



The Economic Impacts Of A Plant-Based Transition: Exploring Two Growth Scenarios

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Contents

Background	3
Important Considerations	4
Key Findings	4
Recommendations	5
Applying These Findings	6
Behind The Project	6
Research Team	6
Acknowledgements	6
Research Terminology	6
Research Ethics Statement	6
Method	7
Results	9
Fewer Animal Products, More Jobs	10
Types Of Economic Effects: Direct, Indirect, And Induced	10
Small But Positive Job Creation In A Moderate Growth Scenario	11
Clear Job Creation In A Substantial Growth Scenario	13
The Effects Of A Plant-Based Transition On GDP, Tax Revenue, And Labor Income	15
GDP Growth From A Plant-Based Transition	15
Tax Revenue Growth From A Plant-Based Transition	16
Labor Income Growth From A Plant-Based Transition	17
Conclusions	19
Moderate Growth In Plant-Based Eating Yields Slight Bump In Jobs And Other Indicators	19
Substantial Growth In Plant-Based Eating Yields Considerable Growth In Jobs And Other Indicators	19
Overall Net Gains, Though Some Industries Will Be Negatively Impacted	20
Plant-Based Jobs May Not Be Interchangeable With Non-Plant-Based Jobs	21
More Research On The Economic Effects Of A Plant-Based Transition Is Needed	21
Caveats & Limitations	22
Supplementary Materials	23
Additional Method Details	23
Model	23
Scenarios	24
Additional Results	24



Background

Animal agriculture is a leading cause of [animal suffering](#), [greenhouse gas emissions](#), [pollution](#), [deforestation](#), and [zoonotic disease risk](#). In the United States, preventing animal suffering, limiting environmental harm, and health concerns are all common motivators for reducing one's consumption of animal products ([Faunalytics, 2021](#)). However, these factors may not be the only reasons to call for a shift in the public's dietary habits. It is important for the U.S. public and policymakers to consider another argument for embracing a plant-based future: the economy.

A 2024 [Pew Research poll](#) found that the U.S. public believed the federal government's top priority should be strengthening the economy. About half of those polled believed one of the top priorities for the president and Congress should be "improving the job situation." In other words, the state of the economy, and of employment opportunities in particular, are key issues for many in the U.S. As a result, animal advocates can benefit from having a better understanding of how their work overlaps with this particularly salient issue, and, in particular, how a reduction in the consumption of animal products in favor of plant-based products could affect the economy.

Agriculture and food production are critical parts of the U.S. economy. In 2022, these sectors were [responsible](#) for 22 million jobs, more than 10% of all jobs in the U.S.. Because the average [U.S. diet](#) is so heavily centered around the [consumption of animal products](#), major shifts in the U.S. public's food consumption habits would have considerable impacts on these the agriculture and food sectors. Particularly important to animal advocates are the possible effects of U.S. consumers replacing animal products with plant-based products. However, little research has been done into the possible economic impacts of a plant-based transition.

This study provides estimates of how employment, as well as other aspects of the U.S. economy, would be affected if the U.S. public begins to switch to a more plant-forward diet. With analysis carried out by [BW Research Partnership](#), a research and consulting firm with expertise in economics, we explore two possible scenarios for plant-based growth over the next 15 years: one scenario in which plant-based milk, meat, and eggs become slightly more popular than they currently are, and another scenario in which these products become considerably more common in shoppers' carts. By comparing these scenarios against a baseline case in which plant-based products are consumed at the same levels as they are today, we can project how much the U.S. economy would be impacted by these changes in consumption habits. The results are important for advocates, policymakers, and other stakeholders to consider when determining how to approach a plant-based food transition.

Important Considerations

This report examines two *hypothetical* growth scenarios for the plant-based industry: one in which plant-based eating is moderately more common and one in which it is substantially more common. These scenarios are not meant to be interpreted as projections of what will happen. Instead, they are hypothetical examples of the range of possible growth outcomes and are meant to help inform the public about what the economic impacts of a plant-based shift could look like.

The analysis discussed in this report utilizes a simplified model of the United States economy. It does not consider international trade or changes in investments, subsidies, and prices. Additional information about the scenarios and assumptions used in this analysis can be found in the *Method* and *Supplementary Materials* sections of this report.

Key Findings

- 1. More plants, more jobs.** This report explores two scenarios for 2040: one in which plant-based foods become moderately more common in U.S. diets and one in which they become substantially more common. Under the assumptions of this analysis, our results suggest that shifting toward more plant-based eating could result in considerable job creation. A moderate growth scenario yields several thousand new jobs and a substantial growth scenario yields tens of thousands of new jobs—over 3% more than if animal agriculture maintained its current market share. In both scenarios, more plant-based eating corresponds to more job creation.
- 2. A moderate shift toward plant-based foods would have small, but positive effects on the U.S. economy, while a more substantial shift would give the U.S. economy a noticeable boost.** In the smaller of our two growth scenarios, the industries affected by a plant-based shift would contribute about 0.3% more to GDP, 0.2% more to total tax revenue, and 0.4% more to total labor income versus a baseline scenario. In a much more optimistic growth scenario, these industries would contribute 4% more to GDP, 2% more to total tax revenue, and 4% more to total labor income versus a baseline scenario. Despite the prevalence of animal products in U.S. diets, the continued dominance of animal agriculture is not integral to the health of the country's economy. Indeed, this analysis predicts that the economy may perform better if the U.S. moved away from animal agriculture.
- 3. Plant-based foods need to become much more common to see considerable economic benefits.** Although jobs, GDP, and tax revenue all increase in a moderate growth scenario compared to their levels if plant-based foods remained at current levels of popularity, these changes are quite small. Our substantial growth scenario yields more

notable growth. However, this scenario envisions plant-based milk, meat, and eggs all becoming multiple times more common in shoppers' carts than they are today.

