



OXFORD
ECONOMICS



THE ECONOMICS OF THE ILLICIT TOBACCO TRADE IN MALAYSIA

A REPORT FOR
BRITISH AMERICAN TOBACCO

JUNE 2019



鐘意!

HOTEL

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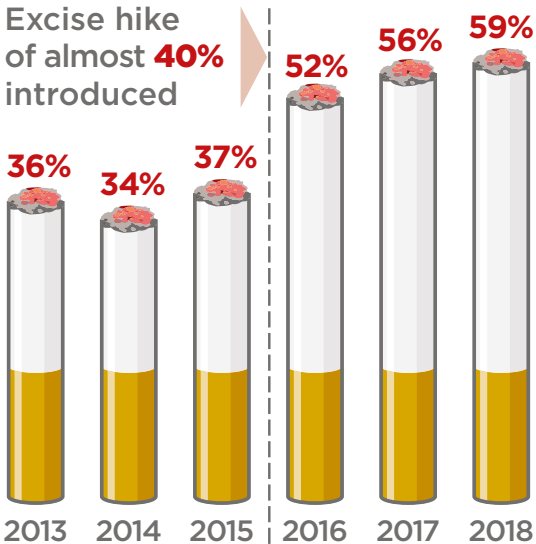
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MALAYSIA'S ILLICIT TOBACCO TRADE

ILLICIT SECTOR MARKET SHARE

Excise hike of almost **40%** introduced

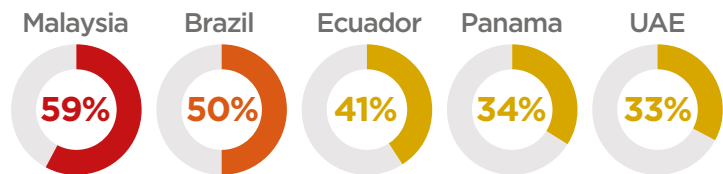


Since the excise hike...

- ↑ **5%** increase in overall cigarette consumption
- ↓ **32%** decrease in legal cigarette sales



PERCENTAGE ILLICIT INCIDENCE (TOP FIVE COUNTRIES, 2018)



Source: Nielsen, Euromonitor

LOST TAXES IN 2018

RM331 million of unpaid sales taxes

+ RM4.8 billion of unpaid excise duty
2018 excise duty collected: RM3.0 billion (estimated)

= RM5.1 billion of taxes evaded in total



of total tax receipts



of indirect tax receipts

THE DECLINE IN LEGAL SALES HAS LED TO TWO MAJOR CIGARETTE FACTORIES CLOSING

At their peak in 2013, these factories generated...

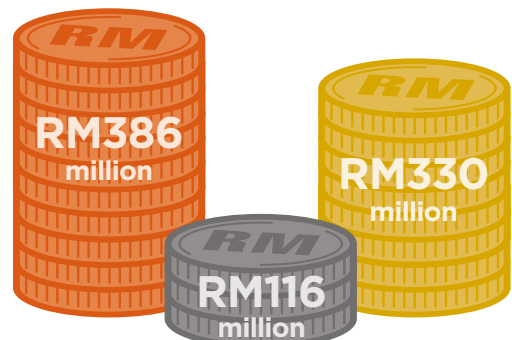
● Direct ● Indirect ● Induced

JOBS



Total jobs 5,750

GDP CONTRIBUTION***



Total GDP RM831 million

EXECUTIVE SUMMARY

Illegal cigarettes, and the nefarious activity that accompanies them, have become a substantial challenge for Malaysia in recent years. Illegal tobacco consumption presents a number of problems for the government, including:

- undermining its health agenda, as total cigarette consumption has actually increased since 2015's shock increase in excise duty, driven by the growth of the unregulated illicit tobacco sector;
- depriving the government of tax revenues, and so curbing its ability to deliver basic services and valuable social programmes;
- funding further illegal activity—particularly corruption—in Malaysia; and
- discouraging legitimate business operations.

This study by Oxford Economics, commissioned by British American Tobacco (BAT), has two key goals:

- to quantify the amount of potential tax revenue that is being lost each year through the illicit Malaysian tobacco market; and
- to highlight the wider and less obvious economic consequences of this illicit trade.

MALAYSIA'S ILLICIT TOBACCO MARKET

The most recent data indicate that 59 percent of Malaysia's cigarette market in 2018 was illegal, equating to around 598 million packs of 20 cigarettes each. "Illicit whites" smuggled into Malaysia from neighbouring countries (especially Vietnam, Indonesia, and the Philippines), driven by large price differentials, dominate the illicit trade, accounting for almost 44 percent of all cigarette consumption that year. Illegal "kreteks" (tobacco and clove cigarettes) also form a sizeable share (over 10 percent), while the proportion of packs with fake tax stamps (nearly five percent) is growing too, particularly after the hikes in excise duty witnessed in late 2015.

By falling outside the legitimate market, sales of illegal cigarettes avoid both excise duty and the sales tax on final prices. In so doing, they deprive the government of substantial revenues: in 2018, we estimate the excise duty evaded by the illicit trade in cigarettes reached almost RM4.8 billion—far in excess of the RM3.0 billion we estimate the government collected that year. Furthermore, we estimate that cigarette sales in the illicit sector also avoided RM331 million in sales taxes.

59%

Estimated proportion of Malaysia's cigarette market that was made up of illegal products in 2018.

This level of illicit market penetration is the highest of all the world's top 100 tobacco markets.

RM5.1 bn



Total amount of tax evaded by the illicit trade in cigarettes in 2018.

Equivalent to three-quarters of the amount owed by PTPTN borrowers.

This means the total amount of tax evaded by the illicit trade in cigarettes in 2018 was over RM5.1 billion, which equates to over 2.9 percent of Malaysia’s total tax receipts that year. To put that in context, this revenue is equivalent to three-quarters of the RM6.8 billion owed by borrowers to the National Higher Education Fund Corporation (PTPTN). Alternatively, we estimate excise lost since the 2015 duty increase has reached RM13.5 billion (in constant prices) equivalent to more than the amount that the US Department of Justice cites as having been lost in the 1MDB scandal.

But not only the government is losing out. Illegal tobacco benefits from, and propagates, corruption in Malaysia, undermining the rule of law and governance, and diminishing the country’s attractiveness to international investment. Selling contraband cigarettes on the illicit market has enabled smuggling syndicates to generate substantial profits—according to a recent report by the New Straits Times—and these organisations go to great lengths to protect their activities. Moreover, the profits earned from cigarette smuggling can be used to fund further smuggling, attempts at wider corruption, or other criminal activities, which, as the US State Department has noted, can have “potentially dire implications for public safety, public health, democratic institutions, and economic stability”.

RM831 mn*



Total contribution to the Malaysian economy of two major cigarette factories (now closed) in 2013.

*These factories were closed due to the growth of the illicit tobacco trade. (*2017 prices)*

THE ECONOMIC CONSEQUENCES OF ILLEGAL TOBACCO

The illicit tobacco trade has already had a clear impact on the legitimate tobacco industry in Malaysia. The availability of illegal cigarettes at half the legal minimum price legislated by government has resulted in consumers switching away from the legitimate market in large numbers. Since 2015, total cigarette consumption (both legal and illicit) has increased by seven percent, yet sales of legitimate cigarettes have dropped by nearly a third.

In the face of such declines, two global tobacco companies—BAT and Japan Tobacco International (JTI)—announced the closure of their Malaysian cigarette factories in 2016. Citing long-term sustainability given illicit trade growth as the reason for these closures, both companies decided it would be more economical to import cigarettes into Malaysia than operate factories that had previously produced cigarettes for both export and domestic consumption.

In addition to quantifying the scale of tax evasion via the illicit tobacco market in Malaysia, **this report calculates the size of these factories' (former) economic footprints.** Cigarette production requires significant inputs of goods and services, drawing from all parts of the economy. While operational, the factories sustained economic activity throughout their supply chains, and also via the wage-funded spending of their direct and indirect employees. This activity not only contributed to Malaysia's Gross Domestic Product (GDP), it also sustained employment and generated tax revenues. Since the factories' closure, however, all this activity has been lost.

At their recent peak of production in 2013, we estimate these two factories supported around 5,750 jobs in Malaysia—equivalent to over 14 percent of employment in Putrajaya that year. This includes some 600 people directly employed at the two factories that year, and nearly 3,600 jobs sustained by the RM500 million spent by the two factories with local suppliers. In addition, we find that almost 1,600 jobs were supported via the wage-related consumer spending of all those employed by the factories and in their supply chains.

Furthermore, our modelling indicates **the economic activity associated with these factories contributed RM831 million (in 2017 prices) to Malaysia's economy in 2013.** Over half this activity was located outside the factories, in firms in their supply chains and the wider consumer economy. The employment and economic activity associated with the operation of these two factories also generated tax revenues for the Malaysian government. **In 2013, we estimate the total value of these tax revenues was RM161 million (in 2017 prices).**

5,750 jobs

Total number of jobs supported by the two major cigarette factories (now closed) in 2013.



These factories generated RM161 million in tax revenues that year. (in 2017 prices)

KEY FINDINGS

- Malaysia's total tax revenue of RM175 billion for 2018 represents a decline of 2.7 percent on the previous year.
- Having accounted for a third of Malaysia's total tax revenues in 2017, "indirect" tax receipts (including tobacco-related taxes) dropped by over 30 percent in 2018, and are projected to fall further in 2019.
- This decline in tax takings saw Malaysia's fiscal deficit increase to 3.7 percent of GDP in 2018, up from 3.0 percent in 2017.
- Malaysia was ranked 62nd on the Corruption Perception Index scale in 2017.
- Transparency International Malaysia estimates that four percent of the country's GDP has been lost annually to corruption since 2013.
- According to Malaysia's deputy prime minister, corruption resulted in a loss of RM47 billion to the country's GDP in 2017.
- 59 percent of Malaysia's cigarette market in 2018 was illicit, equating to around 598 million packs of 20 cigarettes.
- "Smuggled white" cigarettes account for almost three-quarters of the country's illicit cigarette market.
- In 2018, the excise duty evaded by Malaysia's illicit cigarette trade reached almost RM4.8 billion—far more than the amount of excise duty we estimate the government actually collected that year (RM3.0 billion).
- The total amount of tax evaded by Malaysia's illicit cigarette trade in 2018 was over RM5.1 billion, which represents almost three percent of its total tax receipts that year.
- The closure of two major cigarette factories as a result of the illicit trade has cost the Malaysian economy up to 5,750 jobs ...
- ... and up to 0.1 percent of its annual GDP, when all impacts of the closures are included.
- It is also calculated to have cost up to RM183 million in annual tax revenues (in 2017 prices).



1. INTRODUCTION

The damage caused by the illicit tobacco trade goes far beyond the loss of excise duties and sales taxes that go unpaid on sales of illegal cigarettes. The illicit trade, and the syndicates that prosper from it, spreads further illegal activity within Malaysia, encouraging corruption and discouraging legitimate business practices. Consequently, it has an impact on the life of every Malaysian.

This report seeks to highlight the economic consequences of the illicit trade on all aspects of the Malaysian economy. As well as quantifying the size of the illicit tobacco market and measuring the level of tax evasion that occurs due to its existence, we explore some measurable examples of the losses the country's economy has incurred as a direct result of the illicit trade.

