



OXFORD  
ECONOMICS



# THE ECONOMIC IMPACT OF THE AGRI-FOOD SECTOR IN SOUTHEAST ASIA

2021





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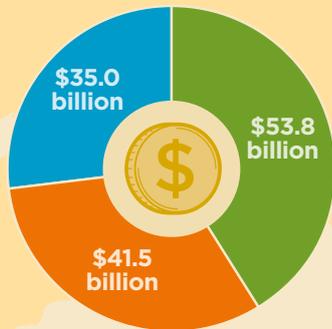
# ECONOMIC IMPACT OF AGRI-FOOD SECTOR ON KEY SOUTHEAST ASIAN MARKETS IN 2019



● Agricultural production ● F&B manufacturing ● F&B distribution

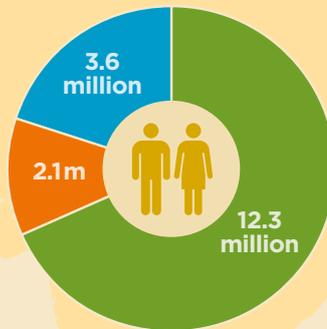
## Thailand

GDP contribution  
**\$130.4 billion**



25% of Thailand's total GDP.

Employment  
**17.9 million jobs**



48% of Thailand's total employment.



Tax revenue  
**\$22.6 billion**



Trade position  
**\$21.0 billion surplus**

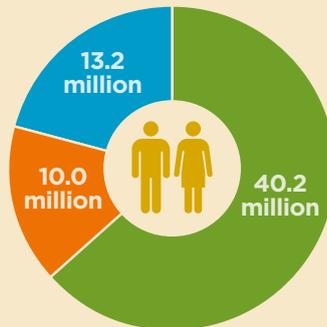
## Indonesia

GDP contribution  
**\$374.0 billion**



35% of Indonesia's total GDP.

Employment  
**63.4 million jobs**



Almost 1 in every 2 jobs in the economy.



Tax revenue  
**\$42.7 billion**



Trade position  
**\$14.4 billion surplus**

Totals may not sum due to rounding  
\$ = US dollar throughout this report



## Total impact across all 4 countries



**GDP contribution**  
**\$717.5 billion**

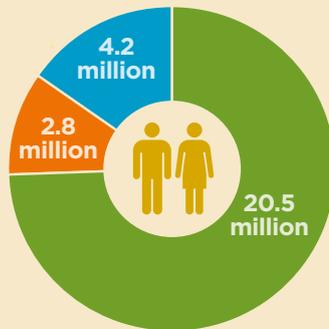


**Employment**  
**126.7 million jobs**

### **Vietnam**

**GDP contribution**  
**\$86.4 billion**

**Employment**  
**27.5 million jobs**



**Tax revenue**  
**\$13.2 billion**



**Trade position**  
**\$9.7 billion surplus**

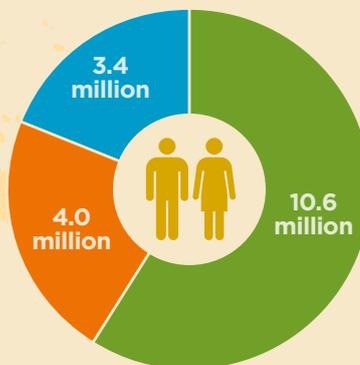
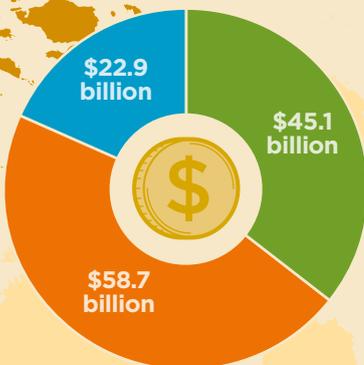
**26%** of Vietnam's total GDP.

More than **50%** of Vietnam's population.

### **Philippines**

**GDP contribution**  
**\$126.7 billion**

**Employment**  
**18.0 million jobs**



**Tax revenue**  
**\$17.1 billion**



**Trade position**  
**\$6.2 billion deficit**

**30%** of the Philippines' total GDP.

**43%** of the Philippines' total employment.

# EXECUTIVE SUMMARY

Throughout a tumultuous year for the Southeast Asian economy, in which travel and logistics, trade, and business operations have been tested in unprecedented ways, the agri-food value chain has demonstrated its resilience. It has placed food on the table at stable prices, provided an income and employment for a huge proportion of the region's workforce, and created opportunities for businesses at each stage of the value chain.

From farm to fork, the agri-food sector holds an unparalleled position in the region's economy and plays a pivotal role in its future economic development. It is an economic powerhouse, responsible for millions of jobs and a major contribution to total economic output and government tax receipts.

Looking beyond the coronavirus, there are many challenges facing the agri-food sector that will have repercussions for the wider economy. These include major risks to food supply and demand. They also include risks resulting from governments adjusting spending and taxation policies to offset the impact of COVID-19 on public finances.

Oxford Economics was commissioned by Food Industry Asia (FIA) to assess the total economic impact of the agri-food sector in four major Southeast Asian economies: Indonesia, the Philippines, Thailand, and Vietnam. We use this as a platform to explore the risks this sector faces going forward.

## THE AGRI-FOOD SECTOR'S ECONOMIC IMPACT

For the purposes of this study, we define the agri-food sector to include three critical components of the food value chain: agricultural production; food and beverage (F&B) manufacturing; and F&B distribution (including wholesale, retail, and hospitality services).

In 2019, the agri-food sector contributed USD 717 billion to the four Southeast Asian economies in our study. This represents a 30% increase, in real terms, from the sector's USD 610 billion contribution in 2015.

- In Indonesia, the sector contributed USD 374 billion to the economy in 2019, equivalent of 35% of total GDP.
- In the Philippines, it contributed USD 127 billion to the economy in 2019, equivalent to 30% of total GDP.
- In Thailand, the agri-food sector contributed USD 130 billion to the economy in 2019, equivalent to 25% of total GDP.
- In Vietnam, the sector contributed USD 86 billion to the economy in 2019, equivalent to 26% of total GDP.

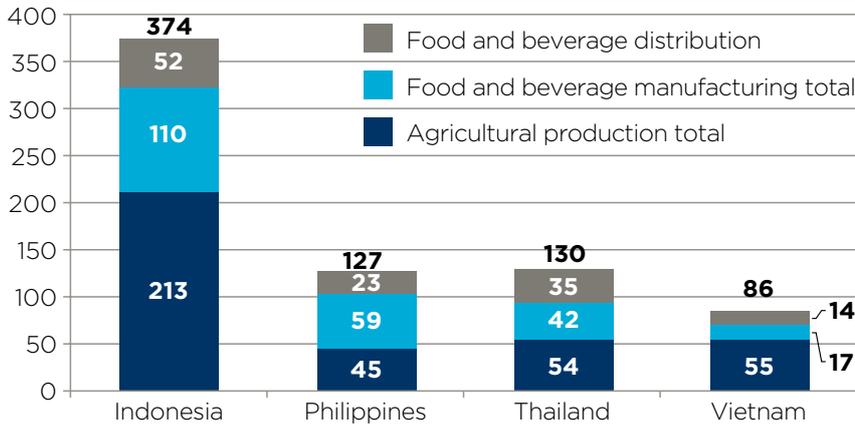
**US\$717 bn**

The agri-food sector's total contribution to 2019 GDP across Indonesia, Thailand, Philippines and Vietnam.



**Fig. 1: Contribution of the agri-food sector to GDP**

US\$ billion, 2020 prices

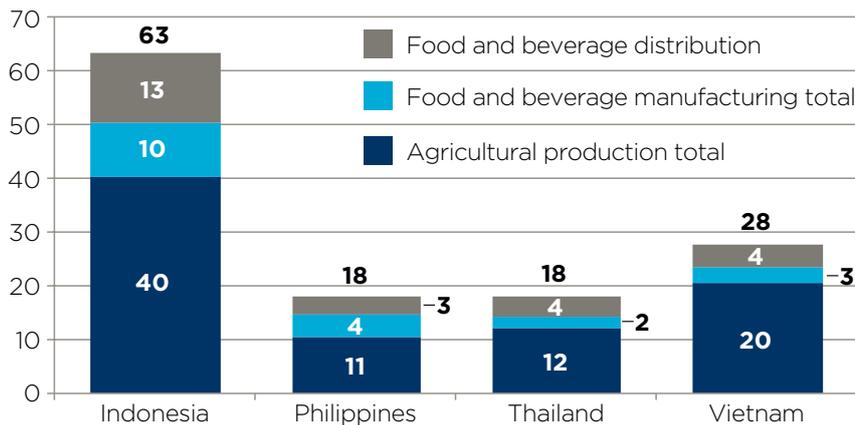


Source: Oxford Economics

It is difficult to overstate the importance of the agri-food sector's role in Southeast Asian labour markets. It sustained around 127 million jobs in 2019, across the four countries in our study. That includes more than half of all jobs in Vietnam, and more than 40% of jobs in the Philippines, Indonesia, and Thailand (Fig. 2).

**Fig. 2: Contribution of the agri-food sector to jobs**

Employment, millions



Source: Oxford Economics

Through corporation and income taxes, this vast economic footprint generated a valuable flow of government revenues. We estimate the sector to have contributed a total of USD 95.6 billion in tax revenues in 2019 across the four Southeast Asian countries in our study. This is equivalent to around 28% of total tax revenues that year, on aggregate.

**127 million**

Total number of jobs supported by the agri-food sector across Indonesia, Thailand, Philippines, and Vietnam in 2019.

**28%**

Share of aggregate tax revenues derived from agri-food sector in 2019, across Indonesia, Thailand, Philippines and Vietnam.

## IMPACT OF COVID ON THE AGRIFOOD SECTOR

In spite of the highly challenging economic conditions during the coronavirus outbreak, the agri-food sector demonstrated its durability in 2020. F&B distribution — in terms of retail, wholesale, catering and hospitality — bore the brunt of policy measures to contain the coronavirus outbreak. We estimate a total of 910,000 jobs were lost in F&B distribution in 2020, compared to the year before, across the four Southeast Asian economies in our study.

Nevertheless, we estimate that the overall agri-food sector managed to maintain a more stable economic impact. In Indonesia and Vietnam, it grew by 2% and 4%, respectively, in real terms. In Thailand and the Philippines, the sector's total economic contribution shrank, but by less than the fall in GDP, revealing the essential nature of agri-food production and distribution.

## MIXED OUTLOOK FOR THE AGRIFOOD SECTOR IN SOUTHEAST ASIA

With such an enormous and pivotal contribution to wider economic activity, the fortunes of the agri-food sector are intertwined with those of the wider economy. Beyond the initial impact of the coronavirus outbreak, the sector faces highly challenging conditions, which will have implications for employment, tax revenues, and wider economic performance.

Whilst the food supply chain remained relatively robust during 2020, new and unforeseen variants of the coronavirus could have different impacts on logistics and prices in the months ahead. The sector is also braced for an inevitable crunch on food and beverage demand in 2021. The pandemic will leave a legacy of unemployment, underemployment, and reduced household incomes, which will depress consumer spending across Southeast Asia.

Oxford Economics forecasts an annual reduction in total household food spending of 0.8% in SE Asia in 2021, in real terms. Furthermore, in Thailand and Indonesia, tourism traditionally accounts for 9.5% and 8.8% of total food consumption, respectively, and this will take longer to recover. Our latest projections suggest Asia will not see a return to 2019 levels of inbound tourism until 2024.

**“ Oxford Economics forecasts an annual reduction in total household food spending of 0.8% in SE Asia in 2021, in real terms. ”**

Southeast Asia's agri-food sector also faces longer-term challenges. As incomes have risen and populations have grown, Southeast Asian consumers are demanding more and better-quality food. There is an urgent need for land and labour productivity improvements, which requires technological innovation and skills development, as well as a sound and supportive policy environment. This includes the need for investment in new technologies to improve the resilience, efficiency, and environmental sustainability of the region's labour-intensive food value chain.

### **IMPACT OF FISCAL MEASURES ON THE AGRI-FOOD SECTOR'S RECOVERY**

Following the extraordinary stimulus measures of 2020 and depressed economic activity thereafter, there is heightened pressure on Southeast Asian governments to restore their fiscal positions. The impetus to reduce public expenditure and raise tax revenues poses a risk to the recovery of Southeast Asia's agri-food sector.

For those countries with relatively generous agricultural subsidies, or relatively low excise and value added taxes on food products, the agri-food industry is potentially vulnerable to post-COVID-19 fiscal adjustment strategies. Poor sovereign credit ratings in Vietnam, Indonesia, and the Philippines will intensify the pressure on finance ministries to balance their books quickly.

To understand the risk of post-COVID-19 fiscal adjustment to the agri-food sector in Southeast Asia, we developed a Fiscal Risk Framework. This framework assesses a range of influential risk factors, including the damage done to government finances in 2020, the urgency of repairing those fiscal balance sheets, and the exposure of the agri-food sector to fiscal readjustment.

In Thailand and Vietnam, low prevailing sales tax rates, by global standards (i.e. 10% or less) increase the risks of a sales tax hike. Due to the high proportion of food spending in consumer baskets, such measures would quickly spill over to negatively affect business performance and household wellbeing.

In the Philippines and Indonesia, high prevailing agricultural subsidies raise the prospect of a cut in funding for the agri-food sector. An abrupt reduction in subsidies (currently worth around 3% of GDP per annum in Indonesia) would harm agricultural producers and pass through into the rest of the agri-food value chain. Around half of all inputs into the food manufacturing sector in both economies come from domestic agriculture.

**“ The impetus to reduce public expenditure and raise tax revenues poses a risk to the recovery of Southeast Asia's crucial agri-food sector. ”**

“ A good excise tax policy should be well designed, targeted, evidence-based, and efficiently regulated to raise the chances of success. ”

### **POORLY CRAFTED EXCISE TAXES COULD HARM THE AGRIFOOD SECTOR'S RECOVERY**

Excise taxes on sugar, salt, and plastics have long been discussed in policy circles in Southeast Asia as potential tools to address health and environmental problems. The motivations behind these policy initiatives are timely and highly important. But international evidence has shown that for such measures to succeed, careful design, planning, and communication are essential. There are many examples of excise duties creating counterproductive results, including a disproportionate impact on small businesses, unforeseen damage to local industry, an unfair burden on low-income households, and a failure to generate fiscal revenues.

A good excise tax policy should be well designed, targeted, evidence-based, and efficiently regulated to raise the chances of success. We identify three core ingredients of a successful fiscal policy to meet health and environmental objectives.

- 1. Education and public information.** Raising awareness amongst consumers is key to managing behavioural change, and highly complementary to the use of fiscal measures. Accurate food and plastic labelling is a tried and tested public information tool to amplify policy effectiveness.
- 2. A comprehensive regulatory scope.** Excise taxes used on their own can be blunt, regressive, and poorly implemented. International evidence suggests the more effective the regulatory conditions, the more effective the tax compliance. Governments can use regulatory standards on such aspects as product reformulation and food labelling to nudge producers in the right direction.
- 3. Consultation and communication with industry.** To succeed with fiscal measures, governments must engage and communicate with stakeholders regularly to minimise the cost to business and the loss of jobs, whilst maximising collaboration and compliance. Regular communication with industry stakeholders equips policymakers with sector expertise and enables them to tailor policy effectively to achieve its intended outcomes.



# 1. INTRODUCTION

Southeast Asia's food value chain responded quickly and flexibly to the challenges presented by the coronavirus pandemic. From agricultural producers in farming, forestry, and fishing, through the vast array of food and beverage manufacturers—large and small—and to the countless food and beverage vendors and distributors, the agri-food sector proved invaluable during an unprecedented health and economic crisis.

Looking ahead, the agri-food sector faces unique challenges in recovery. They include continued supply-side risks, such as disrupted transportation and physical distancing measures, as well as demand-side risks from high levels of unemployment and reduced incomes.

In addition, longer-term, fundamental challenges continue to loom over the sector's future. There is a need for innovation and investment to raise productivity and develop a sustainable response to environmental degradation and the deteriorating health of rapidly urbanising populations.

Oxford Economics was commissioned by Food Industry Asia (FIA) to provide a comprehensive analysis of the economic impact of the agri-food sector in four major Southeast Asian countries: Indonesia, Thailand, the Philippines, and Vietnam. In this first of its kind study, we analysed five years of economic activity across the entire food value chain—from farm-to-fork. We leveraged the Oxford Economics Global

Economic Impact Model to understand where and how the agri-food sector adds value to these economies, as well as our macroeconomic forecasting tools and expertise to consider the future trajectory of the agri-food sector, and the challenges it faces going forward.

## 1.1 THE STRUCTURE OF THIS REPORT

The report is structured in four parts. In the next chapter we explain our overarching approach to measuring the economic impact of the agri-food sector and present high level results. This is followed by a more detailed assessment of the sector's impact at the country level and the implications of the coronavirus pandemic on its performance in 2020. In the following chapter, we provide our assessment of the outlook for the agri-food sector in Southeast Asia, beyond the initial impact of coronavirus.

And finally, we assess the fiscal risks facing the sector in 2021 and beyond, including the potential implications of hasty or ill-designed excise duties for the businesses, employees, and consumers that depend on the agri-food sector.



## 2. ESTIMATING THE AGRI-FOOD SECTOR'S ECONOMIC IMPACT

The food value chain in Southeast Asia constitutes a complex network of stakeholders involved in growing, processing, selling and distributing the food and beverages that households rely on. This value chain also makes a major contribution to the region's economy. In this chapter, we describe the framework we have used to assess the size of the agri-food industry's total economic impact, from farm to fork, in four major Southeast Asian economies: Indonesia, Thailand, the Philippines, and Vietnam.

### 2.1 HOW WE FRAME OUR ANALYSIS

We define the agri-food sector to encompass three components: agricultural production, Food and Beverage (F&B) manufacturing, and F&B distribution, which are explored in more detail below.

The bedrock of our analysis is an assessment of the **direct economic impact** the agri-food sector has on the economy. Our framework also captures the economic activity associated with the agri-food sector's supply chain spending, which we refer to as its **indirect economic impact**. In addition, we estimate the economic activity that results from the consumer spending undertaken by those earning wages in the sector or in its supply chain. This is referred to as its **induced economic impact**. More detail on these three channels of impact and how they are estimated is provided in Box 1.

In our analysis, we assess the structure of the agri-food sector based on 2019 data, which is the latest year for which official statistics are complete. This gives us an important reference point prior to the impact of the coronavirus pandemic. In addition, we assess the evolution of the sector's economic footprint between 2015 and 2019, and also estimates the value of the agri-food sector in 2020. Our 2020 projection utilises the most recent official data from local

national statistics agencies, combined with Oxford Economics forecasts.

#### Component 1: Agricultural production

Agricultural production, which encompasses agriculture and fishing industries, accounts for a substantial proportion of the Gross Domestic Product (GDP)<sup>1</sup> in Southeast Asia. Agricultural production is dominated by rice, which accounts for a greater share of gross production value than any other single commodity. Other commodities such as maize, coffee, cocoa, fruits, and vegetables are also highly important to the region's agricultural output, as are livestock and poultry farming. In addition, many Southeast Asian countries have large fishing industries, especially those with large coastal or island-based populations.

As a major employer across Southeast Asia, agricultural production creates a large induced spending impact. Our estimates suggest that agricultural production accounts for 28% of all employment in the agri-food sector across the four countries analysed in this study. Although average wages in the sector are low, the proportion of household earnings that are spent on local goods and services is high and the sheer number of workers creates a very large spending footprint.

### Component 2: Food and beverage manufacturing

In this study, we focus our analysis on non-alcoholic food and beverage manufacturing taking place within our four countries of analysis. We estimate that 8.9 million workers were employed in F&B manufacturing across the four countries in our study in 2019. As these workers and all those employed in the sector’s supply chain, go on to spend their earnings, the economic activity this stimulates is captured in our estimate of the induced economic impact.

### Component 3: Food and beverage distribution

To capture the full spectrum of the food value chain, from farm to fork, we also extend our analysis to downstream industries that distribute food and non-alcoholic beverage products to consumers. In our analysis, we include the wholesale and retail of food and non-alcoholic beverage products, as well as their sale within the hospitality sector, specifically accommodation and catering.