Recommendations

- **Add economic gains to the list of benefits of a plant-based future.** Many advocates understandably center their calls for plant-based eating around the welfare of animals. Other common arguments include environmental and health benefits. This study shows that plant-based eating can also help the economy. As a result, advocates should include job creation and economic growth in their pitches to omnivores.
- **Conduct more research into the economic effects of plant-based eating.** Although this report provides important insights into possible futures, it only scratches the surface. With additional modeling and projections, advocates can more successfully lobby government officials, craft informed policy proposals, and try to sway public opinion, especially for those who aren't completely won over by traditional arguments in favor of plant-based diets. Researchers should explore alternative growth scenarios, specific local impacts of a plant-based transition, the role of global trade, countries other than the U.S., and the impact of increased financial support for plant-based eating from both the public and private sectors. Additional research should also measure the effectiveness of economic arguments for plant-based eating compared to other arguments like animal welfare. Advocates should also research ways of mitigating negative impacts on workers in industries affected by a plant-based transition, such as worker retraining.
- **Fuel the plant-based transition.** The growth scenarios explored in this report rely on plant-based products gaining market share at the expense of animal products. In order for this to occur at the scale necessary to realize considerable economic benefits, plant-based products need to become much more popular. Our substantial growth scenario looks at a future in which plant-based meats are just as common as plant-based milk is today and in which half of all milk purchases are plant-based. This means making significant inroads in U.S. diets, not just making plant-based items a bit more popular. As a result, advocates interested in seeing economic benefits should focus on making plant-based products available as widely as possible, both by expanding access to these products and by shifting [social norms](#). In addition to campaigns promoting [plant-based diets](#), advocates should lobby policymakers and business leaders to invest more in plant-based research and development in an effort to make plant-based products cheaper, tastier, and accessible. [Researchers](#) should also work to expand our understanding of how plant-based products can replace non-plant-based products.
- **Ensure the economic transition to a plant-based economy is just by assisting workers.** Although the growth scenarios analyzed in this report show net job gains, there will be some job loss in a shift to a more plant-based food system. Advocates



should work with policymakers and businesses to determine ways of supporting workers who may be negatively impacted by a plant-based shift. This could include job training, [resources for farmers](#), and locating new plant-based facilities in communities that had been economically reliant on animal agriculture.

Applying These Findings

We understand that reports like this have a lot of information to consider and that acting on research can be challenging. Faunalytics is happy to offer pro bono support to advocates and nonprofit organizations who would like guidance applying these findings to their own work. Please visit our virtual [Office Hours](#) or [contact us](#) for support.

Behind The Project

Research Team

The primary analysis for this project was conducted by [BW Research Partnership](#). Additional analysis and lead author on the report was Research Scientist Zach Wulderk (Faunalytics). Dr. Jo Anderson (Faunalytics) and Dr. Andie Thompkins (Mercy for Animals and Faunalytics) each reviewed and oversaw stages of the work.

Acknowledgements

We would like to thank several advocates who provided valuable input about this research throughout the process. In particular, we would like to thank both the Good Food Institute and Animetrics for providing invaluable support throughout this project's lifespan. We are grateful to the Food Systems Research Fund for their support.

Research Terminology

At Faunalytics, we strive to make research accessible to everyone. We avoid jargon and technical terminology as much as possible in our reports. If you do encounter an unfamiliar term or phrase, check out the [Faunalytics Glossary](#) for user-friendly definitions and examples.

Research Ethics Statement

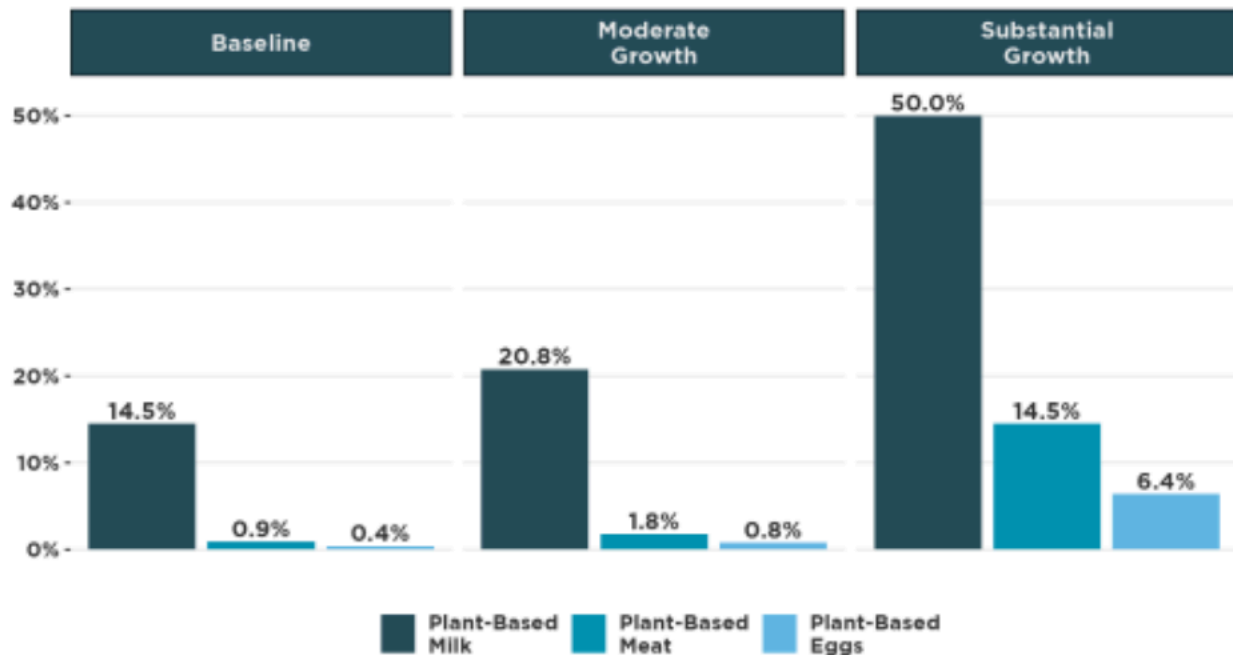
As with all of Faunalytics' original research, this study was conducted according to the standards outlined in our [Research Ethics and Data Handling Policy](#).

