project or a cumulative assessment over multiple years, it is appropriate to measure employment in Job-Years (a person working for a year, though it could be multiple individuals working for partial years). This concept is

distinct from Jobs, which anticipates that the relevant positions will be maintained on a continuing basis.