



OXFORD
ECONOMICS



THE ECONOMIC IMPACT OF THE AGRI-FOOD SECTOR IN THAILAND

2021





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EXECUTIVE SUMMARY

Throughout a tumultuous year for the Thai economy, in which travel, 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 country's workforce, and created opportunities for businesses at each stage of the value chain.

From farm to fork, the Thai agri-food sector holds an unparalleled position in the economy and plays a pivotal role in its future economic development. Its performance is critical to household wellbeing and it is an economic powerhouse, responsible for millions of jobs, as well as being a major contributor to total economic output and government tax receipts.

Looking beyond the coronavirus pandemic, 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 fiscal policy risks, that could result from governments adjusting their spending and taxation policies to recover from the economic impact of COVID-19 on public finances.

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. This report focusses specifically on Thailand.

THE AGRI-FOOD SECTOR'S ECONOMIC IMPACT

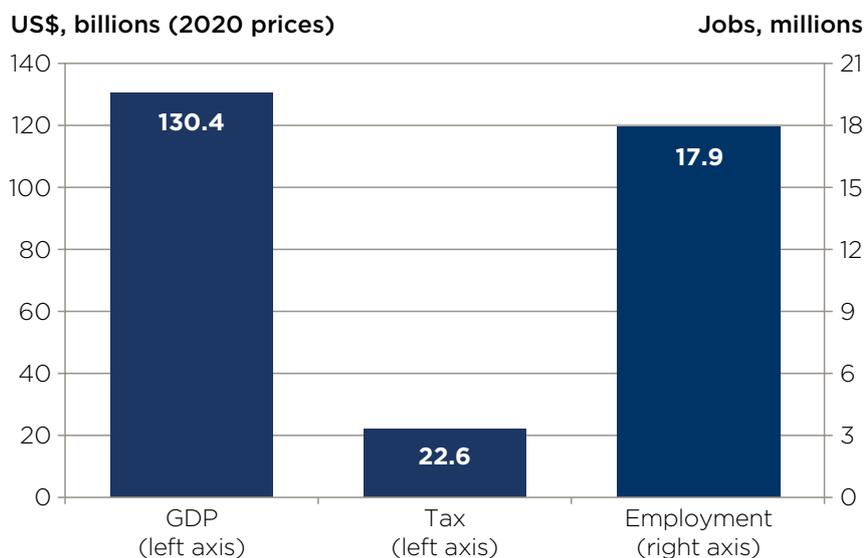
The Thai agri-food sector made a contribution to GDP worth USD 130 billion in 2019, representing one quarter of the domestic economy (valued in 2020 prices). This activity supported a total of 17.9 million jobs in the country, 48% of the total employment footprint. In addition, we estimate that the agri-food sector's economic footprint was responsible for raising USD 22.6 billion in tax revenues that year. Prior to the COVID-19 pandemic, the Thai agri-food sector had been growing consistently, with its contribution to GDP 10% higher in 2019 than 2015.

US\$130 bn

The agri-food sector's total contribution to 2019 GDP in Thailand (in 2020 prices).



Fig. 1: Total economic contribution of agri-food sector in Thailand (2019)



Source: Oxford Economics

18 million

Total number of jobs supported by the agri-food sector in Thailand in 2019.

Agriculture makes up the largest portion of the Thai agri-food sector, accounting for 41% of its total contribution to GDP. In 2019, agriculture, as well as the supply chain and consumer spending activities associated with it, contributed a total of USD 53.8 billion to Thai GDP. The majority of this, worth USD 42.2 billion, came from the direct activities of agriculture companies. In total, 12.3 million people were employed in the agricultural sector’s economic footprint in 2019.

The F&B manufacturing sector also makes a sizeable contribution to GDP, worth USD 41.5 billion in 2019. This represents nearly one third of the agri-food sector’s total footprint. We estimate that the largest portion of this total, some USD 23.4 billion, came from the direct activities of F&B manufacturing companies. A total of 2.1 million people were employed by F&B manufacturing and its associated activities in 2019.