Method

The main analysis for this project was completed by BW Research with oversight by Faunalytics. The pre-registration can be found on the [Open Science Framework](#). This analysis focuses on projecting how growth in the plant-based food sector—not including any cultivated or fermented meat products—would affect the United States’ economy in 2040. In particular, it estimates changes in industry-level employment, gross domestic product (GDP), and tax revenue. These estimates were calculated using [IMPLAN](#), software that uses a static input-output model to perform economic impact analyses. This software essentially models the complex web of industries and institutions that make up an economy and estimates how changes, like an increase in demand for plant-based products, can ripple through the economy. The [U.S. Census Bureau’s population projections](#) are used to scale industry revenue.

Although some forecasts of the plant-based industry’s growth exist, the various organizations creating them are not consistent in terms of product types, timelines, or projected market shares. They would also require particularly large growth rates, which does not mirror recent trends. As a result, we do not rely on these forecasts (see [Good Food Institute, 2024, pp. 84-85](#)). Instead, we explore two hypothetical scenarios for growth of the plant-based food market in the U.S. by 2040: a moderate growth outcome (in which the growth doesn’t overhaul the entire market) and a substantial growth outcome (in which alternatives to animal products surge in popularity). These scenarios are examined for the meat, milk, and egg industries, inclusive of both plant-based and non-plant-based products. Both of the hypothetical growth scenarios are compared against a baseline scenario in which the market shares of plant-based food types are unchanged from the present. Each of these scenarios can be seen in Figure 1.

Figure 1. 2040 Market Share Captured By Plant-Based Product Types By Scenario



According to Good Food Institute's [2023 State of the Industry Report](#), plant-based products make up 14.5% of the U.S. retail spending for milk and milk alternatives. Plant-based products comprise 0.9% of the market for meat and meat alternatives and 0.4% of the market for eggs and egg alternatives. These figures serve as the baseline scenario against which our moderate growth and substantial growth scenarios can be compared.

The **moderate growth scenario** estimates the economic impacts of a future in which the plant-based milk industry has captured 20.8% of the U.S. retail market, and the plant-based meat and egg industries have captured 1.8% and 0.8% of their markets, respectively. In this scenario, the market shares of plant-based meat and eggs are simply double their baseline market shares. Because they have already achieved more significant market penetration, plant-based products are assigned a smaller growth rate in the market share of plant-based milk products compared to plant-based meat and egg products, which may have more room for growth ([Good Food Institute, 2024, p. 84](#)). Additional details can be found in the *Supplementary Materials*.

The **substantial growth scenario** considers a future in which plant-based products become considerably more popular by 2040. In this scenario, plant-based milk products continue to grow in popularity, accounting for fully half (50%) of the market. This scenario also envisions the plant-based meat industry reaching the same level of popularity that the plant-based milk industry currently holds (14.5%). Under this scenario, the plant-based egg industry would grow



at the same rate as the plant-based meat industry does, resulting in a 6.4% share of the U.S. retail market.

This project examined the economic effects on 546 industries combined into 16 industry groups. These industry groups include directly affected industry groups like plant-based agriculture and non-plant-based manufacturing, but also indirectly affected industry groups such as retail trade and professional business services. This report discusses the results at the industry group level, but detailed results by individual industry (e.g., poultry processing or grain farming) are available in the “Supplementary Materials Workbook” file included with this report. Information about additional assumptions related to capital expenditures and operating expenditures can also be found in the *Supplementary Materials*.

Results

Several indicators can be used to understand the economic impacts of a plant-based transition. These results focus on job creation, but also include changes in gross domestic product, tax revenue, and labor income. The scenarios for which each of these indicators is estimated are detailed in Table 1 below.

Table 1. Baseline And Growth Scenarios For Milk, Meat, And Egg Industries

	Plant-Based		Non-Plant-Based	
	Market Share	Sales	Market Share	Sales
Baseline Scenario				
Milk	14.5%	\$3.07 billion	85.5%	\$18.05 billion
Meat	0.9%	\$1.31 billion	99.1%	\$140.53 billion
Eggs	0.4%	\$0.04 billion	99.6%	\$10.66 billion
Moderate Growth Scenario				
Milk	20.8%	\$4.39 billion	79.2%	\$16.73 billion
Meat	1.8%	\$2.55 billion	98.2%	\$139.29 billion
Eggs	0.8%	\$0.09 billion	99.2%	\$10.62 billion
Substantial Growth Scenario				
Milk	50.0%	\$10.56 billion	50.0%	\$10.56 billion
Meat	14.5%	\$20.57 billion	85.5%	\$121.27 billion
Eggs	6.4%	\$0.68 billion	93.6%	\$10.02 billion

*Notes: Sales data is adjusted for projected population growth.
Prices are assumed to remain consistent throughout these scenarios.*

Fewer Animal Products, More Jobs

The U.S. economy is forecasted to see a net increase in employment under both a moderate growth scenario and a substantial growth scenario. Because the scenarios feature very different assumptions about the degree to which plant-based products will displace non-plant-based products, the predicted job changes are also very different in scale. The changes in employment will also not occur entirely within the plant-based and non-plant-based food industries.

Types Of Economic Effects: Direct, Indirect, And Induced

Before discussing the detailed employment impacts of a transition to a more plant-based economy, it is important to outline the differences between three types of jobs: direct, indirect, and induced.

Direct jobs are those that exist in the focus industries. In our case, this means food production jobs, like a food scientist at Beyond Meat or a quality control worker at Cargill. *Indirect jobs* are