1.1 OVERVIEW OF THE MALAYSIAN ECONOMY

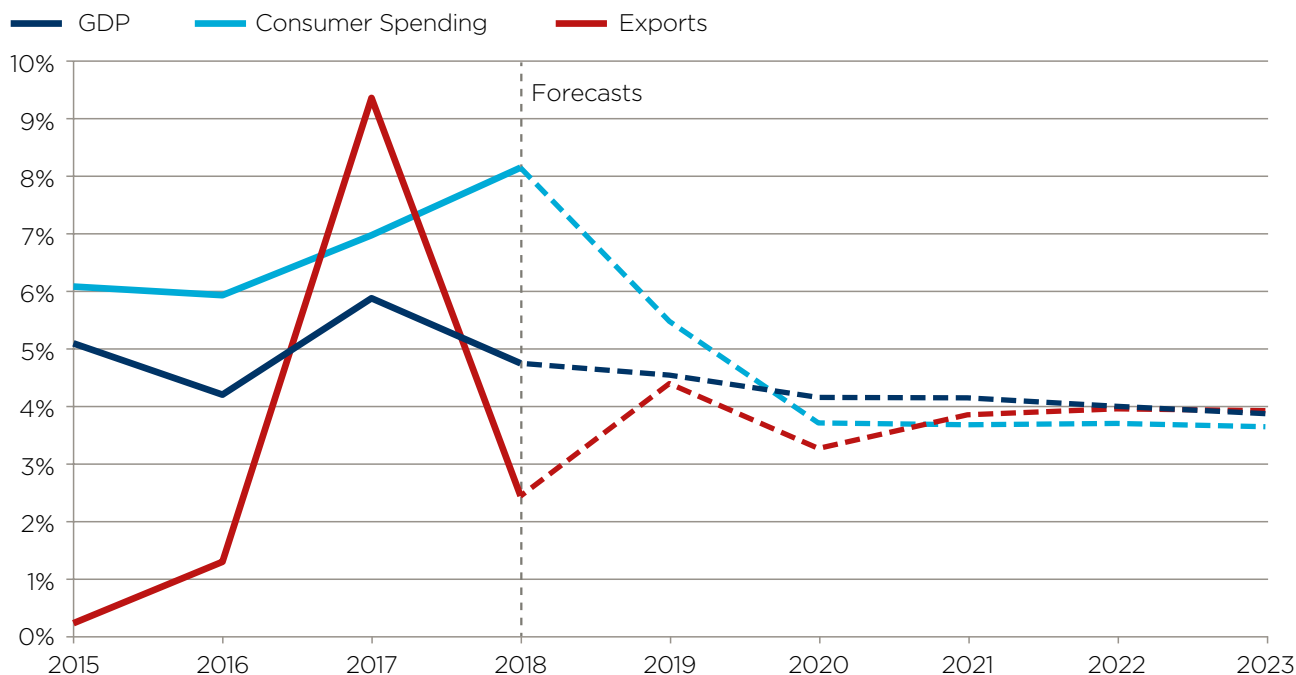
The Malaysian economy continued to perform strongly in 2018, growing at an estimated 4.8 percent in real terms. Inflation has been gradually declining to around one percent, while consumer demand has remained buoyant with an annual growth rate of 8.2 percent for 2018. At the sectoral level, while industrial production has lagged economic growth, the construction and service sectors have continued to expand, recording estimated real growth of 4.8 and 6.3 percent, respectively.

Malaysia's economic performance in 2018 was underpinned by strong consumer spending. The removal of the Goods and Sales tax (GST), and subsequent three-month tax holiday, gave a boost to disposable incomes that resulted in a sharp rise in consumer spending, with Q3 reporting year-on-year real growth of nine percent. However, 2018 was a tough year for Malaysian exports, driven largely by weaker Chinese demand for imports

and increased protectionism. Malaysia is highly exposed to China, with exports to Chinese customers amounting to 10.7 percent of Malaysian GDP in 2017.

Looking forward, Malaysia's growth momentum is expected to decline given weaker domestic demand and a more challenging global backdrop. Consumer spending growth is expected to slow in 2019, as the effects of removing the GST dissipate. Furthermore, the government's commitment to fiscal prudence will likely result in lower government expenditure. Combined with the current US-China trade tensions and, more generally, the declining growth of China, Malaysia's growth in the coming years is expected to be notably dampened (see Fig. 1).

Fig. 1: Annual GDP and consumer spending growth in Malaysia, 2015-2023



Source: Department of Statistics, Malaysia/Haver Analytics; Oxford Economics

1.2 MALAYSIA’S FISCAL POSITION

In 2018, the estimated total tax revenue collected by the Malaysian government stood at RM174.7 billion—a 2.7 percent real decline in revenues compared to the previous year. While receipts from direct taxes are estimated to have performed strongly, indirect tax revenues¹ experienced a significant reduction. Accounting for around a third of total tax revenues in 2017, indirect tax receipts fell by over 30 percent in 2018 to less than a quarter, or RM41.2 billion, of Malaysia’s total annual tax revenues.

The replacement of GST with the new Sales and Services Tax (SST) accounted for much of this drop. Effective from 1 September 2018, the SST was introduced by the Malaysian government in an effort to improve tax efficiency. The tax holiday this provided, along with further tax refunds, meant that the introduction of the SST was insufficient to cover the revenue shortfall.² The effects of this are expected to continue well into 2019, with Malaysia’s annual indirect tax revenue projected to fall further to RM41.1 billion—a real-terms decrease of 0.3 percent compared to 2018.

30%

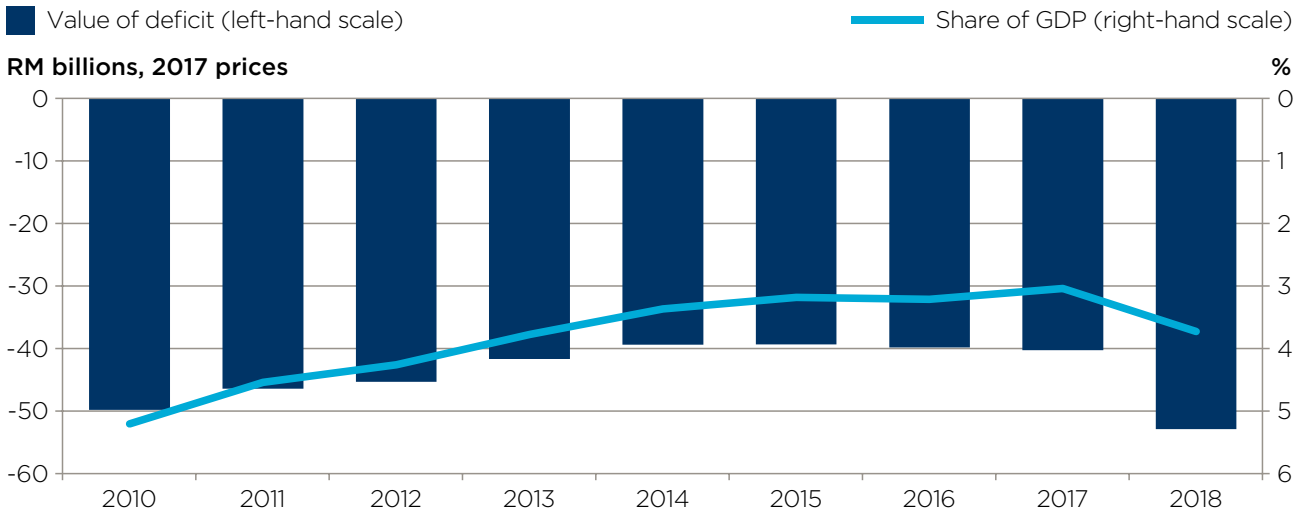
Decline in total amount of indirect tax receipts collected in 2018, compared to the previous year.

These include all taxes levied on tobacco.

¹ Indirect taxes include sales taxes (such as GST and SST), and excise and import duties.

² Oxford Economics: Country Economic Forecast Malaysia, 25 October 2018.

Fig. 2: Malaysia’s fiscal deficit, 2010-2018



Source: Bank Negara Malaysia/Haver Analytics; Oxford Economics

The decline in tax receipts squeezed the government’s finances, and saw Malaysia’s fiscal deficit increase to 3.7 percent of GDP in 2018, up from 3.0 percent in 2017 (see Fig. 2). This undid much of the government’s recent efforts to reduce the deficit, which in 2010 had stood at over five percent of GDP. However, the government has stated in its fiscal policy outlook that its “fiscal stance will continue to be expansionary [...] considering the nation’s high level of domestic savings”.³

Nonetheless, the Malaysian government recognises it is operating in “an increasingly hostile global environment that requires [the promotion] of sustainable economic growth, while ensuring urgent fiscal consolidation and discipline”.⁴ To this end, the 2019 Budget announced measures to reduce the fiscal shortfall to 3.4 percent in 2019, and three percent in 2020. In its budget speech, the government has made clear that raising government revenue is one of its key strategies to achieve fiscal consolidation. Narrowing the tax gap, along with reviewing the effectiveness and efficiency of the country’s taxation system, has been made a priority—including enforcement against contraband and illicit products.

Oxford Economics’ forecasts for Malaysia’s fiscal consolidation are more conservative than the government’s own estimates.⁵

We project a more-modest narrowing of the deficit, to 3.5 percent of GDP in 2019 and 3.2 percent in 2020. This reflects our more-moderate GDP growth forecasts for Malaysia, due to worsening US-China trade relations, lower Chinese import demand, and higher protectionism. In addition, there are risks and costs associated with fully implementing the new SST, which mean it is likely to take some time to recoup the initial operation costs during this transition period.

3.7%

Malaysia’s fiscal deficit as a proportion of its annual GDP in 2018, up from 3.0 percent in 2017.

The overall decline in tax takings played a significant role in this rise.

³ Ministry of Finance Malaysia: “Fiscal Policy Overview”, 2019.

⁴ Ministry of Finance Malaysia: “Budget 2019” 2019, www1.treasury.gov.my/pdf/speech/bs19.pdf.

⁵ Oxford Economics utilises the world’s largest set of country and global economic models, together with the latest data and insights from its team of over 250 economists, to develop its detailed country and industry forecasts.

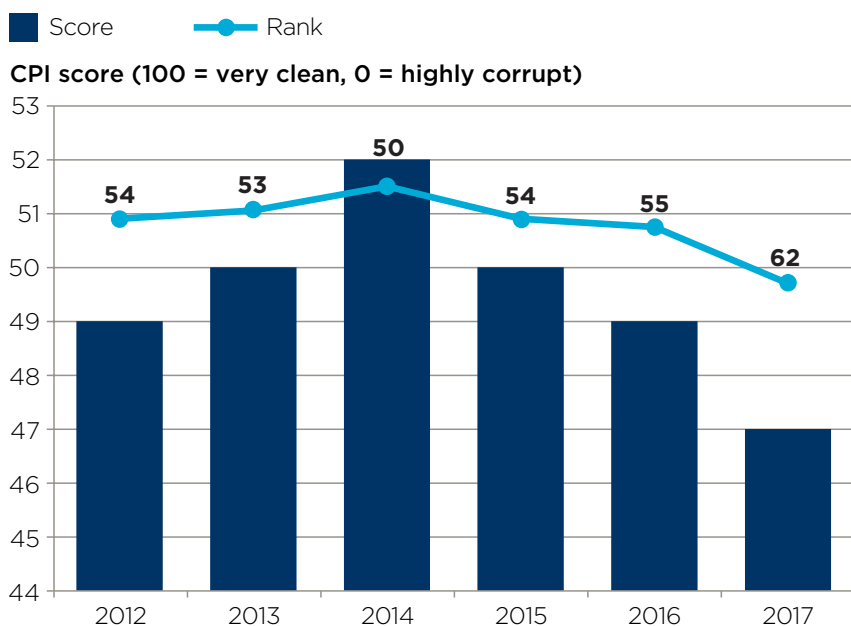
1.3 CORRUPTION IN MALAYSIA

In recent years, the issue of corruption has been prominent in the Malaysian political sphere—most notably regarding the misuse of the 1Malaysia Development Berhad (1MDB) investment fund, set up by Malaysia’s Ministry of Finance to develop the economy. As this investigation continues to unfold, it has become clear that corruption is widespread, and affects many aspects of society. The Malaysian people’s desire to tackle this issue was demonstrated by the victory of the Pakatan Harapan coalition in the 2018 general election, overturning 61 years of Barisan Nasional rule—the party at the centre of the 1MDB corruption scandal.

