Tobacco Europe[1] submission to Call for Evidence for an Impact Assessment on the revision of the EU Tobacco Products Directive (TPD) and the Tobacco Advertising Directive (TAD)

Executive Summary

Tobacco Europe welcomes the opportunity to contribute to the Impact Assessment supporting the revision of the Tobacco Products Directive (TPD) and Tobacco Advertising Directive (TAD). Any future proposal should be based on a robust, transparent and evidence-based Impact Assessment that respects Better Regulation principles, proportionality, subsidiarity, legal certainty, enforceability and competitiveness.

The Commission's preparatory work on TPD and TAD revision does not currently provide a sufficient basis for major regulatory decisions. The 2026 Evaluation Report acknowledges significant evidentiary and methodological limitations, including difficulties in establishing causal links between measures and outcomes, concerns reinforced by the Regulatory Scrutiny Board's negative opinion. The Impact Assessment should therefore independently assess all policy options on the basis of robust evidence, demonstrate the need for any additional EU action, evaluate whether existing measures have been fully implemented and enforced, and maintain the current framework as a credible option where further intervention cannot be justified.

Future policy should clearly distinguish between combustible and smokeless products. As combustion is the principal driver of smoking-related disease, the Impact Assessment should examine comparative risks, toxicological differences, consumer behaviour, reductions in smoking prevalence and real-world evidence. Regulatory approaches should reflect product characteristics and associated risks while preserving adult smokers' access to alternatives and maintaining strong youth protection measures.

The Impact Assessment should also examine behavioural evidence, market developments and differences across Member States, including the role of national policies, enforcement practices and consumer preferences. It should assess whether public health outcomes can be attributed to EU legislation or influenced by other factors.

Greater weight should be given to economic, social, regional and competitiveness impacts. The tobacco and nicotine value chain supports around 1.5 million jobs[2] across the EU and contributes significantly to GDP, tax revenues, agriculture, manufacturing, logistics, retail and SMEs. Policy options should include SME testing and a full assessment of impacts on employment, investment, innovation, rural communities, supply chains and the internal market.

Finally, the Impact Assessment should address enforcement realities and unintended consequences, including illicit trade, organised crime, regulatory circumvention, cross-border distortions, compliance burdens and enforceability. Tobacco Europe therefore calls for a comprehensive Impact Assessment that establishes clear causality, assesses the added value of EU intervention, evaluates economic and societal impacts, and ensures that future proposals are evidence-based, proportionate, enforceable and legally sound.

[1] Tobacco Europe is the European umbrella organization representing three of the largest tobacco and nicotine products manufacturers, namely British American Tobacco (BAT), Imperial Brands (IMB) and Japan Tobacco International (JTI).

2 https://insight.spglobal.com/story/the-economic-contributions-of-the-traditional-tobacco-and-new-nicotine-products-value-chains-to-the-eu-27/page/4/1

Tobacco Europe AISBL
Avenue de Cortenbergh, 120
B- 1000 Brussels
info@tobacco-europe.eu - Registered number 089 438 919

INTRODUCTION

The tobacco and new nicotine products industry is a significant contributor to the European Union economy and its communities. It supports directly and indirectly more than 1.5 million jobs across the EU-27 value chain — equivalent to approximately one in every 130 jobs in the Union. The sector contributes nearly €200 billion[3] annually to EU GDP, which, if represented as an individual economy, would rank as the EU's 16th largest economy.

Consumers across the EU-27 spent approximately €151.3 billion on traditional tobacco and new nicotine products, representing around 2.5% of total EU consumer expenditure. The sector also provides substantial contributions to public revenues through excise duties and VAT.

The sector sustains a broad value chain of European businesses, including but not limited to retailers, growers, farmers and processors, manufacturers, distributors and logistics operators. A large share of them are family-owned companies qualifying as SMEs rooted in local economies across the Union. Many of these companies also export to third countries.

S&P Global analysis shows that a 5% decline in traditional tobacco product sales could place nearly 70,000 jobs at risk across the value chain and reduce EU GDP by nearly €9 billion. A comparable decline in new nicotine product sales could jeopardise around 7,000 jobs and reduce GDP by more than €850 million[4].

Against the backdrop of evolving consumer preferences and regulatory developments, policy choices must be tested against the full range of EU objectives at stake: public health, consumer safety, internal market functioning, public security and competitiveness.

Future legislative proposals must therefore be preceded by a robust and transparent Impact Assessment. That Assessment should lead to policy that is proportionate, enforceable, and attentive to potential unintended effects of disproportionately restrictive or prohibition-oriented measures, as well as to the consequences across the whole value chain.

The weaknesses in the Commission's preparatory work to date make the case for a rigorous Impact Assessment crucial. The TPD and TAD Evaluation and supporting assessments – despite taking more than four years to complete and costing millions in EU public procurement – have raised important questions regarding evidentiary standards, robustness, transparency, and policy balance. In several areas, conclusions have relied too heavily on assumptions, selective interpretation, or acknowledged evidentiary limitations, without clearly establishing causal links between specific regulatory measures and observed public health or internal market outcomes.

The Commission's Evaluation Report of April 2026 itself explicitly acknowledges significant limitations and evidentiary gaps. These include a lack of robust quantitative data from Member States; difficulties in quantifying the benefits resulting from the implementation of the regulatory framework; and the absence of reliable data allowing observed outcomes to be clearly attributed to TPD and TAD, rather than to other legislation (e.g., TED) or relevant external factors, notably consumption trends and behavioural changes.

The negative opinion issued by the EU Regulatory Scrutiny Board (RSB) to DG SANTE on the draft Evaluation Report confirms that the process this far fell short of the standard required for a revision of this holistic consequence.

---

[3] https://insight.spglobal.com/story/the-economic-contributions-of-the-traditional-tobacco-and-new-nicotine-products-value-chains-to-the-eu-27/page/4/1

[4] https://insight.spglobal.com/story/the-economic-contributions-of-the-traditional-tobacco-and-new-nicotine-products-value-chains-to-the-eu-27/page/4/1

The Impact Assessment must serve as a correction-point, where policy options are thoroughly assessed afresh, this time on the basis of solid evidence, legality, proportionality and enforceability. No forward-looking assumption from the Evaluation Report should shape it unless it is first fully substantiated. Equally, the Impact Assessment must correct the current insufficient attention by the Commission to real-world consumer behaviour, smoking and nicotine usage patterns, enforcement challenges, illicit trade dynamics and broader economic, social, regional and competitiveness impacts across the Union.

The Impact Assessment must also fully reflect the importance of comparative risk assessment between combustible and smokeless products.

For Tobacco Europe, policy options should not move forward unless the Impact Assessment demonstrates that it:

- **Differentiates appropriately between combustible and smokeless products**, taking into account product characteristics, patterns of use, and the risks associated with different product categories;
- **Preserves adult smokers' access to smokeless products**, while maintaining strong and effective youth protection measures;
- **Assesses real-world behavioural outcomes**, including smoking and nicotine usage patterns;
- **Is conducive to measures that are proportionate and practical to enforce**;
- **Is based on a full assessment of broader economic and market impacts**, including effects on SMEs, retailers, supply chains, growers, and overall EU competitiveness;
- **Accounts for potential unintended consequences**, including illicit trade, cross-border distortions, organised crime risks, regulatory circumvention, and barriers to innovation.

Finally, Tobacco Europe reiterates its view that it is not lawful for the Commission to work towards an EU-wide public health policy for tobacco and nicotine products through amendments to the TPD and TAD on the basis of Article 114 TFEU. Public health remains a competence reserved to Member States pursuant to Article 168(5) TFEU. Nothing in this submission, including Tobacco Europe's suggestions for improving the TPD and TAD framework, should be understood as an agreement that the TPD and TAD (and any future amendments) can be lawfully based on Article 114 TFEU where the true object is public health harmonisation.

GENERAL

1. Effectiveness of the existing framework

The Tobacco Products Directive (TPD) and the Tobacco Advertising Directive (TAD) have established a significant degree of harmonization for combustible tobacco products across the European Union, addressing key aspects of tobacco control such as ingredients, emissions and packaging/labelling requirements.

According to the Evaluation Report of April 2026, the current tobacco control framework has also contributed to progress towards public health objectives, including reductions in smoking prevalence, notably among underage population. In particular, the prevalence of traditional combustible tobacco product use has declined significantly over the past decade, falling from 28% of EU citizens in 2012 (including 29% among young people aged 15–24) to 24% in 2023 (with 22% among young people).

Thus, additional regulatory intervention should be carefully assessed against the principles of necessity, subsidiarity and proportionality, as well as the requirement to limit additional regulatory action to what is necessary to address specific problems (i.e., targeted revision as defined by the European Commission).

The Evaluation Report does not answer to what extent further rules would materially enhance public health protection or internal market functioning. The Commission must prove why further intervention is necessary,

where the specific problem lies, and why it cannot be addressed through clearer implementation, better enforcement, targeted guidance, and exchange of best practices among Member States. Similarly, the available evidence suggests that the current legislative framework has not prevented Member States from achieving material declines in smoking prevalence, including in jurisdictions with differing national approaches. This raises a basic question of Better Regulation: what is the specific added value of broad intervention?

A number of key measures only entered fully into effect in recent years, including Track & Trace obligations (extended to all tobacco products only from 20 May 2024, with transitional stock permitted in circulation until 20 May 2026) and multiple implementing and delegated acts. These measures should be given sufficient time to prove their full effects in practice.

At the same time, the market environment has evolved considerably since the TPD and TAD adoption, notably through the emergence of heated tobacco products and other smokeless products.

The TPD clearly differentiates tobacco and related products. The Directive also introduced safeguard clauses under which stricter rules can be triggered where serious risks to health are identified. No such clause has ever been triggered, including in the context of EVALI (E-cigarette, or Vaping, Product Use-Associated Lung Injury). That is relevant evidence of the high level of public health protection and consumer safety achieved by the Directive.

Electronic cigarettes are already regulated under a comprehensive framework, particularly on ingredients.

At the same time, divergences persist at national level, and, in some cases, national approaches go beyond the requirements of the EU framework. These divergences may create uncertainty, compliance complexity and administrative burdens for manufacturers, distributors, retailers and SMEs operating across multiple Member States.

In parallel, the growth of illicit and non-compliant trade across smokeless product categories shows that enforcement and market control must be central to the Impact Assessment.

These developments highlight the opportunity to consider broadening the scope of the current policy discussion by ensuring – where relevant – clearer, harmonized definitions and proportionate regulatory frameworks for such product categories across EU markets.

Regulatory options should be preceded by a thorough assessment of whether the existing framework has been fully implemented, sufficiently operationalized, and comprehensively evaluated on the basis of real-world evidence (including analysis of whether outcomes could be achieved through national policies alone) rather than on assumptions or projected outcomes.

2. European Commission should not pursue a one-size-fits-all tobacco and nicotine policy

The Evaluation Report of April 2026 notes that smoking prevalence varies substantially across Member States[5], ranging from relatively low prevalence in certain countries to significantly higher rates elsewhere.

Several Member States that regulated access to smokeless products in a proportionate way have experienced faster declines in smoking prevalence than the EU average.

[5] Based on Eurostat's current-smoking data for 2023, from 8% in Sweden to 37% in Bulgaria, against an EU average of 24%.

For example, Sweden has reduced daily smoking prevalence to close to smoke-free level[6].

The Evaluation Report itself records this but neither quantifies the TPD and TAD's contribution to this development nor examines the reasons behind it. This omission is not consistent with the Better Regulation and does not support firm conclusions about the TPD and TAD's effectiveness.

The Impact Assessment must correct this gap.
Regulatory options should therefore be assessed against their potential effects on products competition, adult consumers' consideration of alternative products, driving cross-border or illicit purchasing, the functioning of the internal market and progress towards public health objectives , while recognizing and accommodating the differences between combustible and smokeless products, including in relation to the risks associated with their use.

3. Efficiency of the TPD

The Evaluation Report of April 2026 concludes that the TPD and TAD contributed to reductions in smoking prevalence. At the same time, the Report does not establish a causal link between EU regulatory measures and observed outcomes, in particular in light of the acknowledged evidentiary gaps and methodological limitations.

A rigorous Impact Assessment must examine the drivers of observed trends. It must assess why smoking has declined faster in some Member States than in others, and whether those differences are explained by factors beyond the TPD and TAD.

Greater consideration should be given to the role of national policy approaches and enforcement, broader societal health awareness trends, consumer behavior and usage patterns, as well as the impact of availability of smokeless products.

Without that analysis, the Commission cannot reliably determine what has worked, what has not, and what — if anything — requires further EU action.

Regulatory options must be assessed against the risk of unintended consequences, including the growth of illicit markets, increased circulation of non-compliant products, heightened enforcement burdens for Member States, market fragmentation and setbacks to progress towards public health objectives.

4. Coherence with Other Legislation Affecting Tobacco and Nicotine Products

The future framework should ensure the TPD addresses the specific objectives that are inherent to it, while complying with internal market principles and legislation and while respecting environmental legislation, packaging and sustainability obligations, digital services legislation and broader EU objectives on competitiveness, industrial policy, innovation and employment.

The future framework should also assess carefully whether the same regulatory treatment is appropriate across all product categories. Combustible tobacco products and smokeless products differ fundamentally in the potential risks associated with their use due to the absence of combustion.

Future regulation should therefore:

- take into account differences in product characteristics and use patterns;
- consider whether proportionate rules by product category are warranted;
- support innovation within the applicable regulatory framework; and
- preserve access to smokeless alternatives for adult smokers.