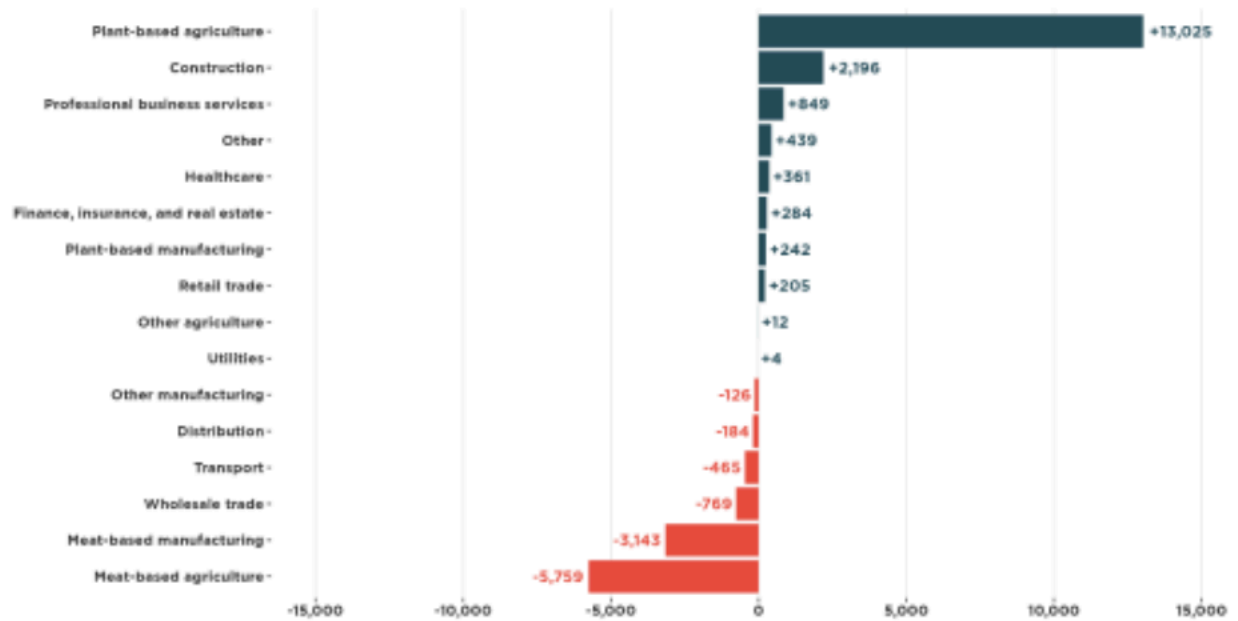
jobs needed to produce goods and services used by the focus industries. For example, these could be workers that produce machinery used in food production. Finally, *induced jobs* are jobs that exist as a result of the focus industry. If Tyson expands its production at a certain plant, an influx of new employees could mean more patrons for a local restaurant. New hires by that restaurant would be considered induced jobs.

Small But Positive Job Creation In A Moderate Growth Scenario

In a moderate growth scenario, the affected industries would require 7,171 more jobs than in the baseline scenario. This difference—2,032,262 jobs in the moderate growth scenario versus 2,025,091 jobs in the baseline scenario—represents an uptick of about 0.35% more jobs in the affected industries over the baseline scenario. In other words, the expected change in overall employment is negligible. While this scenario sees plant-based milk sales increasing by more than 40% and plant-based meat and egg sales doubling, the market shares of these industries would still remain small compared to their non-plant-based counterparts. Even if they doubled their market share, both the plant-based meat and egg industries would have captured less than 2% of their respective markets. As a result, the change in employment would be minimal.

As shown in Figure 2, the industry most affected by moderate growth in plant-based diets is plant-based agriculture, which would add about 13,000 jobs as it increases production of many of the key inputs for manufacturing plant-based products, which might include commodities like soybeans. The construction industry would also add nearly 2,200 jobs, likely in order to expand the production capacity of the plant-based food industry. Unsurprisingly, the industries that would see the largest decrease in employment are non-plant-based agriculture and non-plant-based manufacturing, which would lose about 5,800 and 3,100 jobs, respectively.

Figure 2. Employment Change In Moderate Growth Scenario By Industry Group



Net job creation is driven primarily by the direct effects of a plant-based transition, though this is partially offset by loss of indirect jobs, as shown in Table 2.

**Table 2. Employment Change In Moderate Growth Scenario:
Direct, Indirect, And Induced**

Industry Group	Direct	Indirect	Induced	Total
Plant-based agriculture	11,333	1,672	20	13,025
Construction	2,171	12	14	2,196
Professional business services	722	-118	245	849
Other	0	-162	601	439
Healthcare	0	0	362	361
Finance, insurance, and real estate	0	31	253	284
Plant-based manufacturing	228	11	4	242
Retail trade	0	-49	254	205
Other agriculture	0	11	1	12
Utilities	0	-3	7	4
Other manufacturing	96	-295	72	-126
Distribution	0	-238	54	-184
Transport	0	-526	61	-465
Wholesale trade	0	-825	56	-769
Non-plant-based manufacturing	-2,683	-469	9	-3,143
Non-plant-based agriculture	-2,652	-3,119	13	-5,759
Total	9,215	-4,067	2,026	7,171

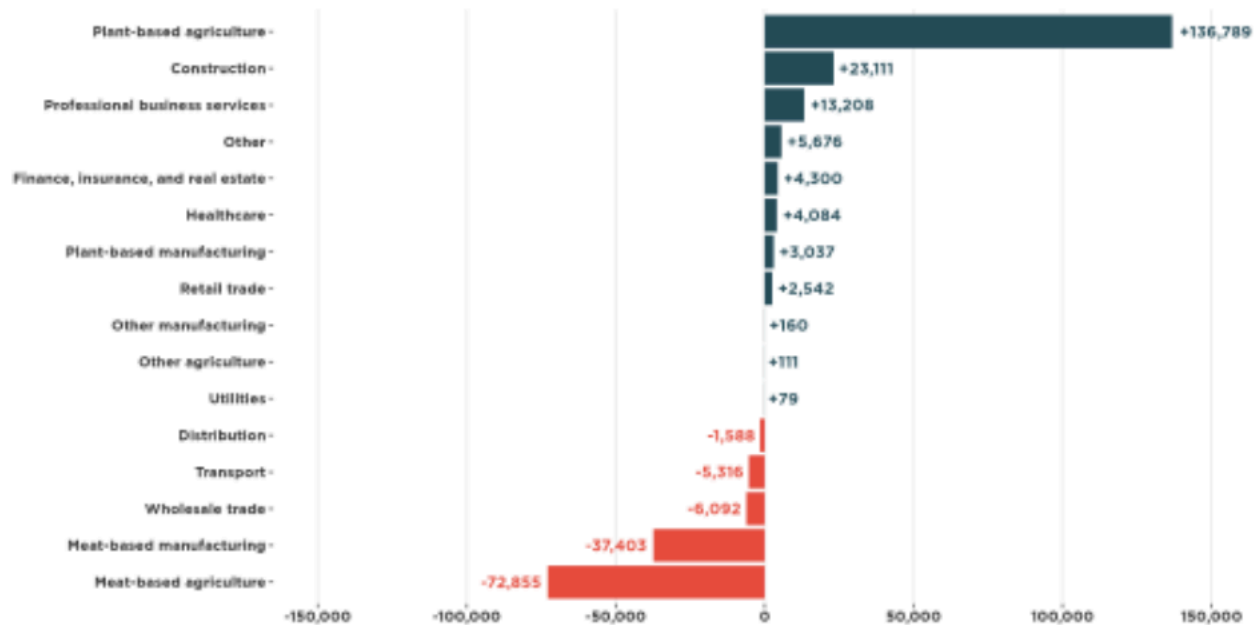
Clear Job Creation In A Substantial Growth Scenario