The recent scandal, and growing sense of corruption’s far-reaching influence, has knocked Malaysia’s international reputation. Transparency International’s Corruption Perception Index ranks countries by their perceived levels of public sector corruption, according to experts and business people. Malaysia’s most recent score in the index is the lowest since the ranking was first introduced in 1994 (see Fig. 3). Numerous corruption scandals, and the absence of political financing laws and corporate liability, are reported to be behind this poor perception of Malaysia, according to the president of Transparency International Malaysia.⁶

62nd
 Malaysia’s ranking on the Corruption Perception Index scale in 2017.
Transparency International Malaysia estimates that four percent of the country’s GDP has been lost annually to corruption since 2013.

Fig. 3: Malaysia’s ranking and scores on the Corruption Perception Index, by Transparency International⁷



Source: Oxford Economics

⁶ Transparency International Malaysia: Corruption Perception Index 2017 (2018). The Corruption Perceptions Index utilises a scoring system from 0 to 100, with 0 equalling highly corrupt and 100 meaning a country is very clean.

⁷ The number of countries included in this ranking has fluctuated throughout the years.

Tackling corruption is vital, as it poses direct economic costs to the economy.

According to Malaysia's deputy prime minister, corruption resulted in a loss of RM47 billion to the country's GDP in 2017.⁸ Similarly, Transparency International Malaysia estimates that four percent of the country's GDP has been lost annually to corruption since 2013. Corruption has a detrimental impact on Malaysia's competitiveness, stifling foreign direct investment (FDI) and trade, and effectively acting as a tax on investment. Indeed, the Department for Statistics reported that FDI as a share of Malaysia's GDP fell to its lowest level in 10 years in 2018, and less than half the level seen in 2016. While FDI can be volatile, a heightened sense of increasing corruption could be behind the sharp recent fall. Furthermore, corruption leads to lower economic growth, crowds out government spending, and increases income inequality, resulting in resource misallocation and economic inefficiencies.

Coupled with declining revenue, corruption exacerbates Malaysia's worsening fiscal position.

In a speech on corruption, the IMF's General Counsel, Rhoda Weeks-Brown, said: "Corruption does grave harm to a country's fiscal position. On the revenue side, it can lead to low tax compliance by delegitimizing the tax system. If people know that the wealthy elites and the politically connected can dodge taxes, then the entire tax system can lose legitimacy."⁹

Corruption co-exists with the mismanagement of public finances, with one enabling the other. As Lim Guan Eng, the minister of finance, highlighted in his 2019 budget speech, in Malaysia this has resulted in "financial scandals disguised as investments and mega debts masked as mega projects", which have left the country with a debt level of over RM1 trillion.¹⁰ Efforts to improve governance lie at the centre of the government's National Anti-Corruption Plan (NACP). Launched in late January 2019, the NACP is a five-year plan to make Malaysia corruption-free by 2023, by focusing on six main sectors: politics, public procurement, law enforcement, public sector administration, legal and judiciary, and corporate governance.¹¹

Against this financial and political backdrop, the issue of tax evasion and illicit trade is particularly pressing.

In the next chapter, we quantify the size of the illicit tobacco market in Malaysia, and measure the amount of tax that is going unpaid as a result. We also highlight how this illicit activity can feed further illegal actions throughout the economy. Then in Chapter 3, we highlight some of the economic costs that Malaysia has incurred due to the illicit trade's impact on the country's legitimate industry.

RM47 bn

Estimated absolute loss to Malaysia's total GDP in 2017 as a result of corruption, according to the country's deputy prime minister.

⁸ The Sun Daily: "Malaysia Lost RM47b in GDP Value to Corruption Last Year: Dr Wan Azizah." 17 Dec 2018

⁹ Keynote Speech of Rhoda Weeks-Brown, General Counsel and Director of the Legal Department, International Monetary Fund at the American Conference Institute, 35th International Conference on the Foreign Corrupt Practices Act on 29 November 2018. Available at <https://www.imf.org/en/News/Articles/2018/12/04/sp112918-corruption-disintegration>.

¹⁰ Ministry of Finance Malaysia: *Budget 2019* (2018).

¹¹ The Star: "Dr M launches plan to make country corruption-free in five years". 29 Jan. 2019.



2. THE ILLICIT TOBACCO MARKET IN MALAYSIA

The cigarette industry plays a prominent role in Malaysia. Some 417 million legitimate packs, equivalent to over 8.3 billion cigarettes, were estimated to have been consumed in 2018, according to the latest market data collected by the Confederation of Malaysian Tobacco Manufacturers (CMTM) and Nielsen. The excise duty levied on these cigarettes makes the legal tobacco sector a major source of government tax revenue: we estimate that over 1.7 percent of total tax revenues (and 7.3 percent of indirect tax receipts) for 2018 were expected to be sourced from excise duty levied on cigarettes, amounting to around RM3.0 billion.¹²

But while this excise duty is a major source of revenue, it has also had a volatile recent history. Since 2012, the specific excise duty on cigarettes has nearly doubled, from RM220 per 1,000 cigarettes to RM400 per 1,000 cigarettes in 2018. Much of this increase occurred in November 2015, when a single hike increased the duty on 1,000 cigarettes from RM280 to RM400 (at the same time, an ad valorem duty of 20 percent on the factory price was dropped). In addition, the Malaysian government enforces a minimum price of RM10 per pack.

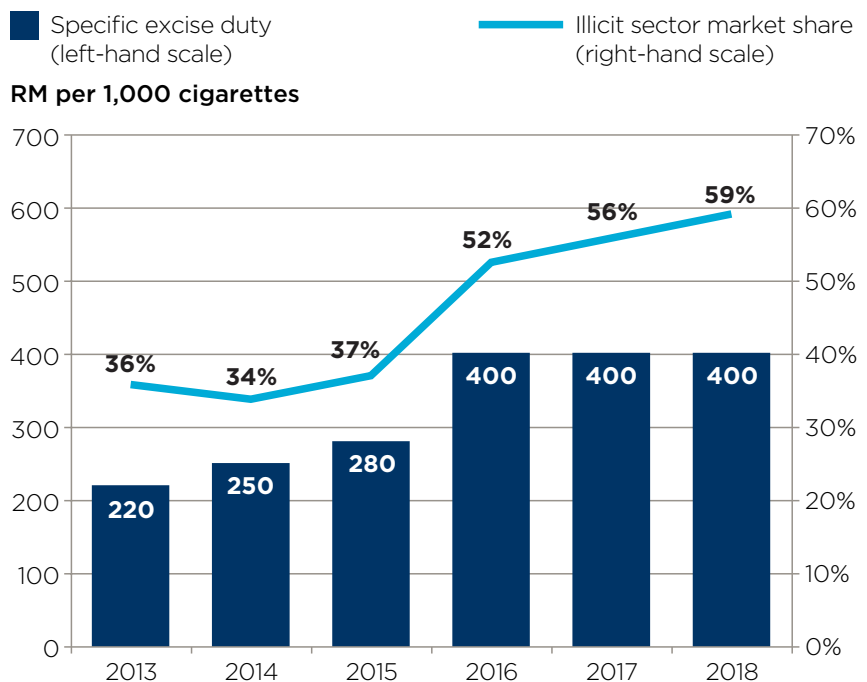
The scale of these increases has had a significant detrimental impact on the cigarette market, and encouraged an already large illicit sector to grow even further. While illegal cigarettes accounted for over a third of all consumption in 2013, the 2015 duty hike saw this share grow dramatically. The latest market analysis produced by Nielsen estimates that almost 59 percent of Malaysia's cigarette consumption in 2018 was illicit (see Fig. 4).¹³ As Euromonitor reports, the penetration of the illicit trade in Malaysia is greater than in any of the other 100 largest tobacco markets.¹⁴

1.7%

Share of total tax revenues accounted for by legal tobacco sector.

This equates to 7.3 percent of indirect tax receipts.

Fig. 4: Excise duties and the evolution of the illicit trade in Malaysia, 2013-2018



Source: Nielsen; Oxford Economics

¹² Industry estimates based on legitimate sales and prevailing excise duty rates.

¹³ Numerous estimates of the scale of the illicit trade in Malaysia exist, including those produced by Oxford Economics in the *Asia Illicit Tobacco Indicator* series of studies (available at illicittobacco.oxfordsolutions.com). For this study we have used Nielsen's estimate as it refers to 2018; the latest *Asia Illicit Tobacco Indicator* measure for Malaysia is for 2017. Also, this report represents one of a series of studies assessing the economics of the illicit trade in countries around the world. Therefore, we have opted to draw on a source that uses a consistent methodology across the globe.

¹⁴ Euromonitor: Illicit trade in tobacco products (2018).

While smuggled contraband, or illicit whites—cigarettes produced legally abroad for the express purpose of selling in the illicit Malaysian market—have long accounted for the majority of the country’s illegal cigarettes, their share has surged in recent years. In 2013, they accounted for over two-thirds of all illegal cigarettes in Malaysia, with the remainder being smuggled kreteks (tobacco and clove cigarettes). However, the scale of smuggling increased dramatically after the 2015 excise hike, such that the most recent Nielsen data indicate that smuggled whites accounted for nearly three-quarters of the illicit market in 2018 (see Fig. 5).

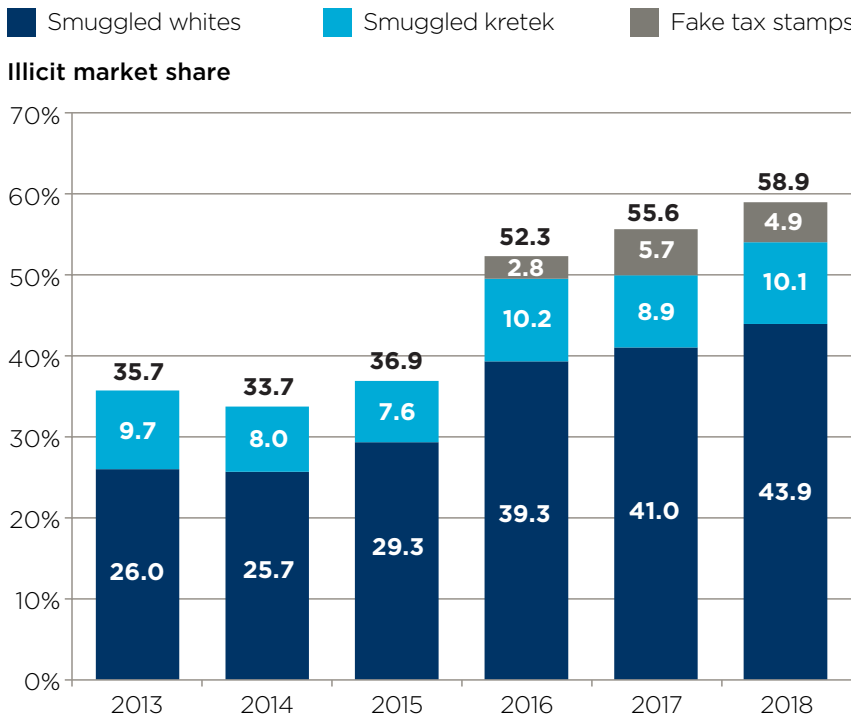
The period after the excise hike has also seen a substantial increase in the number of seemingly legitimate packs with fake tax stamps circulating in the market. In just two years, the number of cigarettes sold in packs with fake stamps has gone from almost zero to five percent of total consumption, or more than one in every 20 cigarettes consumed.