[6] Use of tobacco and nicotine products - The Public Health Agency of Sweden

The Evaluation Report gives limited attention to comparative assessment across product categories and instead appears to evaluate smokeless products primarily through an absolute-risk lens. This omission risks distorting policy making.

5. Better Regulation

Given the potentially significant public health, economic, social, and enforcement implications of future revisions, it is essential that the European Commission adheres fully to Better Regulation principles throughout the Impact Assessment process.

Assessment of regulatory options must be evidence-based and supported by rigorous and transparent analysis. It must draw from:

- comprehensive SME testing, as well as
- assessment of
    - agricultural and regional impacts,
    - cumulative regulatory impacts across the supply chain, and
    - impacts on competitiveness and innovation.

The principle of subsidiarity should also be fully respected, recognising the substantial differences between Member States in smoking prevalence, enforcement capacity, consumer behaviour, and market conditions. These principles are essential to ensuring that future regulation remains balanced, evidence-based, proportionate, and effective in practice.

In line with the Better Regulation, which emphasize transparent and inclusive stakeholder consultation as a core pillar of evidence-based policymaking, it is essential that all relevant stakeholders, including actors across the entire supply chain, are meaningfully involved in the consultation activities of the Impact Assessment, including in targeted consultations.

Regulatory options should be demonstrably necessary, and proportionate in ensuring that any intervention remains suitable, does not exceed what is required to address the specific problem, and represents the least burdensome option, while also maintaining coherence with the existing regulatory framework and avoiding unnecessary complexity or fragmentation.

6. Power of delegation and implementation

The Impact Assessment must apply the discipline now set by the European Council: delegated and implementing acts should be limited and confined to technical elements[7]. This is part of the EU's competitiveness and simplification agenda.

The Evaluation Report of April 2026 did not examine the application of the Commission's implementation and delegation powers under the TPD. The Impact Assessment must factor in significant operational, legal, and compliance challenges created for both authorities and the value chain. In several cases, technical requirements were introduced late, implementation timelines proved unrealistic, and legal uncertainty persisted for extended periods, resulting in substantial avoidable compliance burdens. Regulatory options must therefore be conducive to delegated and implementing acts that are exceptional, clearly bound and genuinely technical.

[7] European Council conclusions of 19 March 2026, under "Simplification and reducing administrative burdens." The European Council calls on the Commission to: "limit the use of delegated and implementing acts, which should focus on technical elements".

ECONOMICS

1. Impact on SMEs

The Evaluation Report of April 2026 provides limited assessment of SMEs despite their role within the tobacco and nicotine value chain, including whether the TPD has had disproportionate effects on retailers and growers across the EU, while unintentionally benefiting illicit operators and illegal supply networks.

SMEs remain central to retail and specialist tobacconist networks, logistics and distribution systems, agricultural production, specialized tobacco manufacturing, rural employment, and regional economic development. In many Member States, family-owned tobacconists and small retailers rely heavily on tobacco and nicotine product sales as a core revenue stream that sustains local businesses and community services.

The Impact Assessment must factor in approximately 1.5 million jobs across the EU[8] supported by the tobacco and nicotine value chain and its significant contribution to economic activity, tax revenues, regional employment, retail networks, logistics, and agricultural production. There are approximately 130,000 tobacconists[9] across several Member States and 80,000 full-time equivalent jobs in EU tobacco growing as well as up to 350,000 seasonal workers.

For these reasons, the Impact Assessment should be accompanied by a full and rigorous SME test as well as assessing the agricultural and regional impacts. Careful attention must be paid to the cumulative compliance costs, competitiveness implications, effects on family-owned retailers, impacts on rural communities, market concentration risks, and the broader consequences for SMEs operating across the legal supply chain.

A regulatory framework that increases costs and restrictions on legitimate SMEs without adequate attention to enforceability will add pressure on legal businesses while creating scope for illicit markets.

2. Market Analysis and Consumer Behaviour

The Impact Assessment must correct a clear gap in the Commission's preparatory work to date: the limited consideration given to behavioural evidence, market developments, and stakeholder feedback regarding the potential role of these products in reducing smoking.

Real-world evidence indicates that many adult consumers use heated and other smokeless products as alternatives to combustible tobacco products. European Commission data also show declining smoking prevalence across the EU, with some Member States reporting record-low smoking rates. Together with significant variation in national outcomes, these trends require a closer examination of consumer choices, product use patterns, and regulatory approaches.

A comprehensive, evidence-based Impact Assessment must consider real-world patterns of product use, switching behaviour, substitution, consumer preferences, price sensitivity, downtrading, cross-border purchasing, and responses to regulatory interventions. The assessment of smokeless products should account not only for potential risks but also for observed population-level trends and public health outcomes across Member States. Future policymaking should be grounded in robust evidence and behavioural analysis to better assess the effectiveness, proportionality, and unintended consequences of regulatory measures.

[8] The economic contributions of the traditional tobacco and new nicotine products value chains to the EU-27 - EU-27 Data
[9] https://www.cedt.eu/media/portal/document/EN-A4-WEB.pdf

COMBUSTIBLES

Combustible tobacco products are already subject to extensive regulation under the current framework, and the European Commission itself acknowledges declining smoking prevalence under the existing regime. The Impact Assessment should properly assess enforcement effectiveness, unintended market consequences, illicit trade growth, behavioural responses, proportionality, and the practical enforceability of additional measures.

The current framework is comprehensive, addresses the main dimensions of tobacco control, and appears to have supported the achievement of key policy objectives, including a reduction in smoking prevalence, notably among minors.

Against this background, further regulatory intervention in relation to products already covered by the current framework is not necessary. In the Evaluation Report of April 2026, no policy gap has been identified that would require additional EU-level regulation of these products under the revision of the TPD and TAD.

Maintaining the existing EU tobacco control framework is the most proportionate approach. Regulatory stability would preserve legal certainty for Member States and economic operators, avoid unnecessary fragmentation of rules, and allow enforcement efforts to remain focused and be strengthened.

Additional measures for tobacco products risk reducing the coherence and overall effectiveness of the existing framework: they risk strengthening illegal supply chains and organised crime networks without supporting public health goals or improving the smooth functioning of the internal market. The European Commission, including OLAF, Europol, and European law enforcement and anti-fraud authorities have repeatedly identified illicit tobacco trafficking as a significant organised crime concern linked to wider criminal networks involved in multiple forms of serious cross-border crime[10].

HEATED TOBACCO PRODUCTS AND OTHER NICOTINE-CONTAINING PRODUCTS

The Commission committed to conducting a comprehensive evaluation of tobacco and nicotine products. However, the Evaluation Report of April 2026 fails to assess the comparative risk profiles of combustible and smokeless products, despite repeated requests for a harm reduction assessment[11]. The call for a properly conducted TPD evaluation runs as a consistent thread from Parliament into the stakeholder community.

Combustion is the principal driver of smoking-related disease. Heated tobacco products and other smokeless products do not involve combustion and therefore may differ materially in exposure to many harmful toxicants associated with cigarette smoke. Nevertheless, the Commission continues to not evaluate their risks compared to continued cigarette smoking. The Report itself acknowledges evidentiary gaps and methodological limitations, while also advancing conclusions that may benefit from a clearer causal analysis.

The Report repeatedly questions the role of smokeless products while giving only limited consideration to switching behaviour, toxicological differences, real-world population trends, behavioral substitution effects, enforcement realities, and evidence from Member States that have achieved low smoking prevalence.

[10] The changing DNA of serious and organised crime - EU Serious and Organised Crime Threat Assessment 2025 (EU-SOCTA) | Europol

[11] European Parliament Resolution of 13 February 2024 on strengthening Europe in the fight against cancer; Opinion of the European Economic and Social Committee on Europe's Beating Cancer Plan (2021);

The suggestion that smokeless products may constitute a gateway to smoking is not clearly established by the available EU population-level evidence. During the same period in which smokeless products increased, EU smoking prevalence declined from 28% to 24%, youth smoking prevalence reached historically low levels in several Member States, and countries with wider uptake of these products experienced accelerated declines in smoking rates.

A growing body of independent scientific evidence contradicts the Commission's gateway narrative. The most comprehensive recent synthesis, a systematic review of 126 studies, found at a population level, evidence is mixed, but on balance suggests an inverse relationship between e-cigarette use or availability and smoking in young people (Begh et al., 2025, Addiction[12]). Even on this cautious reading, which the authors themselves grade as low-certainty, the population-level signal runs against a gateway effect rather than toward it. For population-level regulation, it is population-level evidence that is determinative, and on that evidence the Evaluation Report's reliance on the gateway hypothesis is not supported. Furthermore, real-world evidence show associations between increased sales of heated tobacco products and other nicotine-containing products and declining sales of cigarettes[13].

The Swedish experience is particularly relevant in this context and may warrant more detailed examination as part of the Commission's assessment of smoking prevalence trends, consumer behaviour, and the potential role of smokeless products in supporting adult consumer choice. Sweden has achieved the lowest smoking prevalence in the EU, with daily smoking rates falling to around 3,7%[14], significantly below the EU average. Sweden also reports comparatively lower rates of several smoking-related diseases, including lung cancer and oral cancer, relative to many other EU Member States. These population-level trends warrant further examination in the context of providing adult consumers with alternative choices and the potential role of heated tobacco products and other nicotine-containing products in supporting public health objectives. At the same time, the Swedish experience does not appear to be examined in depth in the current assessment.

Furthermore, according to recent Eurobarometer data, smoking prevalence declined notably in both Greece and Czechia between 2020 and 2023[15]. These population-level trends highlight the importance of further assessing the interaction between consumer substitution patterns, regulatory frameworks, and smoking reduction outcomes across Member States.

The Evaluation Report does not explicitly assess comparative product characteristics, behavioural impacts, toxicological differences, population-level health outcomes, and the role of consumer choice in smoking prevalence trends. It also gives limited attention to the broader economic, social, enforcement, and competitiveness implications of future regulatory proposals.

The Impact Assessment should carefully assess whether equal treatment of combustible and smokeless products is justified. Any future approach would benefit from remaining proportionate, evidence-based, enforceable, and aligned with product characteristics, the risks associated with their use and real-world public health outcomes.

Scientific evidence shows that flavours, experienced through taste, aroma, or a combination of both, are a meaningful part of the adult consumer experience: as such, they play an important role in supporting adult consumers' choice, particularly for smokers seeking viable alternatives to combustible products. Regulatory

[12] Population-level gateway synthesis: Begh et al., 2025, Addiction, doi:10.1111/add.16773. "At an individual level, people who vape appear to be more likely to go on to smoke than people who do not vape; however, it is unclear if these behaviours are causally linked. Very low certainty evidence suggests that youth vaping and smoking could be inversely related."

[13] Cummings, K. M., Roberson, A., Levy, D. T. et al. (2026) Transformation of the tobacco product market in Japan, 2011–2023 | Tobacco Control

[14] CAN Rapport 242 Vanor och konsekvenser 2025 (Habits and Consequences 2025).

[15] Attitudes of Europeans towards tobacco and related products - June 2024 - - Eurobarometer survey

options restricting flavours should therefore be preceded by a comprehensive assessment of its effects on smoking prevalence, illicit trade growth, enforcement feasibility, consumer substitution effects, and unintended behavioral consequences.

Evidence from several jurisdictions increasingly suggests that abrupt flavour bans may increase illicit product circulation and cross-border purchasing. In some Member States, restrictive approaches appear to have accelerated the growth of illegal and non-compliant vapour markets rather than reducing demand. Future policy should therefore remain proportionate, enforceable, and evidence based.

COMMERCIAL AND COMMUNICATION MEASURES

Regulatory options relating to health warnings, packaging, advertising, and digital communications should be assessed through a proportionate and evidence-based approach. Implementation processes should ensure timely technical guidance, realistic implementation timelines, consistent application across Member States, and sufficient legal certainty for manufacturers, retailers, and other stakeholders.

Proposals relating to additional marketing restrictions should be supported by comprehensive assessment of their measurable public health impacts, enforceability, implications for consumer behaviour, illicit trade risks, market distortion, downtrading effects, and broader unintended consequences.

With regard to digital communications, the TAD has satisfactorily regulated cross-border advertising. Regulatory options should separately address, and clearly distinguish between, commercial advertising, factual non-commercial corporate communications, scientific information, user-generated content and the impact and role of influencers. Legally underage people should not be exposed to commercial communication and messages. Overly broad or unclear restrictions risk creating legal uncertainty, limiting access to factual information, and raising broader proportionality and freedom of expression concerns. Measures should remain clear, proportionate, enforceable, and legally predictable.

TRADE

1. Traceability and Security

The EU Track & Trace system is already comprehensive and technically robust, operating on an unprecedented scale, with over 100 billion unique identifiers generated across the legal supply chain. However, available evidence shows no measurable reduction in illicit trade as a result of the introduction of the system, with illicit consumption persisting – and in some cases increasing – despite full deployment. This reflects underutilization rather than a design gap, driven by limited cross-border data sharing, insufficient analytical use and weak integration into law enforcement. Importantly, T&T addresses only part of the problem, as around 60% of illicit trade consists of counterfeit and illicitly manufactured products outside its scope, inherently constraining its impact.

The Evaluation Report of April 2026 does not assess in detail operational effectiveness, implementation costs, interoperability challenges, enforcement outcomes, and the system's effectiveness in combating illicit trade.

Instead, the Report focuses primarily on monitoring the legal supply chain while giving comparatively limited attention to illicit market dynamics, organised crime involvement, customs and border vulnerabilities, enforcement capacity, and the potential unintended consequences of restrictive measures.