In a substantial growth scenario, plant-based meat and eggs would still only have a fraction of the market share of non-plant-based analogues, but they each would be considerably more popular than they are today. Plant-based milk would be just as common as non-plant-based milks. In other words, this would mean that the average U.S. diet would be markedly different, resulting in notable changes to employment figures. In a substantial growth scenario, the affected industries would add a predicted 69,843 jobs—2,094,935 jobs in the substantial growth scenario compared to 2,025,091 jobs in the baseline scenario—or about 3.45% more jobs than in the baseline scenario.

In many ways, the effects of substantial growth in plant-based diets are simply stronger versions of the effects seen in the moderate growth scenario. Just as it would be in the moderate growth scenario, plant-based agriculture is the industry group that would see the most employment growth in a substantial growth scenario, adding nearly 137,000 jobs. This growth would come at

the expense of industry groups like non-plant-based agriculture and non-plant-based manufacturing, which would lose about 73,000 and 37,500 jobs, respectively.

Figure 3. Employment Change In Substantial Growth Scenario By Industry Group



Just like in the moderate growth scenario, net job creation is driven primarily by the direct effects of a plant-based transition. Table 3 shows this growth, as well as the loss of about 44,000 indirect jobs.

**Table 3. Employment Change In Substantial Growth Scenario:
Direct, Indirect, And Induced**

Industry Group	Direct	Indirect	Induced	Total
Plant-based agriculture	119,452	17,107	230	136,789
Construction	22,795	163	153	23,111
Professional business services	9,721	720	2,767	13,208
Other	0	-1,096	6,773	5,676
Finance, insurance, and real estate	0	1,447	2,854	4,300
Healthcare	0	0	4,084	4,084
Plant-based manufacturing	2,648	349	40	3,037
Retail trade	0	-334	2,876	2,542
Other manufacturing	1,491	-2,147	815	160
Other agriculture	0	102	9	111
Utilities	0	4	75	79
Distribution	0	-2,197	609	-1,588
Transport	0	-6,002	686	-5,316
Wholesale trade	0	-6,721	629	-6,092
Non-plant-based manufacturing	-32,150	-5,358	105	-37,403
Non-plant-based agriculture	-32,684	-40,315	144	-72,855
Total	91,273	-44,278	22,849	69,843

The Effects Of A Plant-Based Transition On GDP, Tax Revenue, And Labor Income

Jobs are an important part of measuring economic impacts, but there are other indicators that can help us better understand how a shift in food purchases could affect the economy, including changes in gross domestic product, tax revenue, and labor income. In this section, GDP, tax revenue, and labor income are primarily discussed in the scope of the industries affected by a plant-based transition rather than as part of the U.S. economy as a whole. This allows for a specific focus on the food production segments of the economy. Unless otherwise stated, dollar values are reported in 2024 dollars.

GDP Growth From A Plant-Based Transition

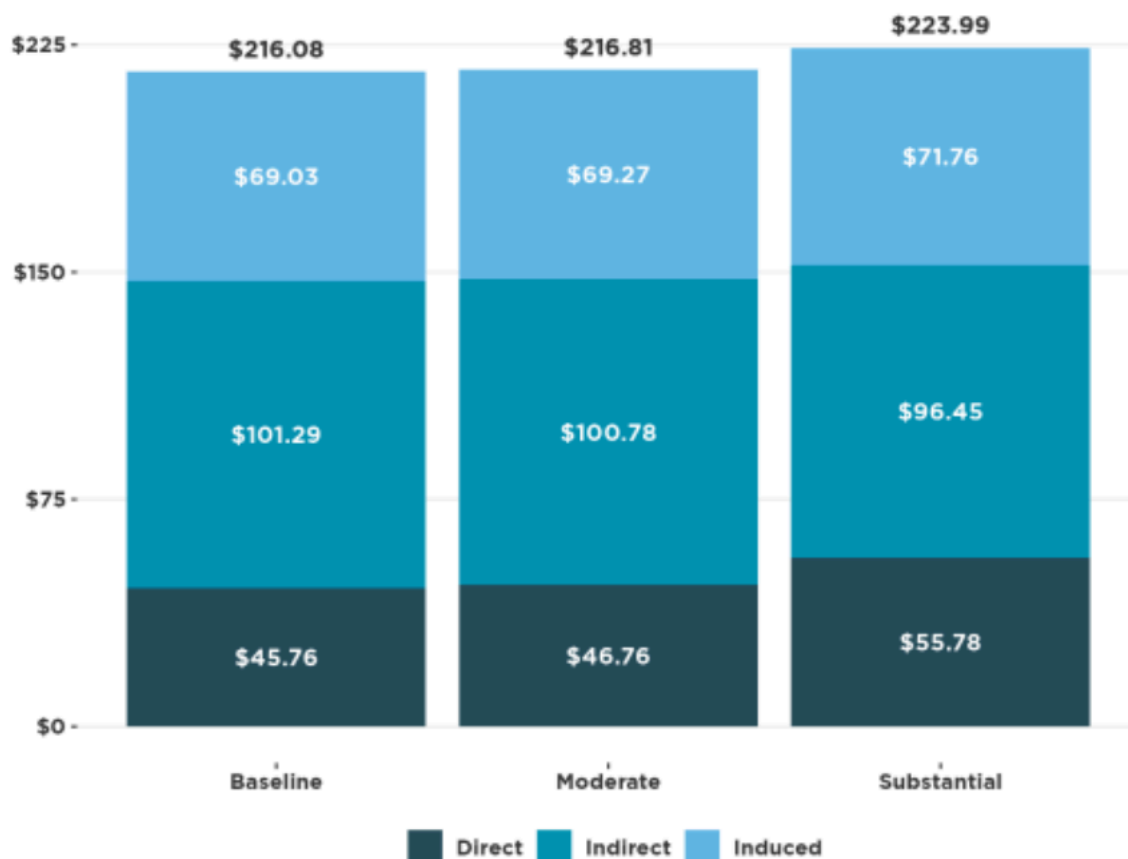
A country's [gross domestic product](#) (GDP) is a common measure of its economy's overall health and reflects the total value of final goods and services produced in that country. GDP reflects the size of a country's economy at a given point in time, but [does not capture](#) details such as

inequality or environmental impacts. Even so, it is the most popular way of evaluating an economy. Because of this, it is worth exploring the effects of our moderate and substantial growth scenarios on the U.S.'s GDP.