Nearly three-quarters of all illegal cigarettes found in Malaysia originate in its nearest neighbours. Data from Nielsen and BAT show that nine of the top 10 illegal brands in Malaysia come from either Vietnam, Indonesia, or the Philippines.¹⁵ Price data from Euromonitor highlight

59%
Estimated proportion of Malaysia’s cigarette market that was made up of illegal products in 2018.
This equates to around 598 million packs of 20 cigarettes.

the incentives for smuggling that exist in Malaysia, where legal pack prices far outstrip the prices in all of its neighbours with the exception of Singapore (see Fig. 6). Such differentials enable smugglers to sell below the market price in Malaysia, while still making a significant profit on the legal prices paid in the cigarettes’ origin countries.

Fig. 5: Illicit market share by cigarette type, 2013-2018

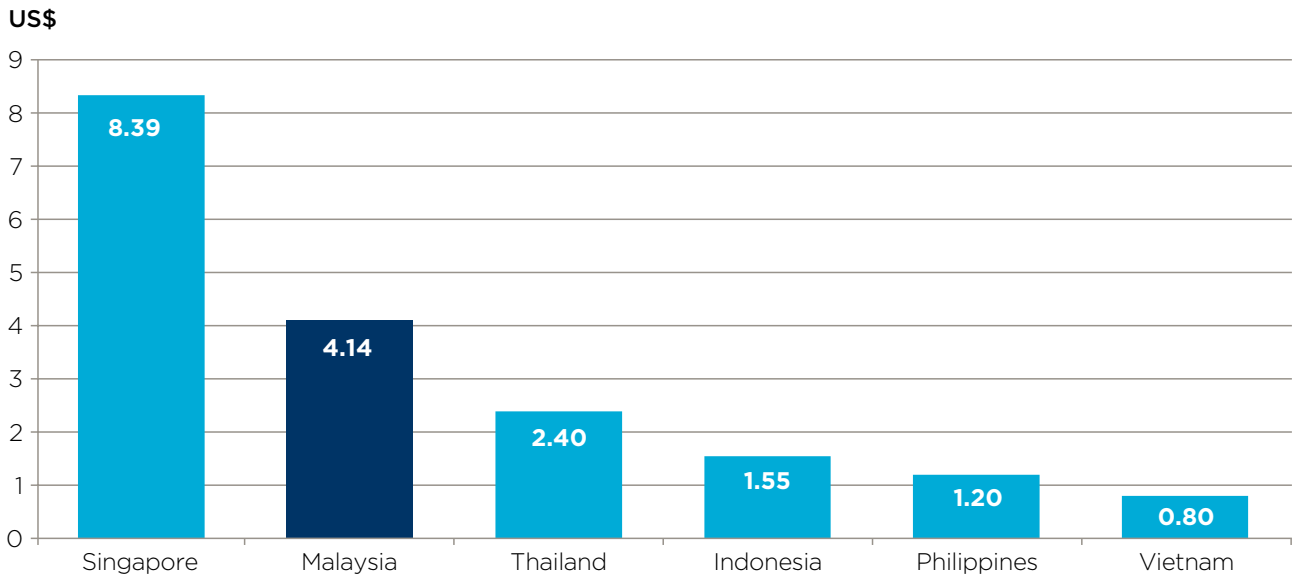


Source: Nielsen

75%
Proportion of Malaysia’s illicit cigarette market taken up by ‘smuggled whites’.

¹⁵ The other brand, Era, is of unknown origin.

Fig. 6: Weighted average pack price of legal cigarettes in Malaysia and neighbouring countries, 2017



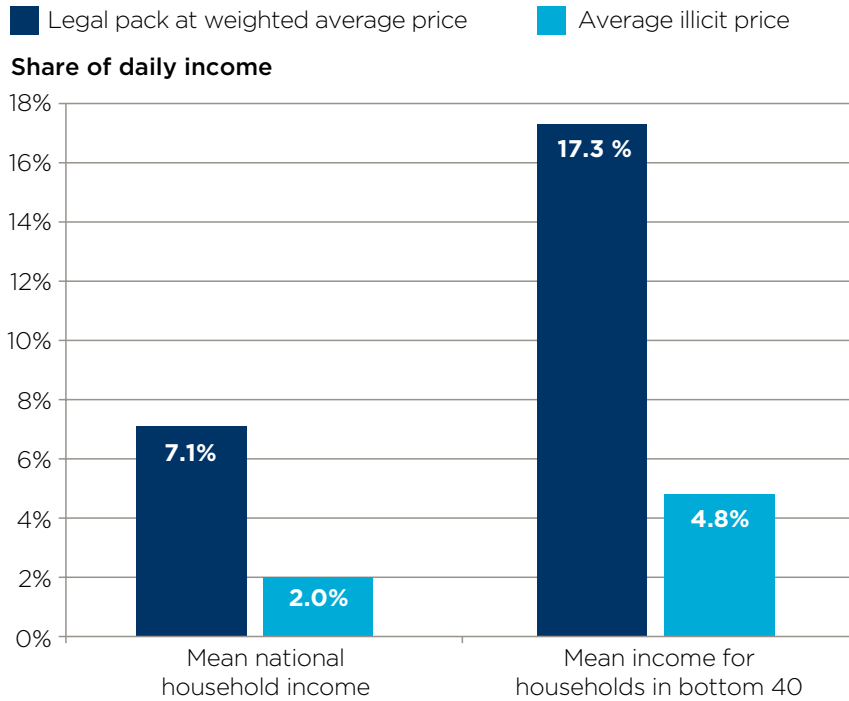
Source: Euromonitor

The easy availability of illegal tobacco from neighbouring countries represents one of the drivers resulting in a far greater illicit penetration in a market. Another driver is the affordability level of legal cigarettes relative to illegal alternatives. One simple measure of affordability is the proportion of daily household income required to purchase a pack of cigarettes.

Using the most recent data on household incomes published by the Department of Statistics Malaysia, we estimate that one pack of cigarettes purchased at the weighted average price of RM16.18 in 2016, accounted for over seven percent of the mean household daily income that year. For households in the bottom 40 percent of the income distribution, the share

of daily income required to buy a pack of legal cigarettes at the average price was over 17 percent. In contrast, purchasing an illegal pack at the average illicit price would have accounted for only 4.8 percent of daily income, clearly demonstrating the attractiveness of the illicit trade to the poorest members of society.

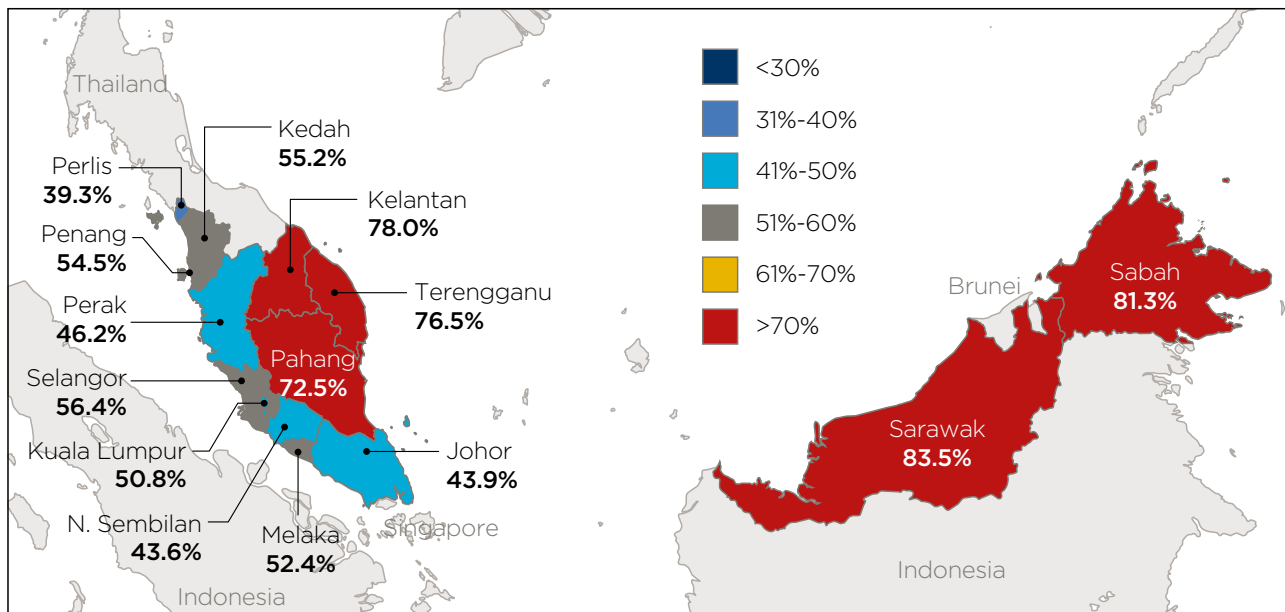
Fig. 7: Share of household daily income required to purchase a pack of cigarettes by income level, 2016



Source: Oxford Economics calculations

The combination of availability and affordability, plus other social factors, such as differences in the composition of population, mean there is notable variation in the penetration of the illicit trade across the country. Indeed, while the illicit market accounted for 59 percent of consumption nationally, four states—Kelantan, Sabah, Sarawak, and Terengganu—all saw the illicit trade account for three in every four cigarettes smoked in 2018. Nonetheless, as Fig. 8 illustrates, the illicit trade remains a significant problem in every Malaysian state, accounting for more than a third of the market in each one.

Fig. 8: Illicit trade market share by state, 2018



Source: Nielsen

2.1 CIGARETTE TAX EVASION

The presence of an illegal cigarette market means the Malaysian government fails to maximise its revenue potential in two ways.

Firstly, excise duties on cigarettes are avoided when (i) tobacco products are smuggled into the country, or (ii) criminals attach fake tax stamps to legally produced packs. Secondly, sales taxes on the final sales price is also lost.

Calculating lost excise duties

If all of the illegal cigarettes consumed in 2018 had been sold on the legal market, total government revenues from tobacco excise would have been higher by an amount equal to the prevailing duty rate per pack (RM8), multiplied by the number of illicit packs consumed. This equates to nearly RM4.8 billion in excise revenue due from tobacco in 2018. We estimate the Malaysian government collected RM3.0 billion in revenue from cigarette excise duty 2018. Therefore, the amount of excise duty evaded was more than 70 percent larger than the government's estimate of total takings from the legitimate market.

Lost sales taxes on full sales price

Additionally, we assume that no sales taxes are correctly paid on the value of the sales price of illegal cigarettes. As noted in Chapter 1, there were a number of changes to the sales taxes levied on cigarettes in 2018. For the first five months of the year, cigarettes were subject to GST at a rate of six percent of the sales price. A three-month tax holiday followed the removal of the GST, ending with the implementation of the SST on 1 September 2018. The SST is levied at 10 percent of the factory price, including all relevant duties. If illegal cigarettes had been sold on the legitimate market, they

would have been subject to the minimum pack price regulation (RM10 in 2018). Using this price, we estimate that a further RM331 million in sales taxes was not collected on the sales of illegal cigarettes in 2018.