Against this evidence base, regulatory options to expand or redesign T&T would not address the main drivers of illicit trade and risks imposing further disproportionate burdens on the legal value chain without

delivering commensurate impact. Priority should instead be given to fully leveraging existing T&T data and strengthening EU-wide enforcement cooperation to deliver measurable results – ensuring that policy action remains firmly focused on what demonstrably works in tackling illicit supply.

2. Illicit Tobacco and Nicotine Products

Illicit trade remains one of the most significant challenges facing the EU tobacco and nicotine market. European Commission (in particular OLAF), Europol, and national enforcement authorities across several Member States have repeatedly identified illicit tobacco trafficking as a significant organised crime challenge linked to wider criminal networks.

However, the Evaluation Report of April 2026 provides only limited assessment of illicit market drivers, illegal vapour markets, counterfeit products, enforcement realities, customs and border vulnerabilities, and the possible unintended consequences of highly restrictive approaches.

This gap is particularly concerning given the scale and impact of the illegal market for cigarettes and tobacco products in the EU. Illicit trade has especially affected Member States bordering non-EU countries and is now increasingly affecting Member States in Western Europe as well. The latest KPMG report (2025 data) estimates illicit cigarette consumption in EU27 now represents 10.3% of total consumption, with an estimated €16.7 billion loss in state revenues[16].

The problem is not limited to cross-border smuggling. Counterfeit or illegal production, together with the inflow of so-called "illicit whites", represent the main threats to the tobacco market in Europe. EUROPOL has highlighted that the "*illicit production of counterfeit tobacco products in the EU has grown*"[17], and that illegal tobacco factories have been "*discovered in almost all Member States*"[18]. Data from European law enforcement agencies further indicates that 403 illegal cigarette factories were dismantled between 2019 and 2024, 59 cases in 2024 alone[19].

Similar risks are also emerging in nicotine product markets. Evidence cited in recent studies estimates that approximately 50% of the EU vapour market may already be illegal or non-compliant[20]. In the Netherlands, according to the government's own data, underage vaping increased by 25% in the first year following the introduction of flavour restrictions[21], while Belgium is estimated to have one of the largest illicit vapour markets in Europe[22].

The available evidence suggests that excessive restrictions and product bans may transfer market share to criminal networks, reduce consumer safety oversight, eliminate age-verification safeguards, increase the

[16] kpmg-illicit-cigarette-consumption-europe-2025-results.pdf
[17] The changing DNA of serious and organised crime - EU Serious and Organised Crime Threat Assessment 2025 (EU-SOCTA) | Europol
[18] The changing DNA of serious and organised crime - EU Serious and Organised Crime Threat Assessment 2025 (EU-SOCTA) | Europol
[19] EMPACT factsheet results (2019-2024):
https://data.consilium.europa.eu/doc/document/ST-7623-2020-INIT/en/pdf
https://www.consilium.europa.eu/media/50209/empact_factsheet_20.pdf
https://www.consilium.europa.eu/media/58310/2022_291_empact-factsheets-2021_web_final.pdf
https://www.consilium.europa.eu/media/65450/2023_225_empact-factsheets-2022_web-final.pdf
https://www.consilium.europa.eu/media/3ulegcm5/empact-factsheets-2023.pdf
https://www.europol.europa.eu/cms/sites/default/files/documents/EMPACT_2024_Results_Factsheets.pdf
[20] Half of e-cigarettes in Europe are illegal and almost all come from China - Brussels Signal
[21] Promoted | Dutch vape flavour ban backfires: New report shows rise in youth use, illicit trade, and smoking
[22] Belgium: vaping market footprint and illicit trade

circulation of non-compliant products, undermine legitimate businesses, and increase tax losses for Member States.

CLOSING REMARKS

As the EU considers a potential revision of the TPD and TAD, it should seek to maintain a balanced, evidence-based, proportionate, and enforceable regulatory approach.

The process should ensure that relevant evidence, behavioural data, market developments, enforcement realities, and potential unintended consequences are thoroughly examined before any new legislative measures are considered. A balanced and proportionate approach grounded in robust evidence and Better Regulation principles would be important to pursue both public health objectives and the effective functioning of the internal market.

Looking ahead to the upcoming Impact Assessment, we believe it will be essential to address these gaps through a comprehensive and methodologically sound analysis, including by:

- establishing clear causality between measures and outcomes;
- assessing the added value of EU intervention compared to national action;
- providing a full and quantified assessment of impacts on economic operators, including SMEs, employment, investment, innovation and the internal market;
- assessing effectiveness in practice;
- providing clarification on how evidence is assessed, treated and reflected in the findings;
- assessing regulatory costs, compliance burdens and enforcement realities; and
- evaluating potential unintended consequences, including the expansion of illicit markets and distortions affecting compliant businesses.

Thus, Tobacco Europe invites the European Commission to:

- include a revised and transparent evidence-assessment methodology, including an explanation of which evidence is retained, weighted or excluded as mentioned in the RSB opinion, and on what basis.
- provide a comprehensive and quantified assessment of impacts on economic operators – including SMEs, employment, agricultural regions, investment, innovation, and the internal market – as well as to clarify how evidence is assessed and weighted in the findings.
- include a quantified assessment of regulatory costs, compliance burdens and economic impacts across the full value chain, including SMEs, retailers, processors and primary producers, together with an assessment of unintended consequences such as the expansion of illicit markets and distortions affecting compliant businesses and explain how these impacts will be reflected in the assessment of proportionality.

Annexes

1. **S&P The economic footprint of traditional tobacco and new nicotine products Contributions to the EU-27 in 2021**
2. **Oxford Economics study ASSESSING THE EFFECTIVENESS OF THE TOBACCO EXCISE DIRECTIVE, 2011-2024 REPORT FOR TOBACCO EUROPE**
3. **The irregular market for e-cigarettes in Europe Fraunhofer Institute for Integrated Circuits (IIS) (March 2026)**
4. **Cummings, K. M., Roberson, A., Levy, D. T. et al. (2026) Transformation of the tobacco product market in Japan, 2011–2023 | Tobacco Controle**

Tobacco Europe AISBL
Avenue de Cortenbergh, 120
B- 1000 Brussels
info@tobacco-europe.eu - Registered number 089 438 919

S&P Global
Market Intelligence

Economic impact analysis

May 2023

The economic footprint of traditional tobacco and new nicotine products

Contributions to the EU-27 in 2021

Bob Flanagan, Consulting Director

Ian Chin, Senior Consultant

Dan McLaughlin, Consultant

Photo: NicoElNino/ iStock / Getty Images Plus via Getty Images

Table of contents

Executive Summary	**3**
Introduction	**5**
Traditional tobacco and new nicotine products value chains in the EU-27	**7**
The economic contributions stimulated by traditional tobacco products in 2021	**12**
The economic contributions stimulated by new nicotine products in 2021	**15**
Conclusion	**17**
Appendix A: Economic contributions of traditional tobacco products and new nicotine products in the EU-27 by member state in 2021	**18**
Appendix B: Excise tax and VAT assumptions	**47**
Appendix C: Economic contribution analysis methodology	**49**
Appendix D: Glossary of economic contribution analysis terminology	**64**

Executive Summary

Consumer demand for traditional tobacco and new nicotine products in the EU-27 is in transition.[1] A confluence of factors — socioeconomic situations, lifestyle choices, health consciousness and an aging consumer base as well as regulations — have and will continue to influence consumers' purchase decision processes. The market is characterised by ongoing shifts, wherein the revenue shares held by traditional tobacco products are shifting towards new nicotine products. These changes in consumer demand have implications not just for the traditional tobacco and new nicotine products industry but for follow-on economic activity stimulated by the industry across the EU-27.

The core objectives of this study were to: (1) establish a baseline assessment of the economic contributions the traditional tobacco products value chains made to the EU-27 in 2021; (2) establish a baseline assessment of the economic contributions the new nicotine products value chains made to the EU-27 in 2021; and (3) assess the impact that material changes in consumption (either for traditional tobacco products or new nicotine products) could have on the broader EU-27 economy. The industry's economic contributions were quantified in terms of jobs, sales activity, GDP, and wages at the member state and aggregate EU-27 levels.

In 2021, consumers in the EU-27 spent €151.3 billion on traditional tobacco products and new nicotine products, representing approximately 2.5% of total EU-27 consumer expenditures. By considering both the direct and follow-on economic activities affected by these expenditures, this study provides a comprehensive assessment of the economic contributions stimulated by the industry's value chains and the role they play in generating value and supporting jobs across the EU-27. Key findings of this study:

- The traditional tobacco and new nicotine products industry stimulated €194.5 billion in GDP across the EU-27.
  - If embodied as an individual country, it would rank as the 16th largest in the European Union.[2]
- The industry ultimately supported over 1.55 million EU-27 jobs that paid €43.5 billion in wages.
  - As a point of reference, this is about the size of the current population of Munich, Germany.[3]
  - This is equivalent to one out of every 130 jobs across the EU-27.
  - For every direct manufacturing job, another 23 were supported across the EU-27: 8 in the supply chains, 11 in wholesale, distribution and retail, and 4 in the broader economies of the member states.
  - For every €1 million consumers spent on traditional tobacco and new nicotine products in 2021, 10 jobs were supported and €1.3 million of GDP was generated across the EU-27.[4]
- The revenue market share of new nicotine products increased from 2.9% in 2016 to 8.8% in 2021.[5]
  - New nicotine products supported 137,000 jobs that earned €3.7 billion in wages and generated €17.1 billion in GDP across the EU-27.
  - Three member states accounted for 45.7% of the jobs: Poland (16.7%); Italy (14.5%); and Germany (14.4%).
- A 5% decline in traditional tobacco product sales would put over 70,700 jobs at risk and decrease GDP by €8.9 billion across the EU-27.
- A 5% decline in new nicotine product sales would put over 6,800 jobs at risk and decrease GDP by €854.3 million across the EU-27.

---

[1] Throughout this report, the term "traditional tobacco products" refers to cigarettes, cigars, fine-cut tobacco and other tobacco products. To ensure consistency with terminology used by regulators, "new nicotine products" refers to heated tobacco products, vapour products and nicotine pouches. The results presented in this report include both nicotine-containing and nicotine-free products for vapour products.

[2] S&P Global Market Intelligence comparison of the €194.5 billion in GDP stimulated by traditional tobacco and new nicotine products to country-level GDP reported in S&P Global Market Intelligence's Global Economy Service.

[3] Federal Statistical Office of Germany (Destatis)

[4] Jobs calculation: (1.55 million jobs) / (€ 151.3 billion spent on traditional tobacco and new nicotine products) equates to 10 jobs per € million spent;
GDP calculation: (€ 194.5 billion in GDP) / (€ 151.3 billion spent on traditional tobacco and new nicotine products) equates to € 1.3 million in GDP per € million spent.

[5] S&P Global Market Intelligence analysis of Euromonitor and eCigIntelligence data.

The economic contributions of the traditional tobacco and new nicotine products value chains to the EU-27 in 2021

By contribution type	Jobs	Sales activity[6]	GDP	Wages
Total	1,552K[7]	€ 304.8B	€ 194.5B	€ 43.4B
Direct	792K	€ 186.7B	€ 140.9B	€ 19.4B
Indirect	522K	€ 80.0B	€ 35.1B	€ 15.7B
Induced	238K	€ 38.0B	€ 18.4B	€ 8.3B

By product category	Jobs	Sales activity	GDP	Wages
Total	1,552K	€ 304.8B	€ 194.5B	€ 43.4B
Traditional tobacco products	1,415K	€ 278.1B	€ 177.4B	€ 39.7B
Cigarettes	1,186K	€ 230.9B	€ 147.4B	€ 32.7B
Cigars, cigarillos and smoking tobacco	49K	€ 9.8B	€ 6.2B	€ 1.4B
Fine-cut tobacco	167K	€ 34.7B	€ 22.3B	€ 5.0B
Other tobacco products	14K	€ 2.7B	€ 1.5B	€ 0.5B
New nicotine products	137K	€ 26.7B	€ 17.1B	€ 3.7B
Heated tobacco products	79K	€ 14.5B	€ 9.2B	€ 2.0B
Vapour products	53K	€ 11.0B	€ 7.2B	€ 1.5B
Nicotine pouches	6K	€ 1.1B	€ 0.7B	€ 0.2B

Source: S&P Global Market Intelligence

[6] Direct sales activity and direct GDP contributions include €107 billion of excise taxes and VAT.

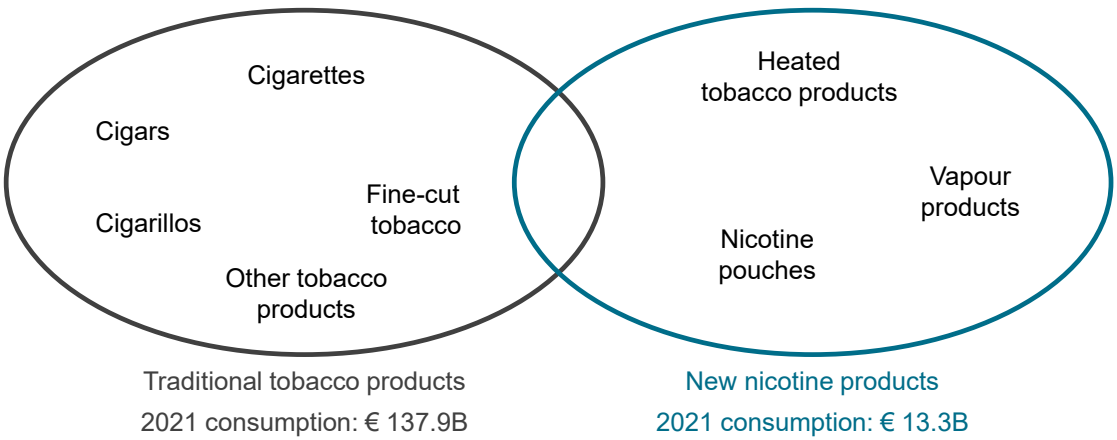
[7] Both full-time and part-time employees are counted in this figure. If converted to full-time-equivalent jobs, the total would be 1,375K jobs. The reader is referred to Appendix D for further details on the methodology.