## 2.2 THE ECONOMIC IMPACT OF THE AGRI-FOOD SECTOR IN SOUTHEAST ASIA

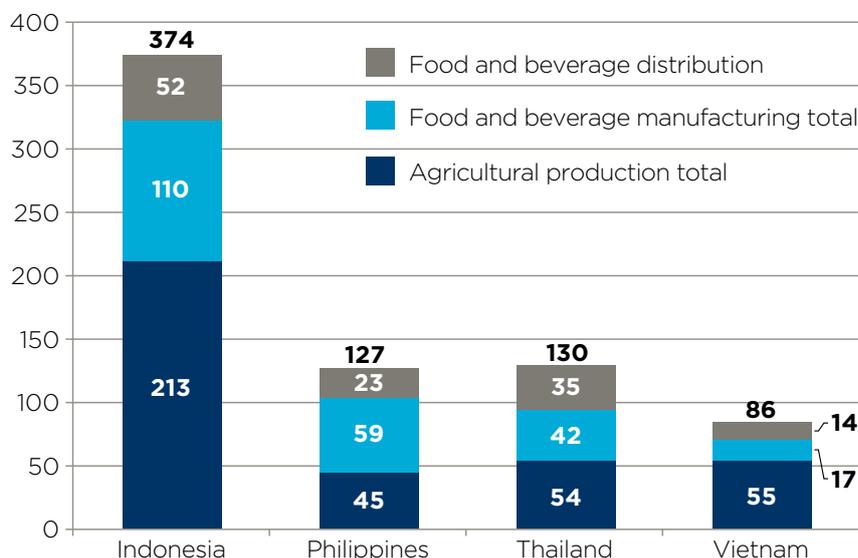
The various components described above, including their direct, indirect, and induced impacts, combine to produce the total economic impact of the agri-food industry.

This accounted for a net contribution to GDP of USD 717 billion in 2019, across the four Southeast Asian countries in our study. The contribution has grown 30% in real terms since 2015, when it was worth USD 610 billion (2020 prices).

The agri-food sector was responsible for employing 127 million employees across our four Southeast Asian countries in 2019. Improvements in productivity in the agri-food sector mean that its economic output has grown at a faster rate than its employment footprint in recent years. The total number of jobs supported by the agri-food sector contracting slightly from an estimated 128 million employees in 2015.

**Fig. 3: Contribution of the agri-food sector to GDP**

US\$ billion, 2020 prices



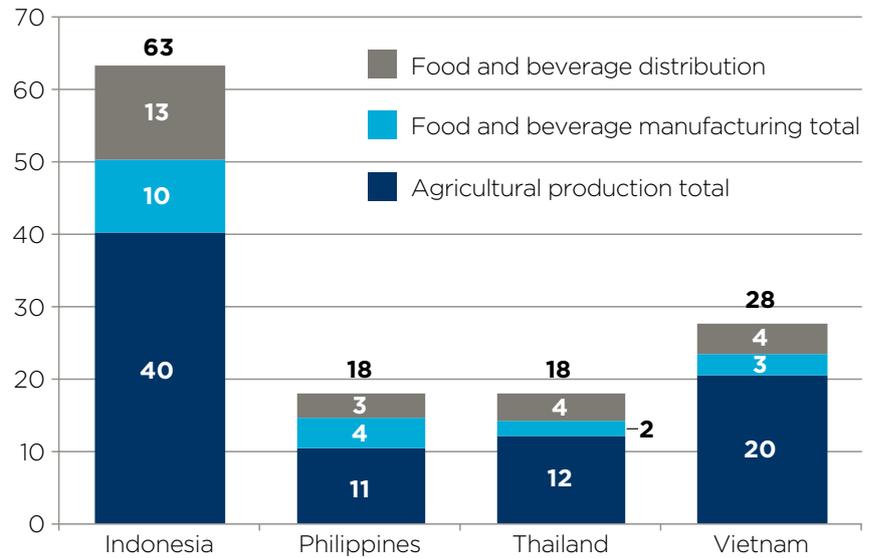
Source: Oxford Economics

The overall size of these impacts is influenced by the general economic performance of each country, and the structure of the agri-food sector. Nevertheless, the agri-food sector constitutes a very large component of the domestic economy in all four of the Southeast Asian economies in our study. Its contribution to the economy ranges from 25% to 34% of national GDP and between 43% and 50% of total national employment.

Furthermore, through corporation and income taxes, this vast economic footprint generates a valuable flow of government revenues. We estimate the sector to have contributed a total of USD 95.6 billion in tax revenues in 2019 across the four Southeast Asian countries in our study. This is equivalent to around 28% of total tax revenues that year, on aggregate.

**Fig. 4: Contribution of the agri-food sector to jobs**

Employment, millions



Source: Oxford Economics

In the following section, we unpack the agri-food sector's economic impact at the country level and explore how it has evolved over time, in particular during the coronavirus pandemic of 2020.

**BOX 1: OUR APPROACH TO ECONOMIC IMPACT ASSESSMENT**

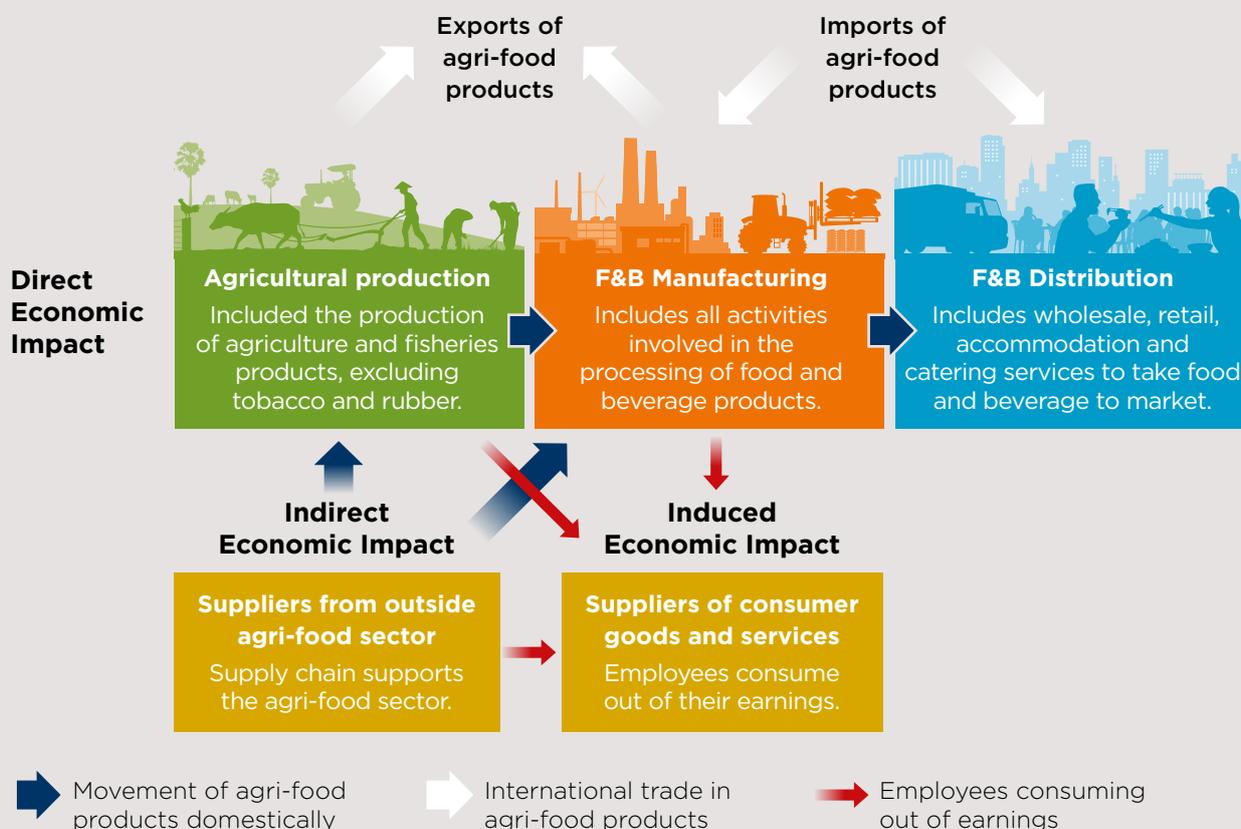
In this report, we use a bespoke economic impact modelling framework to analyse the contribution the agri-food sector makes to the economies of Indonesia, Thailand, the Philippines, and Vietnam. Our assessment encompasses three channels of impact.

Firstly, we assess the **direct economic impact** of the businesses and workers directly involved in the agri-food sector itself—that includes agricultural production, F&B manufacturing, and F&B distribution,

For the agricultural production and F&B manufacturing components, we also capture two further ‘channels of impact’, as summarised in Fig. 5.

- **The indirect economic impact** refers to the economic activity stimulated along the agri-food sector’s non-food supply chain, from procurement spending.
- **The induced economic impact** refers to the economic activity that flows from the payment of wages in the agri-food sector and the businesses in its non-food supply chain. Those wages are spent in the local economy, for example in retail and leisure outlets, generating profits and wages for other businesses, who in turn stimulate further spending in their own supply chains and amongst their own employees.

**Fig. 5. The contribution the agri-food sector makes to the Southeast Asian economy**



The total economic impact of the agri-food sector encompasses all of these impacts and we present the impact in three ways:

- **Gross value added (GVA) contribution to Gross Domestic Product (GDP).** This is the value of the output produced by a firm minus its expenditure on inputs (goods and services) that are used up in production. Aggregated across all economic operators in the economy, this forms GDP (plus production taxes and subsidies), which is the most widely recognised measure of total economic output.
- **Employment.** This is measured on a headcount basis to facilitate comparisons with national statistical agencies' employment data. It therefore includes anyone who is paid wages regardless of the length of their working week or whether they work all year round. Those who are paid as part of a contract for the provision of services will be considered as part of the supply chain, for the purposes of this study.
- **Tax receipts.** This is an estimate of all income and corporation tax revenues generated by firms and employees that form part of the economic footprint.

Our results are presented on a gross basis. They therefore ignore any displacement of activity from other uses of the land, for example. They do not consider what those resources currently used by the agri-food sector, or by their suppliers, could produce in the absence of the sector's activity.





# THE AGRI-FOOD SECTOR IN INDONESIA

## TOTAL ECONOMIC IMPACT

● Agricultural production 
 ● F&B manufacturing 
 ● F&B distribution

A total contribution to GDP worth **\$374.0 billion**



The agriculture industry is the largest part of this, contributing **57%** of its total GDP footprint.

A total employment footprint of **63.4 million**

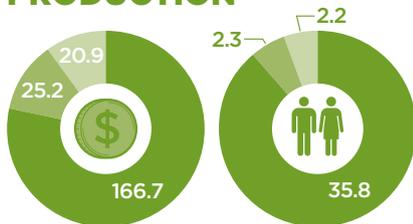


The Indonesian agri-food sector is huge, **employing nearly half of the national workforce.**

## FROM FARM TO FORK



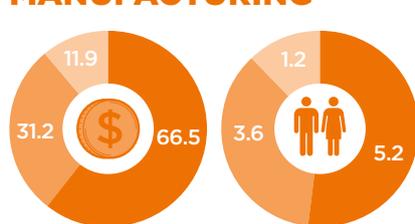
### AGRICULTURAL PRODUCTION



**\$212.8 billion**    **40.2 million**

● Direct 
 ● Indirect 
 ● Induced

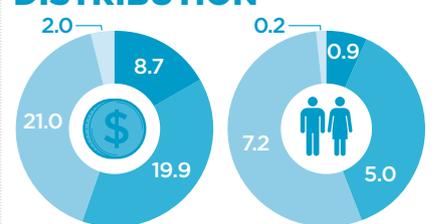
### FOOD & BEVERAGE MANUFACTURING



**\$109.6 billion**    **10.0 million**

● Direct 
 ● Indirect 
 ● Induced

### FOOD & BEVERAGE DISTRIBUTION



**\$51.7 billion**    **13.2 million**

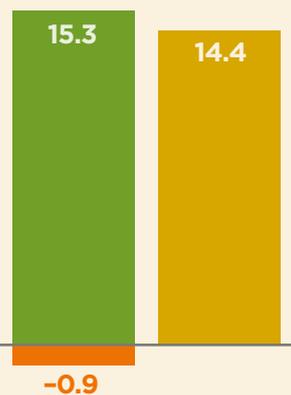
● Wholesale 
 ● Retail 
 ● Catering 
 ● Accommodation

## TRADE SURPLUS

Indonesia sustains a large agri-food trade surplus, driven by exports of agricultural products.

● Agricultural products  
● Processed F&B products  
● Total

Net exports in 2019 (US\$, billion)



## COVID-19 IMPACT

The agri-food sector's contribution to GDP grew in 2020. However, the COVID-19 pandemic meant that F&B distribution contracted.

● Agricultural production  
● F&B manufacturing  
● F&B distribution  
● Total

Change in GDP contribution (US\$, billion)



# 3. THE AGRI-FOOD SECTOR'S IMPACT IN INDONESIA

The agri-food sector has long played a crucial role in the Indonesian economy. An expansive agricultural landscape is responsible for a sizeable share of national GDP and employment. Food and beverage manufacturing and distribution are also major contributors to national GDP, geared as they are towards serving one of the region's largest domestic consumer markets.

In this chapter, we map out the economic footprint of the agri-food sector in Indonesia and its trajectory over recent years. We also analyse the impact of the COVID-19 pandemic on the sector's performance in 2020, and what this means for the future.

All values are quoted in USD, adjusted to keep exchange rates and prices constant at 2020 levels. This ensures comparability across years and the different markets studied in this analysis.

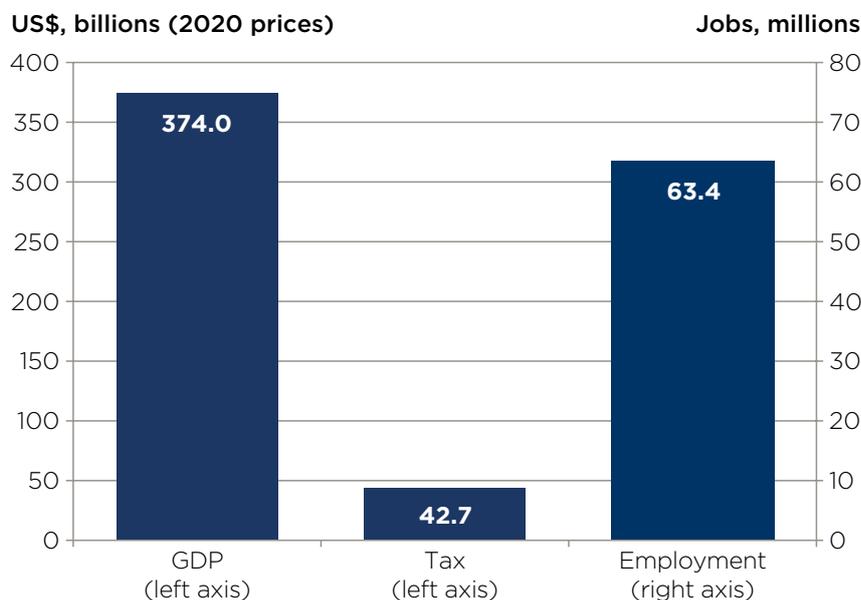
## 3.1 THE TOTAL ECONOMIC IMPACT OF THE AGRI-FOOD SECTOR

The agri-food sector contributed USD 374 billion to Indonesian GDP in 2019 (in 2020 prices). This enormous contribution to the economy is the equivalent of 35% of total GDP.

The sector's contribution to employment is even greater. We estimate that the Indonesian agri-food sector supported a total of 63.4 million jobs in 2019, equivalent to almost one in every two jobs in the economy.

Through corporation and income taxes, this vast economic footprint generates a valuable flow of revenues to the government. We estimate that the agri-food sector in Indonesia generated a total of USD 42.7 billion in tax revenues in 2019.

**Fig. 6: Total economic contribution of agri-food sector in Indonesia (2019)**



Source: Oxford Economics

### 3.2 THE ECONOMIC IMPACT OF THE AGRI-FOOD SECTOR IN DETAIL

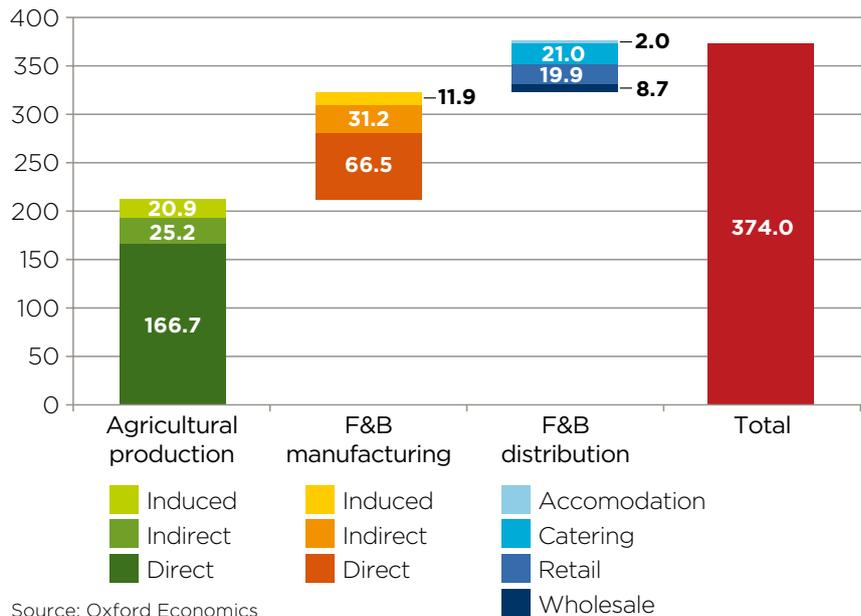
The agri-food sector’s total economic impact includes the contribution of three components: agricultural production, F&B Manufacturing and F&B Distribution. The agricultural component is the largest. It accounts for more than half of the agri-food sector’s GDP contribution and almost two-thirds of its jobs (Fig. 7). Both F&B manufacturing and F&B distribution also make very sizeable contributions to the economy, both directly and via their indirect supply chain and induced spending impacts.

The Indonesian agri-food industry experienced robust growth between 2015 and 2019. Its contribution to GDP increased by 23% in real USD terms, an average annual growth rate of 5.3%. This closely mirrors the growth that has been seen in the wider economy, with national GDP expanding 22% in real USD terms over this period.

The sector’s employment footprint grew by a total of 4.9 million jobs between 2015-2019, an 8% increase. Growth was strong in each of these five years, with expansion in all three components of the agri-food sector.

**Fig. 7: Agri-food industry contribution to Indonesian GDP, by component, 2019**

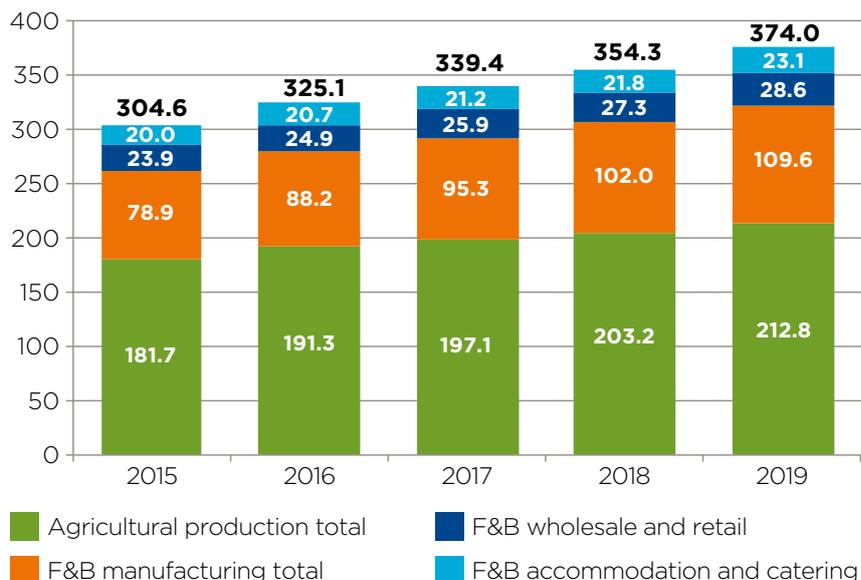
US\$, billions (2020 prices)



Source: Oxford Economics

**Fig. 8: Change in GDP contribution of Indonesian agri-food sector, by component (2015-2019)**

US\$, billions (2020 prices)



Source: Oxford Economics

**Fig. 9: Change in employment footprint of agri-food sector, by component (2015-2019)**

Employment, millions



Source: Oxford Economics

### 3.2.1 Agricultural production

The majority of the Indonesian agri-food sector’s contribution to GDP comes from agricultural production. In 2019, the sector made a direct contribution to national GDP worth USD 166.7 billion, in 2020 prices. When the indirect and induced impacts of the sector are included, this footprint grows to USD 212.8 billion, which is 57% of the agri-food sector’s total.

Agricultural production sustained a total of 40.17 million jobs in 2019, 63% of the total from the agri-food sector, as well as contributing USD 17.0 billion in tax revenues.

In the five years to 2019, the total economic impact from agricultural production, including its indirect and

induced impacts, grew by a total of USD 31.0 billion; a 17% increase. Despite this rapid growth, total employment in agriculture shrank by 3%, owing to improvements in the labour productivity of agricultural processes.

### 3.2.2 Food and beverage manufacturing

Food and non-alcoholic beverages manufacturing contributed a total of USD 109.6 billion to GDP in 2019 (in 2020 prices), making up 29% of the agri-food sector’s total impact. Through its direct activities alone, it contributed USD 66.5 billion to Indonesian GDP. The rest was derived from its indirect and induced impacts.