The final component of the sector is F&B distribution, which made a contribution to Thai GDP worth USD 35.0 billion in 2019. This is 27% of the total footprint of the agri-food sector. The share of F&B distribution in the agri-food sector’s economic footprint is higher in Thailand than in any of the other four-countries featured in our study. This was primarily driven by retail, which contributed USD 13.3 billion to GDP in 2019, and catering, which contributed 12.7 billion to GDP. A total of 3.6 million people were employed across the whole of F&B distribution in 2019, with the largest share of these being the 1.7 million people working in catering.

Thailand is a significant net-exporter of agri-food products.

With USD 32.1 billion of exports, compared to only USD 11.1 billion of imports, Thailand had a trade surplus of F&B products worth USD 21.0 billion in 2019. Processed food and beverage products were the main contributor, benefitting greatly from the country's strong F&B manufacturing sector and making up USD 19.4 billion of the total trade surplus.

The Thai agri-food sector has been weakened by the COVID-19 pandemic and the associated measures taken to combat it.

We estimate that the sector's economic footprint contracted by USD 7.3 billion in 2020, compared to a year earlier, with 700,000 fewer people employed. However, whilst the agri-food sector's contribution to GDP did contract in 2020, it did so at a slower rate than the rest of the economy. The majority of the contraction came in accommodation and catering. Their contribution to GDP shrank by a combined USD 5.1 billion, or 33%, with social distancing measures and a significant contraction in tourism hitting these components of the sector particularly hard.

OUTLOOK FOR THE AGRIFOOD SECTOR

The food sector in Thailand faces significant risks over the coming years. In particular, the country's large tourism sector, which is important for generating demand for food and beverage products, is expected to recover slowly, potentially placing a cap on the agri-food sector's overall growth potential.

Beyond the immediate difficulties created by the pandemic, the agri-food sector in Southeast Asia faces longer-term challenges too. Growing populations and incomes mean consumers are demanding more and better-quality food. New technologies and skills will be required to raise the productivity of land and labour. Achieving this will require a supportive policy environment, as well as large-scale investments.

“ Whilst the agri-food sector's contribution to GDP did contract in 2020, it did so at a slower rate than the rest of the economy. ”

IMPACT OF FISCAL MEASURES ON THE AGRIFOOD SECTOR'S RECOVERY

Despite the uncertain economic conditions that the region faces, many governments in Southeast Asia are facing pressure to tackle fiscal deficits that have worsened during the coronavirus pandemic. Our Fiscal Risk Assessment Framework, designed in a separate study for FIA in 2020,¹ assesses the exposure of the agri-food sector to potential post-pandemic fiscal adjustments in a group of Asian economies.

These pressures are significant in Thailand, where the fiscal balance worsened significantly over the course of 2020. If the country's low-prevailing sales tax rate, reduced further by recent economic relief measures, were identified as a target for revenue raising fiscal measures, this would pose a significant risk to demand in the agri-food sector and the wider economic recovery. Such a measure would also affect the wellbeing of Thai households, for whom a high proportion of the weekly consumption basket is dedicated to food and beverages.

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. Policymakers might argue that the motivations behind these policy initiatives are timely, in the context of the post-COVID recovery. However, our analysis points to 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. If excise duties are to be deployed, they should be well designed, evidence-based, efficiently regulated and well communicated with industry to raise the chances of success and minimise the potential costs to the valuable agri-food sector.

¹"Fiscal risks for the food sector in Asia after COVID-19", Oxford Economics, Food Industry Asia, August 2020



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**

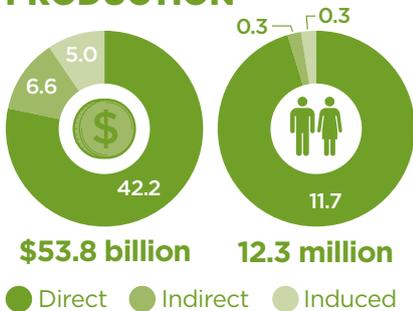


The sector is dominated by its massive agricultural sector, which makes up **two thirds** of its jobs.