Total tax evaded in 2018

Combining these two elements of tax evasion, **we estimate the total amount of tax evaded in Malaysia in 2018 through sales of illegal cigarettes was over RM5.1 billion.** This equates to over 2.9 percent of all government tax revenues—and 12.4 percent of indirect tax revenues—in that fiscal year (see Fig. 9). To place this into context, this revenue is equivalent to three-quarters of the RM6.8 billion owed by borrowers to the National Higher Education Fund Corporation (PTPTN).¹⁶ Alternatively, since the duty increase in 2015, we estimate some RM13.5 billion in cigarette taxes have been evaded (measured in 2018 prices), equivalent to more than the US\$2.7 billion that the US Department of Justice cites as having been lost in the 1MDB scandal.¹⁷

RM4.8 bn

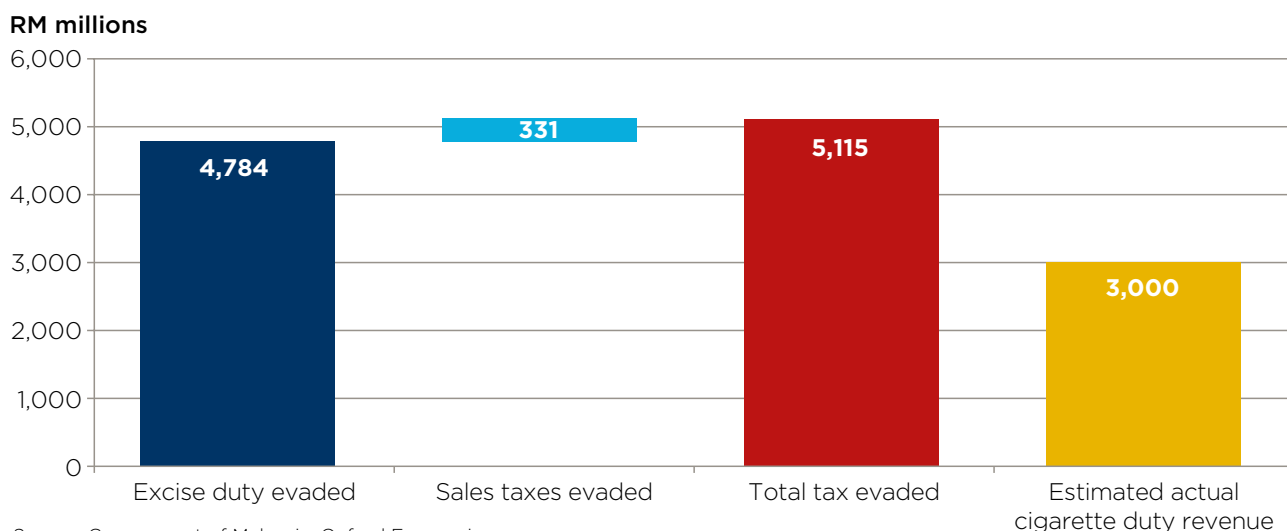
Estimated total excise duty evaded by Malaysia's illicit cigarette trade in 2018.

This is more than 70 percent larger than the amount of excise duty the government actually collected from cigarettes that year.

¹⁶ New Straits Times: "410,500 PTPTN borrowers yet to repay a single sen", 14 November 2018.

¹⁷ United States Department of Justice: Former Banker Tim Leissner Pleaded Guilty to Conspiring to Launder Money and to Violate the Foreign Corrupt Practices Act Related to 1MDB, 1 November 2018.

Fig. 9: Tobacco tax evasion in 2018



Source: Government of Malaysia; Oxford Economics

It is important to recognise that these tax losses are hypothetical maximums, and that the volume of activity which could be moved into the legal sector—and thus generate revenues for the government—is uncertain. As noted above, cigarettes in the legal sector are subject to a minimum price of RM10 per pack, which represents a significant increase on the average price of illicit cigarettes (RM4.50). We would expect consumers to reduce consumption in response to these higher prices, but the degree to which they do so is highly uncertain.

Equally, it should be acknowledged that these additional revenues would be accompanied by an increased cost burden on the Malaysian government. The 2018 Federal Budget projected that the Royal Malaysian Customs department’s operations would cost over RM1.2 billion that year. A portion of these costs is allocated to revenue collection efforts, and represents the costs of collection for the Malaysian government. If the government had been able to collect taxes on all illegal cigarettes, these costs would most likely have been higher, owing to the probable increase in enforcement activities that would have been required. However, the revenue gains enjoyed by the government would be expected to far outweigh these increased costs, enabling it to further enhance wider efforts to tackle illicit trading and other illegal activity.

RM5.1 bn

Total amount of tax evaded by Malaysia’s illicit cigarette trade in 2018.

This represents almost three percent of the country’s total tax receipts that year.

2.2 ILLEGAL TOBACCO AND CORRUPTION

The growth of the illicit trade intertwines with Malaysia's wider corruption problem. Reports indicate that the large-scale smuggling occurring in Malaysia relies heavily on the ability of smugglers to bribe officials to ignore contraband shipments. Such flaws in enforcement present a three-fold problem for Malaysia. Firstly, they allow illegal contraband into the market, reducing the effectiveness of the government's health policies. Secondly, they deprive the government of the customs duty and other taxes owed on the cigarettes, reducing its ability to fund its expenditure programmes.

Perhaps most worryingly, however, these flaws encourage further illegal activity. Selling contraband cigarettes on the illicit market

has enabled smuggling syndicates to generate substantial profits.¹⁸ The scale of these revenues means that syndicates are willing to go to great lengths to protect their activities, ranging from "stationing 'tonto' (thugs) at the enforcement agency's headquarters"¹⁹ to outright violence.²⁰

Moreover, the profits earned from cigarette smuggling can be used to fund further smuggling, attempts at wider corruption, and other criminal activities. The US State Department has highlighted how smugglers form part of transnational organised crime networks that have "potentially dire implications for public safety, public health, democratic institutions, and economic stability", adding that "not only are criminal

networks expanding through the trafficking of illicit tobacco products ... they are also diversifying their activities".²¹

As part of its commitment to a path of fiscal consolidation, the Malaysian government has announced plans to tackle cigarette smuggling to recover at least RM1 billion in tax losses.²²

The need for action has also been raised by Datuk Akhbar Satar, president of Transparency International Malaysia. Satar called for "the Customs Department to consider forming a special squad tasked with curbing smuggling of tobacco and liquor", as well as increased penalties for smuggling, better customs equipment, and an increase in the rotation of "staff posted at places with high corruption risks to improve integrity and competency".²³

2.3 THE IMPACT ON THE LEGITIMATE MARKET

The growth of Malaysia's illicit trade has had a marked impact on its legitimate tobacco sector. The presence of cheaper, untaxed alternatives entices consumers to switch away from legal cigarettes. Indeed, since 2013, sales of legal cigarettes have dropped by 41 percent, to an estimated 417 million packs in 2018. Over three-quarters of this decline

occurred after the 2015 excise hike. Yet the concurrent, sharp increase in the illicit tobacco trade has resulted in total consumption of cigarettes increasing by over five percent since the duty increase (see Fig. 10). This highlights the wider problem that the illicit trade can present for governments—and the World Health Organisation's

Framework Convention on Tobacco Control recognises: namely, that "the illicit trade in tobacco products undermines health objectives, imposes additional strain on health systems, and causes losses of revenue".²⁴

¹⁸ New Straits Times. "Rogue tobacco cartels ruling the roost." 30 Jul. 2018.

¹⁹ Ibid.

²⁰ Syndicates involved in similarly lucrative car smuggling have been implicated in the as yet unsolved murder of a senior RMC official. (The Star. "Police record statement of Customs deputy D-G's son" 26 Aug. 2013)

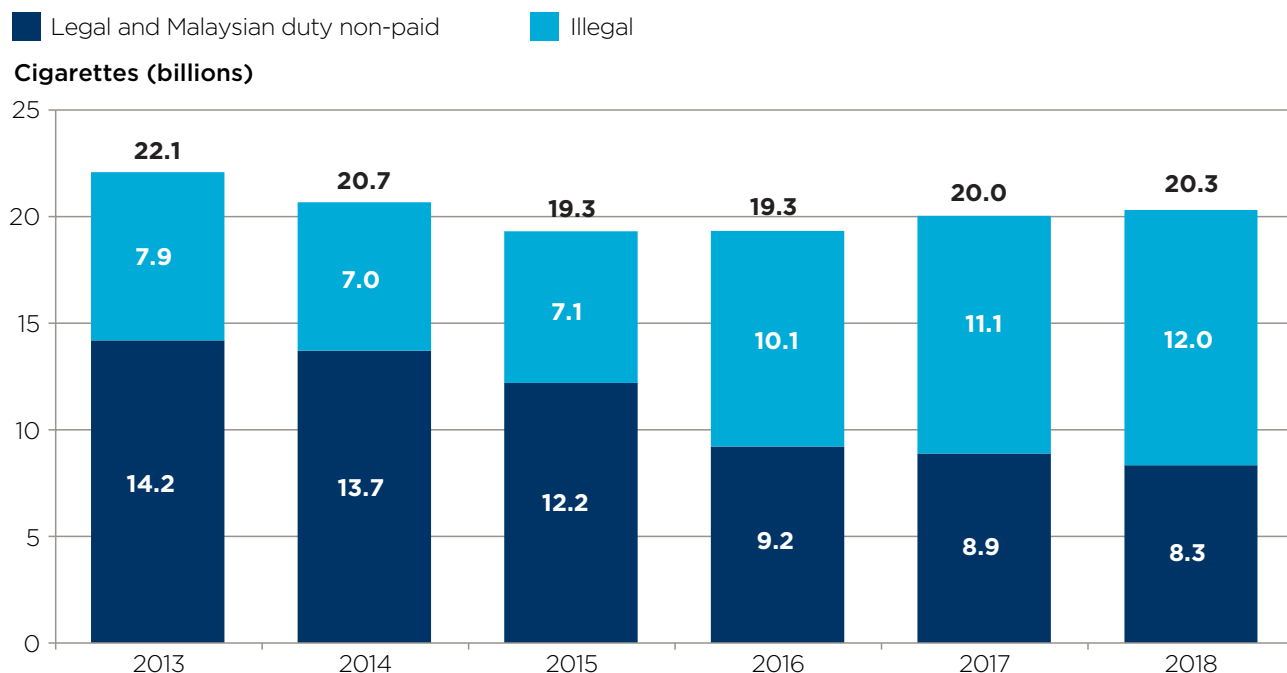
²¹ United States State Department, *The Global Illicit Trade in Tobacco: a threat to national security.* (2015).

²² Ministry of Finance Malaysia. *Budget 2019* (2018).

²³ New Straits Times: "Rogue tobacco cartels ruling the roost." 30 Jul. 2018.

²⁴ WHO: *Framework Convention on Tobacco Control* (2013), page 4.

Fig. 10: Cigarette consumption in Malaysia, 2013 to 2018, by source



Source: Industry data

The contraction in the legal market has had a profound effect on legitimate tobacco companies. Two of the major global tobacco producers—BAT and JTI—operated cigarette factories in Malaysia, producing billions of cigarettes annually for both domestic consumption and export. However, as the domestic demand for legal cigarettes has declined, so has the output of these factories: BAT reports that the 7.8 billion cigarettes—equivalent to 390 million packs—produced in 2016 represented a 50 percent fall from 2013.

Such business environments are challenging, and in 2016, BAT announced that it would cease production at its Malaysian factory, preferring to import cigarettes instead. JTI followed suit in 2017. Both companies cited the growing illicit trade, and the falling demand for legal cigarettes it caused, as the main reason for the closure.²⁵ These factories are an example of foreign direct investment in Malaysia. Their closure is also a clear example of how growing corruption and illegal practices, and the difficult business environments they create, can discourage the continuation of such investments and signal a warning to prospective investors.

²⁵ The Edge Markets. "BAT to close down PJ factory, lay off 230 workers", 17 Mar 2016 and The Edge Markets. "JTI to close Shah Alam factory with 270 jobs to go", 9 May 2017.

3. THE ECONOMIC CONSEQUENCES OF ILLICIT TOBACCO

Falling sales volumes as a result of the growing illicit cigarette trade were cited as a prominent reason in the decisions of international tobacco manufacturers to cease production at their two Malaysian factories.

Clearly, these closures had negative impacts on the companies and their former employees. But there is a far greater, if less obvious, consequence for the rest of Malaysia's economy.

Cigarette production requires significant inputs of goods and services, drawing from all parts of the economy. While operational, the factories of the international tobacco manufacturers sustained economic activity throughout their supply chains, reaching across the Malaysian economy. This activity not only contributed to Malaysia's GDP,²⁶ it also sustained employment and generated tax revenues.

In this chapter, we use our economic footprint analysis to explore the contribution these two factories made to the Malaysian economy while they were operational. Now that operations have ceased, this activity has been lost—a very real consequence of the growth of the illicit cigarette trade.