The F&B manufacturing component of the agri-food sector sustained a total of 9.98 million jobs in 2019. More than 5 million of these were supported directly by F&B manufacturing activities, and the rest from within the supply chain and via induced spending. The tax contribution of F&B manufacturing totalled an estimated USD 19.8 billion in 2019 (2020 prices).

In a rapidly growing Indonesian agri-food sector, it was F&B manufacturing that expanded fastest between 2015 and 2019. Over this time, its total economic impact grew by 39%, raising its contribution to GDP by USD 30.7 billion. This expansion was responsible for half of the employment growth in the whole of the agri-food sector over this time, adding 2.5 new jobs.

### 3.2.3 Food and beverage distribution

The food and non-alcoholic beverage distribution component of the agri-food sector contributed USD 51.7 billion to Indonesian GDP in 2019 (2020 prices). This includes wholesale and retail, as well as the sale of food and non-alcoholic beverages in the hospitality industry. In total it represented 14% of the agri-food sector's total contribution and was responsible for sustaining 13.2 million jobs.

Wholesale and retail accounted for more than half of this GDP impact in 2019. Its contribution was worth USD 28.6 billion (USD 8.7 billion in wholesale and USD 19.9 billion in retail) in 2019 and sustained 5.81 million jobs.

The hospitality industry contributed USD 23.1 billion to Indonesian GDP in 2019. The majority of this contribution came from the catering industry, amounting to USD 20.0 billion. Collectively the hospitality industry sustained 7.39 million Indonesian jobs, of which 7.15 million came through retail.

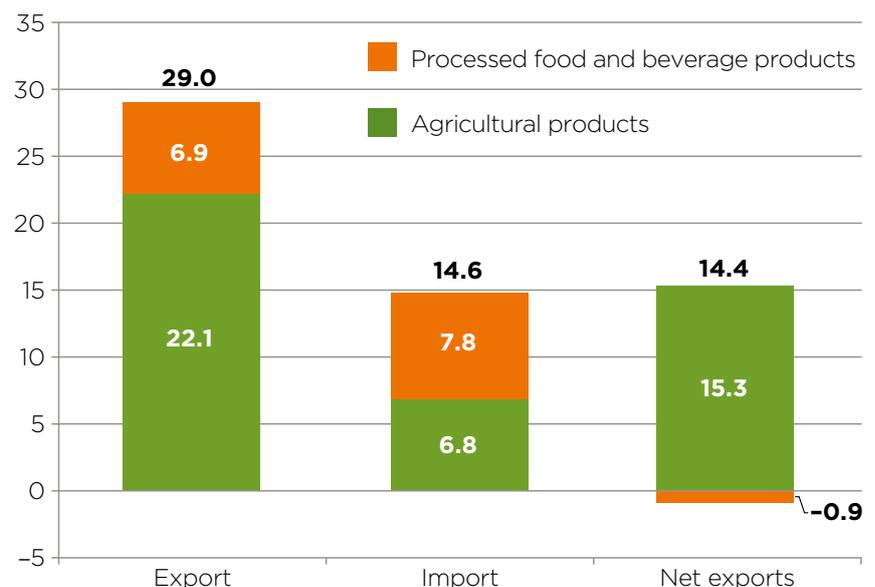
The F&B distribution component's contribution to Indonesian GDP grew by 17% between 2015 and 2019, an increase worth USD 7.7 billion and an additional 3.6 million jobs. The wholesale and retail of food and non-alcoholic beverage products contributed USD 4.6 billion more to GDP over that period, or 19%, and 600,000 additional jobs. The hospitality sector's contribution to GDP grew by USD 3.1 billion, or 15%, supporting 3 million more jobs than five years prior.

### 3.3 TRADE IN AGRI-FOOD PRODUCTS

The Indonesian agri-food sector maintained a strong trade surplus between 2015 and 2019. This was driven primarily by the outputs of un-processed goods from its large agricultural sector, demonstrating the size and importance of this primary sector to the national economy.

**Fig. 10: Trade in agri-food products, 2019**

US\$, billions (2020 prices)

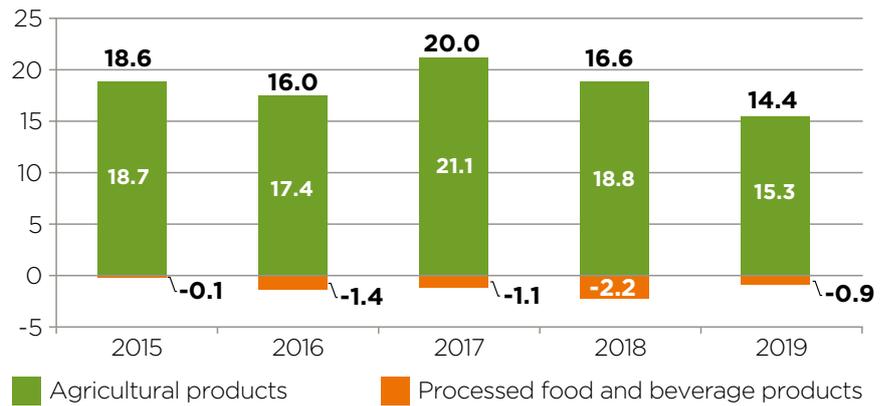


Source: Oxford Economics

However, this trade surplus has weakened over recent years. This is in part the consequence of the weakening of the Indonesian rupiah relative to the US dollar, which has lowered the US dollar value of its exports. But the declining trade surplus also betrays the growing domestic demand for these products in the Indonesian economy, as a result of rapidly growing F&B manufacturing industry and an expanding domestic market.

**Fig. 11: Net exports of primary and processed food and non-alcoholic beverages, Indonesia, 2015 to 2019**

US\$, billions (2020 prices)



Source: Oxford Economics

### 3.4 IMPACT OF COVID-19 ON THE INDONESIAN AGRI-FOOD SECTOR

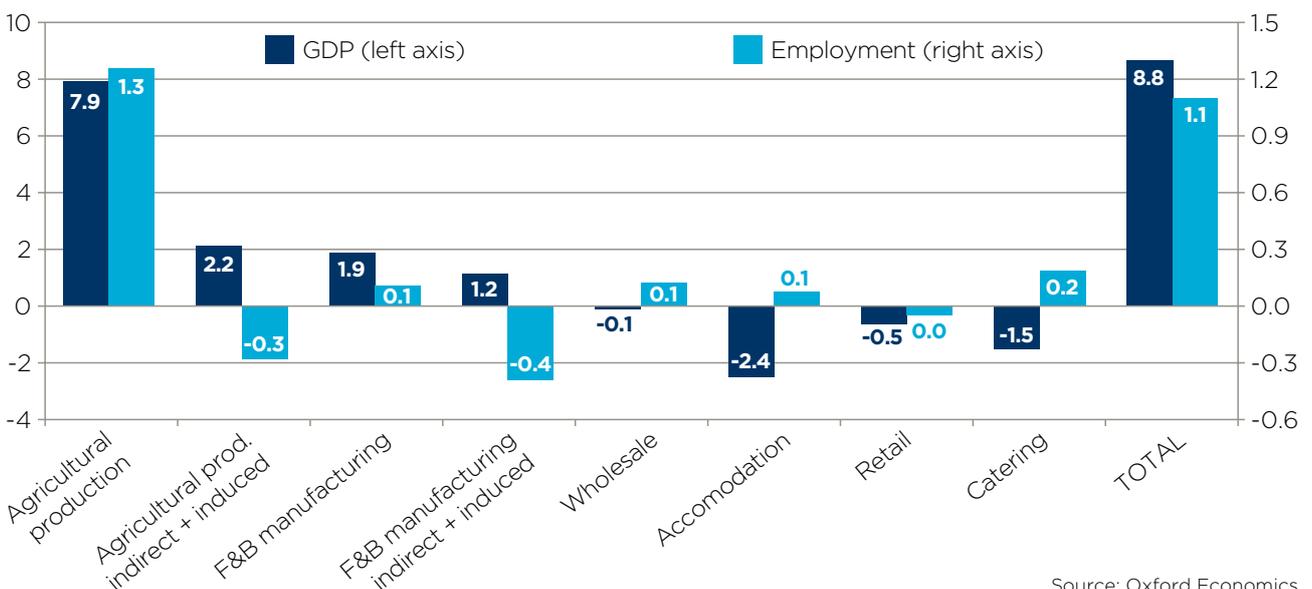
Despite the difficult economic conditions brought on by the COVID-19 pandemic, we estimate the economic contribution of the Indonesian

agri-food sector to have grown by 2% in 2020. This generated an additional USD 8.2 billion contribution to GDP, in real terms.

**Fig. 12: Year-on-year change in GDP and employment contribution of agri-food sector in Indonesia, by component, 2020.**

US\$, billions (2020 prices)

Jobs, millions



Source: Oxford Economics

Official data suggest employment in these sectors of the economy grew by 1.1 million in 2020, compared to the previous year, a 2% increase. These estimates are based on official national accounts and employment data for the first three quarters of 2020, combined with Oxford Economics forecasts for the final quarter.

### **3.4.1 Agricultural production**

The agriculture sector in Indonesia expanded in 2020. We estimate that its Gross Value Added (or GVA) contribution to GDP was USD 7.9 billion larger than the year before. Including its indirect and induced impact, the economic footprint of agricultural production is estimated to have grown by as much as USD 10.1 billion in real terms, representing growth of 4%.

Official data shows that employment in the agricultural sector has risen in 2020. We estimate that 990,000 more workers were employed in the total economic footprint of agricultural production than a year earlier, representing a 2% annual rise.

### **3.4.2 Food and non-alcoholic beverage manufacturing**

The F&B manufacturing industry's quarterly output has been consistently higher in 2020 than the corresponding quarter a year before. We estimate that the total economic impact of F&B manufacturing rose USD 3.8 billion in 2020, or 3%.

Despite this growth, improving productivity has led to a continued contraction in employment. We estimate 250,000 fewer people were employed in this component of the agri-food sector in 2020, primarily driven by falls in the indirect and induced contribution. This represents a reduction in the total employment footprint of the sector but signifies progress in terms of labour productivity.

### **3.4.3 Food and non-alcoholic beverage distribution**

The contribution to GDP of the F&B distribution component of the agri-food sector is estimated to have dropped by USD 4.5 billion in 2020, compared to 2019. This represents a 9% contraction and reflects the extreme conditions of coronavirus-related physical distancing measures and contraction in tourism. The retail sector accounted for a major share of the drop. Its contribution to GDP shrank by USD 2.4 billion, year on year.

In contrast, official data suggests employment in F&B distribution increased in 2020 in Indonesia. Across the wholesale, retail, and hospitality segments of this sector, employment is estimated to have grown by 370,000 in 2020, year-on-year. The largest portion of this came from catering, which is estimated to have supported 200,000 additional jobs.





# THE AGRI-FOOD SECTOR IN THE PHILIPPINES

## TOTAL ECONOMIC IMPACT

● Agricultural production ● F&B manufacturing ● F&B distribution

A total contribution to GDP worth **\$126.7 billion**



Nearly half of the sector's contribution to GDP came from **F&B manufacturing**.

A total employment footprint of **18.0 million**

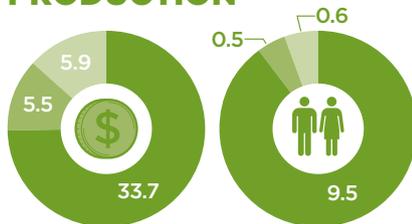


The Philippines agri-food sector employed **43%** of the country's workforce in 2019

## FROM FARM TO FORK



### AGRICULTURAL PRODUCTION



**\$45.1 billion**    **10.6 million**

● Direct ● Indirect ● Induced

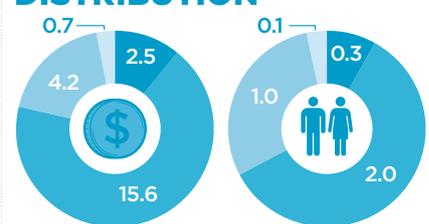
### FOOD & BEVERAGE MANUFACTURING



**\$58.7 billion**    **4.0 million**

● Direct ● Indirect ● Induced

### FOOD & BEVERAGE DISTRIBUTION



**\$22.9 billion**    **3.4 million**

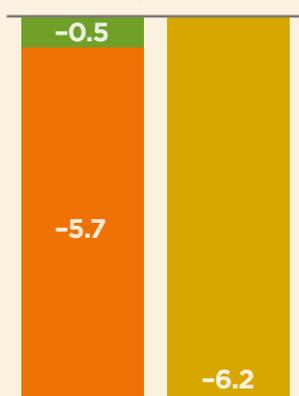
● Wholesale ● Retail ● Catering ● Accommodation

## TRADE DEFICIT

The Philippines relies on imports of food, in particular processed food products.

● Agricultural products  
● Processed F&B products  
● Total

Net exports in 2019 (US\$, billion)

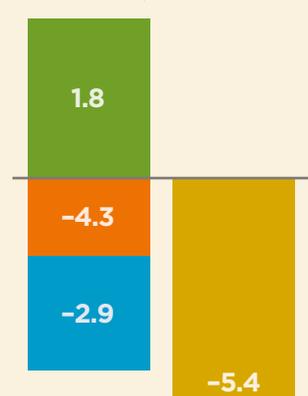


## COVID-19 IMPACT

The sector has shrunk during the COVID-19 pandemic, but by less than the wider economy.

● Agricultural production  
● F&B manufacturing  
● F&B distribution  
● Total

Change in GDP contribution (US\$, billion)



# 4. THE AGRI-FOOD SECTOR'S IMPACT IN THE PHILIPPINES

In the Philippines, the agri-food sector plays a major role in the national economy. It is underpinned by a large food and beverage manufacturing industry which, in contrast to many other Southeast Asian economies, outweighs the size of agricultural production, in terms of its contribution to GDP. The agri-food sector grew consistently between 2015 and 2019, with particularly rapid growth in F&B manufacturing and distribution. However, a weakening peso (currency) and the relative under-performance of agricultural production has seen the Philippines' trade balance for food and beverage goods deteriorate. The country was a significant net importer of food and beverage products in 2019.

In 2020, factory closures and supply chain constraints, as well as restrictions on food distribution outlets, have hampered the agri-food sector's performance. In this chapter we describe the sector's economic impact in the Philippines and its trajectory, including the impact of COVID-19.

All values are quoted in USD, adjusted to keep exchange rates and prices constant at 2020 levels. This ensures comparability across years and the different markets studied in this analysis.

## 4.1 THE TOTAL ECONOMIC IMPACT OF THE PHILIPPINES AGRI-FOOD SECTOR

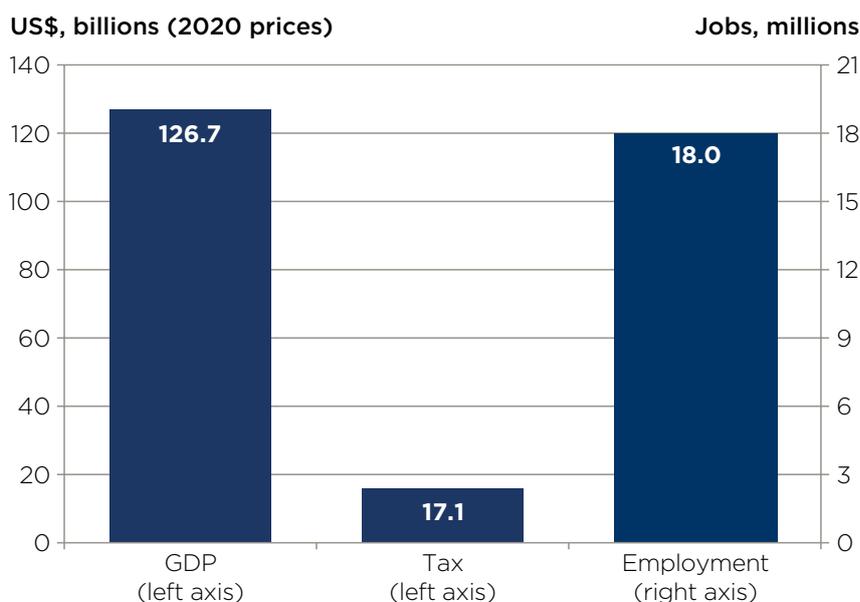
Our analysis suggests that the agri-food sector contributed USD 126.7 billion to the Philippines economy in 2019 (in 2020 prices), equivalent to 29.8% of GDP. The sector sustained 18.0 million jobs in 2019, which is 42.7% of the national total, making it the single most critical source of employment in the economy.

The agri-food sector's share of total employment is lower in the Philippines than the three other Southeast Asian countries involved in this study, which is due to the sector's structure in the Philippines. The agriculture component – which is

typically highly labour intensive – accounts for a relatively smaller share of the agri-food sector's footprint in the Philippines, compared to the more productive F&B manufacturing and distribution components.

In addition, the agri-food sector generated an estimated USD 17.1 billion in taxes in 2019 (USD, 2020 prices).

**Fig. 13: Total economic contribution of agri-food sector in the Philippines (2019)**



Source: Oxford Economics

**4.2 THE ECONOMIC IMPACT OF THE AGRI-FOOD SECTOR IN DETAIL**

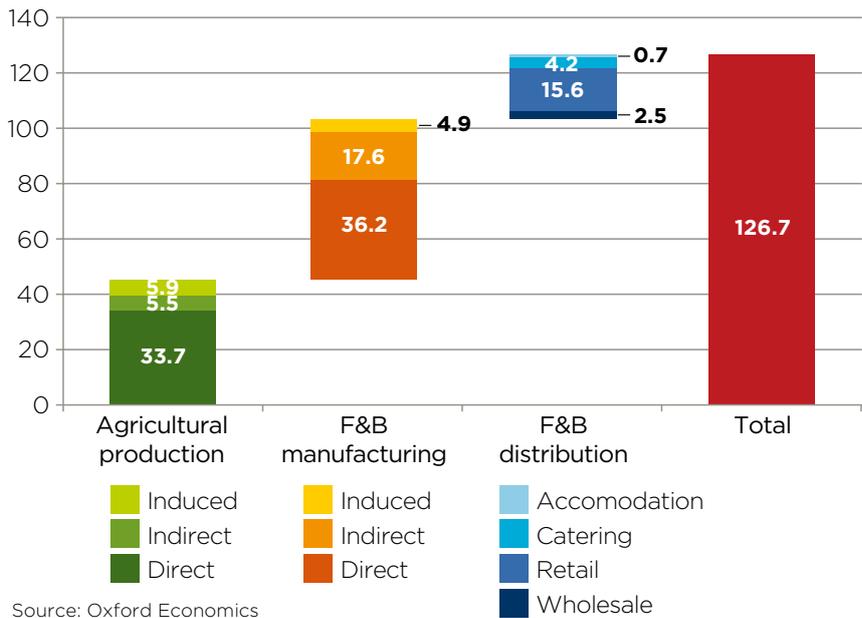
The sector’s total economic impact is the sum of three components: agricultural production, F&B Manufacturing and F&B Distribution. The relative contribution to GDP from these various components is presented in Fig. 14. F&B manufacturing provides the lion’s share of total economic impact, accounting for more than half of the GDP contribution and 46% of jobs. But both agricultural production and F&B distribution make very sizeable contributions themselves, directly and via their indirect supply chain and induced spending impacts.

Overall, the agri-food sector has seen consistent growth in real terms (Fig. 15.). Its USD 126.7 billion contribution to GDP in 2019 was 16% more than that of 2015, equating to average annual growth of 3.8%. Tax revenues are estimated to have mirrored this growth, adding an additional USD 1.6 billion to government finances in 2019, compared to 2015, in real terms.

Over the same time period, employment has shrunk, with 1.33 million fewer people employed in the agri-food sector in 2019 than 2015 (Fig. 16). This is partly driven by significant improvements in the labour productivity of the agricultural sector over time.