Paralleling the change in employment under both scenarios, the GDP contributions from affected industries would increase slightly over baseline in a moderate growth scenario and by even more in a substantial growth scenario. Industries affected by a plant-based transition would contribute about \$216 billion to GDP. The same industries would contribute about \$217 billion and about \$224 billion in moderate and substantial growth scenarios, respectively.

The contributions to GDP by the affected industries are only a miniscule fraction of the U.S.'s total GDP, which was about [\\$29 trillion](#) in 2024. However, at over \$200 billion in each scenario, these contributions are still quite sizable.

Figure 4. Affected Industries' GDP Contributions By Scenario And Effect Type (Billions)



Tax Revenue Growth From A Plant-Based Transition

Perhaps a more tangible measure than GDP, tax revenues can directly impact the ability of local, state, and federal governments to provide services. Much like with employment and GDP, tax revenue is expected to increase by a very small amount in a moderate growth scenario,

reaching \$49.14 billion compared to \$49.06 in the baseline scenario, and by slightly more in a substantial growth scenario, rising to \$50.11 billion. Federal tax revenue would grow under both scenarios and state tax revenue would be largely unchanged. However, local tax revenue would decline slightly in the substantial growth scenario relative to the baseline scenario.

For context, the U.S. federal government collected about [\\$4.92 trillion](#) in total tax revenues in 2024, while state and local governments collected a combined [\\$2 trillion](#) in 2023, the last year with complete data.

Figure 5. Affected Industries' Tax Revenue By Scenario And Level Of Government (Billions)



Labor Income Growth From A Plant-Based Transition

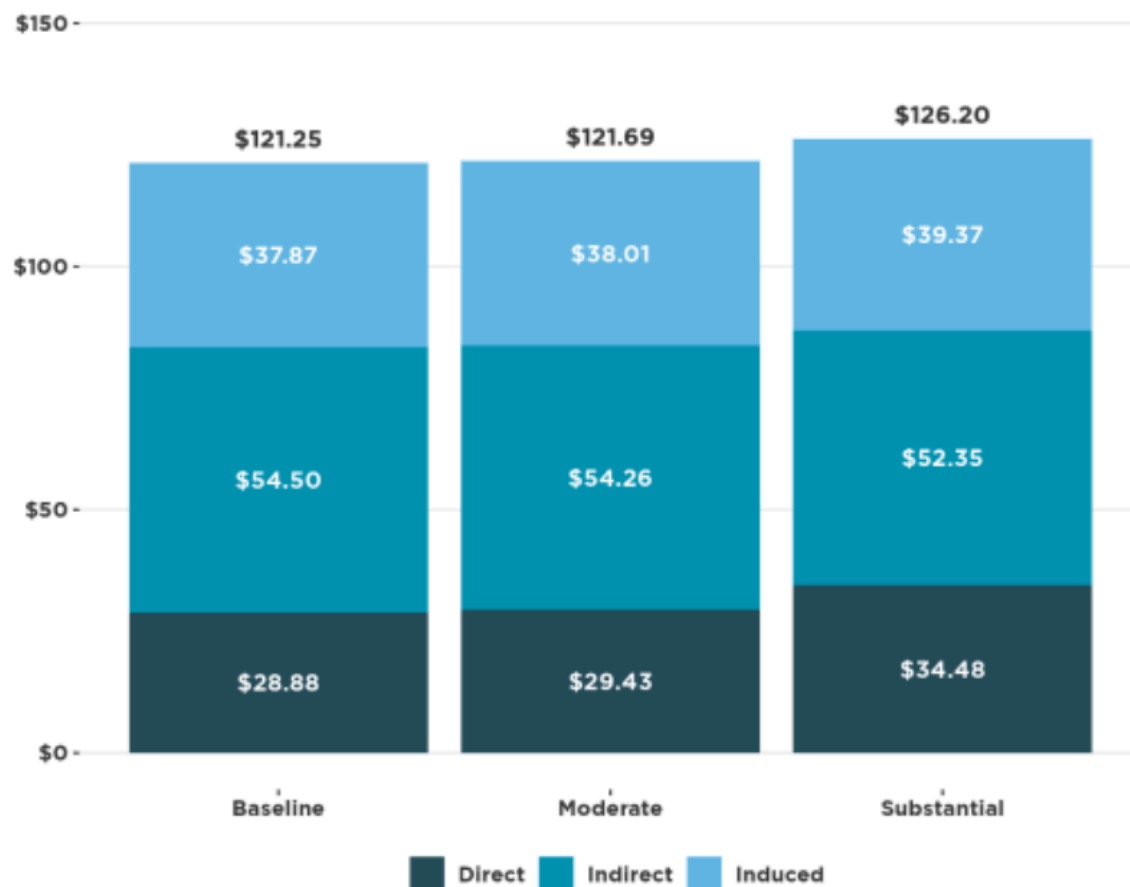
[Labor income](#) measures the amount of money going to workers such as salary and wages. In other words, this represents the amount of money going to employees in industries experiencing direct, indirect, and induced effects of a plant-based transition. Mirroring the other economic indicators discussed above, a moderate growth scenario would see a very slight increase (\$440

million) in total labor income compared to the baseline condition, while the substantial growth scenario would see more notable growth (\$4.95 billion).