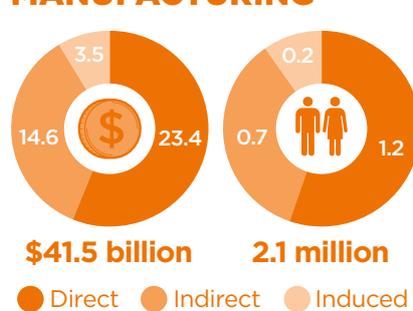
FROM FARM TO FORK



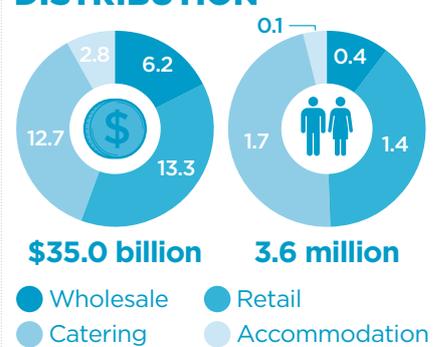
AGRICULTURAL PRODUCTION



FOOD & BEVERAGE MANUFACTURING



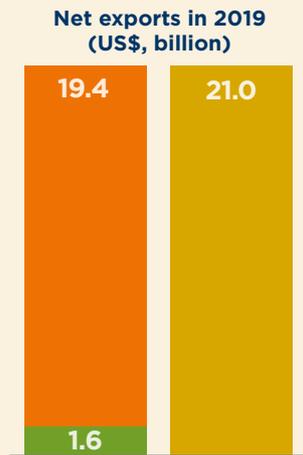
FOOD & BEVERAGE DISTRIBUTION



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





1. INTRODUCTION

1.1 THE STRUCTURE OF THIS REPORT

The report is structured in four parts. This chapter explains our overarching approach to measuring the economic impact of the agri-food sector and presents high-level results. This is followed by a more detailed assessment of the

sector's economic impact and the implications of the coronavirus pandemic for its performance in 2020. In the following chapter, we provide our assessment of the outlook for the agri-food sector, beyond the initial impact of

the coronavirus. And finally, we assess the fiscal risks facing the sector in 2021 and beyond, including the potential risks posed by excise duties for the businesses, employees, and consumers that depend on the agri-food sector.

1.2 HOW WE FRAME OUR ANALYSIS

A country's food value chain 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 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.

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 estimate 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)² 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. 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. 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.

BOX 1: OUR APPROACH TO ECONOMIC IMPACT ASSESSMENT

In this report, we use a bespoke economic impact modelling framework to analyse the economic contribution the agri-food sector makes to the economy. 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. 2.

- **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.

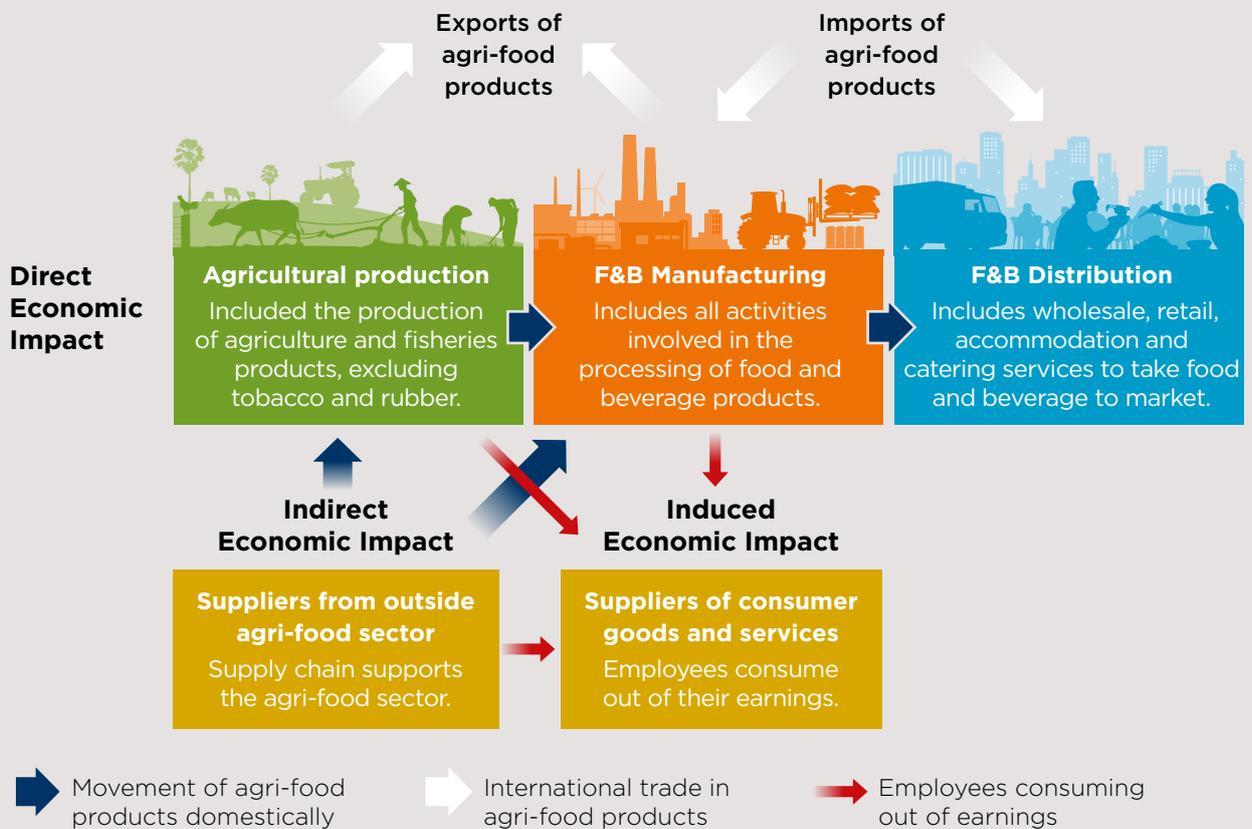
The total economic impact of the agri-food sector encompasses all of these impacts and we present the impact in three ways:

- **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.

A full methodology is available in the full Southeast Asia report produced in this study.

Fig. 2. The contribution the agri-food sector makes to the Southeast Asian economy





2. 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.

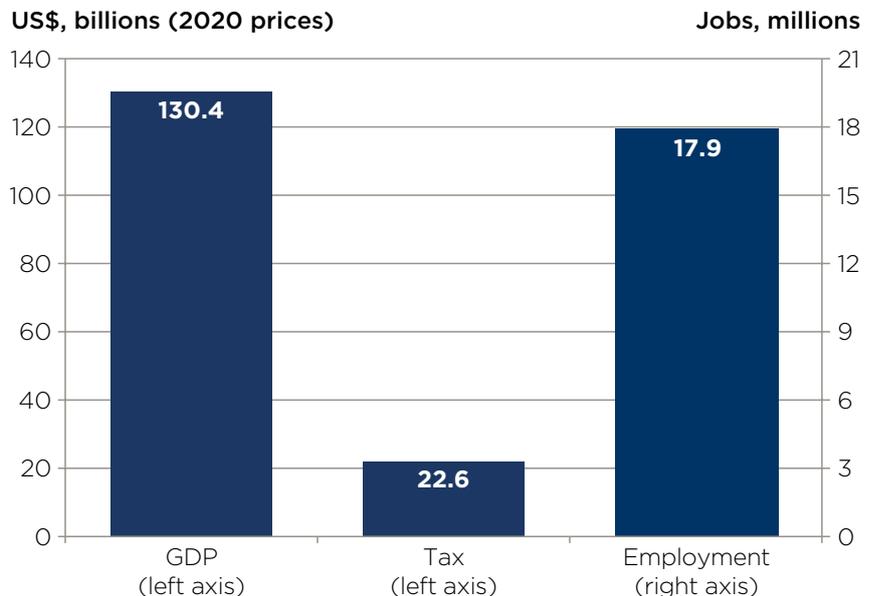
2.1 THE TOTAL ECONOMIC FOOTPRINT OF THAILAND'S AGRI-FOOD SECTOR

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. 3: Total economic contribution of agri-food sector in Thailand (2019)