**Fig. 14: Agri-food industry contribution to Philippines GDP, by component, 2019**

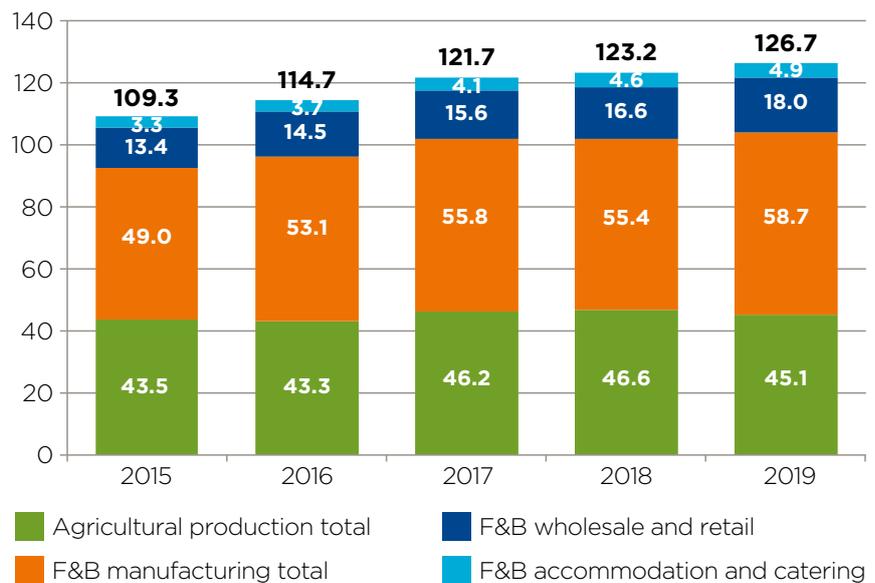
US\$, billions (2020 prices)



Source: Oxford Economics

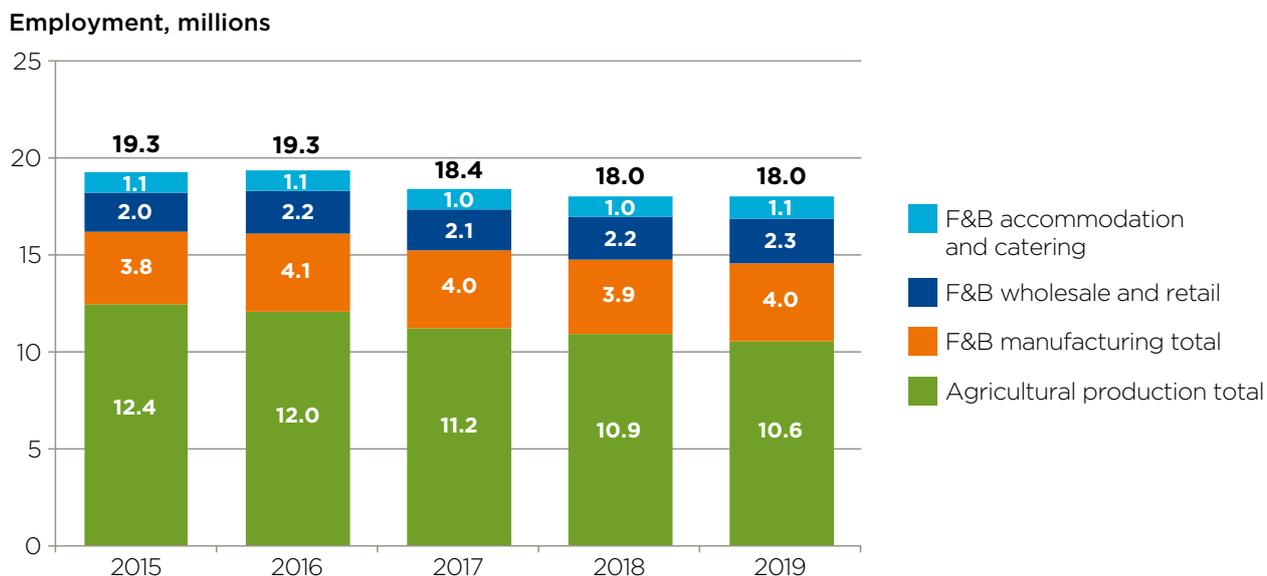
**Fig. 15: Change in GDP contribution of Philippines agri-food sector, by component (2015-2019)**

US\$, billions (2020 prices)



Source: Oxford Economics

**Fig. 16: Change in employment footprint of Philippines agri-food sector, by component (2015-2019)**



Source: Oxford Economics

#### 4.2.1 Agricultural production

Agricultural production directly contributed USD 33.7 billion to Philippines GDP in 2019. Once its indirect and induced contributions are included, this impact grows to USD 45.1 billion.

This represents around 36% of the total agri-food sector’s contribution to national GDP. Whilst obviously very significant, agriculture’s share of the total impact is smaller in the Philippines than in any of the three other countries in our Southeast Asia study. Nevertheless, agriculture sustained a total of 10.56 million jobs, with 9.48 million employed directly in the agricultural activities.

Agriculture has seen the most modest growth of the three components of the Philippines agri-food sector, between 2015 and 2019. Its combined direct, indirect and induced contribution to GDP grew by a total of less than 4% in real USD terms over that time period (Fig. 15). The value of agricultural production has fluctuated over time, peaking in 2018, before a modest reduction in 2019. This is influenced by fluctuations in the prices of the agriculture sector’s output in the domestic market. The total value of raw agriculture outputs decreased in 2019, compared to the previous year, in real terms.

Meanwhile, agricultural output has seen productivity improvements, with the GDP contribution per worker 22% higher in 2019 than 2015 (based on 2020 prices). This can be seen in the reduction in the sector’s employment footprint by 1.87 million jobs in 2019, compared to 2015 – a 15% decrease.

#### 4.2.2 Food and beverage manufacturing

Manufacturing of food and non-alcoholic beverages made a direct contribution worth USD 36.2 billion to Philippines GDP in 2019, growing to USD 58.7 billion once indirect and induced impacts are accounted for (2020 prices).

The F&B manufacturing component makes up 46% of the total agri-food sector's contribution to GDP in the Philippines. This is a significantly larger share of the total sector footprint than in any of the three other countries in our Southeast Asia study.

Manufacturing sustained a total of 3.97 million jobs in 2019, of which 1.39 million came from its direct activities and the rest from its supply chain and the wider consumer spending it induced. It made a tax contribution worth USD 8.3 billion in 2019 (2020 prices).

Food and beverage manufacturing output grew considerably in the Philippines between 2015 and 2019. Its contribution to GDP — including its direct, indirect and induced impacts — was 20% higher in real terms in 2019 than five years prior, contributing an additional USD 9.7 billion to national GDP.

Improving labour productivity in this sector limited the jobs growth associated with this expansion, but still around 170,000 more jobs were supported by this sector in 2019 compared to five years earlier — a 5% year-on-year increase.

#### 4.2.3 Food and beverage distribution

F&B distribution contributed USD 22.9 billion to GDP in 2019 (2020 prices), as well as sustaining 3.43 million jobs and generating USD 2.5 billion in tax revenues (2020 prices). This includes wholesale and retail, as well as the sale of food and non-alcoholic beverages in the hospitality industry.

Wholesale and retail accounted for USD 18 billion of the F&B distribution component's contribution to GDP in 2019. This included USD 2.5 billion from wholesale and USD 15.6 billion from retail. It sustained 2.31 million jobs that year, including 280,000 in wholesale and 2.03 million in retail.

The hospitality industry further contributed USD 4.9 billion to Philippines GDP, including USD 4.2 billion from food establishments and USD 0.7 billion from accommodation. It also sustained 1.12 million jobs, including 110,000 in accommodation and 1.01 million in catering.

Overall, the F&B distribution component of the agri-food sector grew rapidly between 2015 and 2019. Its contribution to Philippines GDP grew by USD 5.4 billion in that time period, a 36% increase, and added 320,000 jobs.

This growth was driven primarily by success in the hospitality industry, which expanded its economic footprint by 79% over that time period, adding 50,000 jobs. The Philippines catering industry grew by 41% between 2015 and 2019, adding 660,000 jobs. In wholesale and retail, growth was also rapid. Its contribution to GDP grew by 35% in the five years to 2019, sustaining an additional 298,000 additional jobs.

### 4.3 TRADE IN AGRI-FOOD PRODUCTS

The Philippines is the only country in our four-country Southeast Asian study to demonstrate a persistent trade deficit in agri-food products. In 2019, the Philippines' exports of agri-food products were worth USD 6.5 billion, compared to imports worth USD 12.7 billion, resulting in a deficit of USD 6.2 billion. Indeed, we find that the Philippines has a trade deficit in both unprocessed and processed food products.

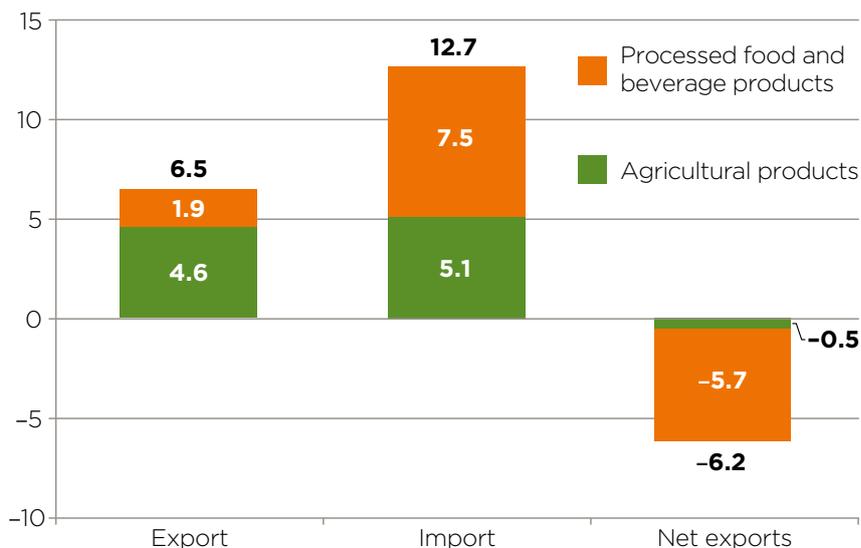
Processed food items are the main contributor to this deficit, with the largest category being processed cereals. Many of these products are required as inputs to the food manufacturing sector in the Philippines and cannot be provided by the country's proportionally small agriculture sector.

The net trade position for food and non-alcoholic beverages has worsened over time in the Philippines, widening from USD -2.7 billion to -6.2 billion between 2015 and 2019 (both values in 2020 prices and exchange rates). The most significant annual change was between 2017 and 2018, when the Philippine peso saw the cost of food imports rise rapidly, whilst its exports lost value.

These cost increases are likely to be passed onto consumers, and have a knock-on effect on living standards, given the importance of cereal products to the import mix.

**Fig. 17: Trade in agri-food products, 2019**

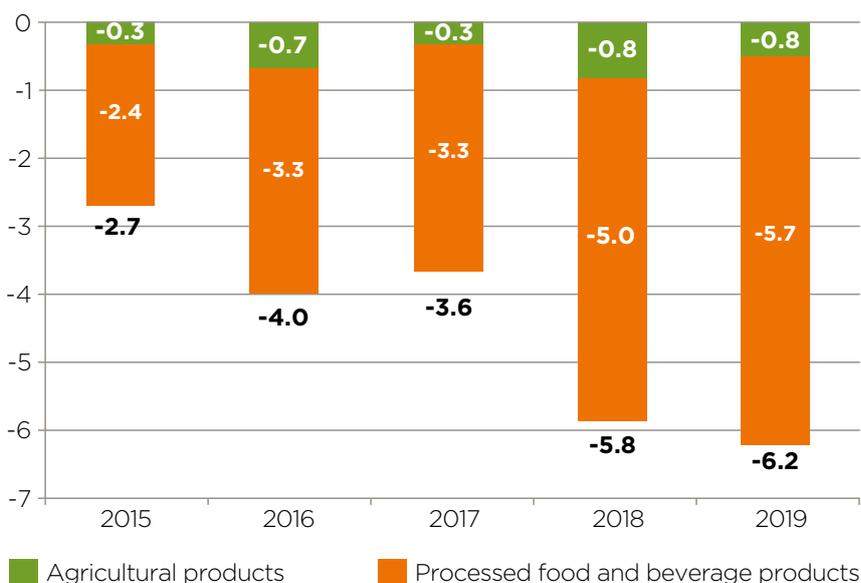
US\$, billions (2020 prices)



Source: Oxford Economics

**Fig. 18: Net exports of primary and processed food and non-alcoholic beverages, Philippines, 2015 to 2019**

US\$, billions (2020 prices)



Source: Oxford Economics

#### 4.4 IMPACT OF COVID-19 ON THE PHILIPPINES AGRI-FOOD SECTOR

Our forecasts for the Philippines economy in 2020 are primarily based on official GDP statistics during the first three quarters of the year, based on Philippine Statistics Authority data, and Oxford Economics bespoke projections for the final quarter.

Overall, we estimate that the Philippines agri-food sector experienced a 4% contraction in 2020, equivalent to a USD 5.4 billion reduction, from 2019 levels (in real terms). This is estimated to have led to a loss of 390,000 jobs, or a 2% drop in employment sustained by the sector in 2020 (Fig. 19). Tax revenues are forecast to fall by USD 679 million, on a year-on-year basis.

This contraction reflects the wider economic conditions in the Philippines in the midst of the COVID-19 pandemic. Oxford Economics forecasts suggest national GDP could fall by as much as 9% in real USD terms in 2020. On that basis, our analysis suggests the agri-food sector has been more resilient than most, in the face of the crisis, partly due to its role as an essential product.

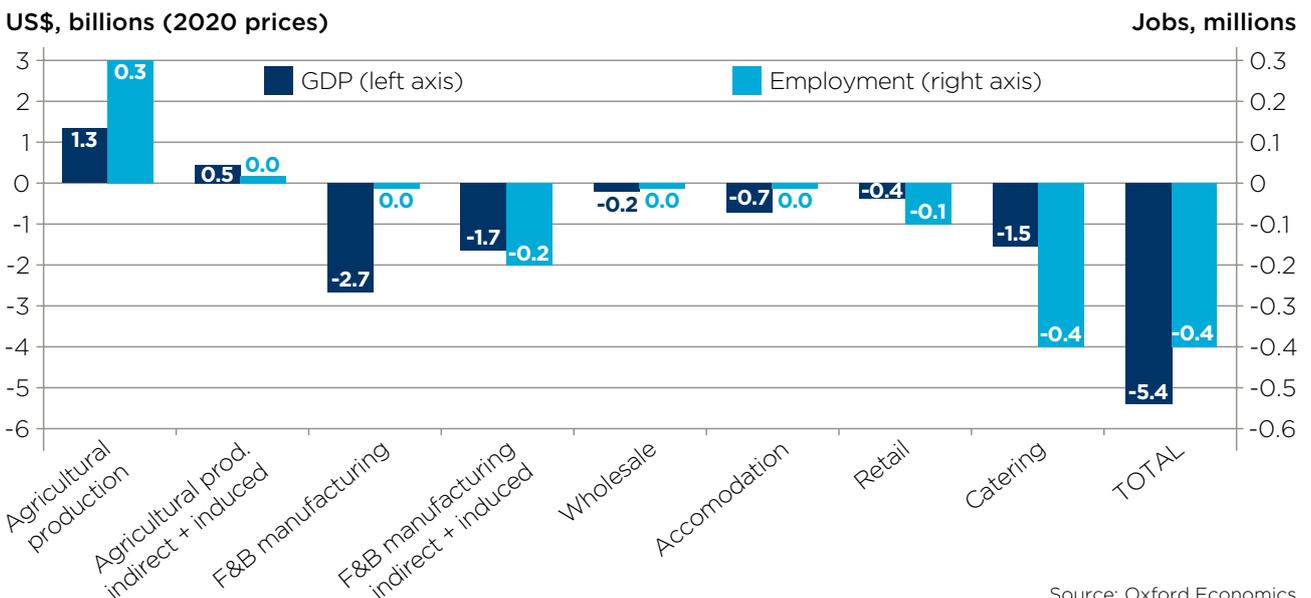
However, there is quite a lot of variation across the different components of the agri-food sector, as shown in Fig. 19.

##### 4.4.1 Agricultural production

We forecast that the agricultural production component of the agri-food sector will grow its contribution to GDP in 2020, by USD 1.3 billion. That includes a USD 1.3 billion increase in its direct contribution and a further USD 0.5 billion through its indirect and induced impacts. Combined, this represents real-terms growth of 4%, year-on-year.

We estimate that this growth will generate an additional 340,000 jobs in the agri-food sector, a year-on-year increase of 3%. We arrived at these estimates based on the increasing value of the sector's output, as identified by official statistics in the first three quarters of 2020.

**Fig. 19: Year-on-year change in GDP and employment contribution of agri-food sector in Philippines, by component, 2020.**



Source: Oxford Economics

#### 4.4.2 Food and non-alcoholic beverage manufacturing

F&B manufacturing in the Philippines is estimated to have contracted in 2020. Its total impact is estimated to have shrunk by USD 4.3 billion, USD 2.7 billion of which was from its direct impact. This represents a 7% year-on-year decrease. Meanwhile, employment is estimated to have shrunk by 240,000 jobs, or 6%.

This negative performance reflects the broader weakness of the whole economy, as well as the specific weakness in demand from food distribution (e.g. retail, hospitality and catering—explained below), which is passed through into food manufacturing. In addition, supply-side constraints related to the pandemic, such as supply chain disruptions, limits to worker movements, and constrained factory operating capacities have hampered the whole of the manufacturing sector in this period.

#### 4.4.3 Food and non-alcoholic beverage distribution

We estimate that the F&B distribution component of the agri-food sector's contribution to GDP fell by USD 2.9 billion in real terms in 2020. That is a decrease of 13% from the year before, by far the worst hit component of the agri-food sector. We estimate that the employment associated with F&B distribution also fell, by 490,000.

This drop is partly accounted for by the difficult economic conditions in the wholesale and retail of food and beverage products. We estimate the economic impact of this component of the agri-food sector to have fallen 5% in 2020, compared to the year before, resulting in a USD 3.8 billion reduction in its contribution to GDP. This includes an 8% contraction in wholesale compared to 5% in retail. Employment across the whole of wholesale and retail is estimated to have decreased by 70,000 in 2020, year-on-year.

In the Philippines hospitality industry, the 2020 contraction is starker. We estimate that this component of the agri-food sector's contribution to GDP contracted by USD 1.9 billion in 2020, a 39% decrease on its 2019 value. As a result, it supported 420,000 fewer jobs than the year before. The majority of this impact was driven by a 58% decrease in accommodation services' contribution to GDP, worth USD 0.4 billion and 60,000 jobs. The catering industry's economic footprint contracted by 37% year on year, but its relatively larger size meant this amounted to a drop of USD 1.5 billion in its contribution to GDP, and 350,000 jobs fewer supported.



# THE AGRI-FOOD SECTOR IN THAILAND

## TOTAL ECONOMIC IMPACT

● Agricultural production 
 ● F&B manufacturing 
 ● F&B distribution

A total contribution to GDP worth **\$130.4 billion**



Thailand's agri-food sector accounts for **a quarter of the economy's GDP.**

A total employment footprint of **17.9 million**

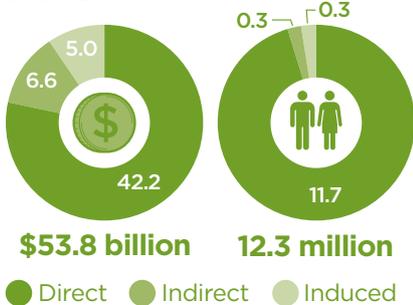


The sector is dominated by its massive agricultural sector, which makes up **two thirds** of its jobs.

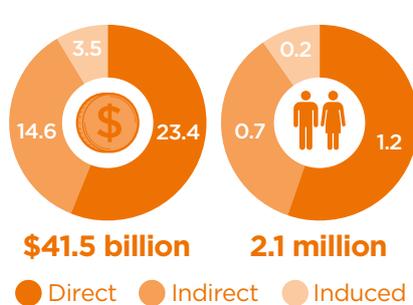
## FROM FARM TO FORK



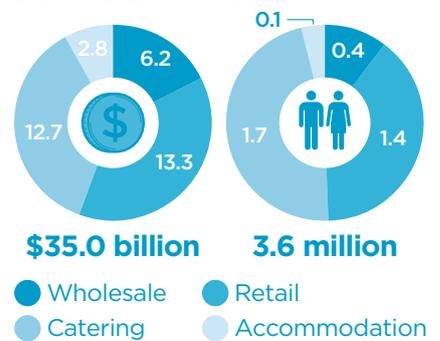
### AGRICULTURAL PRODUCTION



### FOOD & BEVERAGE MANUFACTURING



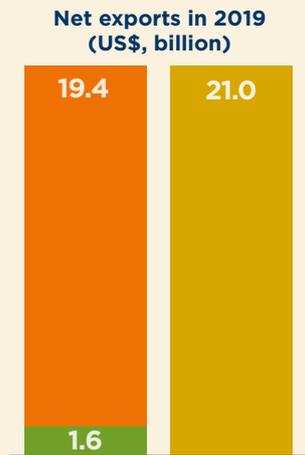
### FOOD & BEVERAGE DISTRIBUTION



## TRADE SURPLUS

Its exports of processed food and beverages give it a large trade surplus.

● Agricultural products  
● Processed F&B products  
● Total



## COVID-19 IMPACT

The COVID-19 pandemic has seen the sector shrink, especially in F&B distribution.

● Agricultural production  
● F&B manufacturing  
● F&B distribution  
● Total



# 5. THE AGRI-FOOD SECTOR'S IMPACT IN THAILAND

The agri-food sector plays a major role in Thailand's economy — one which grew consistently in the years preceding the coronavirus pandemic. This growth was broad-based across the wider value chain the agri-food sector represents. Strong growth in consumer spending has played a significant role in this expansion, driving demand in the hospitality industry and food retail.

The COVID-19 pandemic has impacted the whole of the Thai economy, and the agri-food sector along with it. We estimate that the sector's economic footprint contracted in 2020 as a result, and the number of jobs it supported fell. Agri-food related activity in the accommodation and catering aspects of the sector, in particular, were significantly lower as a result of the pandemic.