Direct and induced labor income are expected to increase relative to the baseline in both scenarios. However, earnings in industries upstream from food production are projected to decline, reflected in decreasing indirect labor income.

Under the baseline scenario, workers directly employed in food production will have an estimated average income of \$53,042. This is projected to remain fairly steady in a moderate growth scenario (\$53,149) and increase slightly in a substantial growth scenario (\$54,243).

Figure 6. Affected Industries' Labor Income By Scenario And Effect Type (Billions)



Conclusions

Moderate Growth In Plant-Based Eating Yields Slight Bump In Jobs And Other Indicators

Of the two growth scenarios examined in this report, the moderate growth scenario is likely the more realistic possibility. Recent sales of plant-based alternatives to animal products have been lackluster ([Good Food Institute, 2024, pp. 35-36](#)). Unless we see a sudden and massive shift in consumer behavior, a scenario in which plant-based milk expands its market share from 15% to 21% is more likely than one in which one out of every two milk products purchased is made from plants. The moderate growth scenario looks at a future in which about 21% of milk sales, 2% of meat sales, and 1% of egg sales come in the form of plant-based products. This does not represent a transformation of the food system, but instead sees a country in which people default to oat milk in their coffee or a Beyond Burger at a barbecue at slightly higher rates than they currently do. These are fairly small changes in behavior and, as a result, we should not expect to see massive changes in the economy in this scenario. The changes estimated for this scenario are not large, but they are almost always positive.

The industries affected by a plant-based transition would add about 7,000 jobs as a result of moderate growth in the amount of plant-based foods being purchased, about 0.35% more than in the baseline scenario. For the people employed as a result of this job creation, the change would certainly be significant. However, from a broader economic perspective, this is a fairly small change in employment levels, especially over the course of the next 15 years.

In other words, the moderate growth scenario would have a small, positive impact on the overall economy, as reflected in employment figures as well as in GDP and tax revenue. In a moderate growth scenario, the affected industries' contributions to GDP would increase by 0.34% while their total tax revenue would increase by 0.18%. Despite being small percentages, each of these changes represents tens of millions of dollars or more. They show that the ripple effects of a small increase in the popularity of plant-based foods can have noteworthy benefits to the U.S. economy and government revenue.

Substantial Growth In Plant-Based Eating Yields Considerable Growth In Jobs And Other Indicators

If U.S. diets were to shift strongly in favor of plant-based products, as envisioned in the substantial growth scenario, the economy would experience considerable benefits. In this scenario, fully half of all milk products would come from plants, plant-based meat products would be as popular as plant-based milk currently is, and roughly 1-in-15 egg products would be plant-based. While not impossible to believe, this scenario envisions a significant reworking of U.S. food purchases and, correspondingly, a reshaped food production system.

In the substantial growth scenario, the U.S. would net nearly 70,000 new jobs. This corresponds to 3.5% more jobs in the affected industries than in the baseline scenario. Unsurprisingly, the bulk of these jobs would be created in plant-based agriculture and most of the job loss would happen in animal agriculture industries.

In 2024, the U.S. economy added an average of about [166,000 jobs](#)¹ each month and was considered fairly [healthy](#). Given this point of comparison, it is clear that even a substantial shift toward plant-based eating would not send the U.S. economy into overdrive. However, an extreme boost in the economy should not be the expected result of what is essentially a partial reorganization of the U.S. food system. A net gain of 70,000 jobs compared to the baseline scenario is still a considerable expansion of employment, especially given that this change is driven entirely by a shift in dietary preferences.

The substantial growth scenario also yields a U.S. GDP that is 3.7% higher than in the baseline scenario, as well as more than 2% more total tax revenue for governments. In other words, reducing animal suffering does not require the economy to suffer. In fact, this analysis predicts that a future in which plant-based products are considerably more popular than today is one marked by job growth and overall economic expansion.

When considering the moderate growth scenario, we can see that a small increase in plant-based eating would yield a small but positive overall change in economic indicators like employment and GDP. A larger shift toward plant-based eating would result in comparably larger positive changes in economic indicators. Given these two data points, it appears that economic growth is at least somewhat proportional to the size of the shift toward plant-based foods, all else equal. In other words, the more plants the U.S. eats, the more its economy will grow.

Overall Net Gains, Though Some Industries Will Be Negatively Impacted

Although both the moderate growth and substantial growth scenarios show net gains in jobs, GDP, tax revenue, and labor income, there are some parts of the economy that are projected to experience losses as part of a plant-based transition.

In a moderate growth scenario, this analysis estimates more than 9,000 direct jobs will be created, as well as more than 2,000 induced jobs. However, this analysis also projects a loss of nearly 4,100 indirect jobs. These are jobs in industries up the supply chain from food production industries, such as workers who grow and process animal feed. We see a similar trend in the substantial growth scenario, with about 91,000 direct jobs and 23,000 induced jobs created, but 44,000 indirect jobs lost. The majority of the lost indirect jobs occur in industries clearly related to animal products, like “beef cattle ranching and farming, including feedlots and dual-purpose

¹ Total nonfarm employees, seasonally adjusted. December 2024 figures are preliminary.

ranching and farming,” but transport and wholesale trade jobs are also among the industries most impacted.

We can also see negative indirect effects on GDP, taxes at all levels of government, and total labor income in both the moderate and substantial growth scenarios. As is the case with employment figures, the impact is stronger in the substantial growth scenario. In other words, the overall economic impacts of a plant-based transition would be positive, but some of the industries that support food production could encounter economic headwinds. Additional breakdowns of direct, indirect, and induced effects can be found in the “Supplementary Materials Workbook”.

It is also important to note that local tax revenue is expected to decline in the substantial growth scenario. In that scenario, direct and especially indirect tax revenues decline relative to the baseline scenario.

Plant-Based Jobs May Not Be Interchangeable With Non-Plant-Based Jobs

Most of the [U.S.'s cow milk](#) comes from California, Wisconsin, Idaho, Texas, and New York. As an example of plant-based milk production, Oatly currently has [U.S. facilities](#) in Utah, Texas, and New Jersey. Workers who lose their jobs in California or Wisconsin can't simply relocate to Utah to take a job at an Oatly facility there. On the agricultural side, someone who has spent their life working on chicken farms in Arkansas can't simply pivot to oat farming in Minnesota—the skills required in the non-plant-based milk industry may be quite different from those needed in the plant-based milk industry.