Introduction

This study assessed the economic contributions that accrued to the EU-27 member states in 2021 attributable to the production, distribution and consumption of traditional tobacco products and new nicotine products. The first classification, traditional tobacco products, refers to products such as cigarettes, cigars, cigarillos and fine-cut tobacco. To ensure consistency with terminology used by regulators, the new nicotine products classification refers to heated tobacco products, vapour products and nicotine pouches.

In 2021, consumers in the EU-27 spent approximately €151.3 billion on traditional tobacco and new nicotine products,[8] representing 2.5% of consumer spending across the member states.[9] Sales were dominated by traditional tobacco products, which accounted for €137.9 billion or 91.2% of sales. New nicotine products made up the remaining €13.3 billion or 8.8% of sales.

Traditional tobacco and new nicotine products consumption in the EU-27, 2021



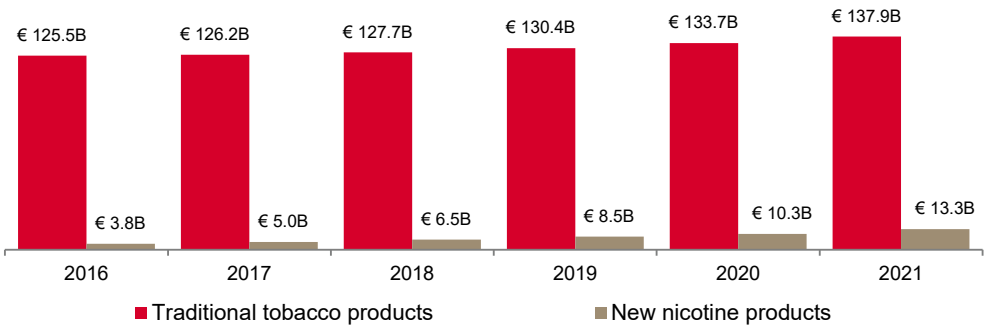
The core objectives of this study were to: (1) establish a baseline assessment of the economic contributions the traditional tobacco products sector made to the EU-27 in 2021; (2) establish a baseline assessment of the economic contributions the new nicotine products sector made to the EU-27 in 2021; and (3) assess the impact that shifts in consumer spending (either for traditional tobacco products or new nicotine products) could have on the broader EU-27 economy. The key economic indicators that were the basis of these assessments included contributions to jobs, sales activity, GDP, wages, excise taxes, and VAT at the EU-27 and member state levels.

Markets are in the midst of a transition as declines in spending on traditional tobacco products are being partially offset by increases in spending on new nicotine products. For example, between 2016 and 2021, cigarette unit sales declined by 10.5%, from 451.6 billion sticks to 404.3 billion sticks. Over the same period, consumer spending on new nicotine products grew to €13.3 billion (from €3.8 billion), primarily driven by growth in heated tobacco sticks unit sales. Four member states — Italy, Poland, Germany and the Czech Republic — accounted for almost two-thirds of the EU-27's heated tobacco stick unit sales in 2021. As shown in the following graph, the share of retail spending on new nicotine products markedly increased from 2.9% in 2016 to 8.8% in 2021.

[8] The monetary figures in this paragraph were derived from an analysis of Euromonitor data, supplemented with data from S&P Global Market Intelligence's Global Consumer Service.

[9] Source: S&P Global Market Intelligence's Global Consumer Service.

Traditional tobacco and new nicotine product revenues, EU-27



Sources: Euromonitor, eCigIntelligence, S&P Global Market Intelligence;
Data from Euromonitor Tobacco 2022, retail value RSP incl sales tax
US$, fixed 2021 exchange rate, current terms

This study isolates the economic contributions attributable to each of the main subcategories of traditional tobacco products and three subcategories of new nicotine products.

Measuring economic contributions

As explained in depth in Appendix C, S&P Global Market Intelligence developed models for measuring the economic contributions stimulated by the traditional tobacco and new nicotine products industry using industry-standard input-output modelling techniques. The core data set was the World Input-Output Database (WIOD), originally funded by the European Commission as part of the 7th Framework Programme, Theme 8: Socio-Economic Sciences and Humanities.

The models measured the following economic metrics:

Sales activity (output). Output represents the value of sales that occur in the national economies that are ultimately attributable to transactions initiated by or through tobacco product manufacturers, distributors, wholesalers or retailers.

Employment. This indicator measures the number of workers required to support a given level of sales activity within an economy on an industry level.

Contribution to Gross Domestic Product/Gross State Product (value added). Gross domestic product (GDP) captures the total value added across a country or the entire EU-27. GDP is generally considered the broadest measure of the size and health of an economy.

Labour Income. Labour income captures the compensation paid to workers.

Excise taxes and VAT. Estimates of the taxes paid on traditional tobacco and new nicotine products.

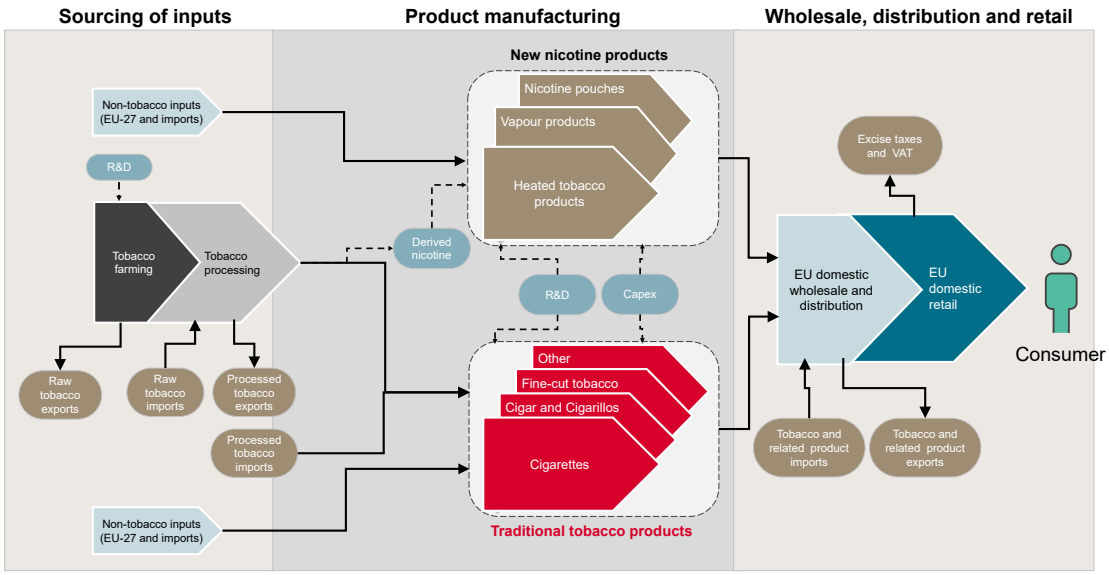
Also explained in Appendix C is how these economic indicators were assessed on three levels: (1) direct effects; (2) indirect or supply chain effects; and (3) induced spending effects.

Traditional tobacco and new nicotine products value chains in the EU-27

Regardless of whether a traditional tobacco product or a new nicotine product is purchased, preceding any retail transaction are a series of interconnected production and logistical processes, each of which generates economic activity and added value. The activities associated with making and supplying traditional tobacco and new nicotine products are spread across the EU-27, spanning raw materials; supply chains; manufacturing; plus distribution, wholesale and retail activities.

As implied by the graphic below, the value chains differ by product category. Any shifts in consumer demand — whether for traditional tobacco products or new nicotine products — will have corresponding upstream impacts on the associated value chains.

Traditional tobacco products and new nicotine products value chains



Source: S&P Global Market Intelligence ©2023 S&P Global

Sourcing of inputs

While tobacco is obviously used in traditional tobacco products such as cigarettes and cigars, new nicotine products may also use nicotine derived from tobacco. As such, sourcing of raw tobacco is a core input to the production link of multiple value chains. According to data compiled in the Philip Morris International Tobacco and Nicotine Database[10], there were 30,054 tobacco-growing farms in the EU in 2019. In 2021, tobacco-growing farms in the EU harvested tobacco across 54,730 hectares of land, generating a total of 133,810 tonnes of raw tobacco harvest in the EU.[11] This translated into a value of €520.4 million in raw tobacco production in the EU-27 in 2021.[12] Among EU-27 countries, Greece, Italy, Poland, and Spain are the primary contributors to this production, accounting for 85% of the total raw tobacco production value in 2021.

Most of the raw tobacco needed to produce cigarettes and other traditional tobacco products is imported from countries outside the EU-27, including Brazil, Zimbabwe, and the United States. In comparison to the

[10] https://www.pmi.com/tobacco-economics/tobacco-database

[11] Eurostat: Crop production in EU standard humidity

[12] Eurostat: Economic accounts for agriculture – values at current prices

estimated 133,810 tonnes of raw tobacco produced in the EU in 2021, the EU imported (net of all exports) 346,695 tonnes of raw tobacco, according to data from UN Comtrade.

The manufacturing processes source inputs from multiple supply chains that vary depending on the product category. For example, a number of flavourings, preservatives, thickening agents, and other additives may be added to the tobacco used in cigarettes and heated tobacco products. Running in parallel to the production of tobacco-related components is the sourcing of non-tobacco components that include:

- cigarette paper
- acetate tow, a fibre used to make cigarette filters with machinery in EU-27 factories
- finished filters
- packaging and wrapping materials
- inks / adhesives

Some of these raw materials are imported and used as inputs to manufacturing plants in the EU-27. The importation process involves purchasing staff, transport workers (both marine and road) and supporting business services (such as lawyers and accountants).

In other cases, raw materials are manufactured in the EU-27. While manufacturers may directly integrate some of these ingredients and components, a significant portion is sourced from suppliers that serve multiple industries. For example, additives essential to the manufacture of cigarettes may be sourced from a supplier that also serves other sectors such as the food and beverage industries. In addition, manufacturers need to purchase services that are vital for their operations such as information technology, maintenance, legal and accounting services. The economic activity initiated by spending with these Tier 1 suppliers spurred follow-on economic activity that was collectively captured as indirect contributions from the extended supply chains of the traditional tobacco and new nicotine products sector.

Product manufacturing

The product manufacturing segment has a significant role in the value chain as inputs are transformed into the final products ultimately purchased by consumers. Over 65,500 people were directly employed across the EU-27 in the manufacturing of traditional tobacco and new nicotine products in 2021. The top four EU-27 countries were Poland (16,900 jobs), Romania (10,700 jobs), Hungary (5,900 jobs) and Germany (5,800 jobs).

For traditional tobacco products, approximately €32.3 billion of production occurred across 17 countries within the EU-27 in 2021, with Poland and Germany collectively accounting for 62.3% of the total. The approximately 59,800 workers who were employed across the EU-27 earned a combined €4.1 billion in wages and salaries.

In addition, the product manufacturing link also requires continual investments in both physical capital (capex) and research & development. These investments are primarily focused on new machinery and innovative methods to: (1) produce new nicotine products and (2) replace or upgrade older machinery producing traditional tobacco products. Thus, not only does the product manufacturing link generate economic activity itself, but it also serves as the connection point of several important subcomponents of the value chain.

While there is some overlap in the value chains for production of traditional tobacco and new nicotine products, the ramp-up in consumer demand for new nicotine products has led to the emergence of different technologies and inputs used in the manufacturing processes. For example, both vapour and heated tobacco products require accompanying electronic hardware, which, in turn, drives investments in research and development — both in product design and manufacturing equipment — as well as sourcing of electronic components (typically from outside the EU-27). As another example, liquids used in some vapour products use nicotine derived from tobacco, requiring additional processing to isolate the nicotine.