All values are quoted in USD, adjusted to keep exchange rates and prices constant at 2020 levels. This ensures comparability across years and the different markets studied in this analysis.

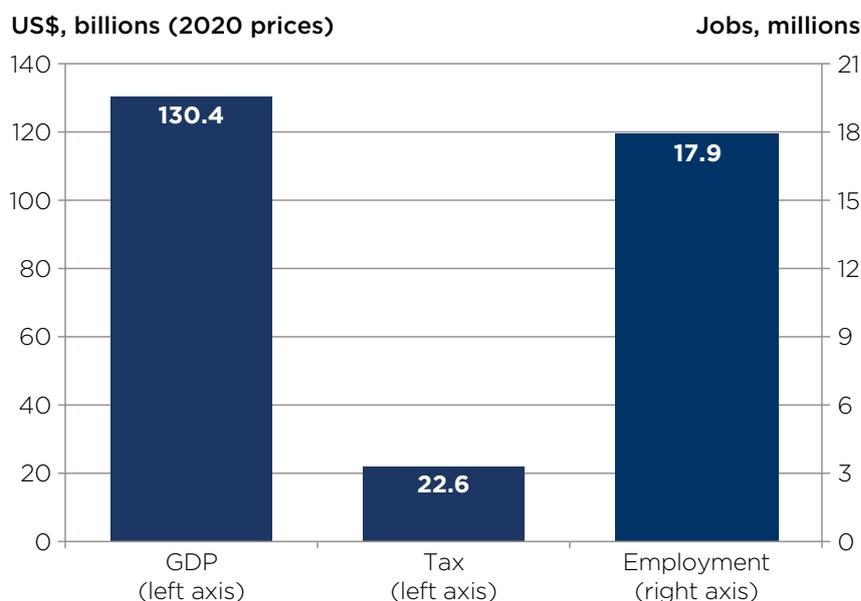
## 5.1 THE TOTAL ECONOMIC FOOTPRINT OF THAILAND'S AGRI-FOOD SECTOR

We estimate the economic contribution of the agri-food sector to Thai GDP as the total of a number of different components in the domestic value chain for food and non-alcoholic beverage products. These include agricultural production, food and beverage manufacturing, and food and beverage distribution.

In total, we estimate that the agri-food sector made a contribution to Thailand's national GDP worth USD 130.4 billion in 2019 (in 2020 prices). This represents one quarter of the national economy.

Alongside this, an estimated 17.9 million people were employed by the sector, representing almost half (48%) of the country's total employment. These activities were responsible for raising a total of USD 22.6 billion in tax revenues.

**Fig. 20: Total economic contribution of agri-food sector in Thailand (2019)**



Source: Oxford Economics

## 5.2 THE ECONOMIC IMPACT OF THE AGRI-FOOD SECTOR IN DETAIL

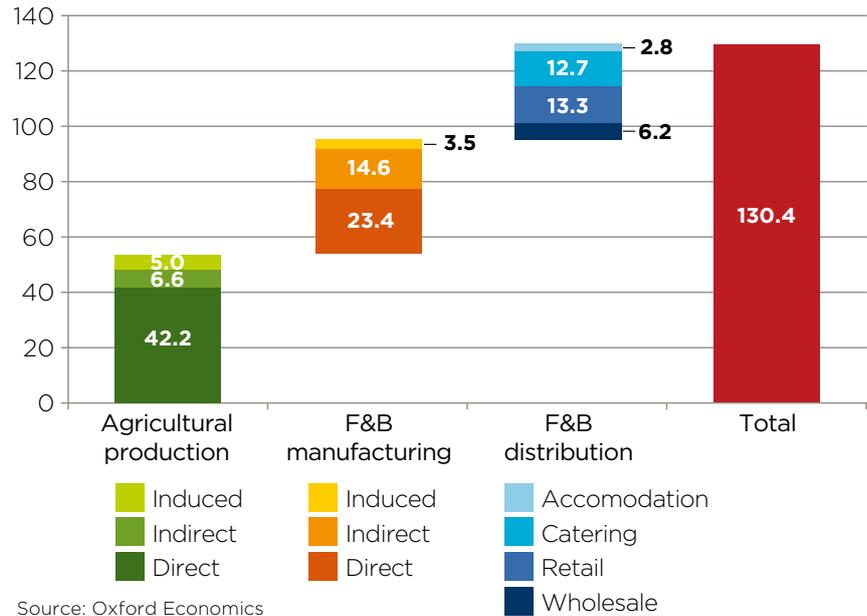
Thailand's agri-food sector represents a relatively well-balanced domestic value chain. The relative contributions of the different components of that value chain are displayed in Fig. 21. This shows that agriculture makes up the largest parts of the sector's contribution to GDP. The food and non-alcoholic beverage manufacturing component also makes a valuable contribution to GDP through its domestic supply chain. The food and beverage distribution component accounted for a larger share of the sector's economic impact in Thailand than in any of the three other Southeast Asian countries included in this study.

The Thai agri-food sector's economic footprint grew significantly between 2015 and 2019. Over this period, its contribution to GDP expanded by USD 11.4 billion in 2020 prices, a 10% real-terms increase. The rate of expansion was consistent, with growth across all components in each year throughout the period.

Improvements in productivity across all components of the agri-food sector meant that, despite increases in their overall GDP contribution, total employment fell. In 2019, the total employment footprint was 410,000 lower than in 2015, a 2% decrease.

**Fig. 21: Agri-food industry's contribution to Thai GDP, by component, 2019**

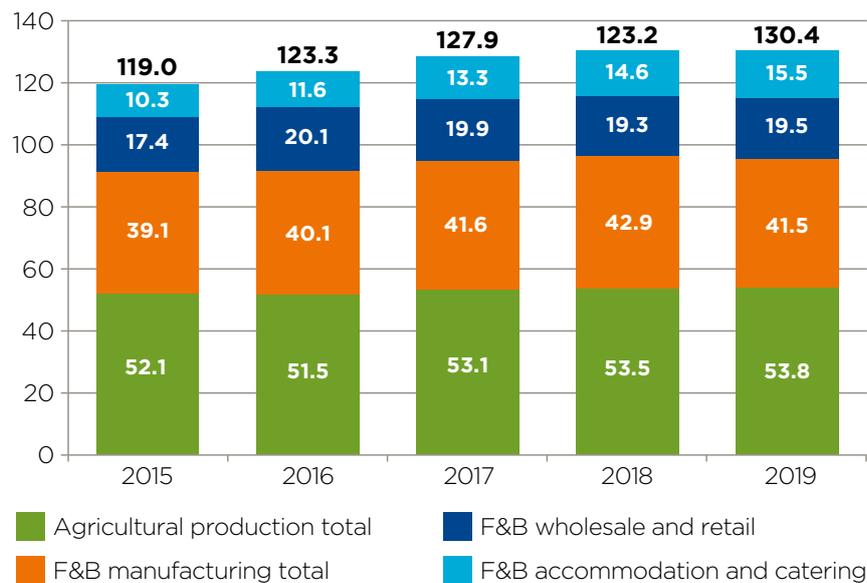
US\$, billions (2020 prices)



Source: Oxford Economics

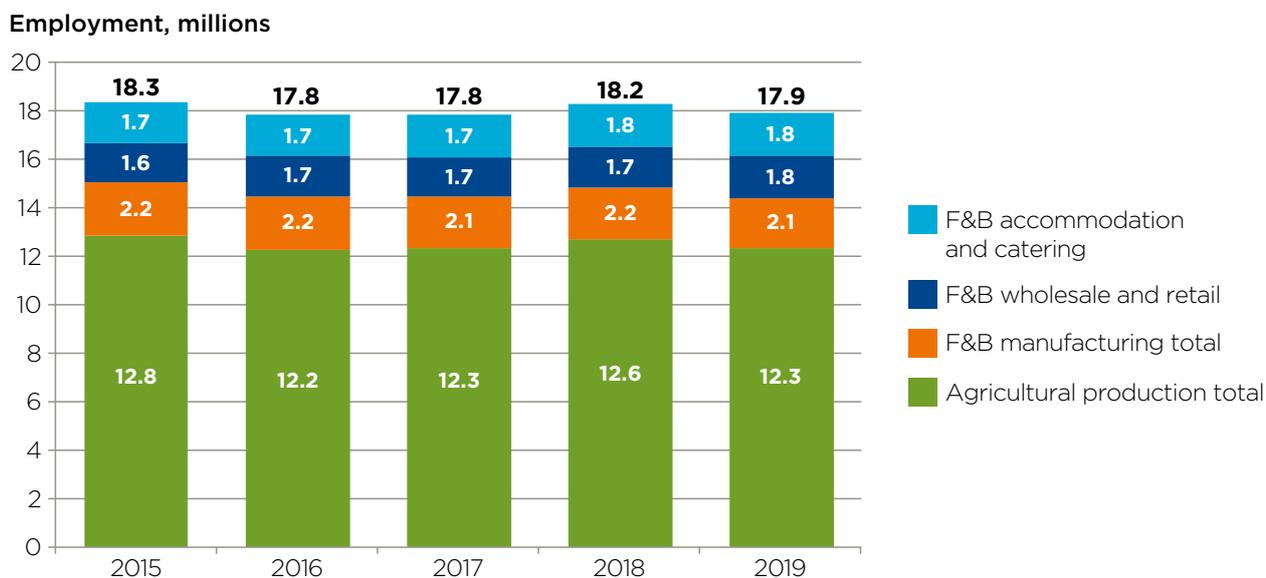
**Fig. 22: Change in the GDP contribution of the Thai agri-food sector, by component (2015-2019)**

US\$, billions (2020 prices)



Source: Oxford Economics

**Fig. 23: Change in the employment footprint of the Thai agri-food sector, by component (2015-2019)**



Source: Oxford Economics

### 5.2.1 Agricultural production

Agricultural production accounted for more than two-fifths of the agri-food industry’s contribution to GDP in 2019, worth USD 53.8 billion in total. Its direct activities alone contributed USD 42.2 billion of that total, and the rest was generated through supply chain and induced wage expenditure.

This activity sustained a huge number of jobs, with 12.28 million people employed in the wider economic footprint of agricultural production in 2019, including 11.71 million directly employed. Alongside this, it is estimated to have generated USD 5.8 billion in tax revenues in 2019.

Between 2015 and 2019, the economic impact of agricultural production grew 3% in Thailand, equivalent to a USD 1.7 billion increase in its contribution to GDP. However, improvements in productivity meant that the sector’s employment footprint contracted, with 520,000 fewer people employed, making this sector the key reason for the reduction in employment across agri-food as a whole.

### 5.2.2 Food and beverage manufacturing

Food and non-alcoholic beverages manufacturing contributed a total of USD 41.5 billion to Thai GDP in 2019 (in 2020 prices). This represented 32% of the agri-food sector’s total economic footprint, with the majority of this contribution came from the direct activities

of manufacturing enterprises (USD 23.4 billion) and the rest from its supply chain and induced spending.

Many people were employed in support of this activity, with 1.15 million working directly in the production of food and non-alcoholic beverage products. This rises to 2.08 million workers, when the indirect and induced activity are included.

Thailand’s food manufacturing sector grew between 2015 and 2019, with its total economic footprint increasing by USD 2.4 billion, in real terms, or 6%. Despite this growth, employment is estimated to have contracted, with 150,000 fewer people working in the sector as the result of productivity improvements.

### 5.2.3 Food and beverage distribution

Food and non-alcoholic beverage distribution collectively contributed USD 35.0 billion to Thai GDP in 2019. This represented 27% of the whole agri-food sector's contribution and was responsible for sustaining 3.55 million jobs. This makes Thailand's F&B distribution component a larger significantly contributor to the wider agri-food value chain in Thailand than the other three Southeast Asian countries in this study.

Wholesale and retail made up more than half of this contribution to GDP in 2019, worth USD 19.5 billion (USD 6.2 billion in wholesale and USD

13.2 billion in retail). Collectively, wholesale and retail of food and non-alcoholic beverages sustained 1.76 million jobs in 2019, with the majority of those in retail (totalling 1.39 million).

One of the main reasons for the size of Thailand's food and beverage distribution industry is the sheer scale of its hospitality sector. This is driven in large part by tourism, with inbound tourism directly contributing 10% of national GDP in 2019. We estimate that the food and beverage industry's role in the accommodation sector was worth USD 2.8 billion in 2019, alongside a USD 12.7 billion contribution to GDP via the catering industry. These two sectors are estimated to have

contributed 130,000 and 1.66 million jobs to the economy, respectively.

The F&B distribution component of the agri-food sector also enjoyed rapid growth in the years preceding the coronavirus pandemic. Its contribution to Thai GDP grew by USD 7.3 billion between 2015 and 2019, in real terms. That is a 23% increase that generated 260,000 additional jobs.

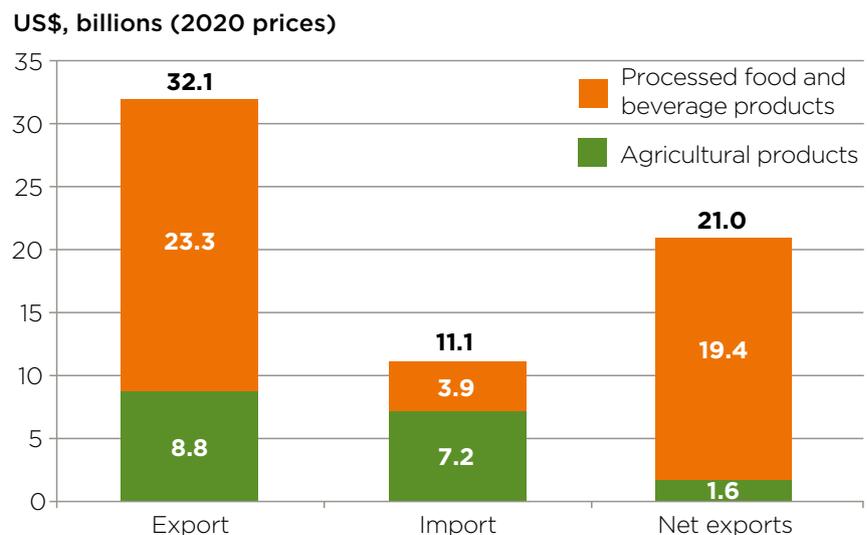
This constituted 12% growth in wholesale and retail, adding USD 2.0 billion more to GDP and 130,000 additional jobs, and 51% growth in hospitality, adding USD 5.3 billion more to GDP and 130,000 additional jobs.

## 5.3 TRADE IN AGRIFOOD PRODUCTS

Thailand maintained a strong trade surplus in agri-food products between 2015 and 2019. Total exports were worth USD 32.1 billion in 2019, compared to imports worth USD 11.1 billion (in 2020 prices). This left a trade surplus worth USD 21.0 billion (Fig. 24).

The primary contributor to this surplus came from processed food products, including preparations of meat and seafood and processed cereals, which illustrated the impact of Thailand's strong food manufacturing sector. Unprocessed agricultural products also maintained a

**Fig. 24: Trade in agri-food products, 2019**



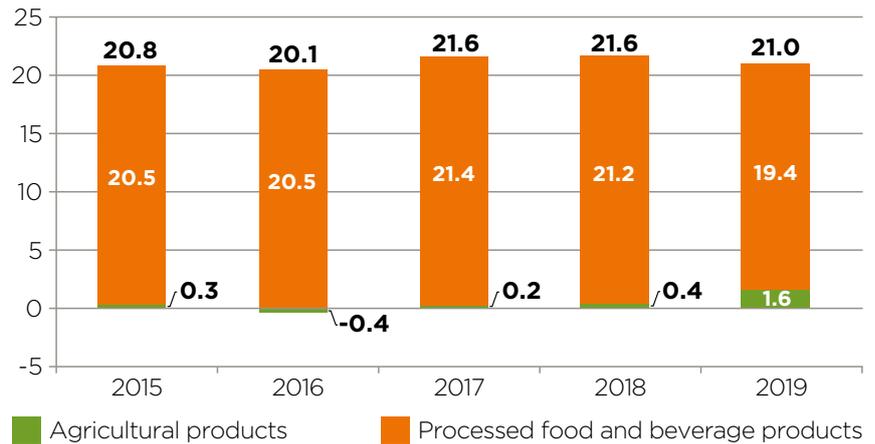
Source: Oxford Economics

small trade surplus, illustrating the relatively balanced nature of Thai agri-food production.

Thailand has maintained its strong trade surplus in food and non-alcoholic beverage products since 2015. Its USD 21.0 billion surplus in 2019, valued in 2020 USD, was marginally higher in real terms than its 2015 value and close to its peak of USD 21.6 billion in 2017 and 2018. Whilst this surplus has primarily been driven by processed food and non-alcoholic beverage goods, 2019 was a stronger year for its surplus in agricultural products.

**Fig. 25: Net exports of primary and processed food and non-alcoholic beverages, Thailand, 2015 to 2019**

US\$, billions (2020 prices)



Source: Oxford Economics

#### 5.4 IMPACT OF COVID-19 ON THE THAI AGRIFOOD SECTOR

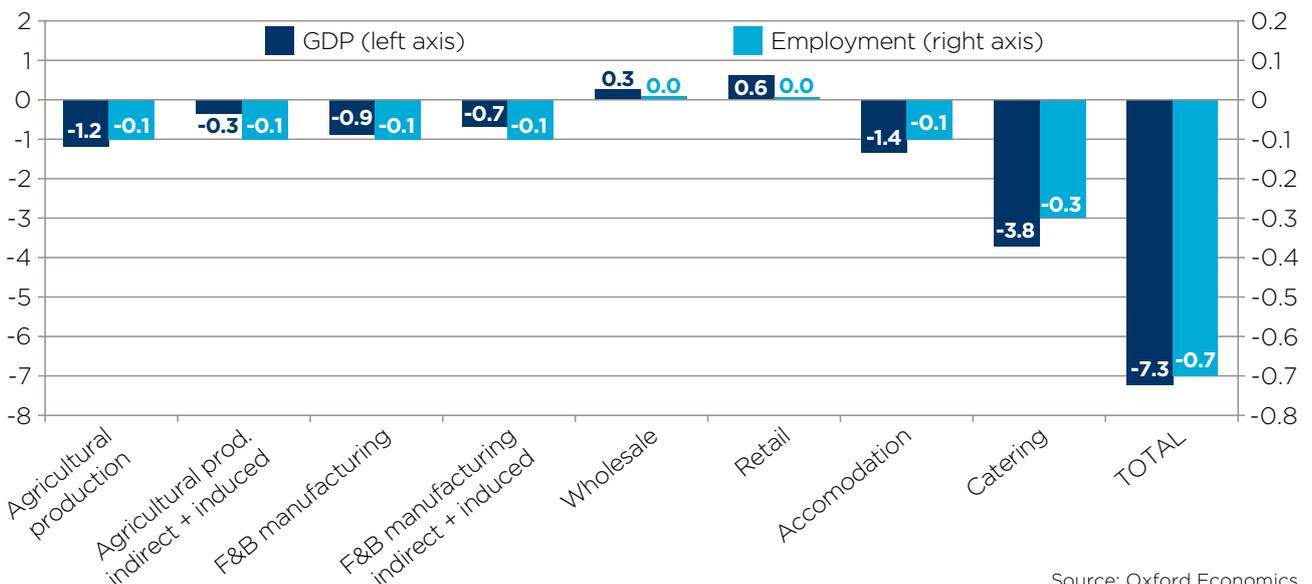
The COVID-19 pandemic has brought significant economic challenges for Thailand, in

particular because of the closure of the country's tourism industry.

**Fig. 26: Year-on-year change in GDP and employment contribution of agri-food sector in Thailand, by component, 2020.**

US\$, billions (2020 prices)

Jobs, millions



Source: Oxford Economics

This had major repercussions in the Thai agri-food sector, the economic footprint of which contracted significantly in 2020. According to official data on the first three quarters of 2020, combined with Oxford Economics projections, the contribution of the Thai agri-food sector to national GDP in 2020 shrank by a USD 7.3 billion relative to its 2019 size, a 6% decrease, measured in 2020 prices (Fig. 26).

The number of jobs supported by the agri-food sector also contracted. We estimate that 730,000, or 8%, fewer people were employed by the sector's wider economic footprint in 2020, than the year before.

#### **5.4.1 Agricultural production**

Official national accounts data show that agricultural output in the first three quarters of 2020 was lower than the corresponding period in 2019. Over the whole of 2020, we estimate that total economic output of agriculture and forestry economic footprint contracted by USD 1.5 billion, or 3%. Accordingly, we estimate a 1% reduction in jobs in this sector in 2020, amounting to 170,000 fewer workers.

#### **5.4.2 Food and non-alcoholic beverage manufacturing**

Manufacturing in the agri-food sector is also forecast to have contracted in 2020. This reflects broader economic weaknesses, as well as possible frictions in the supply chain or limits on factory activity.

We estimate that in 2020 the total economic footprint of Thai food and non-alcoholic beverage manufacturing shrank by 4%, equivalent to a USD 1.6 billion reduction in its contribution to GDP. Meanwhile, continued improvements in manufacturing productivity also contributed to a reduction in employment within this component of 170,000, an 8% decrease.

