Parliamentary Budget Office

Costing Concepts: Nicotine prices

Tags: Excise duty, Methodology, Mechanics

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This costing concept was last updated to reflect latest data and methodology following the 2026-27 Budget.

All PBO costings provide an indication of the fiscal impact given available information and limitations to assumptions. In this case, key assumptions are highly uncertain, particularly those related to the illicit market. Impacts on compliance, consumer behaviour and health outcomes require deeper policy expertise and analysis that goes beyond the scope of a costing. PBO costings are not forecasts and should not be used to indicate expectations of market or consumer behaviour.

Overview

This *Costing Concept* explains how the Parliamentary Budget Office (PBO) models the financial impact on the Budget of policy changes that directly affect prices in the nicotine market, including excise and Goods and Services Tax (GST) revenue.

Australian governments have introduced measures intended to reduce smoking, including plain packaging and increases in tobacco excise. The Australian Institute of Health and Welfare's National Drug Strategy Household Survey reports that the proportion of people aged 14 and over who smoke tobacco fell from 29.1% in 1993 to 7.8% in 2025. It also estimates that 6.0% of people aged 14 and over reported using e-cigarettes in 2025, down from 7.0% in 2022–23. The proportion of people who used any form of nicotine in the past year had fallen to 15.2% in 2025.

Other data sources point to relatively higher level of nicotine use in recent years. Roy Morgan reported that 17.4% of Australians aged 18 or over smoked or vaped in 2025, broadly unchanged from 17.7% in 2014. ABS experimental data using wastewater analysis indicated that nicotine consumption increased by almost 40% between 2017 and 2025, compared with population growth of 14% over the same period.

Changes in nicotine policy may affect smoking rates and the amount of nicotine products people consume. The PBO does not forecast how these markets will develop. To estimate the budget impact of a policy, the PBO draws on available evidence to develop its assumptions. The PBO may revise these assumptions when new evidence becomes available. This can materially change the estimated budget impact of policies affecting nicotine prices.

Approach

For policy costings involving changes to the level of excise applied, the PBO model focuses on the fiscal impact to the budget which includes responses by consumers such as:

- changes to what type of nicotine product they primarily use; and/or
- changes to how much of that product they consume.

Impacts on the legal supply chain are examined on the basis of each individual policy specification, including any passthrough of price changes and change in wholesale prices. Legal manufacturers and retailers are generally expected to be profit maximising.

Responses by illicit market operators to changes in enforcement or policies that impact legal prices (either through excise or other taxes) are highly uncertain and are generally assumed to be unquantifiable due to lack of available information.

Consistent with our usual approach to costings,[1] this modelling only estimates direct budget impacts including changes in estimated tax, GST, departmental and program funding. It does not quantify broader health, productivity or social impacts, including on smoking or vaping rates. The PBO is not a health specialist, and our assumptions are for fiscal impact modelling purposes only.

Market structure

For the purposes of modelling fiscal impacts, the PBO separates the nicotine market into 4 core product groups: factory made cigarettes, looseleaf tobacco, reusable e-cigarettes, and disposable e-cigarettes. Each group has legal and illicit sales channels for a total of 8 product types.

For costing purposes, the PBO assumes that where relative pricing of the different products changes, consumers will substitute between products but the proportion of consumers in the market remains relatively stable (See *Key assumptions*).

Key assumptions

The PBO makes the following assumptions when costing policies affecting prices of nicotine products.

Consumption

- Approximately 17% of Australians would regularly consume nicotine products. The proportion of consumers is assumed to be steady at this level over the medium term. This assumption is in part based on limited information, in part due to the range of substitutes, and the relative price and operation of the established illicit market. Should price changes in

[1] For further discussion of the PBO's approach to quantifying broader economic impacts, see Including broader economic effects in policy costings.

the legal market be sufficient to lower the available price substantially (legal and illicit), this assumption becomes less likely to hold.

  - This assumption should not be interpreted as a forecast about the future prevalence of smoking or vaping.
  - 17% usage reflects the average reported over 2014 and 2024 through the Roy Morgan *The full picture: a decade of smoking in Australia* publication. This figure includes all nicotine products, illicit and legal.

- The typical smoker would consume approximately 13 cigarettes per day, in line with the Australian Institute of Health and Welfare (AIHW) 2026 *Alcohol, tobacco & other drugs in Australia* publication. This is equivalent to average use of around 4,800 cigarettes per year.
- The typical roll-your-own cigarette would contain approximately 0.6 grams of looseleaf tobacco. Using the 'equivalisation rate' for per-kilogram tobacco products, this would equate to average use of around 2,800 grams of looseleaf tobacco per year.
- The typical e-cigarette user would consume approximately 4.0 ml of e-liquid per day, informed by the *Australian Tobacco Harm Reduction Association* and *JAMA Internal Medicine*. This is equivalent to average use of around 1,460 ml of e-liquid per year, or 58 disposable 25 ml vapes.
- Average consumption of nicotine products in 2026-27 is summarised in Table 1.

Prices

- Legal tobacco prices (factory made cigarettes and looseleaf) are based on average retail prices reported by Cancer Council Victoria via *Tobacco in Australia*, minus excise and GST. Illicit tobacco products are priced at approximately 30% of the current retail price of legal equivalent products (including taxes and excise), based on a review of publicly available reporting, noting the lack of comprehensive data on illicit tobacco prices.
- E-liquid prices for e-cigarettes are based on the price of a sample of products for sale on New Zealand vape websites, converted to Australian dollars. The price of e-liquid sold through illicit market channels in Australia is assumed to be similar, due to a lack of local data.
- The cost of all products before excise or other taxes are applied (where relevant), including illicit products, would grow in line with CPI over the medium term.
- For increases in excise, manufacturers or retailers would pass on 100% of excise changes to consumers.
- For decreases in excise, PBO assumes that the degree to which manufacturers pass through excise reductions would depend on the competing price of illicit tobacco.
  - Small reductions in excise (where legal tobacco is not competitive with illicit on price) would result in the supplier not passing through the full reduction, instead retaining some of the previous excise rate as profit.
  - Large reductions in excise (where legal tobacco may begin to compete on price) may result in manufacturers decreasing wholesale prices where doing so would materially increase market share and maximise profit.