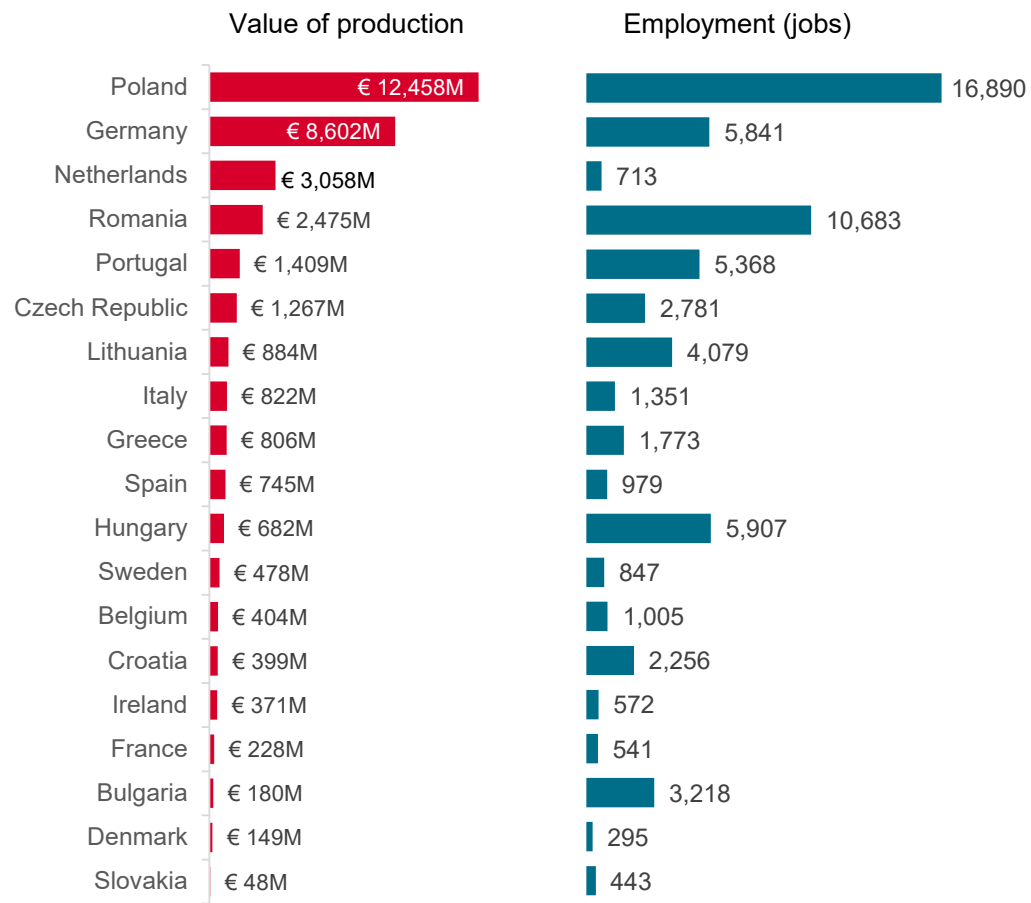
Moreover, there are ongoing reconfigurations of the value chains resulting from demand for new nicotine products that have led to the retooling of existing facilities or capacity expansion across member states. For

example, countries including Croatia, Germany, Greece, Italy, Poland and Romania have experienced scaling in heated tobacco product production; reconstituted tobacco used to make heated tobacco sticks is produced in France; vaping e-liquids are produced in Poland and France, and production of nicotine pouches in the EU is primarily found in Denmark, Hungary and Sweden.

For both traditional tobacco and new nicotine products, approximately €35.5 billion of production occurred across 17 countries within the EU-27 in 2021,[13] with Germany and Poland collectively accounting for 59.4% of the total. The approximately 65,500 workers who were employed earned a combined €4.5 billion in wages and salaries. The value of production and its associated direct employment by country are shown in the following chart.

The economic contributions stimulated by manufacturing go beyond these direct effects. As explained in Appendix C, spending with EU-27-based suppliers stimulates multiple cycles of economic activity that radiate across the member states' economies. In addition, employees of the traditional tobacco and new nicotine product manufacturers and the workers within their extended supply chains spend significant portions of their wages in the broader EU-27 economies. This induces additional rounds of economic contributions.

Value of traditional tobacco and new nicotine products manufacturing and direct employment, 2021



Source: S&P Global Market Intelligence

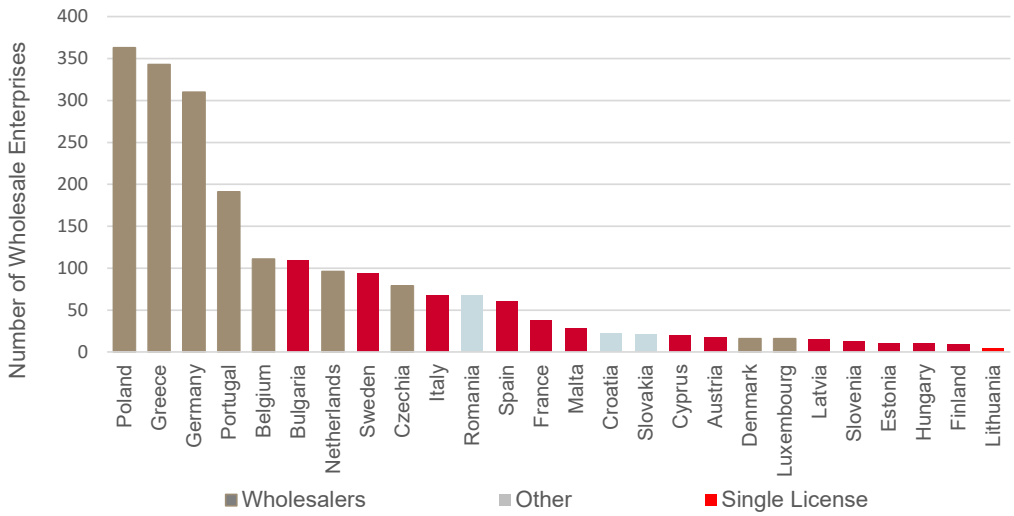
[13] Source: S&P Global Market Intelligence Comparative Industry Service, based on OECD data

Wholesale and distribution

Following the manufacturing stage, a number of different wholesale and distribution models are deployed across the EU-27. The approximately 2,300 wholesaler enterprises generated €6.7 billion of value added, which was additive to the EU-27's GDP in 2019[14]. More than 37,650 full-time equivalent workers were employed by these wholesalers and earned over €1.5 billion in wages.[15]

Wholesale and distribution companies create jobs across the EU-27 by employing workers to transport, store, and manage their products. Beyond this, a number of highly skilled jobs have been created to ensure compliance with regulations. The EU's Excise Movement and Control System (EMCS) and Track & Trace (T&T) serve as examples requiring the development of specific systems and involvement of technology providers and manufacturers of specialised equipment.

Number of wholesale enterprises in EU-27 by distribution regime, 2021



Note: Ireland is omitted due to data availability.
Source: Eurostat

The distribution systems for traditional tobacco and new nicotine products vary across the EU-27. According to the most recent data available from Eurostat, in 2019, approximately half of the value flowed through centralised distribution systems while wholesaler networks accounted for 44%.[16] Nine member states use traditional systems in which large networks of wholesalers distribute products from manufacturers to retailers. At the other end of the spectrum are countries that authorise and regulate licensed distribution systems that require the use of a single centralised distributor.[17] A small handful of countries, including Croatia, Denmark, Luxembourg, Ireland and Slovakia, use some variant in between. Romania is the only country in the EU-27 that uses a direct sales-to-retail distribution scheme.

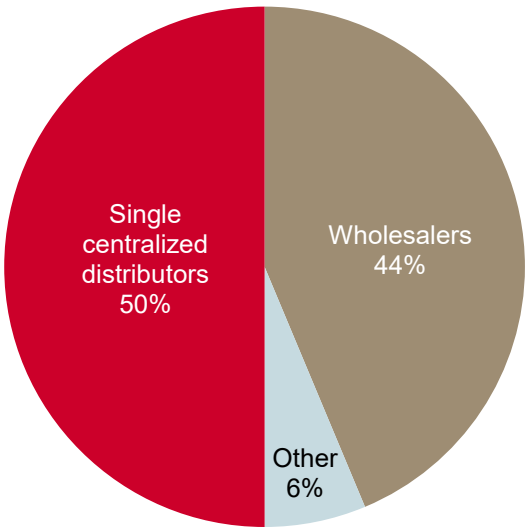
[14] The latest year for which data were available. In 2019, the United Kingdom was still part of the European Union (the EU-28). The statistics cited in this report exclude the United Kingdom in order to present data relevant for the EU-27.

[15] Eurostat: Annual detailed enterprise statistics for trade

[16] Eurostat: Annual detailed enterprise statistics for trade

[17] Individual countries need not use the same distributor as other countries.

Wholesale value by distribution regime, 2019



Source: Eurostat

Retail

The permitted points of sale for traditional tobacco and new nicotine products vary across the EU-27. In some countries, such as Hungary, tobacco sales are restricted to approximately 5,500 national tobacco stores.[18] In other countries, such as Italy and Austria, a mix of specialised tobacconists alongside licensed general retail outlets sell traditional tobacco and new nicotine products.

According to Eurostat, there were 70,661 retail stores that specialised in tobacco in the EU in 2019 that employed 123,000 full-time equivalent employees who collectively earned €2.1 billion in wages and salaries.[19] Sales of tobacco also supported jobs in non-specialised retail stores in countries where sales are allowed in such channels. We estimate there were over 726,400 direct employees across the entirety of the industry's EU wholesale, distribution and retail networks in 2021.

In the EU, the sale of traditional tobacco products is highly regulated and taxed. Of the €151.3 billion in consumer spending, €107.4 went to excise taxes and VAT payments. Thus, over 70% of the prices consumers paid went to various EU-27 governments. Taxation is a powerful lever that affects affordability and can indirectly influence a consumer's purchase decision. However, while making traditional tobacco products less affordable through taxation may be expected to induce consumers to reduce consumption, it also often stimulates demand for cheaper or illegal cigarettes and other contraband. While an analysis of the dynamics of illegal markets was beyond the scope of this study, the existence of illegal trade must be acknowledged as it has historically been a significant issue in many EU-27 countries.

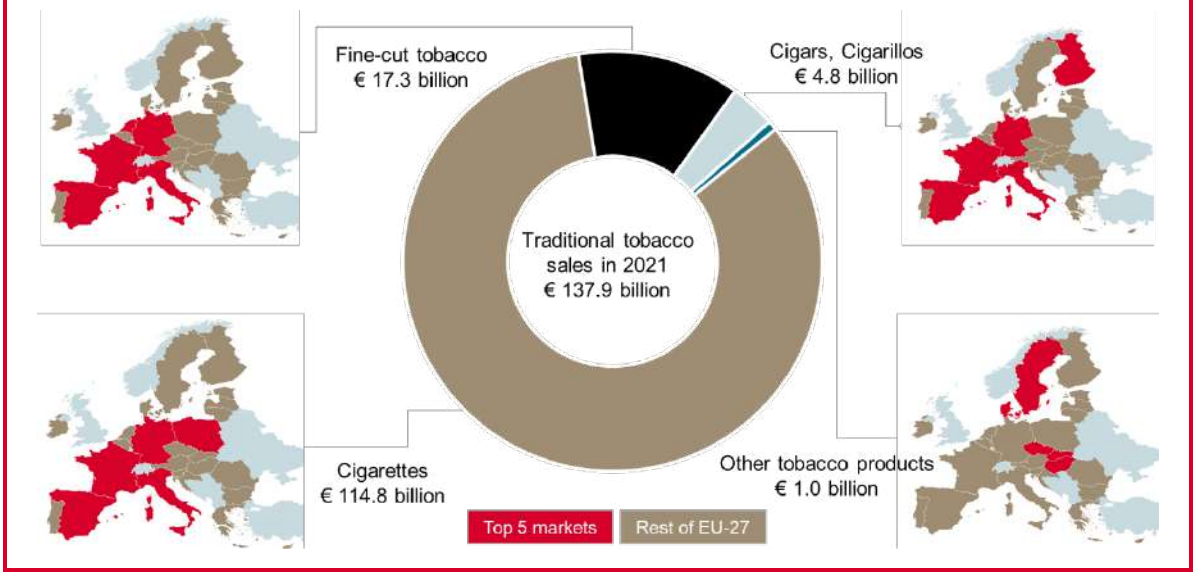
[18] According to Confédération Européennes des Détaillants en Tabac (C.E.D.T).

[19] Eurostat: Annual detailed enterprise statistics for trade

The economic contributions stimulated by traditional tobacco products in 2021

The following graphic breaks out the sales revenues for the main subcategories of traditional tobacco products and identifies the top five markets for each. The largest subcategory, cigarettes, accounted for over 83% of traditional tobacco product sales in 2021.

Top five markets for traditional tobacco products in the EU-27, 2021



Sources: Euromonitor, S&P Global Market Intelligence

The €137.9 billion in purchases of traditional tobacco products initiated a cascade of economic activity throughout their value chains. The resultant contributions to key economic indicators such as jobs and GDP are shown below for each traditional tobacco subcategory. Overall, the 1.4 million jobs supported by the traditional tobacco sector accounted for about 0.7% of EU-27 jobs. The sector generated €177.4 billion or 1.2% of the EU-27's overall GDP in 2021. This considerably higher contribution percentage is due, in large part, to the excise taxes and VAT assessed on tobacco products. Taxes are a form of economic value added and, as such, are additive to GDP. With combined excise tax and VAT rates exceeding 70% in most member states, traditional tobacco products generated about €100 billion in revenue for the EU-27 governments. Indeed, more than half of the GDP contributions stimulated by the traditional tobacco sector was in the form of excise taxes and VAT.

Traditional tobacco products are consumed throughout the EU-27 and produced in 17 member states: Belgium, Bulgaria, Czech Republic, Denmark, France, Germany, Greece, Hungary, Ireland, Italy, Netherlands, Poland, Portugal, Romania, Slovakia, Spain, and Sweden.[20] Not surprisingly, most of the economic contributions associated with the production of traditional tobacco products accrue to these member states. However, in 2021 about 2.1% of the sales activity and 2.4% of the employment initiated by production accrued across all of the non-producing member states, mainly via supply chain linkages. This indicates that traditional tobacco supply chains extend across the entirety of the EU-27.

Over 721,300 direct jobs were supported across all traditional tobacco product value chains in the EU-27 during 2021. An additional 693,640 jobs were supported through indirect and induced activity. This implies a

[20] Source: S&P Global Market Intelligence Comparative Industry Service

jobs multiplier of 0.96. This means for every 100 direct jobs in the traditional tobacco sector, another 96 jobs were supported across the EU-27.

Moreover, economic contribution cycles are initiated by direct sales activity.[21] The €170.3 billion of direct sales activity led to a follow-on indirect and induced sales activity of €107.8 billion, a multiplier of 0.63. In other words, every €1 million of direct sales activity triggered an additional €630,000 of sales activity across the EU-27.