#### **5.4.3 Food and non-alcoholic beverage distribution**

F&B distribution accounted for the most significant contraction in the Thai agri-food sector. We estimate that the total contribution to GDP shrank by USD 4.2 billion in 2020, a 12% fall (in constant price terms), with 330,000 fewer people employed.

This was driven by the dramatic impact of COVID-19 on the hospitality industry, which we estimate to have contracted by USD 5.2 billion in real terms in 2020, a 33% decrease, employing 370,000 fewer people. The majority of this impact is accounted for by the catering industry (USD 3.8 billion) due to its larger scale. But agri-food component of the accommodation industry, which is relatively smaller, contracted by almost 50%.

The same trend was not felt everywhere in F&B distribution. We estimate that the continued strength of consumer spending in Thailand held up modest growth in the agri-food aspect of the wholesale and retail sector. We estimate that this component increased its contribution to GDP by USD 0.9 billion in 2020, compared to 2019. That is a 5% increase, in real terms, and supported 40,000 additional jobs.





# THE AGRI-FOOD SECTOR IN VIETNAM

## TOTAL ECONOMIC IMPACT

● Agricultural production ● F&B manufacturing ● F&B distribution

A total contribution to GDP worth **\$86.4 billion**



Agriculture accounts for nearly **two thirds** of the sector's contribution to GDP.

A total employment footprint of **27.5 million**

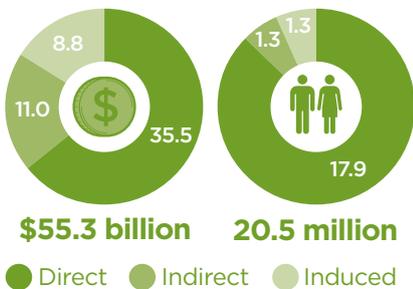


Vietnam's agri-food sector **employs half of the country's workforce.**

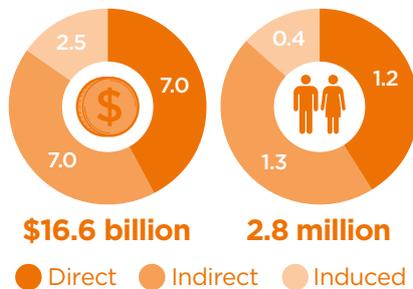
## FROM FARM TO FORK



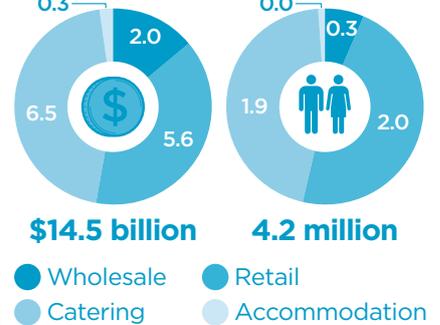
### AGRICULTURAL PRODUCTION



### FOOD & BEVERAGE MANUFACTURING



### FOOD & BEVERAGE DISTRIBUTION

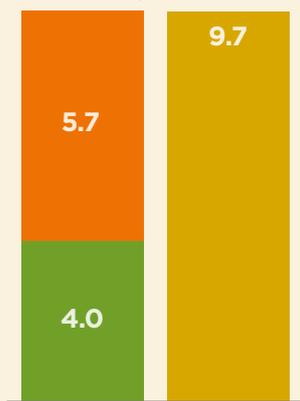


## TRADE SURPLUS

Vietnam boasts a major trade surplus in agricultural and processed food products.

● Agricultural products  
● Processed F&B products  
● Total

Net exports in 2019 (US\$, billion)



## COVID-19 IMPACT

Despite the pandemic, the agri-food sector's contribution to GDP grew in 2020.

● Agricultural production  
● F&B manufacturing  
● F&B distribution  
● Total

Change in GDP contribution (US\$, billion)



# 6. THE AGRI-FOOD SECTOR'S IMPACT IN VIETNAM

The agri-food sector plays a major role in the Vietnamese economy, making a large contribution to national GDP and supporting half of all of the country's jobs in 2020. The most notable component of this is agricultural production, which makes up nearly two thirds of the agri-food sector's contribution to GDP. But the sector is also growing rapidly throughout the agri-food value chain.

In recent years, Vietnam has been amongst the world's fastest growing economies, with annual growth in GDP

of 7% per year, in real terms, between 2015 and 2019. The country's efficient and effective handling of the COVID-19 pandemic, means GDP is also estimated to have grown by more than 2% in real terms in 2020, whilst many other economies in the region contracted.

The agri-food sector holds a vital role in Vietnamese life and represents a key pillar in the Vietnamese economy. The agri-food sector has grown robustly, with its contribution to GDP increasing by 12% from 2015 to 2019 and forecast

to increase by 4% in 2020. The sector is also rapidly evolving, due to growth in labour productivity. As a consequence, this growth in output is being achieved with fewer workers. The agri-food sector's total employment footprint is estimated to have contracted since 2015.

All values are quoted in USD, adjusted to keep exchange rates and prices constant at 2020 levels. This ensures comparability across years and the different markets studied in this analysis.

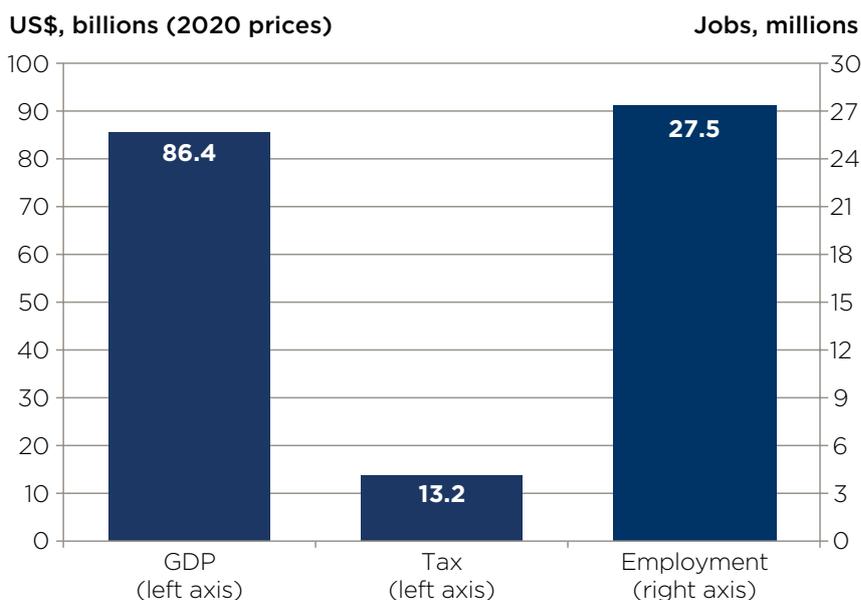
## 6.1 THE TOTAL ECONOMIC FOOTPRINT OF THE VIETNAMESE AGRI-FOOD SECTOR

In 2019, the Vietnamese agri-food sector made a contribution to GDP worth USD 86.4 billion, in 2020 prices. This represents 26% of the whole Vietnamese economy.

The sector was responsible for employing a total of 27.5 million people in 2019, which represents slightly more than 50% of the whole population. Its contribution to employment is the largest share of the four Southeast Asian countries in this study.

In addition, we estimate that this sector contributed USD 13.2 billion in tax revenues.

**Fig. 27: Total economic contribution of agri-food sector in Vietnam (2019)**



Source: Oxford Economics

**6.2 THE ECONOMIC IMPACT OF THE AGRI-FOOD SECTOR IN DETAIL**

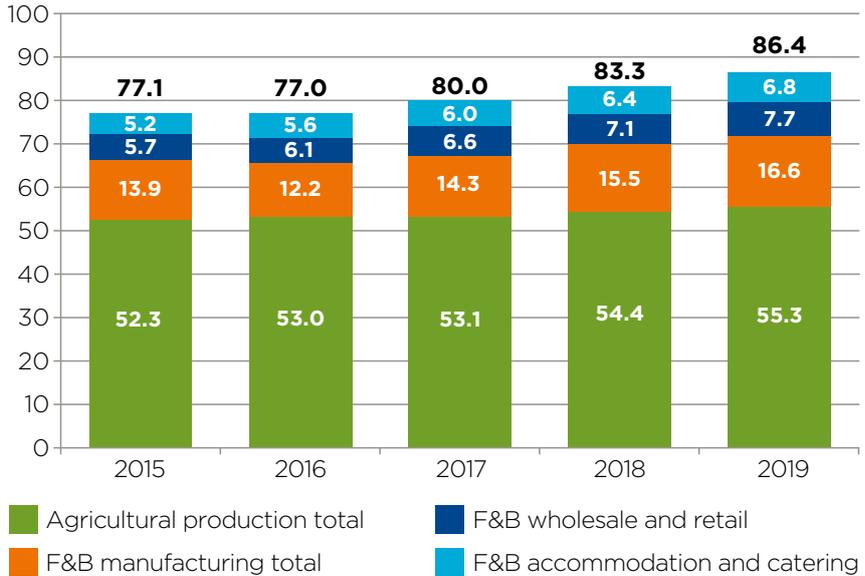
Our assessment of the agri-food sector combines agricultural production, food and beverage manufacturing, and food and beverage distribution. Our detailed analysis reveals that agricultural production accounted for nearly two-thirds of the total agri-food sector’s contribution to GDP in 2019. However, food manufacturing is also a significant and growing component of the wider agri-food sector.

The economic contribution of the Vietnamese agri-food sector grew between 2015 and 2019, with the sector’s total contribution to GDP USD 9.3 billion larger in 2019 than 2015 in real terms, a 12% increase. Over this period, all components of the sector have grown strongly, but most quickly in F&B manufacturing and distribution, demonstrating the diversification and development of the wider value chain.

In recent years, in lock-step with the wider Vietnamese economy, the agri-food sector has enjoyed significant productivity growth. This phenomenon is also a reflection of the evolution of the sector, away from the most labour intensive industries in agricultural production and towards higher value adding roles in manufacturing and services. As a consequence, employment in the agri-food sector has contracted. As of 2019, 4.3 million fewer people were employed in the sector; a 14% decrease from 2015 levels.

**Fig. 29: Change in GDP contribution of Vietnamese agri-food sector, by component (2015-2019)**

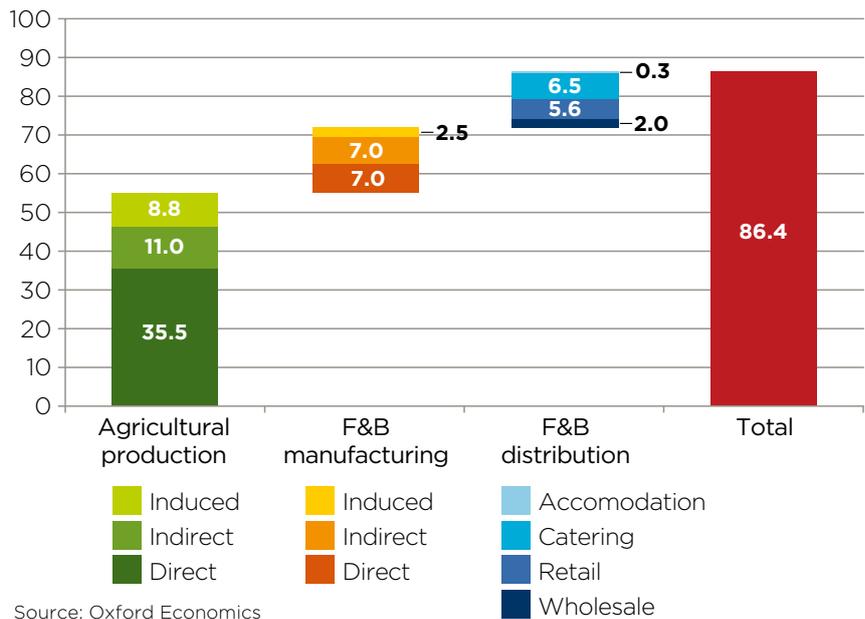
US\$, billions (2020 prices)



Source: Oxford Economics

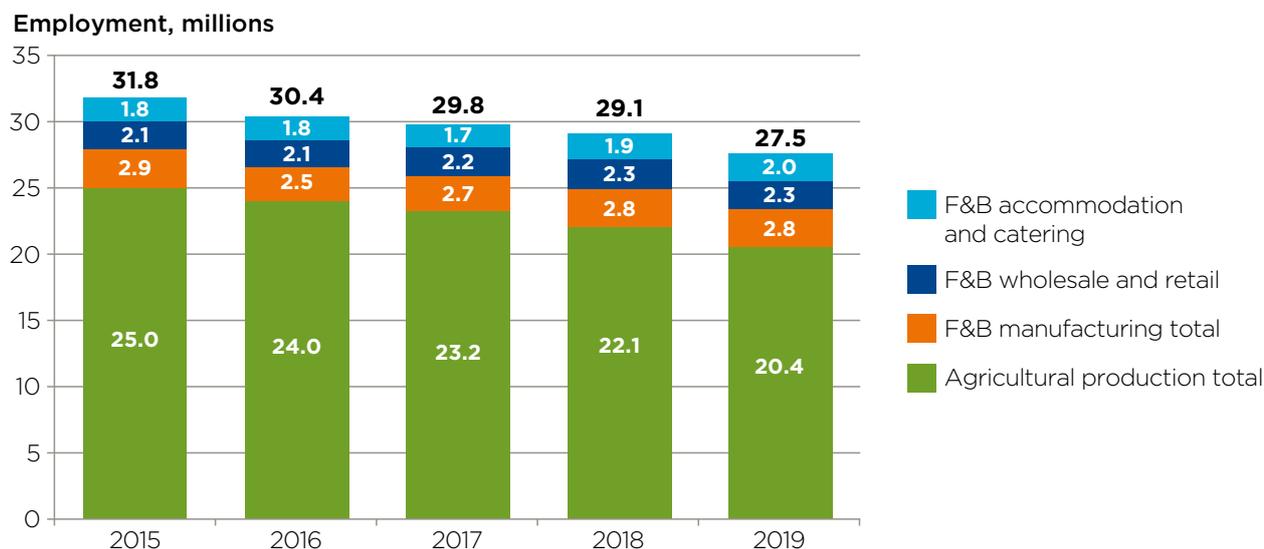
**Fig. 28: Agri-food industry contribution to Vietnamese GDP, by component, 2019**

US\$, billions (2020 prices)



Source: Oxford Economics

**Fig. 30: Change in employment footprint of Vietnamese agri-food sector, by component (2015-2019)**



Source: Oxford Economics

### 6.2.1 Agricultural production

Vietnam has a large and valuable agriculture industry, accounting for almost two thirds of the agri-food sector’s economic footprint. This is a significantly larger share than any of the other three countries in our Southeast Asia study. In 2019, the agricultural and fisheries industries were responsible for a total economic footprint worth USD 55.3 billion (in 2020 prices). Of this, USD 35.5 billion came through its direct activities.

In delivering this economic impact, the sector sustained a total of 20.45 million jobs in 2019, which is nearly three quarters of the agri-food sector total. Around 17.85 million of these were accounted for directly in agricultural production.

This component of the agri-food sector has been growing steadily, contributing USD 3.0 billion more to GDP in 2019, compared to 2015 – a 6% increase. Rapid productivity growth has meant that despite the growth in output, the employment footprint has shrunk by 4.57 million in that period – an 18% decrease.

### 6.2.2 Food and beverage manufacturing

The production of food and non-alcoholic beverage products contributed an estimated USD 16.6 billion to Vietnamese GDP in 2019 (in 2020 prices). Of this total, USD 7.0 billion came from the direct activities of food manufacturers, with the remainder accounted for by its supply chain and induced consumer spending impacts.

This component of the agri-food sector was responsible for employing a total of 2.83 million people, of whom 1.17 million were employed directly.

Vietnamese agri-food manufacturing grew robustly between 2015 and 2019, with its contribution to GDP rising by USD 2.7 billion, a 19% increase. Productivity improvements meant that employment is estimated to have contracted by a total of 100,000 jobs over that period.

### 6.2.3 Food and beverage distribution

The distribution of food and beverage products is an increasingly important component of the Vietnamese agri-food sector. In 2019, F&B distribution contributed a total of USD 14.5 billion to Vietnamese GDP, sustaining 4.22 million jobs. Within the agri-food distribution industry, wholesale and retail were collectively responsible for a contribution worth USD 7.7 billion and 2.27 million jobs.

A further USD 6.8 billion contribution was accounted for by the hospitality industry, which sustained 1.95 million jobs, the majority of which was attributable to catering activities (USD 6.5 billion and 1.91 million jobs).

Food and beverage distribution was the fastest growing component of the agri-food sector in Vietnam from 2015 to 2019, benefitting from rapidly growing domestic demand. This reflects the strength of the Vietnamese economy and the

growing demand created by consumers. Consumer spending growth has outpaced GDP growth every year since 2015.

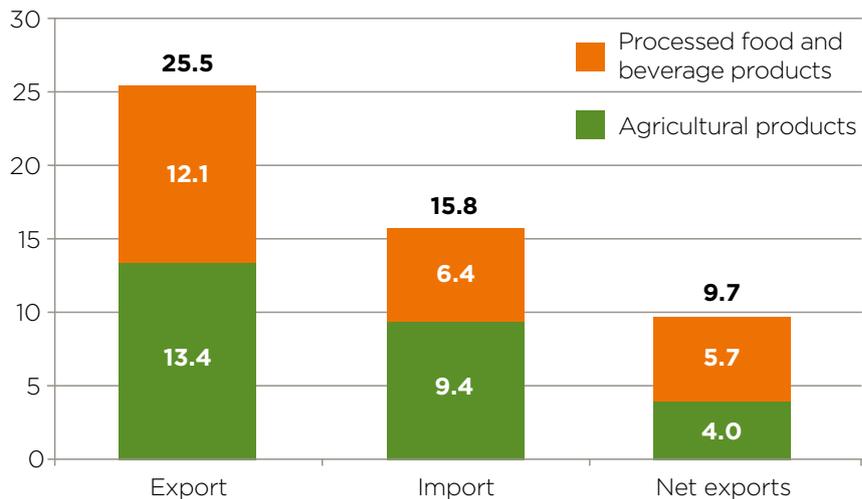
The contribution of food and beverage distribution to GDP rose by USD 3.6 billion between 2015 and 2019, a 33% increase, with an additional 360,000 people employed. Within the distribution sector, the GDP contribution of wholesale and retail collectively grew by 34%, whilst that of hospitality grew by 32%

## 6.3 TRADE IN AGRIFOOD PRODUCTS

Vietnam is a net exporter of agri-food products, with exports in 2019 worth USD 25.5 billion compared to USD 15.8 billion of imports. This leaves it with a positive trade balance worth USD 9.7 billion (all values in 2020 USD). The trade surplus is manifested in both agricultural products and processed food and beverage products, with net surpluses worth USD 4.0 billion and USD 5.7 billion respectively.

**Fig. 31: Trade in agri-food products, 2019**

US\$, billions (2020 prices)

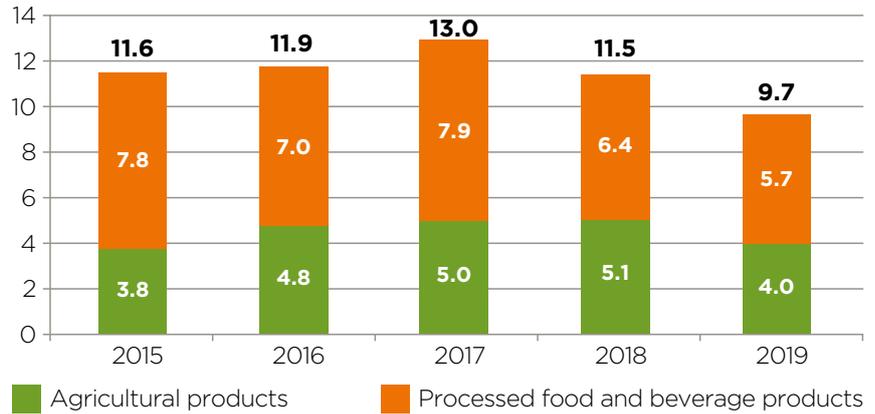


Source: Oxford Economics

Vietnam’s trade surplus has been a consistent feature between 2015 and 2019 (Fig. 32). However, it has fluctuated from a peak of USD 13.0 billion in 2017 to a five year low of USD 9.7 billion in 2019. This decrease was driven by relatively strong growth in domestic demand for food and beverage products. The rapid growth in agri-food distribution suggests more domestic products are being retained for the domestic market, and more foreign products imported.

**Fig. 32: Net exports of primary and processed food and non-alcoholic beverages, Vietnam, 2015 to 2019**

US\$, billions (2020 prices)



Source: Oxford Economics

#### 6.4 IMPACT OF COVID-19 ON THE VIETNAMESE AGRIFOOD SECTOR

The Vietnamese economy is estimated to have grown in 2020, despite the COVID-19 pandemic. Based on preliminary national accounts data and Oxford Economics’

own estimates, we forecast that the agri-food sector’s contribution to GDP will be USD 3.7 billion bigger in 2020 than 2019, in real terms, a 4% increase.