Source: Oxford Economics

2.2 THE ECONOMIC IMPACT OF THE AGRI-FOOD SECTOR IN DETAIL

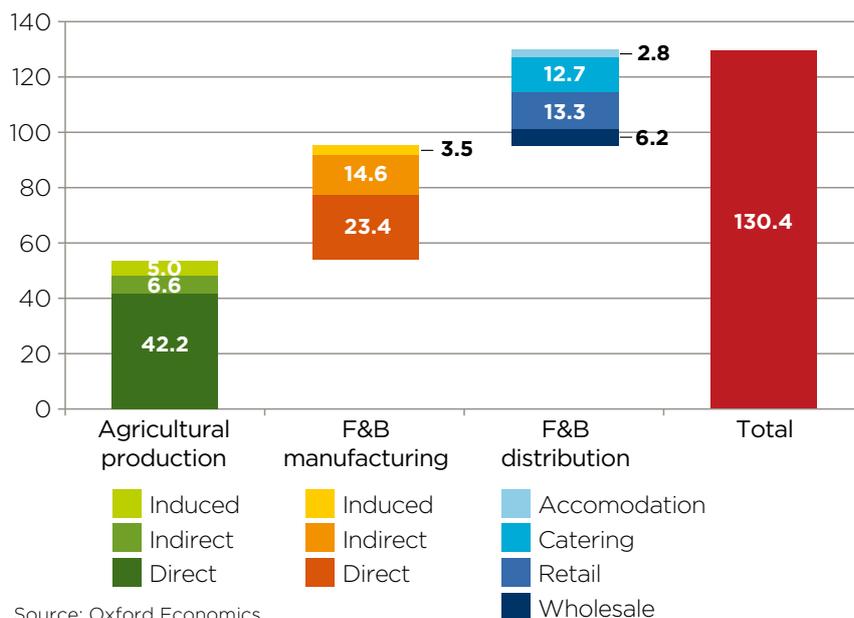
Thailand’s agri-food sector represents a relatively well-balanced domestic value chain. The relative contributions of the different components of that value chain are displayed in Fig. 4. This shows that agriculture makes up the largest parts of the sector’s contribution to GDP. The food and non-alcoholic 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. 4: Agri-food industry’s contribution to Thai GDP, by component, 2019

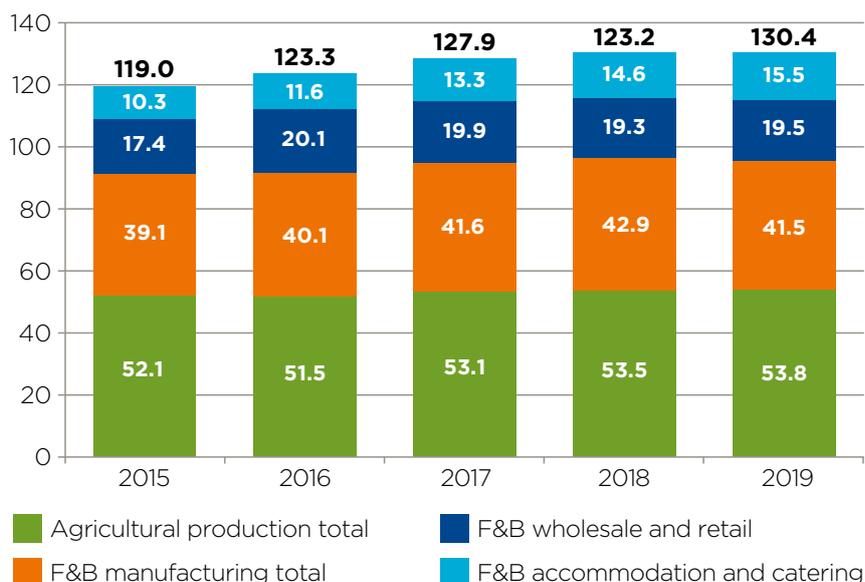
US\$, billions (2020 prices)



Source: Oxford Economics

Fig. 5: Change in the GDP contribution of the Thai agri-food sector, by component (2015-2019)

US\$, billions (2020 prices)



Source: Oxford Economics

Fig. 6: Change in the employment footprint of the Thai agri-food sector, by component (2015-2019)

Employment, millions



Source: Oxford Economics

2.2.1 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.

2.2.2 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.

2.2.3 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.