In other words, some workers will be negatively impacted by changes in food production even if the total number of jobs increases. While this is an unavoidable result of reshaping an economy, it is important for advocates to have a clear understanding of what job creation and job loss actually entail, and to consider ways to mitigate potential harms. For example, where possible, building plant-based production facilities and providing job training and [resources](#) in areas that are already home to non-plant-based production could allow for an easier transition. Advocates could lobby at the federal, state, and local levels to obtain government support for these endeavors.

More Research On The Economic Effects Of A Plant-Based Transition Is Needed

Economies are complex systems and, as a result, are difficult to model, particularly when making projections into the future. This analysis shows that a plant-based transition could be a boon for the economy, but there are many questions it does not answer.

This report looks at two possible growth scenarios for plant-based products, but there are many more forms a plant-based transition could take. In addition to differing market shares, these

other growth scenarios could also factor in possibilities like changing government support for plant-based eating or the animal agriculture industry, shifts in food production and consumption as a result of worsening effects of climate change, threats of zoonotic diseases, and more.

This analysis focuses entirely on the U.S. Future research should model the economic effects of other countries increasing the proportion of their food coming from plant-based sources. It should also explore the complex web of global trade, which may have a considerable impact on economic forecasts. [Oatly](#), for example, has historically sourced much of its oat supply from Canada and little to none from the U.S. This type of research could also help map points of intervention for animal advocates, who could push for subsidies to be reallocated to U.S.-grown crops that support plant-based food production.

While we are able to estimate the number of jobs in an industry, we don't know what the specific positions are. Because of this, it is unclear if the newly created jobs will require similar skill sets or educational backgrounds to the jobs that are lost. Future research should include detailed analyses of both jobs gained and jobs lost, including their locations, as well as diversity in the plant-based food industry.

Job creation and the state of the economy are frequently among the most [important issues](#) for U.S. voters. Because of this, future research should also explore how arguments related to the economic benefits of plant-based eating affect support for animal welfare measures and willingness to go vegan or vegetarian.

In addition to studying the economic effects of a plant-based transition, animal advocates could also benefit from expanded research into ways of achieving such a transition in the first place. A sizable shift in dietary preferences won't happen without continued efforts on the part of advocates, who are more effective when they're more informed. While research on [plant-based diets](#) and [interventions](#) are fairly common, [recent research](#) has questioned whether creating plant-based products that rival animal products in price, taste, and convenience will be enough to entice consumers. As this work suggests, animal advocates could greatly benefit from additional research into the mechanisms by which plant-based products replace animal products in shopping carts. Finally, to achieve a future like that envisioned in the substantial growth scenario, it is likely that [social norms](#) would need to change—another important topic for future research.

Caveats & Limitations

As with all reports, this one has some important caveats and limitations to bear in mind.

This analysis is not meant to be a comprehensive and detailed model of the U.S. economy. Instead, the goal of this project is to provide a starting point for advocates to understand different sized changes in the consumption of plant-based products could affect the economy. It relies on several assumptions detailed in the *Method* and *Supplementary Materials* sections, such as specific growth scenarios, capital and operational expenditures assumptions, and a

largely static economy. The analysis also focuses on two specific, hypothetical scenarios and did not include robustness checks exploring other scenarios.

Although input-output analyses like the ones used for this report are common practice in economic impact analysis, they are not without their drawbacks. In particular, price elasticities and substitution effects are beyond the scope of the model used for this report. This analysis also does not capture sectoral substitution and adjustments in both prices and wages. In other words, the analysis relies on a simplified model of the economy—one that doesn't account for market adjustments.

Because this analysis also focuses on the U.S., it does not account for international effects. However, popular U.S.-based brands like Beyond Meat have facilities in other countries. Accounting for these facilities could affect employment, GDP, tax revenue, and labor income projects. It also does not account for global trade, whether for inputs or finalized food products.

This report does not consider changes in animal suffering that could occur as a result of changes in the consumption of plant-based products and instead focuses strictly on economic impacts.

Supplementary Materials

Additional Method Details

Model

Like other economic analyses, this project relies on several key assumptions. In addition to the assumptions about the growth of plant-based products in the scenarios detailed in the Method section and assumptions built into [IMPLAN](#), BW Research's model used a capital expenditures to sales ratio of 5.16% for non-plant-based industries and 17.40% for plant-based industries. It also used an operational expenditures to sales ratio of 91.85% for non-plant-based industries and 96.15% for plant-based industries.

The model also assumes no research and development in the non-plant-based meat industry and 3.3% of operating expenses research and development in the non-plant-based dairy and egg industries. It also assumes 13.3% of operating expenditures for research and development in plant-based industries. These figures were derived from publicly available financial data for Tyson Foods, Hormel Foods, Pilgrim's Pride, and Seaboard for non-plant-based industries and Beyond Meat, Oatly, Tattooed Chef, and Maple Leaf Foods for plant-based industries.

IMPLAN does not measure jobs as full-time equivalents (FTEs). Jobs can be converted to FTEs using the "2022 IMPLAN FTE" sheet in the "Supplementary Materials Workbook" file linked in the Additional Results section below.

Scenarios

In the moderate growth scenarios, the market share of plant-based meat and eggs are simply double their current market shares. This represents sizable growth without markedly changing the shape of the meat and egg industries. In this same scenario, plant-based milk is assigned a market share of 20.8%. This figure is derived from a hypothetical scenario in which plant-based milk ultimately captures one-third of the milk market, but does so at a fairly slow rate, only achieving 33% of this growth over current rates by 2040.

Sales data has not shown a consistent trend for these products. For example, plant-based eggs sold 25% more units in 2022 versus 2021, but sales declined in 2023 ([Good Food Institute, 2024, pp. 37](#)). Rather than forecast what growth will look like, which is outside of the scope of this report, the substantial growth scenario simply assumes that plant-based meat and eggs grow at similar rates.

Additional Results

In the interest of brevity and clarity, this report does not contain all of the results from BW Research's analysis. Additional results, including industry-level results, can be found in the "[Supplementary Materials Workbook](#)" file.