Ultimately, direct sales activity converts to GDP contributions and supports jobs. In 2021, the €170.3 billion of direct sales activity (€137.9 billion of consumer spending plus €32.3 billion value of production) converted to €177.4 billion of GDP across the EU-27, a conversion rate of 104%. Thus, every euro of direct sales activity ultimately converted to slightly more than one euro of GDP across the EU-27. Viewed from a different perspective, traditional tobacco products helped generate €486 million of GDP, on average, every day in 2021.

More detailed insights, broken out by EU-27 member state, are included in Appendix A.

Economic contributions of traditional tobacco products to the EU-27, 2021

Economic Indicator	Employment	Sales activity	GDP	Wages
By contribution type	**1,414,953**	**€ 278,125M**	**€ 177,405M**	**€ 39,740M**
Direct (production + wholesale, distribution and retail)	721,311	€ 170,291M	€ 128,481M	€ 17,792M
Indirect	476,046	€ 72,999M	€ 32,047M	€ 14,383M
Induced	217,596	€ 34,835M	€ 16,876M	€ 7,565M
By product category	**1,414,953**	**€ 278,125M**	**€ 177,405M**	**€ 39,740M**
Cigarettes	1,185,878	€ 230,900M	€ 147,387M	€ 32,746M
Cigars, cigarillos and smoking tobacco	48,502	€ 9,806M	€ 6,249M	€ 1,431M
Fine-cut tobacco	167,066	€ 34,719M	€ 22,279M	€ 5,035M
Other tobacco products	13,506	€ 2,699M	€ 1,491M	€ 528M

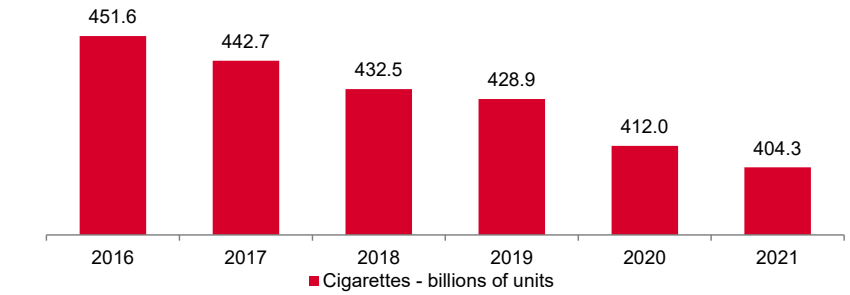
Source: S&P Global Market Intelligence

[21] For more information on economic contribution cycles, the reader is referred to Appendix D.

The estimated economic impacts of a 5% decline in traditional tobacco product sales revenue

Cigarette unit sales, which accounted for over 83% of traditional tobacco product sales in 2021, have been on a downward trajectory for many years. Between 2016 and 2021, annual unit sales dropped from 451.6 billion sticks to 404.3 billion sticks — an annual decline of 2.2%.

Annual cigarette sales in the EU-27



Source: Euromonitor, Tobacco 2022, retail value RSP incl sales tax, US$, fixed 2021 exchange rate, current terms

The models created for this study were used to estimate the impact of a €6.9 billion, or 5%, decline in traditional tobacco product sales across the EU-27. Such a decline would have ripple effects as sales and production activity drops throughout the cigarette value chain. Once the indirect and induced effects are considered, the total drop in sales activity would exceed €13.9 billion. This, in turn, would put over 70,700 jobs at risk, and result in a €8.9 billion decrease in EU-27 GDP. The impacts on each member state are summarised below.

The economic impacts of a 5% decline in traditional tobacco product sales across the EU-27

Member state	Employment	Sales	GDP	Wages
Austria	-1,094	-€ 279.0M	-€ 205.1M	-€ 40.6M
Belgium	-953	- 377.4M	- 250.8M	- 48.7M
Bulgaria	-1,099	- 119.6M	- 94.7M	- 7.5M
Croatia	-1,045	- 111.4M	- 77.7M	- 18.4M
Cyprus	-263	- 35.8M	- 27.4M	- 5.5M
Czech Republic	-2,928	- 426.3M	- 243.3M	- 51.0M
Denmark	-515	- 162.1M	- 112.0M	- 24.4M
Estonia	-93	- 21.7M	- 17.6M	- 1.6M
Finland	-482	- 152.8M	- 111.5M	- 20.9M
France	-5,190	- 1,626.2M	- 1,253.6M	- 225.5M
Germany	-16,694	- 3,353.9M	- 2,038.4M	- 630.4M
Greece	-1,403	- 266.1M	- 200.2M	- 29.5M
Hungary	-2,791	- 217.0M	- 127.0M	- 30.1M
Ireland	-512	- 179.7M	- 129.0M	- 17.9M
Italy	-4,491	- 1,442.1M	- 1,074.0M	- 159.4M
Latvia	-446	- 34.0M	- 24.1M	- 5.2M
Lithuania	-843	- 107.3M	- 56.2M	- 16.9M
Luxembourg	-145	- 102.5M	- 59.7M	- 8.1M
Malta	-151	- 19.1M	- 12.7M	- 2.8M
Netherlands	-2,291	- 704.7M	- 403.4M	- 98.2M
Poland	-10,815	- 1,880.9M	- 851.2M	- 220.2M
Portugal	-1,916	- 301.7M	- 171.0M	- 41.9M
Romania	-7,443	- 564.6M	- 329.5M	- 62.8M
Slovakia	-843	- 116.5M	- 79.5M	- 12.9M
Slovenia	-313	- 54.0M	- 40.2M	- 7.9M
Spain	-4,732	- 971.9M	- 709.1M	- 139.4M
Sweden	-1,257	- 277.7M	- 171.2M	- 59.2M
EU-27	**-70,748**	**-€ 13,906.2M**	**-€ 8,870.2M**	**-€ 1,987.0M**

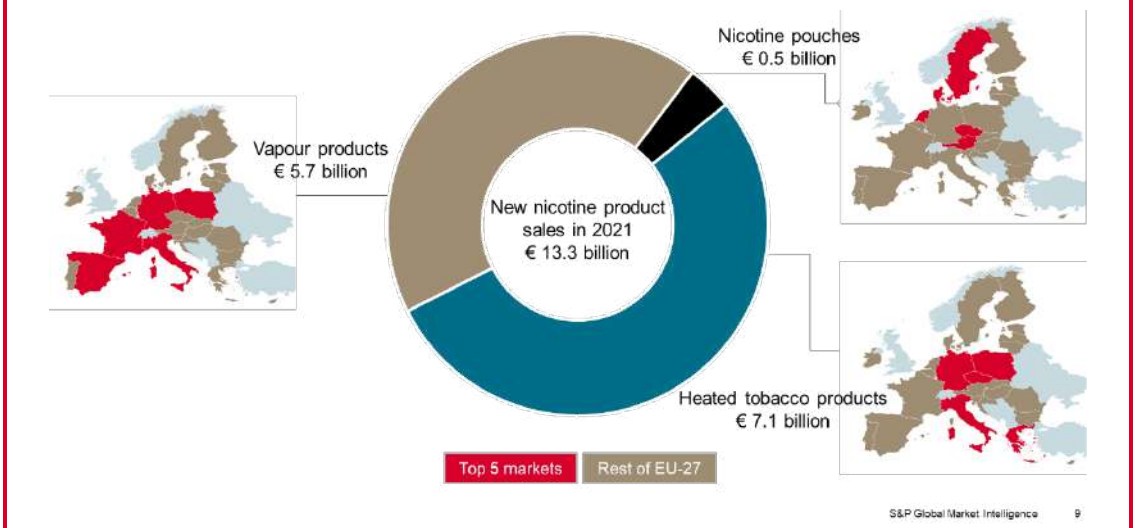
Source: S&P Global Market Intelligence

The economic contributions stimulated by new nicotine products in 2021

Sales of new nicotine products are on a growth trajectory in the EU-27. The share of retail spending on new nicotine products tripled from 2.9% in 2016 to 8.8% in 2021.[22] More than half of new nicotine product sales in the EU-27 were for heated tobacco products, which have been gaining significant traction in countries such as Italy, surpassing vapour products sales in 2021.

The €13.3 billion market for new nicotine products in the EU-27 is broken out by sub-category and the top five markets for each are identified in the graphic below.

Top five markets for new nicotine products in the EU-27, 2021



Sources: Euromonitor, eCigIntelligence, S&P Global Market Intelligence ©2023 S&P Global

The €13.3 billion in purchases of new nicotine products initiated a cascade of economic activity throughout their value chains. The resultant contributions to key economic indicators, such as jobs and GDP, are shown in the table below, broken out by product category. Key multipliers and conversion rates for the new nicotine products sector include:

- In addition to the 70,645 direct jobs across the EU-27 value chains, the new nicotine products sector supported another 66,100 indirect and induced jobs, a multiplier of 0.94. Thus, for every 100 direct jobs, another 94 jobs were supported across the EU-27.
    - The top four countries, accounting for approximately 54.4% of the jobs, were Poland, Italy, Germany and Romania.
- The €16.5 billion of direct sales activity (€13.3 billion of consumer spending plus €3.2 billion value of production) led to another €10.2 billion of indirect and induced sales activity, a multiplier of 0.62. Thus, every €1.0 million of direct sales activity in the new nicotine sector was matched by an additional €620,000 of indirect and induced sales activity across the EU-27.
- The €16.5 billion of direct sales activity ultimately converted to €17.1 billion of GDP contribution. Thus, every euro of direct sales activity ultimately converted to slightly more than one euro in EU-27 GDP.

More detailed insights for each member state are included in Appendix A.

[22] S&P Global Market Intelligence analysis of Euromonitor and eCigIntelligence data.

Economic contributions of new nicotine products to the EU-27, 2021				
Economic Indicator	**Employment**	**Sales activity**	**GDP**	**Wages**
By contribution type	**136,741**	**€ 26,667M**	**€ 17,086M**	**€ 3,655M**
Direct (production + wholesale, distribution and retail)	70,645	€ 16,452M	€ 12,465M	€ 1,612M
Indirect	46,085	€ 7,011M	€ 3,070M	€ 1,347M
Induced	20,011	€ 3,204M	€ 1,552M	€ 696M
By product category	**136,741**	**€ 26,667M**	**€ 17,086M**	**€ 3,655M**
Heated tobacco products	78,612	€ 14,504M	€ 9,182M	€ 1,981M
Vapour products	52,627	€ 11,027M	€ 7,209M	€ 1,488M
Nicotine pouches	5,502	€ 1,136M	€ 695M	€ 186M

Source: S&P Global Market Intelligence ©2023 S&P Global

The estimated economic impacts of a 5% decline in new nicotine product sales revenue

The models created for this study were used to estimate the impact of a €666.8 million, or 5%, decline in new nicotine product sales across the EU-27. With the inclusion of indirect and induced activity, over €1.3 billion in sales would be lost across the EU-27. This, in turn, would put over 6,800 jobs at risk jobs and result in €854.3 million less EU-27 GDP. The impacts for each member state are summarised below.

The economic impacts of a 5% decline in new nicotine product sales across the EU-27				
Member state	Employment	Sales	GDP	Wages
Austria	-70	-€ 17.3M	-€ 11.8M	-€ 2.8M
Belgium	-57	- 20.8M	- 13.0M	- 3.0M
Bulgaria	-83	- 11.2M	- 9.8M	- 0.5M
Croatia	-126	- 13.4M	- 8.4M	- 2.6M
Cyprus	-3	- 0.4M	- 0.2M	- 0.1M
Czech Republic	-375	- 50.6M	- 37.4M	- 4.9M
Denmark	-72	- 23.2M	- 17.9M	- 3.0M
Estonia	-6	- 0.9M	- 0.6M	- 0.1M
Finland	-22	- 6.3M	- 3.7M	- 1.1M
France	-417	- 126.9M	- 96.4M	- 18.3M
Germany	-983	- 180.4M	- 114.7M	- 35.0M
Greece	-369	- 69.5M	- 43.1M	- 9.1M
Hungary	-413	- 31.1M	- 19.2M	- 4.3M
Ireland	-35	- 11.3M	- 8.4M	- 1.2M
Italy	-995	- 332.5M	- 213.8M	- 38.6M
Latvia	-82	- 6.1M	- 4.7M	- 0.9M
Lithuania	-81	- 8.2M	- 7.1M	- 1.0M
Luxembourg	-3	- 1.8M	- 0.5M	- 0.2M
Malta	-2	- 0.3M	- 0.1M	0.0M
Netherlands	-229	- 87.0M	- 38.9M	- 12.9M
Poland	-1,144	- 169.5M	- 97.8M	- 18.5M
Portugal	-161	- 23.5M	- 19.2M	- 2.8M
Romania	-595	- 43.7M	- 24.1M	- 4.9M
Slovakia	-100	- 14.0M	- 10.2M	- 1.5M
Slovenia	-22	- 3.7M	- 2.6M	- 0.6M
Spain	-218	- 40.0M	- 27.1M	- 6.6M
Sweden	-172	- 39.8M	- 23.8M	- 8.2M
EU-27	**-6,837**	**-€ 1,333.4M**	**-€ 854.3M**	**-€ 182.7M**

Source: S&P Global Market Intelligence ©2023 S&P Global

Conclusion

The traditional tobacco and new nicotine products industry faces material changes in consumer demand. This study sought to provide comprehensive assessments of the economic contributions to the EU-27 in 2021 as a result of consumers spending €137.9 billion on traditional tobacco products and €13.3 billion on new nicotine products. Serving this demand were value chains encompassing the production, wholesaling, distribution and retailing of traditional tobacco and new nicotine products that spanned the EU-27.