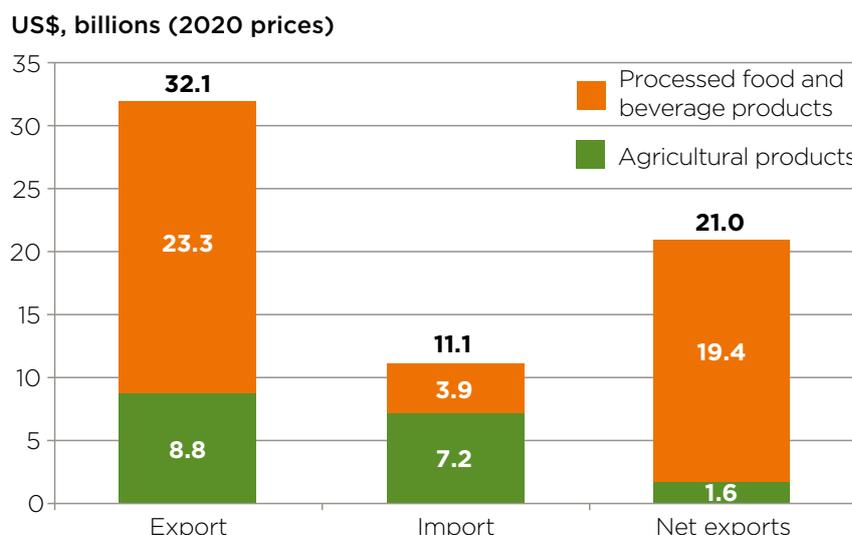
This constituted 12% growth in wholesale and retail, adding USD 2.0 billion more to GDP and 130,000 additional jobs, and 51% growth in hospitality, adding USD 5.3 billion more to GDP and 130,000 additional jobs.

2.3 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. 7).

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. 7: Trade in agri-food products, 2019