3.1 MEASURING THE TOTAL ECONOMIC FOOTPRINT

The production of cigarettes involves a wide range of firms and individuals throughout the Malaysian economy.

Taken together, the activities of all businesses linked to the production of cigarettes at the two factories represent those factories' total economic footprint in Malaysia while they were operational. The total is calculated using a standard means of analysis called an economic impact assessment, which is used to quantify the footprint across three channels. These can be understood as follows:

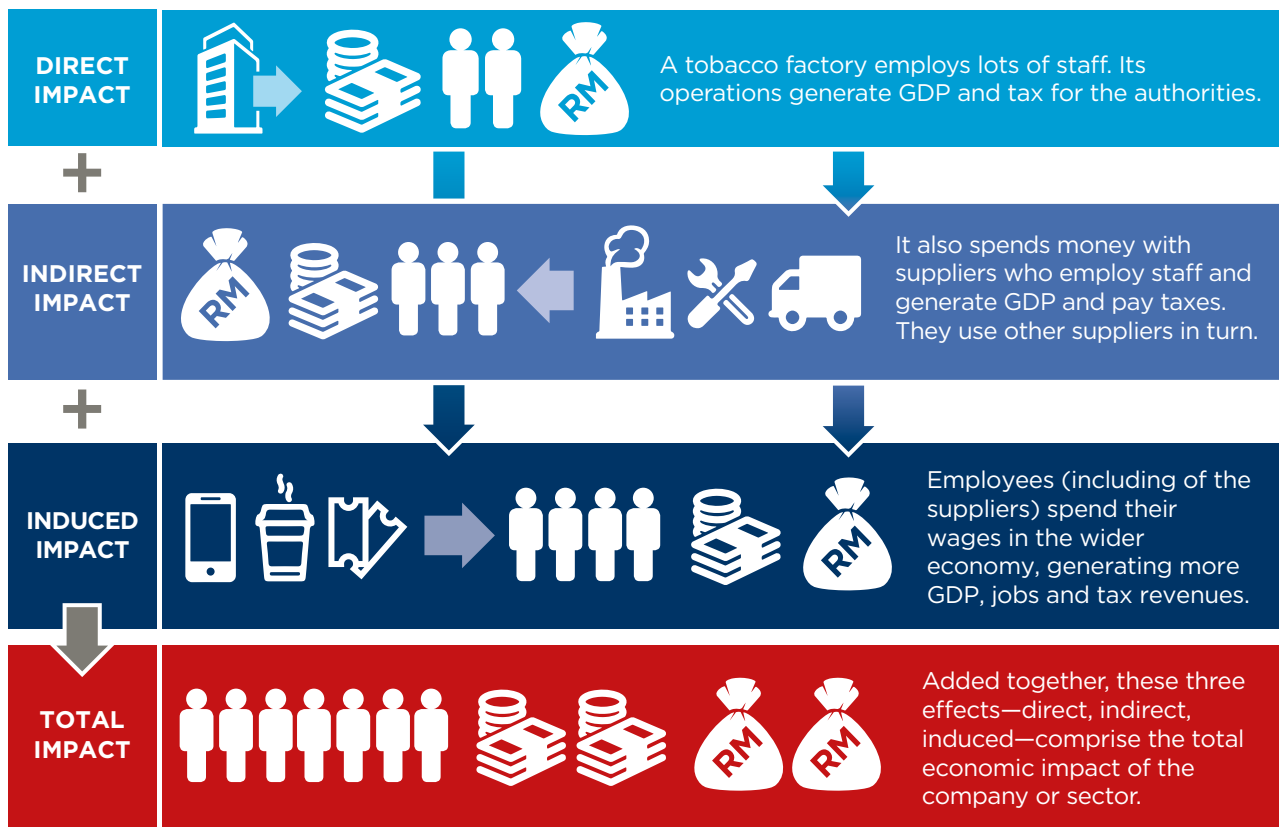
- Direct impact—relates to activities of the factories themselves;
- Indirect impact—encapsulates the economic activity and employment within the supply chains that support these factories, through their procurement of goods and services; and,
- Induced impact—comprises the wider economic benefits that arise when workers employed by the factories, and also by companies in their supply chains, spend their earnings; for example, in retail and leisure establishments.

The two factories' combined economic footprint is quantified using three metrics. These are:

- Gross value-added contribution to GDP—this is most easily thought of as the value of the factories' revenue minus the value of inputs of goods and services used in their operations. It is the measure used to quantify the economic value associated with the manufacturing of cigarettes.
- Employment—measured on a headcount basis, to facilitate comparison with employment data for other industries, sourced from the Department of Statistics.
- Tax revenue—encompassing the taxes generated by the economic activity and employment sustained by the factories.

Fig. 11 sets out how the three channels of this standard economic impact assessment relate to one another.

Fig. 11: Illustration of the channels of economic impact



3.1.1 Calculating the direct component

The direct component of the economic footprint associated with the (former) activities of the two factories is the value added, employment, and tax revenues generated by the manufacturers themselves. To calculate this, we obtained detailed historical income and expenditure data from BAT, relating to its Malaysian factory. To capture the impact of both BAT and JTI’s factory, we had to estimate equivalent data for the JTI facility. To do so, we scaled the BAT data using publicly

available data, including the number of employees cited in press reports surrounding the closures.

3.1.2 Calculating the wider economic impact

Estimating the wider (indirect and induced) footprint of the two factories in Malaysia requires the use of an input-output (I-O) model of the economy. An I-O model is a detailed representation of an economy, showing the major interactions and spending flows between different industries, households, government, and the external sector.

For this study, we constructed an I-O model based on the I-O tables published by the OECD, using data from the Department of Statistics Malaysia. By drawing on the purchases data provided by BAT, and patterns of spending observed in the I-O model, we estimated the immediate purchases required to support the production of cigarettes at the two factories.

The model calculates the supply chain purchases that occur within the domestic economy to enable the factories to produce their output. The summation of these purchases represents the total indirect activity that is associated with the production of these cigarettes. Further augmentation of the I-O model (to include household spending) enables the calculation of the induced expenditure component.

To calculate the footprint in terms of value added, the total expenditure effect is then divided by sector-level gross value added to gross output ratios²⁷, sourced from the Department of Statistics. The employment associated with this value added is then estimated by dividing by sector-level labour productivity data, again obtained from the Department of Statistics.

Finally, the tax receipts due were estimated using the prevailing rates of taxation in Malaysia.

3.2 THE ECONOMIC FOOTPRINT OF INTERNATIONAL TOBACCO MANUFACTURING

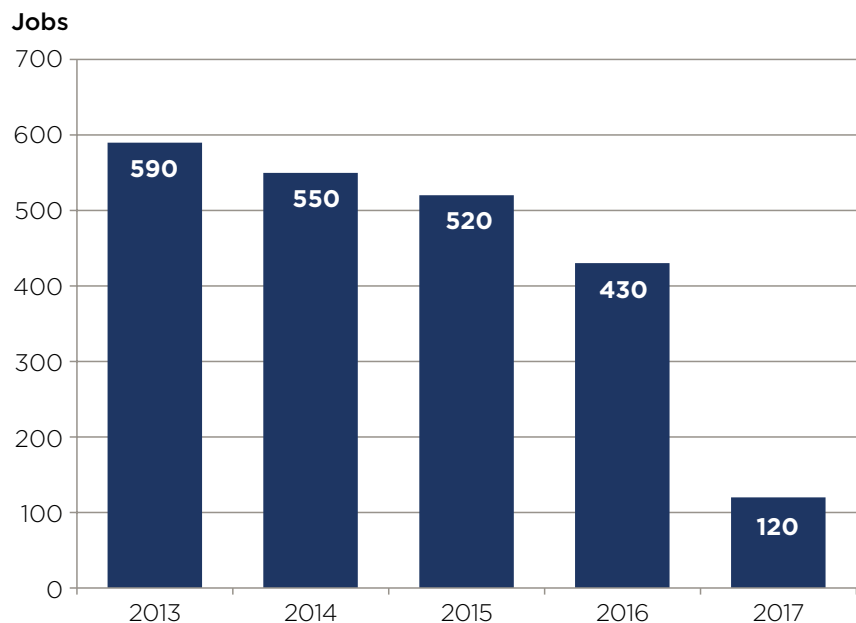
To highlight the scale of economic activity that has been lost due to the closure of the international cigarette manufacturers' two factories, we have quantified the plants' combined economic footprint in the period 2013 to 2017.

Their peak production levels came at the start of that period, before the dramatic decline in production that was highlighted in Chapter 2.

3.2.1 Employment

In 2013, the international tobacco producers' two factories are estimated to have directly employed nearly 600 people in Malaysia. As production volumes declined in subsequent years, the number of employees fell by around a third to slightly more than 400 in 2016, when the factory closures were announced.

Fig. 12: Estimated employment at two international cigarette factories in Malaysia, 2013-2017



Source: Oxford Economics; Industry data

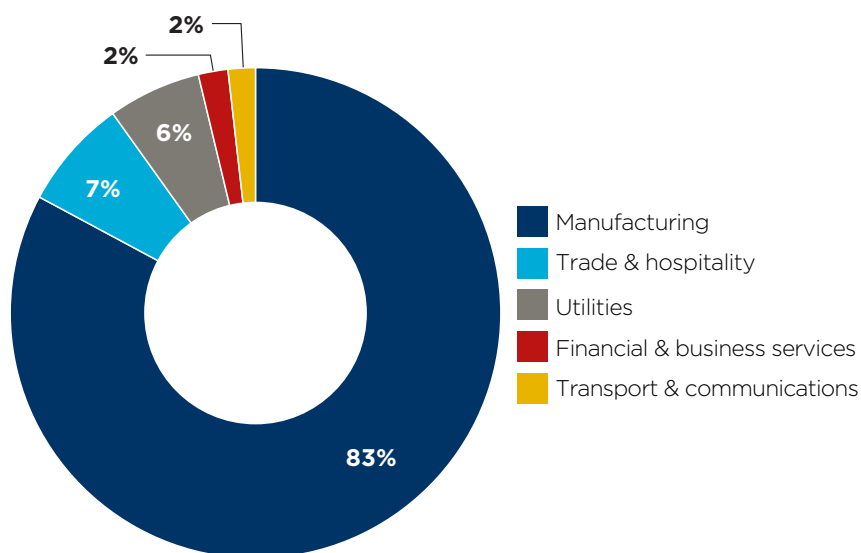
However, the reach of cigarette manufacturing’s employment footprint extends far beyond the factories themselves.

Producing billions of cigarettes each year requires significant inputs of goods and services, ranging from tobacco leaf, packaging materials, and other items required for the cigarettes themselves, to the goods and services required to keep production lines running, such as utilities and office supplies.

Although the international tobacco manufacturers producing cigarettes in Malaysia sourced leaf from outside the country²⁸, we estimate that, during recent periods of peak production, they spent nearly RM500 million annually (in 2017 prices) on goods and services provided by Malaysian businesses. Manufacturing firms—mainly supplying packaging materials—accounted for over 80 percent of this spending between 2013 and 2016, while businesses in the trade & hospitality and utilities sectors together accounted for a further 15 percent of this expenditure (Fig. 13).

At the recent peak of production in 2013, we estimate that 3,590 jobs were supported in the domestic supply chains of the international cigarette manufacturers’ Malaysian factories. By 2016, however, the decline in the demand for inputs that stemmed from reduced cigarette production meant that only 1,530 jobs were supported in the manufacturers’ Malaysian supply chains.

Fig. 13: Estimated sectoral distribution of purchases from domestic suppliers by international cigarette factories in Malaysia, 2013-2016



Source: Oxford Economics; Industry data

In addition, we estimate that wage-financed consumer spending supported more than 1,500 Malaysian jobs when the factories were operating at full capacity.