The combined €151.3 billion of consumer spending ultimately supported over 1.6 million jobs and generated €194.5 billion of GDP across the EU-27. As a point of reference, the jobs impact was approximately equivalent to the current population of Munich, Germany. The GDP impact was larger than the individual economies of eleven of the EU-27 member states.

The economic contributions accrue across multiple industries and all member states. For every direct traditional tobacco and new nicotine product manufacturing job, another 23 are supported across the EU-27: 8 in the supply chains, 11 in wholesale, distribution and retail, and 4 in the broader economies of the member states.

While this study did not forecast the potential impacts of any specific policies or regulations that may be implemented in the EU-27, two counterfactual analyses were included to provide insights on how subtle changes in consumer preferences could affect baseline economic indicators such as jobs and GDP. A 5% decline in traditional tobacco product sales could put over 70,700 jobs at risk and lessen EU-27 GDP by €8.9 billion. A 5% decrease in new nicotine product sales could put 6,800 jobs at risk and lower EU-27 GDP by €854.3 million.

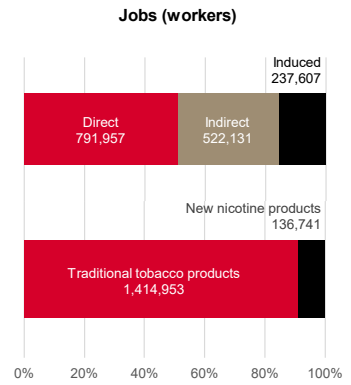
Many factors influence each consumer’s decision whether to buy or pass on traditional tobacco and new nicotine products including, but not limited to socioeconomic situations, lifestyle choices, health consciousness and an aging consumer base. Amidst ongoing transitions in the industry and in consumer preferences, this study can inform current and future dialogues on how to effectively navigate the transitions necessitated by shifts in consumer demand for traditional tobacco and new nicotine products.

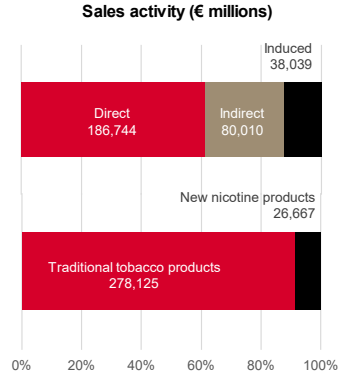
Appendix A: Economic contributions of traditional tobacco products and new nicotine products in the EU-27 by member state in 2021

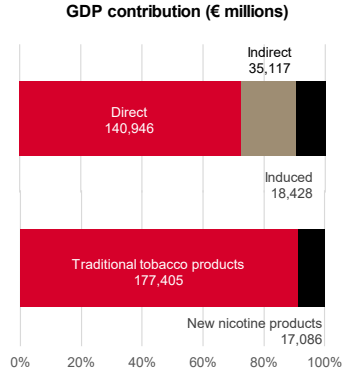
Economic contributions of the tobacco and related products sector to the economy of the EU-27

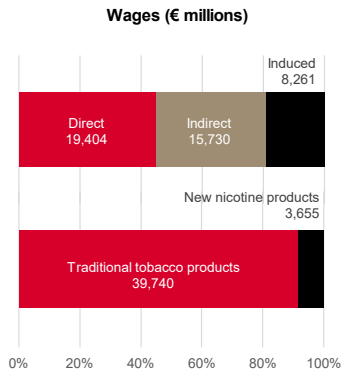
Economic indicator	Production	Wholesale, distribution and retail	Total
Employment by contribution type (across all product categories)	**491,535**	**1,060,159**	**1,551,694**
Direct	65,541	726,415	791,957
Indirect	327,061	195,070	522,131
Induced	98,933	138,674	237,607
Employment by product category (direct, indirect and induced)	**491,535**	**1,060,159**	**1,551,694**
Traditional tobacco products	**448,337**	**966,616**	**1,414,953**
Cigarettes	*371,508*	*814,370*	*1,185,878*
Cigars, cigarillos and smoking tobacco	*15,821*	*32,681*	*48,502*
Fine-cut tobacco	*55,485*	*111,581*	*167,066*
Other tobacco products	*5,523*	*7,983*	*13,506*
New nicotine products	**43,198**	**93,543**	**136,741**
Heated tobacco products	*23,964*	*54,648*	*78,612*
Vapour products	*17,250*	*35,378*	*52,627*
Nicotine pouches	*1,984*	*3,517*	*5,502*
Sales activity by contribution type (across all product categories, in € millions)	**101,272**	**203,521**	**304,792**
Direct	35,466	151,277	186,744
Indirect	49,967	30,043	80,010
Induced	15,838	22,200	38,039
Sales activity by product category (direct, indirect and induced, in € millions)	**101,272**	**203,521**	**304,792**
Traditional tobacco products	**92,372**	**185,753**	**278,125**
Cigarettes	*76,542*	*154,358*	*230,900*
Cigars, cigarillos and smoking tobacco	*3,260*	*6,547*	*9,806*
Fine-cut tobacco	*11,432*	*23,287*	*34,719*
Other tobacco products	*1,138*	*1,562*	*2,699*
New nicotine products	**8,900**	**17,767**	**26,667**
Heated tobacco products	*4,937*	*9,567*	*14,504*
Vapour products	*3,554*	*7,473*	*11,027*
Nicotine pouches	*409*	*727*	*1,136*
GDP by contribution type (across all product categories, in € millions)	**36,055**	**158,436**	**194,491**
Direct	8,142	132,804	140,946
Indirect	20,240	14,877	35,117
Induced	7,673	10,755	18,428
GDP by product category (direct, indirect and induced, in € millions)	**36,055**	**158,436**	**194,491**
Traditional tobacco products	**32,886**	**144,518**	**177,405**
Cigarettes	*27,251*	*120,136*	*147,387*
Cigars, cigarillos and smoking tobacco	*1,161*	*5,089*	*6,249*
Fine-cut tobacco	*4,070*	*18,209*	*22,279*
Other tobacco products	*405*	*1,085*	*1,491*
New nicotine products	**3,169**	**13,918**	**17,086**
Heated tobacco products	*1,758*	*7,424*	*9,182*
Vapour products	*1,265*	*5,944*	*7,209*
Nicotine pouches	*146*	*550*	*695*
Wages by contribution type (across all product categories, in € millions)	**17,265**	**26,129**	**43,395**
Direct	4,505	14,898	19,404
Indirect	9,320	6,410	15,730
Induced	3,440	4,821	8,261
Wages by product category (direct, indirect and induced, in € millions)	**17,265**	**26,129**	**43,395**
Traditional tobacco products	**15,748**	**23,992**	**39,740**
Cigarettes	*13,049*	*19,697*	*32,746*
Cigars, cigarillos and smoking tobacco	*556*	*875*	*1,431*
Fine-cut tobacco	*1,949*	*3,086*	*5,035*
Other tobacco products	*194*	*334*	*528*
New nicotine products	**1,517**	**2,138**	**3,655**
Heated tobacco products	*842*	*1,140*	*1,981*
Vapour products	*606*	*882*	*1,488*
Nicotine pouches	*70*	*116*	*186*

Charts





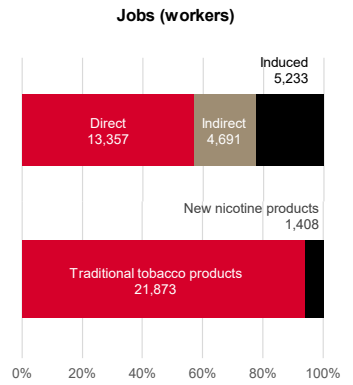




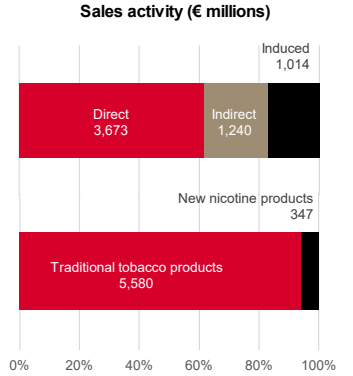
Source: S&P Global Market Intelligence

Economic contributions of the tobacco and related products sector to the economy of Austria

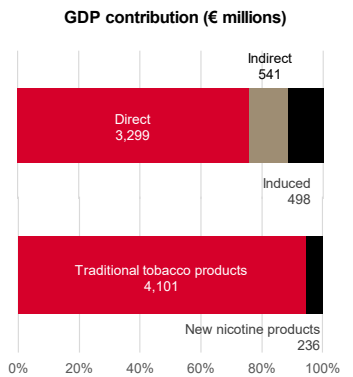
Economic indicator	Production	Wholesale, distribution and retail	Total	Charts
Employment by contribution type (across all product categories)	**3,676**	**19,605**	**23,281**	
Direct	0	13,357	13,357	
Indirect	1,517	3,174	4,691	
Induced	2,159	3,074	5,233	
Employment by product category (direct, indirect and induced)	**3,676**	**19,605**	**23,281**	
Traditional tobacco products	**3,354**	**18,519**	**21,873**	
Cigarettes	*2,665*	*16,609*	*19,274*	
Cigars, cigarillos and smoking tobacco	*115*	*626*	*741*	
Fine-cut tobacco	*532*	*1,238*	*1,769*	
Other tobacco products	*43*	*46*	*89*	
New nicotine products	**322**	**1,086**	**1,408**	
Heated tobacco products	*181*	*356*	*537*	
Vapour products	*124*	*484*	*608*	
Nicotine pouches	*17*	*247*	*264*	



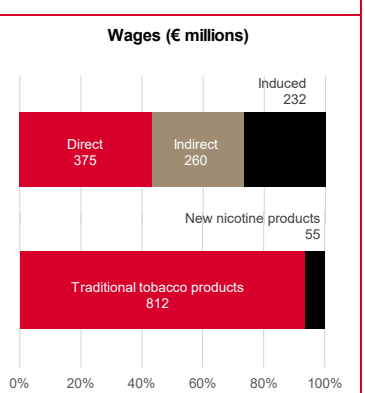
Sales activity by contribution type (across all product categories, in € millions)	**906**	**5,022**	**5,927**	
Direct	0	3,673	3,673	
Indirect	483	756	1,240	
Induced	422	592	1,014	
Sales activity by product category (direct, indirect and induced, in € millions)	**906**	**5,022**	**5,927**	
Traditional tobacco products	**831**	**4,749**	**5,580**	
Cigarettes	*669*	*4,277*	*4,946*	
Cigars, cigarillos and smoking tobacco	*29*	*160*	*189*	
Fine-cut tobacco	*126*	*303*	*429*	
Other tobacco products	*8*	*9*	*17*	
New nicotine products	**74**	**272**	**347**	
Heated tobacco products	*41*	*85*	*126*	
Vapour products	*30*	*122*	*151*	
Nicotine pouches	*4*	*65*	*69*	



GDP by contribution type (across all product categories, in € millions)	**389**	**3,948**	**4,337**	
Direct	0	3,299	3,299	
Indirect	182	359	541	
Induced	207	291	498	
GDP by product category (direct, indirect and induced, in € millions)	**389**	**3,948**	**4,337**	
Traditional tobacco products	**357**	**3,744**	**4,101**	
Cigarettes	*288*	*3,394*	*3,682*	
Cigars, cigarillos and smoking tobacco	*12*	*125*	*138*	
Fine-cut tobacco	*53*	*220*	*273*	
Other tobacco products	*4*	*4*	*8*	
New nicotine products	**32**	**204**	**236**	
Heated tobacco products	*18*	*56*	*74*	
Vapour products	*13*	*93*	*106*	
Nicotine pouches	*2*	*54*	*56*	



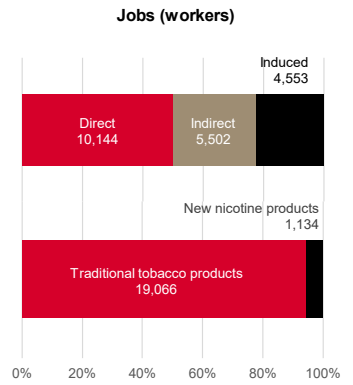
Wages by contribution type (across all product categories, in € millions)	**193**	**674**	**867**	
Direct	0	375	375	
Indirect	97	164	260	
Induced	97	136	232	
Wages by product category (direct, indirect and induced, in € millions)	**193**	**674**	**867**	
Traditional tobacco products	**177**	**635**	**812**	
Cigarettes	*144*	*565*	*710*	
Cigars, cigarillos and smoking tobacco	*6*	*22*	*28*	
Fine-cut tobacco	*25*	*46*	*71*	
Other tobacco products	*2*	*2*	*4*	
New nicotine products	**16**	**39**	**55**	
Heated tobacco products	*9*	*14*	*23*	
Vapour products	*7*	*17*	*24*	
Nicotine pouches	*1*	*8*	*9*	

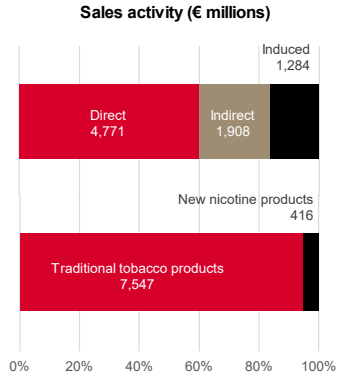


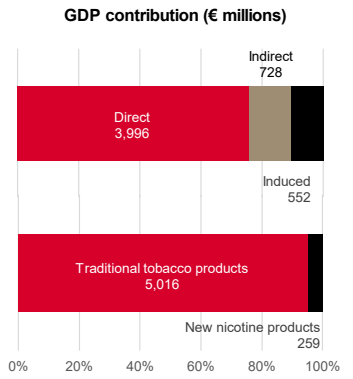
Source: S&P Global Market Intelligence

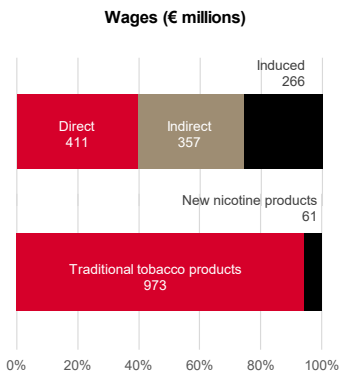
Economic contributions of the tobacco and related products sector to the economy of Belgium