- The modelling assumes no price response from the illicit market in response to policy, however this aspect is highly uncertain due to lack of information to judge appropriate adjustments. For a legal price decrease, illicit suppliers may lower prices to maintain their competitive position relative to the legal market or for a legal price increase, raise prices to increase profits.
- Average prices of nicotine products are summarised in Table 1.

Table 1: Price and consumption assumptions summary (2026-27)[(a)(b)]

Product	Class	Base price per unit	Tax per unit	Consumption per year	Retail cost per year[(a)]
Factory made cigarettes	Legal	$0.53 per stick	$1.76 per stick	4,745 sticks	$10,892
Factory made cigarettes	Illicit	$0.69 per stick	-	4,745 sticks	$3,277
Looseleaf tobacco	Legal	$0.68 per gram	$2.90 per gram	2,847 grams	$10,181
Looseleaf tobacco	Illicit	$0.97 per gram	-	2,847 grams	$2,760
Reusable e-cigarettes	Illicit	$1.56 per ml	-	1,460 ml	$2,280
Disposable e-cigarettes	Illicit	$37.80 per device	-	58 devices	$2,209

(a) The annual retail cost is calculated as the total price per unit of product (base price plus tax) multiplied by consumer consumption.
(b) Legal vaping products (reusable and disposable e-cigarettes) are not included in Table 1.

Consumer behaviour for modelling purposes

- The nicotine market is treated as 'mature', meaning product offerings and preferences are established, and while consumers would adjust the product they use and how much they consume, the total proportion of adults using nicotine products would be stable. This is an assumption for modelling purposes.
- Where a substitute product is more than 50% more expensive than a consumer's current product, it would generally no longer be considered a viable substitute (i.e. consumers are unlikely to switch from a cheaper to a more expensive product if the expensive product price decreases only slightly).
  - After applying these substitution limits, consumers would adjust their product choice in response to relative price changes using the relevant cross-price elasticities. Own-price elasticities would determine changes in consumption, while cross-price elasticities would determine substitution between products and between legal and illicit channels. These elasticities are outlined in Table 2 below.
  - The substitution limit reflects that even where a product is more expensive on average, some consumers will still respond due to preferences, such as consumers willing to pay a small premium for the equivalent legal product, as well as stratification within the market, such as premium compared to value brands, which a simple average price may not capture.

Table 2: Assumed price elasticity[2] between product groups

Product	Factory made cigarettes	Looseleaf tobacco	Disposable e-cigarettes	Reusable e-cigarettes
Factory made cigarettes	-0.9	0.5	0.149	0.149
Looseleaf tobacco	0.5	-0.9	-	-
Disposable e-cigarettes	0.149	-	-1.363	0.5
Reusable e-cigarettes	0.149	-	0.5	-1.560

- Own and cross price elasticities were sourced from a *2018 analysis of US tobacco and nicotine replacement products*, with adjustments to reflect strong demographic/preference differences between the markets.
  - Tobacco own-price elasticity of -0.9 was used based on PBO modelling and research. This is within the range of estimates reported in the literature. While traditional estimates of cigarette demand commonly fall between -0.2 and -0.7, studies that incorporate substitution between products and purchasing channels have reported elasticities of up to -1.477.
- Consumers would also reassess their choice between legal and illicit markets (of the same product type) based on absolute price differences, with consumers shifting to offerings of the same product that become relatively cheaper over time.
- Consumers would substitute between legal and illicit markets at a cross-price elasticity of 1, to reflect that both legal and illicit markets are well established with comparable product offerings.
- Consumers would take up to 2 years to switch product or adjust their consumption.

Market mix

- In 2025-26, the PBO baseline mix of consumption of nicotine products is approximately 75% tobacco (cigarettes and looseleaf) and 25% vaping. Of tobacco usage, approximately 75% of volume is assumed to be illicit. These market shares were informed by:
  - Australian Bureau of Statistics' Household consumption of illicit tobacco and nicotine products
  - Australian Institute of Health and Welfare National Drug Strategy Household Survey 2025: Tobacco, e-cigarettes and other nicotine insights
  - Roy Morgan's The full picture: a decade of smoking in Australia.

Tax and implementation

- 98% of tobacco and vaping excise collections would be received within the same financial year, with the remaining 2% received in the following financial year.

[2] A price elasticity of -0.9 is interpreted as a 1% increase in price will lead to a 0.9% decrease in demand.

- 11/12 of GST is collected within the same financial year, with the remainder received in the following financial year. Payments to states and territories occur following receipt of GST by the Commonwealth.
- Departmental expenses associated with changes in nicotine taxes are not expected to be significant and funded from within existing departmental resourcing.

Methodology

Consumption of each nicotine product is estimated under baseline and policy settings by starting with the estimated current market for 2025-26 as per the key assumptions outlined above, and adjusting each year based on the following:

- The change in the market mix each year is estimated based on relative changes in each product price and absolute differences in price. The number of consumers for each product is estimated by multiplying the market mix by the nicotine market population.
- Changes in average per-capita consumption of each product are estimated using own-price elasticities of each product.
- Total consumed volume of each product is calculated based on the number of consumers of that product and the adjusted per-capita consumption in each year.

Excise and GST collections are calculated based on the excise rates and the estimated volume of legal tobacco consumed each year.