However, the rapid growth in productivity that the sector has seen in recent years is expected to have continued, resulting in a small contraction in employment of 90,000.

**Fig. 33: Year-on-year change in GDP and employment contribution of agri-food sector in Vietnam, by component, 2020.**

US\$, billions (2020 prices)

Jobs, millions



Source: Oxford Economics

#### **6.4.1 Agricultural production**

The Vietnamese agricultural sector is estimated to have grown robustly in 2020. Initial data indicates that its contribution to GDP increased by 7%. Once its indirect and induced contributions are added, we estimate the economic footprint of agricultural production will have grown USD 3.9 billion larger in 2020, compared to previous years. An estimated USD 2.5 billion of this growth occurred via the direct contribution.

We project employment growth of 370,000 in 2020 across the total economic footprint of agricultural production, compared to the year before, despite continued productivity gains.

#### **6.4.2 Food and non-alcoholic beverage manufacturing**

Food and beverage manufacturing is also forecast to have grown in 2020, mirroring the growth that is expected to be seen in the broader manufacturing sector and wider Vietnamese economy in 2020. We estimate that food manufacturing expanded 5% that year, contributing an additional USD 0.9 billion to GDP. This component of the agri-food sector is estimated to have employed an additional 10,000 people in 2020, compared to the year before.

#### **6.4.3 Food and non-alcoholic beverage distribution**

In contrast to agricultural production and F&B manufacturing, we estimate the economic impact of F&B distribution to have shrunk in 2020. Delving into the detail, the economic impact of the wholesale and retail of F&B products is estimated to have grown by around 2% that year, but the hospitality industry suffered significant losses due to physical distancing measures and the drop in tourism. We estimate that the accommodation and catering aspects of F&B distribution contracted by 38% and 16%, respectively, in 2020.

Overall, the GDP contribution of F&B distribution is estimated to have contracted by USD 1.0 billion in 2020, with 470,000 fewer people employed.



# 7. OUTLOOK FOR THE AGRI-FOOD SECTOR IN SOUTHEAST ASIA

The agri-food value chain has played a pivotal role in the Southeast Asia region's future economic development. Its performance is critical to household wellbeing, through its impact on wages and prices for the region's poorest households. It is also an economic powerhouse, responsible for millions of jobs and a major contributor to total economic output and government tax receipts.

But the sector is subject to considerable pressures. It faces an uncertain future, shaped by a number of forces outside its control. The impact of the coronavirus pandemic is the most immediate short-term hurdle, but the sector faces long term challenges, too. In this chapter, we explore the economic ramifications of the various challenges facing the sector in the years ahead.

## 7.1 CONSTRAINTS ON FOOD SUPPLY COULD LEAD TO RISING COSTS

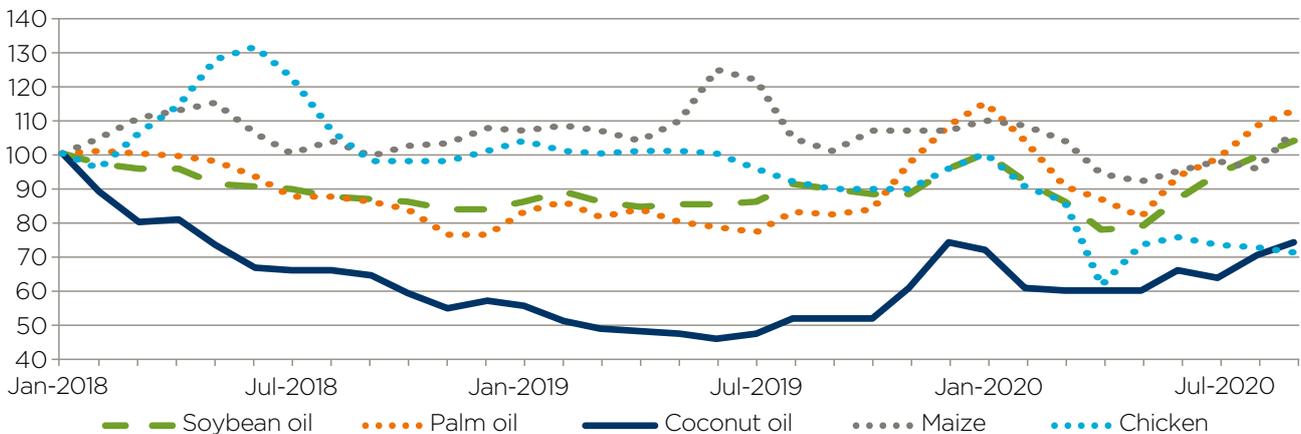
In 2020, measures to contain the spread of coronavirus inevitably disrupted food supply chains in Southeast Asia. The dramatic reduction in inbound air travel upset the supply routes for perishable and higher value items. Travel and workplace restrictions hindered the productivity of workers in agriculture, manufacturing, and distribution jobs.

In most economies in the region, governments recognised the importance of the food industry and made exemptions for critical workers to continue to travel and operate. Many agri-food businesses took advantage of economy-wide support measures, such as direct business loans (or measures to guarantee commercial loans) and employment subsidies.

There were some examples of 'protective' trade measures to influence domestic food prices, such as Vietnam's rice export ban in March 2020. But these were in general short-lived and isolated. By and large, governments in Southeast Asia successfully managed to keep the trade in food and beverage products flowing across borders. As a result, significant food shortages were avoided, and agriculture commodity prices remained largely stable. The stability of key commodity prices can be seen in Fig.34, which despite a slight dip in 2020H1 rose back to pre-COVID-19 levels by end of 2020. Chicken prices were more volatile during the period but remained below their 2019 averages.

**Fig. 34: Key commodity prices for the food industry**

Key oil, grain and meat commodity prices, January 2018=100



Source: Oxford Economics/World Bank/Haver Analytics

The outlook for 2021 and beyond remains uncertain. Whilst the policy priority has shifted from containment to distributing the COVID-vaccine, the pandemic will persist for some time. The pace at which international travel and trade return will vary greatly across countries and regions and will likely fluctuate.

There are other significant risks on the horizon too. Whilst food supply chains remained relatively robust during the 2020 pandemic, new and unforeseen variants of the disease could have different impacts in the months ahead. If this leads to higher prices for agricultural commodities, it will raise input costs for food manufacturing and retail sectors, which will pass through to distributors too.

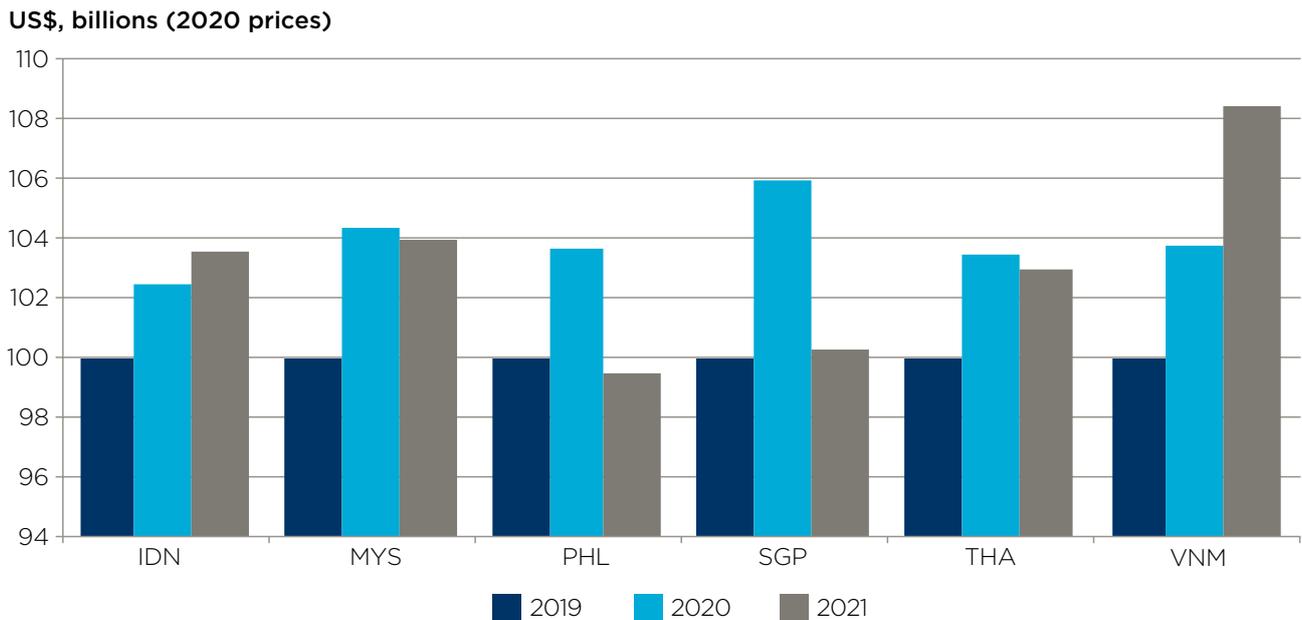
### 7.2 ECONOMIC SLOW-DOWN WILL DEPRESS FOOD DEMAND

Any potential cost-pressures facing the agri-food sector during this unpredictable economic recovery, will be exacerbated by a wider crunch on food and beverage demand. Oxford Economics projects a reduction in total household food spending of 0.8% across SE Asia in 2021 (Fig. 35). This follows an overall increase of 4% in spending on food and non-alcoholic beverages in 2020, compared to 2019. In the Philippines and Singapore, the 2021 spending drop is particularly severe and mainly driven by a forecast fall in household income.

Furthermore, in countries heavily reliant on travel and tourism, uncertainty about the return of international travel

poses an equally significant threat. Tourism plays a major role in food demand across Southeast Asian economies, as shown in Fig. 35. In Thailand and Indonesia, the accommodation and food service sector accounts for almost 9.5% and 8.8% of total food output respectively. Consumer research suggests there is a strong willingness to return to travel once the virus is contained. But vaccine distribution will be uneven across countries and regions, and, historical context shows that visitor arrivals took almost two years to recover after the SARS outbreak of 2003. The latest projections by Tourism Economics, a subsidiary of Oxford Economics, suggest inbound travel to Asia might not return to 2019 levels until 2024.

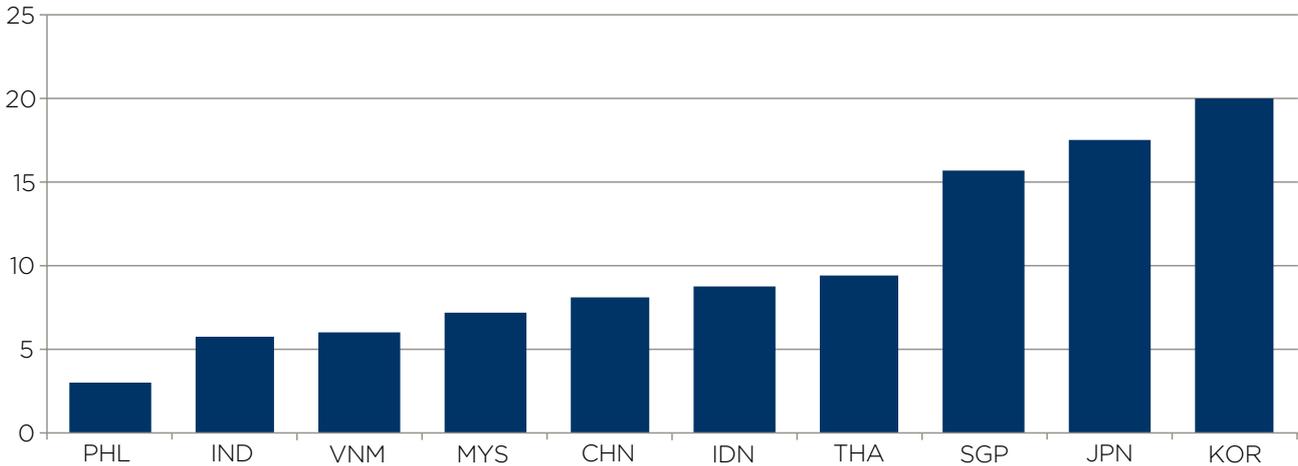
**Fig. 35: Shortfall in household food spending**



Source: Oxford Economics

**Fig. 36: Importance of tourism sector to domestic food industry**

Share of output from food sector consumed by the accommodation and food service sector, 2018 (%)



Source: Oxford Economics

### 7.3 THE ECONOMIC RECOVERY MATRIX

In a 2020 study in collaboration with FIA, Oxford Economics developed an Economic Recovery Matrix for Asia’s agri-food sector to better understand the risks it faces.<sup>2</sup> The matrix identifies demand-side risks, relating to household spending, travel and tourism, and potential forthcoming fiscal measures, which are expanded upon further in the next chapter. It also identifies supply-side forces that will influence recovery, relating to potential food trade barriers, price inflation, exchange rate volatility, and further potential fiscal measures. Each country is given a score for each risk factor (1-10, with 1 notifying the greatest risk), based on hard data and expert judgement. The overall recovery rating is a simple average of each country’s rankings across these risk factors.

Our analysis suggests Indonesia’s food sector faces the greatest risk to recovery of our Asian sample. The country’s growing fiscal deficit means there will be heightened pressure to cut spending and raise taxes, which could create cost pressures in the food value chain, due to a heavy reliance on agricultural subsidies. Indonesia’s historical exchange rate volatility also means it is particularly at-risk from future periods of global market turbulence — a sustained exchange rate depreciation would stoke inflation, undermine the investment environment, and potentially weaken the economic recovery.

The food sectors of the Philippines and Thailand also show important vulnerabilities in our Asian risk matrix—two countries dependent

on a recovery in travel flows and tourism to revive their food industries. In both, the relatively low prevailing Value-Added Tax (VAT) rate could be a potential means for revenue raising post-COVID fiscal adjustments, but a hike in VAT would directly harm demand across the food industry.

In contrast, Vietnam achieves a low rank in the risk matrix, after having contained the virus relatively early and minimised the economic fallout. With a muted impact on food spending and production expected in 2021, and little exchange rate volatility, the macroeconomic conditions for growth are relatively strong.

**Fig. 37: Economic recovery matrix for the agri-food sector<sup>3</sup>**

		Country									
		VNM	THA	PHL	IDN	SGP	CHN	JPN	KOR	IND	MYS
Recovery Factor ranking (1=worst placed, 10=best placed)	Demand Side Factors										
	Household food spending growth, 2019-2020	8	6	7	4	10	3	1	2	5	9
	Risks of food-specific taxes and VAT hike	7	2	4	6	10	7	9	3	4	1
	Risk to recovery of austerity measures	2	4	2	1	5	8	5	10	9	7
	Travel and Tourism as % GDP, 2019	6	2	1	9	5	4	7	10	8	3
	Supply Side Factors										
	Policy restrictions to food trade in 2020	9	9	9	8	10	8	10	10	1	9
	Change in food price inflation through 2020	5	7	6	No data	2	9	3	1	8	4
Historical exchange rate volatility	10	4	7	1	5	9	8	6	2	3	
Size of agri subsidies and importance to food sector	6	5	2	1	10	3	7	4	9	8	
<b>Overall Recovery Rating</b> 1=worst placed for recovery, 10 = best placed for recovery		6.6	4.9	4.8	4.3	7.1	6.4	6.3	5.8	5.8	5.5

Note: all countries are ranked on a scale of 1-10 on each metric, where 1=most risk on this metric, and 10 is least risky.

“Policy restrictions to trade” is scored judgmentally, depending on the number of new anti-food trade measures introduced in 2020.

<sup>3</sup>Scores reflect January 2021 context.

#### 7.4 LONGER TERM CHALLENGES FACING THE SECTOR

In the past decade, rapid urbanisation amid fast-growing, upwardly mobile populations has posed a challenge to rural agriculture labour markets, as workers increasingly strive for higher paying jobs in the cities. Furthermore, as incomes have risen and populations have grown, Southeast Asian consumers are demanding more and better-quality food. The Asian Development Bank has suggested the region must embrace technology to meet these competing challenges: simultaneously improving livelihoods, increasing food yields, and reducing the associated environmental impact of farming. There is an urgent need for land and labour productivity improvements, which requires technological innovation and skills development, as well as a sound and supportive policy environment.

Looking beyond the pandemic, there is a need to invest in new technologies to create a more resilient, efficient, and environmentally sustainable food value chain. This will require smarter practices, including mechanisation, financial assistance, and skills development, as well as a sound macroeconomic policy context and reliable trading relationships.

The European Commission's recent Farm to Fork Strategy, which is designed to facilitate the transition to a sustainable EU food system provides a useful blueprint. This comprehensive programme safeguards food security and ensures access to healthy diets at the same time as reducing the sector's environmental footprint.

Our analysis in this chapter highlights a range of substantial short term and long term challenges facing the agri-food sector in Southeast Asia. It is crucial for policymakers to recognise and work around these risks, given the scale of the sector's contribution to Indonesian, Philippine, Thai, and Vietnamese jobs and GDP. In the coming year, there will be mounting pressure on the region's finance ministries to address the fiscal imbalances that were exacerbated by the COVID pandemic. In the next chapter, we explore the implications of such potential fiscal measures for the agri-food sector.



## 8. FISCAL POLICY RISKS FOR THE AGRI-FOOD SECTOR

Despite the uncertain economic conditions and the many hardships of households and industry, governments in Southeast Asia are under pressure to tackle the fiscal deficits that have widened during the coronavirus pandemic. In this chapter, we explore the potential implications of these post-COVID-19 fiscal adjustments for the agri-food sector.

### 8.1 ASSESSING THE FISCAL POLICY RISKS TO THE ASIAN AGRI-FOOD SECTOR

To understand the risks to the agri-food sector from fiscal policy, Oxford Economics developed a Fiscal Risk Framework, which was first published in collaboration with FIA in a 2020 study.<sup>4</sup> The framework assesses three aspects:

1. The damage done to government finances during the COVID-19 pandemic,
2. The urgency of repairing fiscal balance sheets, and
3. The exposure of the food sector to the risks arising from this effort.

Using a traffic light system, the framework illustrates the relative vulnerability of the agri-food industry in each economy to potential post-COVID-19 fiscal adjustments. Our assessment combines i) the fiscal damage of COVID-19 measures, ii) the agriculture sector's exposure to government spending or subsidy, iii) the agri-food sector's exposure to potential tax hikes, and iv) the health-related impetus to impose new excise taxes on sugar, salts and fats. In Fig. 37, we present a Food Industry Fiscal Risk rating, which is the median rank of each country across the range of metrics (1 = least susceptible to risk).

Overall, our Fiscal Risk Assessment Framework reveals that the national agri-food sectors of the four Southeast Asian countries featured in this study are amongst the most at risk in Asia from post-COVID-19 fiscal adjustments. They register a higher fiscal risk rating than those of China, India, and other higher-income Asian economies.

In Thailand and Vietnam, the low-prevailing sales tax rates by global standards (i.e. 10% or less), increase the prospect of a sales tax hike. This poses a significant risk to demand and the wider economic recovery, due to the high proportion of food spending in overall consumer baskets. More than a third of household spending in Thailand, the Philippines, and Vietnam is accounted for by food and non-alcoholic beverages, meaning a potential tax increase could dent demand and household wellbeing.

In the Philippines and Indonesia, relatively high prevailing agricultural subsidies raise the prospect of a cut in funding for the food sector. In these countries, around 3% of GDP per annum is spent by the state in support of the agricultural

sector (the comparable numbers for the US and European Union are 0.5% and 0.6% respectively). A reduction in subsidies would not only harm agricultural producers, but the rest of the agri-food value chain too. Around half

of all inputs to the food sector in both economies come from domestic agriculture, and therefore cost increases would quickly pass through into food prices more generally, and damage demand.

**Fig. 38: Fiscal risk assessment for the food industry<sup>5</sup>**

		Country									
		THA	PHL	IDN	VNM	MYS	CHN	IND	JPN	KOR	SGP
COVID-19 Fiscal Impacts	Change in government deficit 2019-2021, pp GDP	-3.4	-3.6	-3.7	-1.6	-1.3	-1.4	-1.4	-6.5	-2.1	-3.7
	Sovereign credit risk, 2020 (1=lowest risk, 10=highest risk)	4.4	4.4	4.6	4.7	4.7	4.2	4.2	4.0	3.1	4.1
Government Expenditure Risk	Domestic agriculture % of input to food manufacturing	46.8	47.0	53.8	46.0	37.3	54.4	66.9	23.1	29.5	0.2
	Government support for agriculture, % GDP	1.0	3.1	3.0	0.9	0.5	1.6	0.2	0.9	1.6	0.0
Government Revenue Risk	VAT/GST rate on food, %, 2020	7	12	10	10	10	13	18	10	10	7
	Food and beverage % of consumer basket, 2020	37.9	40.4	22.1	39.7	29.5	19.9	45.9	27.7	13.8	7.2
Health Factors Risk	% of adults (obese) and children (overweight)	30.4	16.3	24.0	12.6	51.0	30.3	15.7	17.9	37.1	29.7
	% of adults with diabetes, 2019	7.0	7.1	6.3	6.0	16.7	9.2	10.4	5.6	6.9	5.5
Combined	Food Industry Fiscal Risk Rating	6.8	6.5	6.3	4.9	5.9	5.5	5.0	4.1	4.5	3.9

<sup>5</sup> Scores reflect January 2021 context.