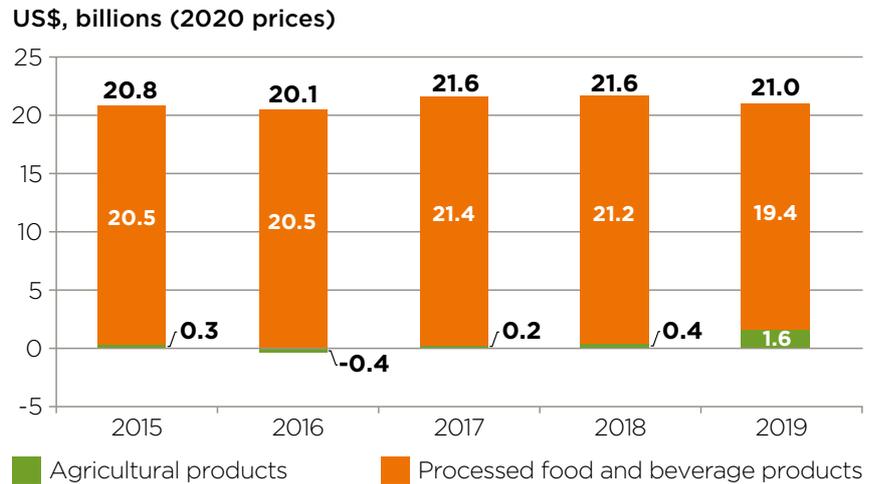


Source: Oxford Economics

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



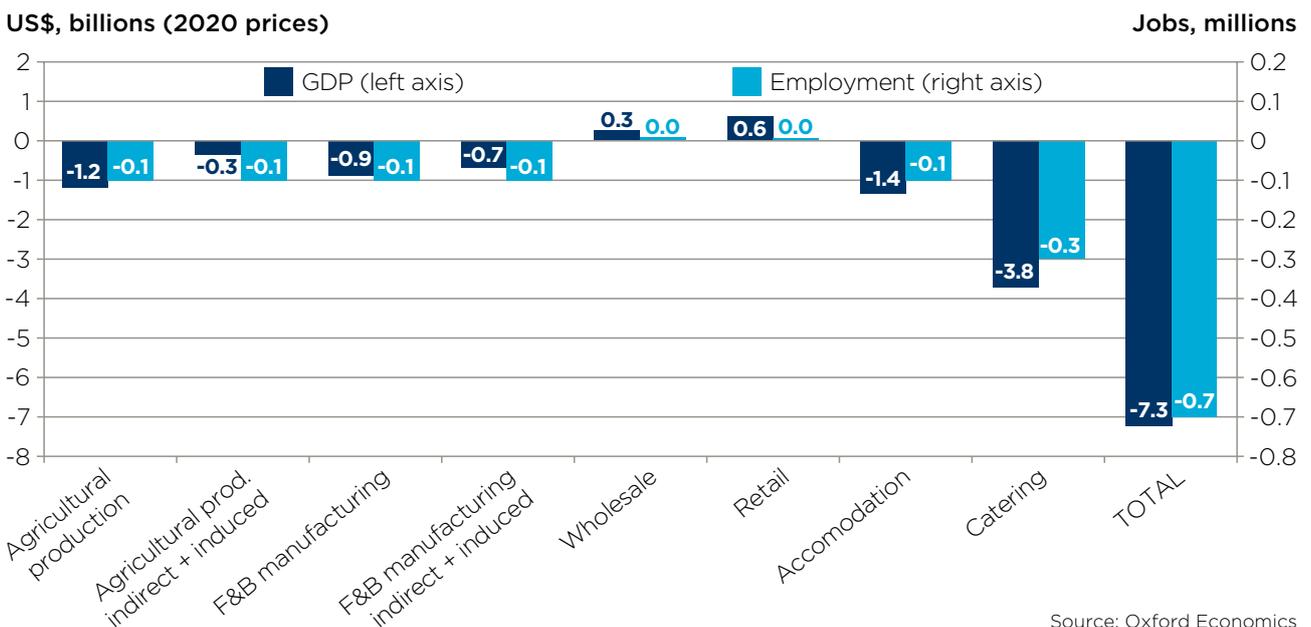
Source: Oxford Economics

2.4 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. 9: Year-on-year change in GDP and employment contribution of agri-food sector in Thailand, by component, 2020.



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. 9).

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.

2.4.1 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.

2.4.2 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.

2.4.3 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.

3. OUTLOOK FOR THE AGRI-FOOD SECTOR

3.1 MIXED OUTLOOK FOR THE AGRI-FOOD SECTOR IN SOUTHEAST ASIA

With such an enormous and pivotal contribution to wider economic activity in Southeast Asia, 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 Southeast Asia in 2021, in real terms. Furthermore, tourism traditionally accounts for large portion of total food consumption, 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.

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.

3.2 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.³ 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.

The agri-food sector in Thailand faces significant risks, according to our Economic Recovery Matrix. Its large tourism sector, which is crucial to revive the demand for F&B products, is expected to recover slowly. Furthermore, if the country's relatively low prevailing rate of VAT were identified as a potential target for raising

government revenue following the pandemic, would directly impact demand across the food industry.

The Thai agri-food sector also has other structural vulnerabilities, in particular the relatively high historic volatility of its exchange rate. However, Thailand's relatively light touch trade policies on food and generally low and stable price inflation for food products stand the sector in good stead.

Fig. 10. Economic recovery matrix for the agri-food sector⁴

		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	
Overall Recovery Rating 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.

⁴ Scores reflect January 2021 context.

4. FISCAL POLICY RISKS FOR THE AGRI-FOOD SECTOR

Despite the uncertain economic conditions and the many hardships currently faced by households and industry in the region, governments 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.

4.1 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.⁵ 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. 11, 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).

Our fiscal risk assessment reveals the Thai agri-food sector as the most exposed to fiscal risks out of the four Southeast countries in our study. Over the course of 2020, its fiscal deficit worsened significantly, increasing the need for fiscal rebalancing. In addition, Thailand has a low prevailing rate of sales tax, which is partly a result of a tax reduction as a part of recent economic relief measures. This points to a possible VAT hike in the near future. The fact that a third of household spending in Thailand is accounted for by sales of food and non-alcoholic beverages mean such a price hike would harm household consumption, and feed through into the wider economic recovery. An increase in sales tax on food would likely damage demand for food products and also reduce household wellbeing.

Fig. 11: Fiscal risk assessment for the food industry⁶

		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

Source: Oxford Economics/Various

*Food Industry Fiscal Risk Rating is calculated as the median rank for country on each identified metric, with 1 denoting the least susceptible country, and 10 denoting the most susceptible.

⁶ Scores reflect January 2021 context.

4.2 NEW EXCISE TAXES POSE A RISK TO THE AGRI-FOOD 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 are 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.

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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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