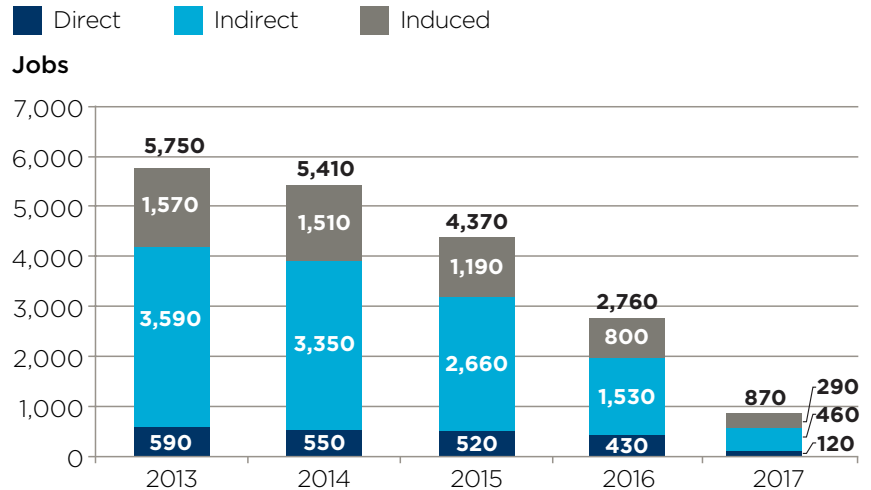
The wages paid to people employed directly by the cigarette manufacturers, and to those employed in their domestic supply chains, funded purchases throughout the consumer economy. We estimate that this activity supported some 1,570 and 1,510 jobs in 2013 and 2014, respectively. Declining activity at the cigarette manufacturers then saw this number fall to 1,190 in 2015, and only 800 in 2016.

²⁸ According to data supplied by BAT.

Combining these three “channels” of employment for the factories’ peak production year, we estimate that international cigarette manufacturing supported some 5,750 jobs in Malaysia in 2013.

To put this figure in context, it is equivalent to over 14 percent of employment in Putrajaya that year. Unsurprisingly, as cigarette production fell, the employment associated with this activity also declined, with the number of jobs supported in 2016 amounting to less than half the total 2013 employment footprint (Fig. 14).

Fig. 14: Estimated employment footprint of international cigarette factories in Malaysia, 2013-2017



Source: Oxford Economics; Industry data

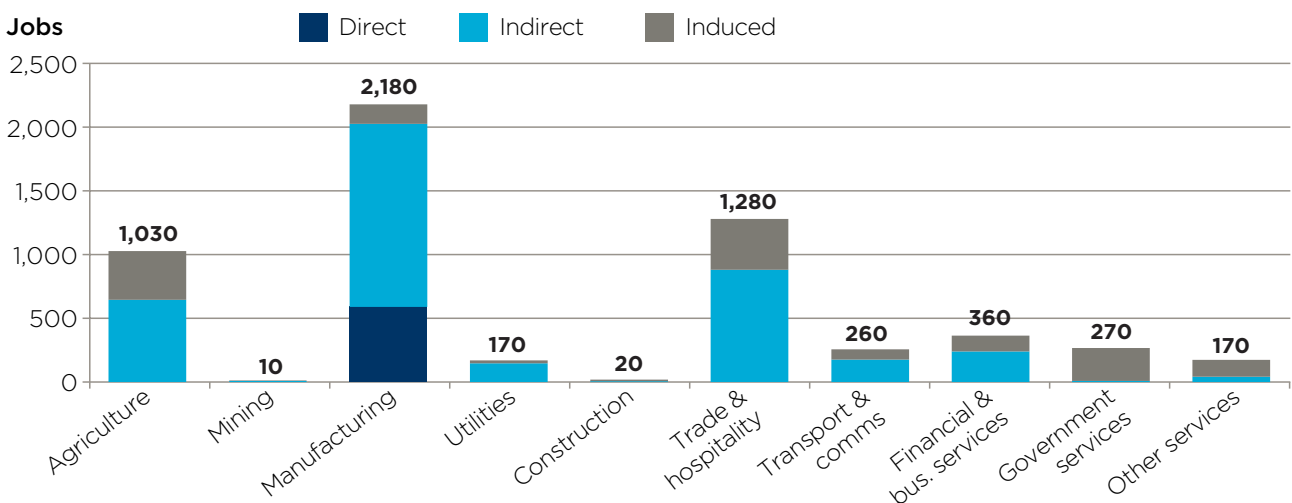
Our analysis shows that all sectors of the Malaysian economy benefited from the presence of the international cigarette manufacturers.

While direct employment was concentrated within manufacturing, there were a substantial number of jobs

within sectors associated with the factories’ indirect and induced footprints. In all, three sectors saw over 1,000 jobs supported as a result of the manufacturers’ activities in 2013: manufacturing (excluding the cigarette manufacturers themselves),

trade & hospitality, and agriculture (see Fig. 15). A further three sectors had over 200 jobs linked to the international cigarette manufacturers in 2013: financial & business services, government services, and transport & communications.

Fig. 15: Estimated employment footprint of international cigarette factories in Malaysia in 2013, by sector

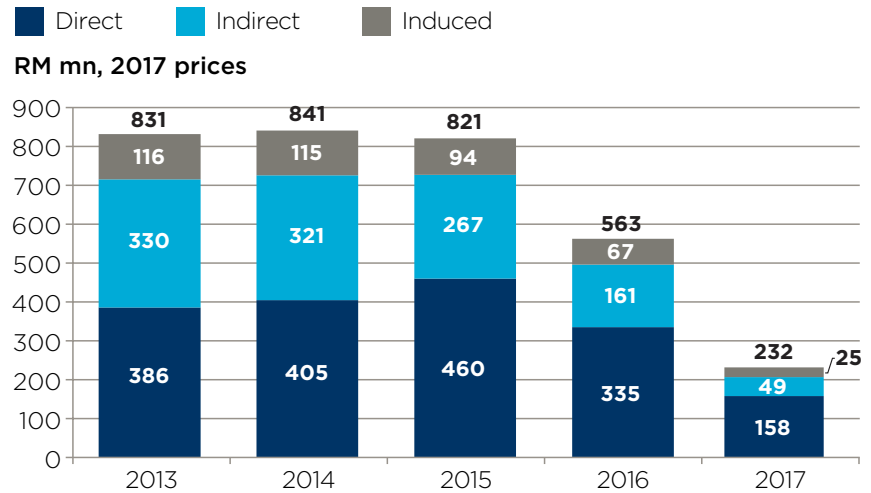


Source: Oxford Economics; Industry data

3.2.2 Contribution to GDP

In addition to supporting employment, the two factories also contributed to Malaysia’s GDP, in the form of gross value added.²⁹ Our modelling indicates that economic activity associated with the international cigarette manufacturers’ Malaysian factories amounted to far in excess of RM800 million (in 2017 prices) during their years of full operation. This equated to around 0.1 percent of Malaysia’s GDP in each of 2013, 2014, and 2015. Over half this activity was located outside of the manufacturers themselves, in firms within their supply chains and the wider consumer economy—until the manufacturers’ share of the total impact (the direct component) increased to 60 percent in 2015, owing to greater profits recorded on the back of the excise hike that was implemented that year (Fig. 16).

Fig. 16: Estimated contribution to GDP associated with international cigarette factories in Malaysia, 2013-2017

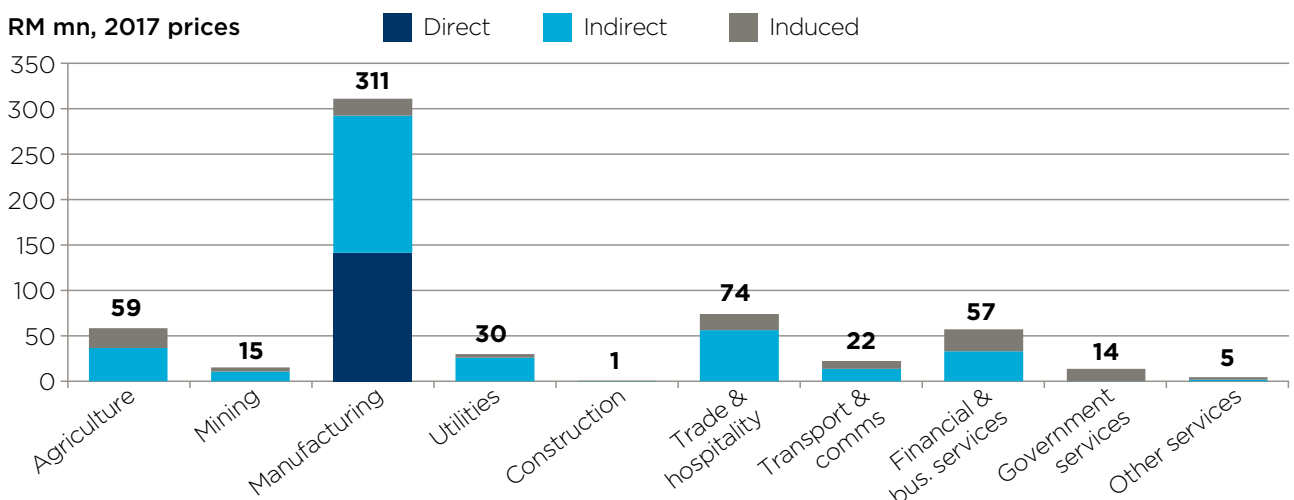


Source: Oxford Economics; Industry data

As with the employment footprint of this cigarette production, all sectors of the Malaysian economy were touched by the economic activity sustained by the operations of these factories. Indeed, in 2013, four sectors (manufacturing excluding

the cigarette companies themselves, trade & hospitality, agriculture, and financial & business services) each accounted for over RM50 million of gross value added, in 2017 prices (Fig. 17).

Fig. 17: Estimated contribution to GDP associated with international cigarette factories in Malaysia in 2013, by sector



Source: Oxford Economics; Industry data

Totals may not sum due to rounding.

²⁹ The sum of wages and profits, measured on an EBITDA basis.

Differences between the employment and gross value added contributions of each sector reflect variations in gross value added per job (a conventional measure of labour productivity) between different sectors of the economy. Sectors with comparatively lower productivities see a higher employment impact, compared to their share of the value added activity. This is most notable in the agriculture, and trade & hospitality sectors, which accounted for 18 and 22 percent of the modelled employment footprint, respectively, but only 10 and 13 percent of the contribution to GDP, respectively.

3.2.3 Tax revenues

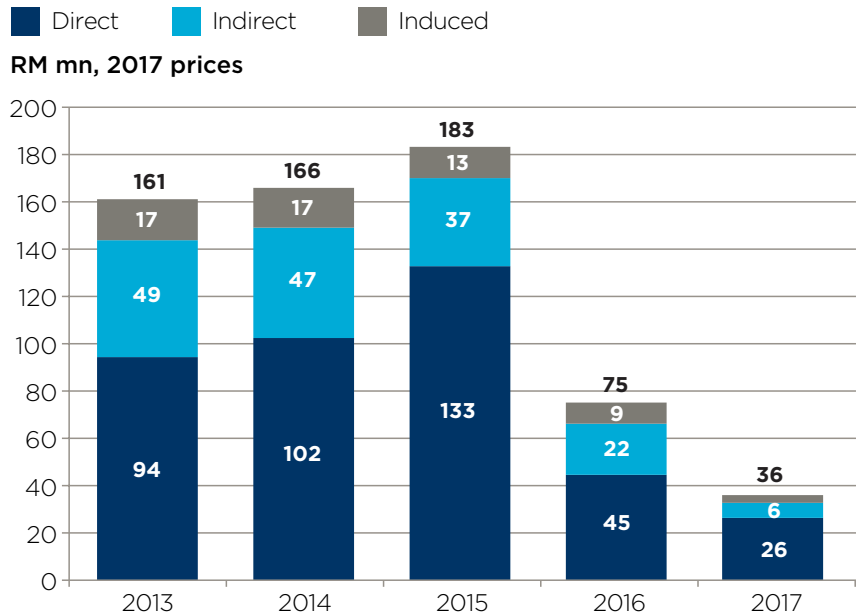
The employment and economic activity that was associated with the operation of international cigarette manufacturers' factories also generated tax revenues for the Malaysian government. Using our models, we are able to translate the employment and GDP footprints of the closed cigarette factories into a tax footprint, incorporating income and corporate taxes, social security payments, and other direct and indirect taxes.