## 8.2 NEW EXCISE TAXES POSE A RISK TO THE AGRI-FOOD SECTOR'S RECOVERY

The Fiscal Risk Framework also identifies the countries in which the agri-food sector may be vulnerable to new or increased food-related taxes. Excise taxes on sugar, salt, and plastics have long been discussed in policy circles in Southeast Asia as a potential tool to address growing obesity and wider environmental challenges.

The World Health Organization (WHO) advocates health-related excise taxes on products that have a negative public health impact, as a means to improving the health and wellbeing of populations and generating revenues to pay for public health costs. In Thailand and Indonesia, 30% and 24% of the population are estimated to be obese (adults) or overweight (children) in 2019, and between 6-7% of the adult population suffers from diabetes, according to WHO data.

The Organization for Economic Co-operation and Development (OECD) suggests that taxes on certain plastics or uses of plastics (e.g. single-use packaging), can help mitigate the currently unsustainable consumption of plastic materials.

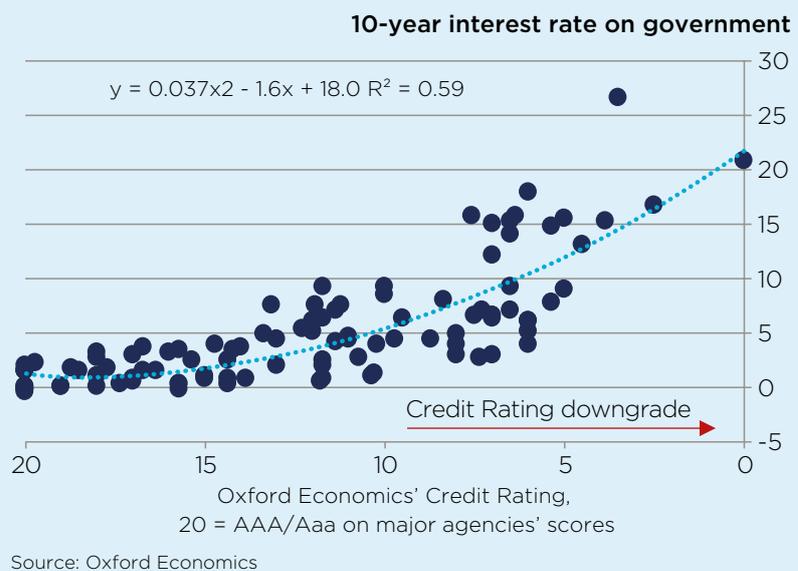
The motivations behind these fiscal initiatives are timely and highly important and there have been notable successes around the world in their implementation. For instance,

### BOX 2: FISCAL PRESSURES FACING SOUTHEAST ASIAN GOVERNMENTS

The global pandemic has had a severe impact on public finances across Asia. Finance ministries are struggling with double-digit percentage falls in revenues in the first half of 2020, while simultaneously financing unprecedented stimulus packages to protect households and firms from the most severe effects of recession. Direct fiscal measures such as wage subsidies and tax breaks (including for firms in the food supply chain) formed a key part of the government response to the crisis. But these pressures combine to create sharply higher government debt burdens in the future.

In some Asian economies, the need to rebalance the books is a key post-pandemic priority. For those most impacted economies, failing to set out a credible path for consolidation will risk credit downgrades, which would make the cost of borrowing higher. There is a close correlation between credit rating and government borrowing costs, as shown in the chart, below. For governments with the highest debt burdens, new financing options are limited, and there will be intense pressure to raise additional revenues or cut expenditure.

**Fig. 39: Credit ratings versus sovereign risk spread**



a 2019 study for the Institute for Fiscal Studies reviewed the evidence on sugar and sweetened beverage (SSB) taxes from 27 cases in 11 jurisdictions and found that the taxes led to reductions in purchases of taxed SSB drinks more often than not.<sup>6</sup> The largest effects were in Philadelphia, US, where the tax was observed to be fully passed through to prices, and where the price increase constrained demand.

However, counterarguments have also been made. A 2017 report by the New Zealand Institute of Economic Research (NZIER)<sup>7</sup>, commissioned by the New Zealand Ministry of Health, assessed the outcomes of 47 peer-reviewed studies and working papers. The study identified problems in the consistency of SSB tax impact studies and methodological flaws that occasionally led to overstated health outcomes. In acknowledging the business costs associated with such taxes, the study expressed doubts that a sugar tax policy would meet a comprehensive cost-benefit test.

Based on this wide and diverse body of evidence, a common thread suggests that effective implementation requires some key ingredients: careful design, planning, and clear communication. There are many examples of excise tax related policies, implemented in haste or haphazardly, that have damaged industry, sacrificed local jobs, reduced

consumer welfare, and also failed to meet the intended environmental and health objectives.<sup>8</sup>

We have identified four prominent risks from ill-designed or poorly planned health and environment related excise taxes, based on experience in Southeast Asia and further afield:

- 1. A disproportionate impact on 'small' and local businesses.** In the Philippines, the 2018 SSB tax fed through into consumer products, but surveys conducted one month after implementation reported a disproportionate drop in sales for small stores.
- 2. A failure to generate fiscal revenues.**
  - In the case of the Philippines SSB tax, the country's Food and Drug Administration (FDA) was unable to consistently determine the type of sugar that food and beverage manufacturers were using in drinks production. This lack of public information and oversight made enforcement highly challenging and thus led to a large shortfall in the anticipated revenues.
  - A 2017 study in Indonesia simulated the effect of excise taxes on plastic drinks containers to explore the net impact on government revenues. It found that it would

lead to a net shortfall in tax revenues, due to the prevailing market structure. The revenues from excise duty would be outweighed by a reduction in value added tax and corporate income tax revenues, due to the negative impact on industry.<sup>9</sup>

### 3. Unforeseen damage to local industry.

- In Vietnam, a plastic bag tax in 2014 was designed to increase the cost of single use plastics and to discourage their use. However, as the burden of tax fell on domestic producers, manufacturers were able to exploit tax loopholes by importing plastic bags instead. As a result, little impact was made in single-use plastic bag consumption, but domestic manufacturing capacity was effectively lost. Studies revealed that the plastic bag tax take fell by 23% in Ho Chi Minh City between 2014 and 2017.
- In Denmark, a 2011 tax on saturated fats in processed food products was scrapped within a year, after recognition of the damage it was causing to local businesses. The tax had increased administrative costs and led to an increase in cross-border shopping, which was placing Danish jobs at risk.

<sup>6</sup>R. Griffith et al., "The Evidence on the Effects of Soft Drink Taxes", *IFS Briefing*, 2019.

<sup>7</sup>New Zealand Institute of Economic Research. "Sugar Taxes: A Review of the Evidence.", 2017.

<sup>8</sup>Eugenia Mardanugraha, "Economic Impact of Imposing Excise Tax on Plastic Bottles of Drinks", *Economics and Finance in Indonesia*, 2017.

<sup>9</sup>Eugenia Mardanugraha, "Economic Impact of Imposing Excise Tax on Plastic Bottles of Drinks", *Economics and Finance in Indonesia*, 2017.

**4. Unfair implications for low-income households.** Excise taxes tend to be regressive in nature, and this typically leads to an unfair burden on lower-income households, for whom the excise goods constitute a larger share of total spending. A 2020 study found that in Thailand, the current SSB tax was effective in reducing SSB consumption, but that this outcome was driven by the ‘income effect’ on lower income groups, including the elderly and unemployed.<sup>10</sup>

#### **8.2.1 What does a good excise tax policy look like?**

A good excise tax policy should be well designed, targeted, backed by high quality evidence, efficiently regulated by the government through engagement with stakeholders, and regularly reviewed to minimise unnecessary or unfair burdens to business. Additionally, it is important to regularly communicate with stakeholders to secure support for these policies. Constant communication and coordination between both parties will allow better management of stakeholder perceptions of the potential regulatory achievements.

We identify three core ingredients of a successful approach to tackling health and environmental issues in the agri-food sector.

- 1. Education and public information.** Raising awareness amongst consumers is key to managing behavioural change, and highly complementary to the use of fiscal measures. Accurate food and plastic labelling is a tried and tested public information tool to amplify policy effectiveness.
- 2. A comprehensive regulatory scope.** Excise taxes used on their own can be blunt, regressive, and poorly implemented. International evidence suggests the more effective the regulatory conditions, the more effective the tax compliance. Governments can use regulatory standards on aspects such as product reformulation and food labelling to nudge producers in the right direction.

**3. Consultation and communication with industry.** To succeed with fiscal measures, governments must engage and communicate with stakeholders regularly to minimise the cost to business and the loss of jobs, whilst maximising collaboration and compliance. Regular communication with industry stakeholders equips policymakers with sector expertise and enables them to tailor policy effectively to achieve its intended outcomes.



## 9. CONCLUSION

Our analysis of the agri-food sector in Southeast Asia has shown that this vital industry, which employs 48% of all workers in the four countries in this study, can play a pivotal role in the future economic development of the region. Despite the highly challenging economic conditions during the coronavirus outbreak, the agri-food sector showed its resilience and durability in 2020.

The sector has performed well in the face of the COVID-19 pandemic. We estimate that output in Indonesia and Vietnam grew by 2% and 4% in 2020, respectively, in real terms compared to the year before. In Thailand and the Philippines, the sector's total economic contribution shrank but by less than the economy as a whole, highlighting the essential nature of agri-food production and distribution.

But the sector must brace itself for strong headwinds in 2021. Demand for foods and beverages will be depressed this year as the populations of Southeast Asian countries respond to unemployment, underemployment, and reduced household incomes by cutting consumer spending. Oxford Economics forecasts an annual reduction in total household food spending of 0.8% in Southeast Asia in 2021. Furthermore, our latest projections suggest Asia will not see a return to 2019 levels of inbound tourism until 2024.

The report has highlighted three long-term challenges that policymakers in the region must address to ensure the agri-food industry continues to deliver food to people's tables, create income and employment opportunities for households, and provide economic opportunities at each stage of the value chain.

Firstly, governments must ensure that any policies aimed at repairing the damage COVID-19 has inflicted on their fiscal balance sheets are introduced in a targeted way. Countries with current low sales taxes should resist the temptation to impose sharp hikes that would hit consumer spending and in turn hurt the business sector. Equally, countries should curb the impulse to cut agricultural subsidies, which would hit agri-food producers, who would pass the costs down the supply chain.

Secondly, government should also ensure that any so-called 'sin taxes' to address health and environmental problems—excise duties on sugar, salt, and plastics—are carefully planned, designed, and communicated. The history of interventionist fiscal policy is littered with examples of policy measures that backfired by hurting consumers, businesses, and even the state treasury but without delivering the intended benefits.

Finally, there is a need for investment in new technologies and skills development to strengthen the resilience, efficiency, and environmental sustainability of the region's labour-intensive food value chain. This is essential to drive both an increase in productivity levels across the value chain from agriculture to manufacturing and distribution, and to meet consumers' demands for higher quality and more healthy food products.

This report has identified three conditions that a successful fiscal response should follow—using education to influence behaviour; favouring regulatory standards over taxes; and maintaining a constant conversation with the industry. By following those tips and avoiding ill-calculated interventions, Southeast Asian governments will be able to help underpin efforts by the agri-food value chain to rebuild and regenerate and thus continue to provide the unparalleled economic benefits it has delivered over recent decades.



# APPENDIX 1: DEFINING THE SECTOR

## DEFINING THE AGRI-FOOD SECTOR

### Component 1: Agricultural production

For the purposes of this study, we define the agricultural production component of the agri-food sector as the elements that produce goods that are either exclusively or primarily used for food. As such, our analysis excludes rubber and tobacco products. In addition, while official statistics often report the combined agriculture, forestry and fisheries industry, we do not include any component of the forestry industry.

International trade in agri-food products is segmented based on whether it is considered to have undergone processing or not, based on our analysis of detailed COMTRADE data. In this definition, processing refers to activities ranging from initial processing, such as butchery and filleting of meat products or milling of cereal products, to the production of final processed food and beverage products.

Agricultural production typically depends on a relatively simple supply chain, including products such as vehicle fuels and fertilisers, basic utilities including electricity and fresh water, and services from the finance and insurance industries. We estimate how much is spent in the supply chain, and on what, to map out the agriculture sector's indirect impact on the economy.

### Component 2: Food and beverage manufacturing

In this study, we focus our analysis on non-alcoholic food and beverage manufacturing taking place within our four countries of analysis. This is generally well-identified within national accounts statistics, although in some cases has required careful estimation to ensure that alcoholic beverages and tobacco were removed from our calculations.

We model the supply chain spending of F&B manufacturing using bespoke input-output (IO) tables for our four economies. IO tables are statistical representations of the spending flows in an economy, used by national statistics agencies to understand the interdependence of different industries. Our IO tables allow us to refine our estimates to avoid double counting the agriculture component, described above, by focusing only on the non-food and -drink supply chain.

### Component 3: Food and beverage distribution

We drew upon a range of data sources to produce this analysis, including national accounts data on the value of different sectors, as well as trade and services surveys that detail the activities of service providers. Within countries where data were more limited, we developed modelling assumptions about the structure of the industry, based on international benchmarks. For the hospitality sector, not all economic activity can be considered attributable to the agri-food sector. To estimate the share to include in our analysis, we combined an assessment of detailed IO tables to assess the financial structure of their activities with industry expertise.

# APPENDIX 2: METHODOLOGY

The structure of the analysis produced for this project mirrors that of our previous report, *The Economic Impact of the Food Industry in Singapore*, released in 2016. This includes using the same methodology, with adjustments only made to account for data differences and the inclusion of the agricultural sector into the analysis.

Our analysis relies on data and statistics from several sources, however we primarily utilise the official statistical agencies of the four countries. These agencies are: Statistics Indonesia (<https://www.bps.go.id/>), the National Statistics Office of Thailand (<http://www.nso.go.th/sites/2014en>), the Philippine Statistics Agency (<http://www.psa.gov.ph/>) and the General Statistics Office of Vietnam (<https://www.gso.gov.vn/>).

## APPROACH TO ESTIMATING THE DIRECT CONTRIBUTION OF AGRICULTURAL PRODUCTION AND F&B MANUFACTURING

The largest components of the agri-food sector in Southeast Asian countries are agricultural production and F&B manufacturing. We begin by estimating their direct contributions.

We estimate the direct GDP contribution of the in-scope elements of agriculture and fisheries based on national accounts data, from national statistics agencies. For all countries we collected data for the whole of the agriculture, forestry and fisheries industry, however some were disaggregated further. We then had to remove the share of this that lays outside of the scope of this study (e.g. forestry, tobacco farming and rubber farming). Different approaches were applied for different countries, including using highly detailed product-level data from within the national accounts (available for Thailand and Indonesia, with Thai data used to estimate the splits in Vietnam) and detailed information from detailed input-output tables (the Philippines).

For food and non-alcoholic beverage manufacturing, national accounts data from the relevant statistics agencies were used again. In this case, the aggregation available included alcoholic beverage manufacturing, and sometimes tobacco manufacturing.

These were removed by only including the shares of the broader sectors that were in-scope. Indonesia and the Philippines utilised detail available in input output tables from their national statistics offices, the National Statistics office of Thailand had detailed manufacturing survey data, which allowed for disaggregation, with this split also used to estimate the in-scope value for Vietnam.

For both sectors, the values for gross output were estimated based on the ratios between gross value added and gross output, based on OECD data.

Employment in agricultural production was calculated using national statistics agency data for total agricultural forestry and fisheries employment. This was scaled to the size of the sector. For F&B manufacturing, our analysis estimated the productivity of workers (the GVA contribution per worker) in the sector relative to the whole of manufacturing, for which we had complete data. For Thailand this utilised detailed manufacturing data, whereas the other countries looked at the relative productivities revealed by data from the United Nations Industrial Development Organisation (UNIDO) INDSTAT database.

In some cases, productivities had to be adjusted for productivity changes as up-to-date data had not been released. This was achieved using the overall economy-wide productivity changes implied by GDP and employment values from national statistics data.

### **APPROACH TO ESTIMATING THE INDIRECT AND CONSUMER SPENDING IMPACTS**

Our approach to analysing the indirect and induced impacts utilises input-output tables, which are designed to give a snapshot of an economy at a particular time, showing the major spending flows. These include “final demand” (consumer spending, government spending and exports to the rest of the world); intermediate spending (what each sector buys from every other sector – the supply chain); how much of that spending stays within the economy; and the distribution of income between employment income and other income (mainly profits). Input-output tables are therefore particularly useful when estimating indirect and induced economic impacts.

The idea behind the input-output table is that the economy can be divided into a number of producing industries, and that the output of each industry is either used as an input into another industry, or in final consumption. In essence an input-output model is a table that shows who buys what from whom in the economy.

A more complex approach than this is to map the transactions between different countries, therefore mapping who buys what from whom including every industry in every available country. The Oxford Economics Global

Economic Impact Model (GEIM) utilises the OECD inter-country input output table (ICIO) to model the supply chains that sustain activity in the indirect and induced impacts.

The inputs to this model are the supply chain purchases of the relevant sectors (agricultural production and R&B manufacturing) and the pattern of consumption from their employees. These are estimated based on OECD data which provides the value of procurement and employee earnings. The structure of the ICIO was then used to estimate the structure of spending that supported all of this activity. The GEIM also accounts for the additional induced contribution made from the supply chain contributions.

The impacts generated were restricted to their own countries, without international trade. This ensured that we were only accounting for economic activity stemming from the agri-food sector in the country in question and also that we maintained comparability with the previous analysis for Singapore.

## ESTIMATING THE ECONOMIC IMPACT OF F&B DISTRIBUTION

An important aspect of our study is to estimate the economic impact of the distribution of food and non-alcoholic beverages in these economies. Our analysis focused on four distribution channels: wholesale, retail, catering and accommodation providers (primarily hotels).

The agri-food distribution sector’s contribution was analysed by estimating the share of the whole of wholesale and retail sector’s footprint that could be attributed to agri-food. Statistics were available for the distribution sector’s overall contribution to GDP from all statistics agencies.

For wholesale, we accessed detailed official statistics from trade and services business surveys for Thailand and the Philippines, allowing the relevant share of wholesale to be estimated. Such granular information was not available for the other countries, so estimates were produced based on Thai data. As these surveys do not specifically identify food retail outside of specialist stores, the share of the sales of non-specialised stores (which make up the majority of sales) was estimated using consumer spending data. This sales figure was converted into a contribution to GDP based on a combination of the business surveys and national accounts figures for the whole of the

retail sector. Together these approaches allowed us to estimate the share of the total economic impact though could be applied to these sectors.

Official data was used to get total wholesale and retail employment. More granular trade and services survey data was used to estimate the productivity of the agri-food components of these industries, which allowed their employment footprint be calculated. Gross output of these components were calculated in the process of calculating the GDP contributions.

The hospitality industry (accommodation and catering) is well-reported in national statistics data,

with all countries other than Vietnam having the two components independently identified in their national accounts data. For Vietnam, a division between the two was estimated based on consumer spending data.

Official statistics were used to get employment and gross output estimates, with some information on consumer spending on hotels and catering establishments used to scale the gross output figures.

Only a limited portion of the hospitality industry was considered part of the agri-food sector. Using analysis of input-output tables, as well as consultation with FIA and their members, the following proportions were chosen:

**Fig. 38. Shares of different components of the hospitality industry’s economic impact attributed to agri-food**

	Catering	Accommodation
Thailand	75%	20%
Indonesia	90%	30%
The Philippines	75%	20%
Vietnam	75%	20%

## TAX MODEL

The final component of our analysis involved estimating the tax that is generated by these activities. Our model focussed on income tax, taxes on corporate profits and sales taxes (for the distribution sector only). These are modelled based on effective tax rates, which are the amount of tax generated relative to a suitable denominator. In the case of income tax, this is tax revenues per dollar of the compensation of employees. For corporation tax it is revenues relative to the gross operating surplus. For sales taxes it is taxes relative to private consumption expenditure. These effective tax rates were applied to the relevant statistics for each component of the agri-food sector, calculated using OECD data.

Checks were made to ensure that overall implied tax rates were sensible, by comparing the ratio between tax and GDP contribution to national totals.

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## ABOUT FOOD INDUSTRY ASIA

Food Industry Asia (FIA) was formed in 2010 to enable major food and beverage manufacturers and B2B ingredients suppliers to speak with one voice on complex issues such as health and nutrition, food safety, sustainability, and regulations and trade. From its base in Singapore, FIA seeks to enhance the industry's role as a trusted partner and collaborator in the development of science-based policy throughout Asia. To do so means acting as a knowledge hub for Asia's national industry associations and affiliated groups, to support with their engagement of public bodies and other stakeholders across the region.

### 2021

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