We estimate that between 2013 and 2015, activity and employment linked to the cigarette factories generated annual tax revenues of between RM161 million and RM183 million, in 2017 prices (see Fig. 18). This included between RM17 million and RM19 million in import duties on the tobacco leaf used in the cigarettes. The total tax generated was equivalent to 0.1 percent of the government's total tax revenues in each of these years.

RM183 mn

Estimated level of annual tax revenues generated by the two cigarette factories (now closed) at the peak of their production (in 2017 prices).

Fig. 18: Estimated tax revenues associated with international cigarette factories in Malaysia, 2013-2017



Source: Oxford Economics; Industry data

3.3 THE WIDER ECONOMIC EFFECTS

The closure of cigarette factories is a clear indication of the impact of the illicit trade on the legitimate market’s contribution to the Malaysian economy. However, there are further economic effects resulting from the illicit trade that impinge on the legal sector.

International cigarette companies maintain sizeable local sales teams to market and distribute their products. Just like the cigarette factories, these “field forces” require significant inputs of goods and services to carry out their operations. Consequently, the field forces also create an economic footprint in Malaysia.

While the field forces have not ceased operations with the closure of the local factories,

they have reduced in size due to the declining sales volumes the international manufacturers have experienced as a result of the illicit sector’s growth. This has had a knock-on impact on the economic activity supported by these sales and distribution activities.

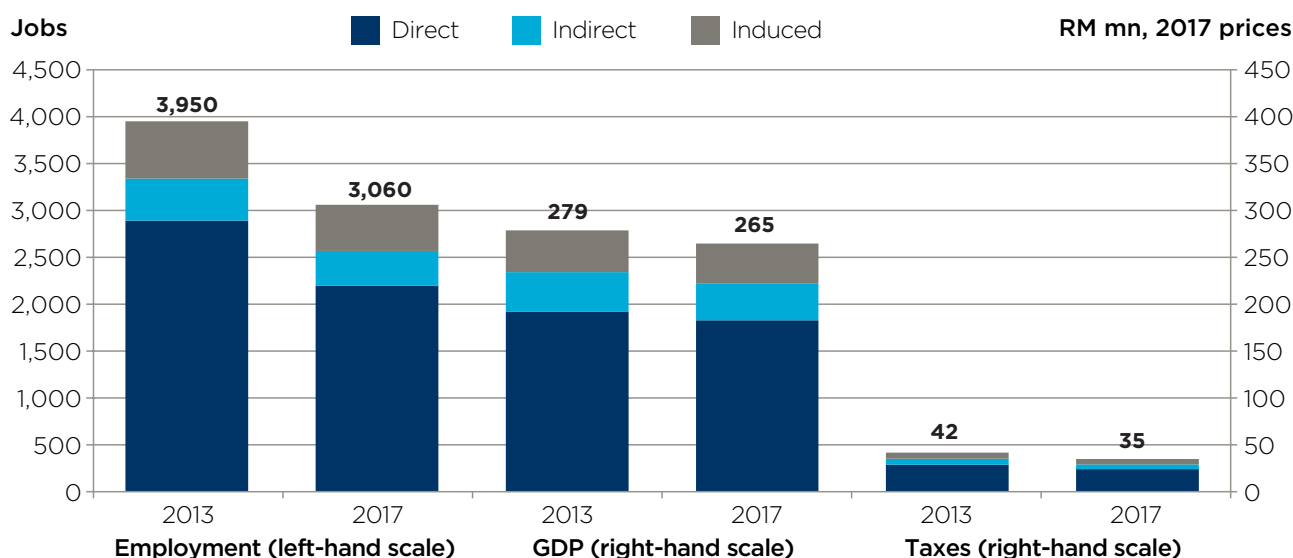
The same economic impact assessment framework used to assess the impact of the factories can be employed to calculate the economic footprint of the international tobacco companies’ Malaysian field forces. However, the basis for this calculation was data on the number of people employed in these field forces provided by BAT. These data were then translated into output using sector-level data from the Department of

Statistics. These output figures were then inputted into the I-O model to calculate the corresponding value added, employment, and tax revenues for each channel of impact.

We estimate that the employment footprint of these field forces has shrunk by a quarter in five years.

In 2013, nearly 4,000 people were employed in Malaysia due to the operations of the field forces; by 2017, this number had declined to just over 3,000 (see Fig. 19). However, increases in productivity have softened the decline in contributions to GDP and tax revenues associated with these field forces; these fell by five percent and 17 percent in real terms, respectively, over the same period.

Fig. 19: Change in estimated economic impact of international tobacco companies’ field force in Malaysia, 2013 and 2017



Source: Oxford Economics; Industry data

4. CONCLUSIONS

The illicit cigarette trade is endemic within the Malaysian market.

The latest research indicates that some 59 percent of all consumption is illicit in nature, and thus outside the reach of Malaysia's cigarette duties and sales taxes. Indeed, while such duties have been designed to assist the government's health objectives, overall cigarette consumption (both legal and illicit) has actually increased since the 2015 excise hike, undermining its health policy. Moreover, such a level of evasion imposes high costs on the country's exchequer, at a time when the government is already under pressure to reduce the fiscal deficit.

Indeed, we estimate that the Malaysian government missed out on over RM5.1 billion in revenue in the 2018 fiscal year,

in terms of the duty and sales tax receipts that would have been due if all illegal cigarettes were produced and distributed in the legal tobacco sector. This equates to almost three percent of all government tax revenues in that fiscal year, and is far more than our estimates of the government's revenues from cigarette duty in 2018.

But it is not only the government that is losing out.

Illegal tobacco benefits from, and also propagates, corruption in Malaysia, undermining the rule of law and governance, and diminishing the country's attractiveness to international investment.

Moreover, the growth of the illicit tobacco trade has already had a measurable, detrimental impact on the Malaysian economy.

The country was home to manufacturing facilities for two of the major global tobacco companies, BAT and JTI. However, both have ceased operations in recent years, citing the rise of the illicit trade and subsequent fall in the volumes of legitimate cigarette sales as their reasons for closure.

We estimate that, between them, the BAT and JTI factories supported some 5,750 jobs throughout the Malaysian economy in 2013 (their year of peak production).

This activity is estimated to have contributed RM831 million to Malaysia's GDP that year, and raised RM161 million in tax revenues for the government (both in 2017 prices). Now the factories have closed, their contribution to the Malaysian economy has been lost entirely.

The illicit trade may have already caused Malaysia to lose the contribution supported by the closed factories, but efforts should still be stepped up to curb illegal tobacco activity.

Doing so will enhance the government's revenues, as tax avoidance falls, as well as increase the effectiveness of its health policies and reduce the funding available to criminal syndicates. Moreover, it will improve the economic environment for all businesses, making Malaysia a more attractive opportunity for international investors.

5,750 jobs

Estimated number of jobs that were supported by two major cigarette factories in Malaysia at the peak of their production.

These factories have since closed as a result of the growth in Malaysia's illicit cigarette trade.



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TECHNICAL APPENDIX

SIZING TOTAL CONSUMPTION

The Malaysian cigarette market comprises a number of different categories, each of which must be considered when seeking to quantify total consumption. Consequently, we draw on a number of sources in order to arrive at our estimate of the size of the cigarette market. Specifically:

- Data provided by the Confederation of Malaysian Tobacco Manufacturers (CMTM) are used to estimate the volume of cigarette sold by the three major international tobacco companies present in Malaysia: BAT, JTI and PMI.
- Data collected by the Nielsen retail audit are used to quantify legal volumes sold by other tobacco players apart from CMTM members and the number of cigarettes sold as Malaysian Duty Non-Paid. These are predominately purchased through duty free channels, such as airports, duty free islands and borders.
- Finally, the Nielsen Illicit Cigarettes Study (ICS) is used to quantify the illicit portion of the market.

Numerous estimates of the scale of the illicit trade in Malaysia exist, including those produced by Oxford Economics in the *Asia Illicit Tobacco Indicator* series of studies (available at illicittobacco.oxfordeconomics.com). For this study we have used Nielsen's estimate as it refers to 2018; the latest *Asia Illicit Tobacco Indicator* measure for Malaysia is for 2017. Also, this report represents one of a series of studies assessing the economics of the illicit trade in countries around the world. Therefore, we have opted to draw on a source that uses a consistent methodology across the globe.

NIELSEN'S ILLICIT CIGARETTE STUDY (ICS) METHODOLOGY, PROVIDED BY NIELSEN

The Illegal Cigarettes Study (ICS) conducted by The Nielsen Company in Malaysia adopts a research system of collecting discarded cigarettes packs to measure the level of contraband cigarettes in Malaysia. This is a methodology that relies purely on physical evidence thus avoiding the variability of consumer bias found in interview-based method. Thus, this methodology was also the key method used in European Union (EU) by Office Européen de Lutte Anti-Fraude (OLAF) to measure the level of counterfeits and contrabands across the EU Member States.

The results are based on large sample of packs collected in various population centres throughout the country. Driven by sound sampling design, this ensures the accuracy and credibility of results. In the Malaysian ICS, all thirteen states and federal territory (Kuala Lumpur) are covered. Using Malaysia's Department of Statistics demarcation of each state's administrative district, population size and urbanization classification, all the key and most populous districts have been selected. Both urban and rural collection points have been randomly distributed across these selected sampling districts based on the required quota that was matched against each state's profile. A fixed number of packs are collected in each collection points and neighbourhoods, with higher population density areas allocated more collection points. Each collection point had a starting point and a fixed route. The collectors will revisit the collection points each week until the end of the study period. All collectors are given training and explanation of the protocols prior to the collection. These collectors are further supervised a group of team leaders.

The combined amount of packs collected across the country is 51,000 packs, ensuring a sampling error of less than 0.5 percent at 95 percent confidence level. Further details of packs collected by states are as follows:

State	Packs collected
Johor	4,750
Kedah	3,000
Kelantan	3,000
Melaka	3,000
Negri Sembilan	3,000
Pahang	3,000
Penang	3,000
Perak	3,000
Perlis	3,000
Sabah	4,000
Sarawak	4,000
Selangor	8,000
Terengganu	3,000
WP Kuala Lumpur	3,250
Total Country	51,000

Post packs collection, all collected packs are gathered at a centralized collection point for data processing. Each pack that has been collected will be assigned a unique ID before processed following a well-documented process flow. In total, there are multiple layers of control to ensure data quality. These layers of control include physical verification of information on database compared against physical packs post completion of data entry and independent audit of legal packs status by the authorized supplier of cigarette tax stamps. Participating manufacturers will also be involved in identifying counterfeits belonging to their own brands. All processed packs will also be sorted by brands, manufacturers, domestic vs. non-domestic packs to determine the size of contrabands in the market.

To enhance the representation of each state, the data had also been weighted based on the market size of each state using The Nielsen Company’s Retail Audit sales offtake as a guideline. This adjustment was done to correct for some over- or under-sampling in some states. Before analysis, the data is weighted further based on pack size due to the presence of contraband kretek in Malaysia. As contraband kretek in the pack size of 12 sticks and 16 sticks made up a sizeable portion of the packs collected, the presence of contraband kretek will be over reported if this adjustment was not made.

A correlation of the manufacturer shares in ICS had shown that it closely reflect the data provided by all participating manufacturers.

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This report is based on data modelled in March 2019

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