Economic indicator	Production	Wholesale, distribution and retail	Total	Charts
Employment by contribution type (across all product categories)	**5,697**	**14,503**	**20,199**	
Direct	1,005	9,139	10,144	
Indirect	2,792	2,711	5,502	
Induced	1,900	2,653	4,553	
Employment by product category (direct, indirect and induced)	**5,697**	**14,503**	**20,199**	
Traditional tobacco products	**5,321**	**13,745**	**19,066**	
Cigarettes	*4,565*	*10,638*	*15,203*	
Cigars, cigarillos and smoking tobacco	*144*	*328*	*472*	
Fine-cut tobacco	*549*	*2,731*	*3,280*	
Other tobacco products	*64*	*47*	*111*	
New nicotine products	**375**	**758**	**1,134**	
Heated tobacco products	*171*	*152*	*323*	
Vapour products	*186*	*590*	*776*	
Nicotine pouches	*19*	*16*	*35*	
Sales activity by contribution type (across all product categories, in € millions)	**2,012**	**5,951**	**7,963**	
Direct	404	4,368	4,771	
Indirect	1,074	835	1,908	
Induced	535	749	1,284	
Sales activity by product category (direct, indirect and induced, in € millions)	**2,012**	**5,951**	**7,963**	
Traditional tobacco products	**1,892**	**5,655**	**7,547**	
Cigarettes	*1,643*	*4,353*	*5,997*	
Cigars, cigarillos and smoking tobacco	*52*	*129*	*181*	
Fine-cut tobacco	*182*	*1,159*	*1,340*	
Other tobacco products	*16*	*14*	*30*	
New nicotine products	**120**	**296**	**416**	
Heated tobacco products	*52*	*46*	*98*	
Vapour products	*62*	*246*	*307*	
Nicotine pouches	*5*	*5*	*10*	
GDP by contribution type (across all product categories, in € millions)	**667**	**4,609**	**5,276**	
Direct	77	3,919	3,996	
Indirect	359	368	728	
Induced	230	322	552	
GDP by product category (direct, indirect and induced, in € millions)	**667**	**4,609**	**5,276**	
Traditional tobacco products	**622**	**4,394**	**5,016**	
Cigarettes	*533*	*3,360*	*3,893*	
Cigars, cigarillos and smoking tobacco	*18*	*94*	*112*	
Fine-cut tobacco	*66*	*934*	*999*	
Other tobacco products	*6*	*6*	*12*	
New nicotine products	**45**	**215**	**259**	
Heated tobacco products	*20*	*19*	*38*	
Vapour products	*23*	*194*	*217*	
Nicotine pouches	*2*	*2*	*4*	
Wages by contribution type (across all product categories, in € millions)	**352**	**682**	**1,034**	
Direct	50	361	411	
Indirect	191	166	357	
Induced	111	155	266	
Wages by product category (direct, indirect and induced, in € millions)	**352**	**682**	**1,034**	
Traditional tobacco products	**329**	**644**	**973**	
Cigarettes	*285*	*501*	*787*	
Cigars, cigarillos and smoking tobacco	*10*	*16*	*26*	
Fine-cut tobacco	*31*	*124*	*155*	
Other tobacco products	*3*	*3*	*6*	
New nicotine products	**23**	**37**	**61**	
Heated tobacco products	*10*	*9*	*19*	
Vapour products	*12*	*27*	*39*	
Nicotine pouches	*1*	*1*	*2*	





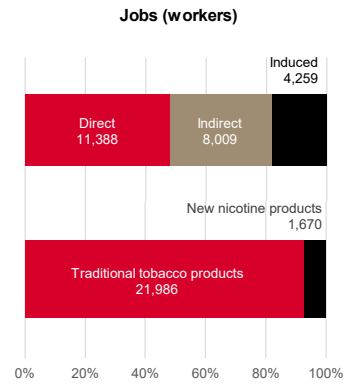




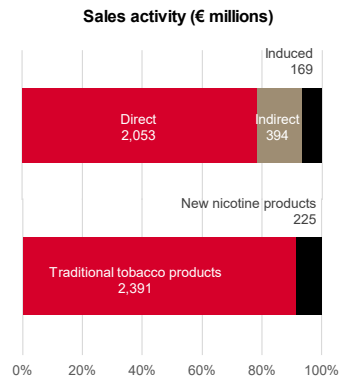
Source: S&P Global Market Intelligence

Economic contributions of the tobacco and related products sector to the economy of Bulgaria

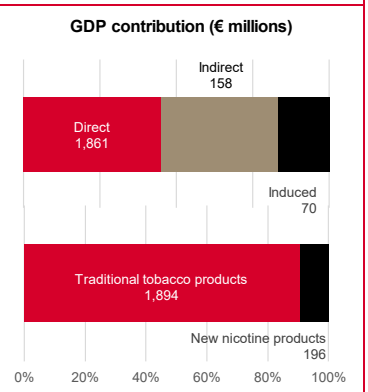
Economic indicator	Production	Wholesale, distribution and retail	Total	Charts
Employment by contribution type (across all product categories)	**10,640**	**13,016**	**23,656**	
Direct	3,218	8,169	11,388	
Indirect	5,634	2,375	8,009	
Induced	1,787	2,472	4,259	
Employment by product category (direct, indirect and induced)	**10,640**	**13,016**	**23,656**	
Traditional tobacco products	**10,212**	**11,774**	**21,986**	
Cigarettes	*9,701*	*10,976*	*20,677*	
Cigars, cigarillos and smoking tobacco	*101*	*215*	*315*	
Fine-cut tobacco	*375*	*547*	*922*	
Other tobacco products	*35*	*37*	*72*	
New nicotine products	**427**	**1,242**	**1,670**	
Heated tobacco products	*299*	*878*	*1,177*	
Vapour products	*115*	*351*	*467*	
Nicotine pouches	*13*	*13*	*26*	



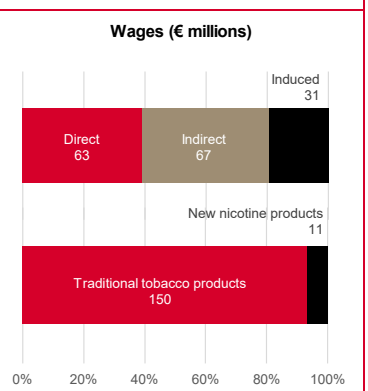
Sales activity by contribution type (across all product categories, in € millions)	**533**	**2,083**	**2,616**	
Direct	180	1,873	2,053	
Indirect	283	111	394	
Induced	70	99	169	
Sales activity by product category (direct, indirect and induced, in € millions)	**533**	**2,083**	**2,616**	
Traditional tobacco products	**513**	**1,878**	**2,391**	
Cigarettes	*491*	*1,799*	*2,290*	
Cigars, cigarillos and smoking tobacco	*5*	*26*	*31*	
Fine-cut tobacco	*16*	*51*	*67*	
Other tobacco products	*1*	*2*	*3*	
New nicotine products	**20**	**205**	**225**	
Heated tobacco products	*14*	*151*	*165*	
Vapour products	*5*	*53*	*58*	
Nicotine pouches	*1*	*1*	*1*	



GDP by contribution type (across all product categories, in € millions)	**188**	**1,902**	**2,089**	
Direct	47	1,814	1,861	
Indirect	112	47	158	
Induced	29	41	70	
GDP by product category (direct, indirect and induced, in € millions)	**188**	**1,902**	**2,089**	
Traditional tobacco products	**180**	**1,713**	**1,894**	
Cigarettes	*171*	*1,650*	*1,821*	
Cigars, cigarillos and smoking tobacco	*2*	*22*	*24*	
Fine-cut tobacco	*6*	*40*	*47*	
Other tobacco products	*1*	*1*	*1*	
New nicotine products	**8**	**188**	**196**	
Heated tobacco products	*5*	*140*	*145*	
Vapour products	*2*	*48*	*50*	
Nicotine pouches	*0*	*0*	*0*	



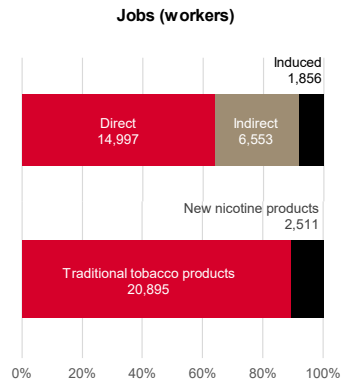
Wages by contribution type (across all product categories, in € millions)	**80**	**81**	**161**	
Direct	20	43	63	
Indirect	47	20	67	
Induced	13	18	31	
Wages by product category (direct, indirect and induced, in € millions)	**80**	**81**	**161**	
Traditional tobacco products	**77**	**73**	**150**	
Cigarettes	*73*	*68*	*141*	
Cigars, cigarillos and smoking tobacco	*1*	*1*	*2*	
Fine-cut tobacco	*3*	*4*	*7*	
Other tobacco products	*0*	*0*	*0*	
New nicotine products	**3**	**8**	**11**	
Heated tobacco products	*2*	*5*	*8*	
Vapour products	*1*	*2*	*3*	
Nicotine pouches	*0*	*0*	*0*	



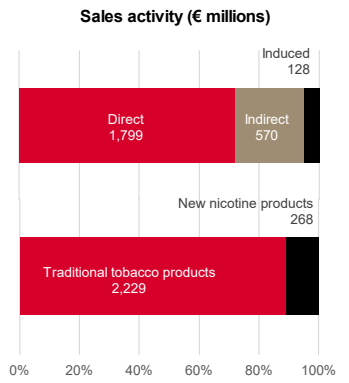
Source: S&P Global Market Intelligence

Economic contributions of the tobacco and related products sector to the economy of Croatia

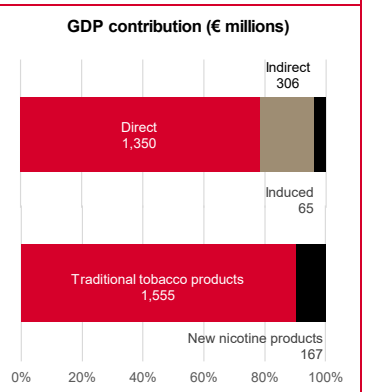
Economic indicator	Production	Wholesale, distribution and retail	Total	Charts
Employment by contribution type (across all product categories)	**6,169**	**17,237**	**23,407**	
Direct	2,256	12,742	14,997	
Indirect	3,133	3,420	6,553	
Induced	780	1,076	1,856	
Employment by product category (direct, indirect and induced)	**6,169**	**17,237**	**23,407**	
Traditional tobacco products	**5,081**	**15,814**	**20,895**	
Cigarettes	*4,842*	*14,857*	*19,700*	
Cigars, cigarillos and smoking tobacco	*50*	*203*	*253*	
Fine-cut tobacco	*174*	*738*	*911*	
Other tobacco products	*15*	*16*	*31*	
New nicotine products	**1,088**	**1,423**	**2,511**	
Heated tobacco products	*533*	*805*	*1,338*	
Vapour products	*547*	*586*	*1,133*	
Nicotine pouches	*7*	*33*	*40*	



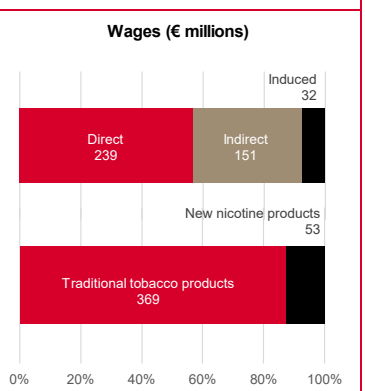
Sales activity by contribution type (across all product categories, in € millions)	**794**	**1,703**	**2,497**	
Direct	399	1,400	1,799	
Indirect	342	228	570	
Induced	53	75	128	
Sales activity by product category (direct, indirect and induced, in € millions)	**794**	**1,703**	**2,497**	
Traditional tobacco products	**667**	**1,562**	**2,229**	
Cigarettes	*649*	*1,472*	*2,121*	
Cigars, cigarillos and smoking tobacco	*4*	*19*	*23*	
Fine-cut tobacco	*13*	*70*	*83*	
Other tobacco products	*1*	*1*	*2*	
New nicotine products	**128**	**141**	**268**	
Heated tobacco products	*66*	*80*	*146*	
Vapour products	*61*	*58*	*119*	
Nicotine pouches	*1*	*3*	*4*	



GDP by contribution type (across all product categories, in € millions)	**318**	**1,404**	**1,722**	
Direct	117	1,233	1,350	
Indirect	174	132	306	
Induced	27	38	65	
GDP by product category (direct, indirect and induced, in € millions)	**318**	**1,404**	**1,722**	
Traditional tobacco products	**267**	**1,288**	**1,555**	
Cigarettes	*259*	*1,217*	*1,475*	
Cigars, cigarillos and smoking tobacco	*2*	*15*	*17*	
Fine-cut tobacco	*6*	*55*	*61*	
Other tobacco products	*0*	*1*	*1*	
New nicotine products	**51**	**116**	**167**	
Heated tobacco products	*25*	*66*	*91*	
Vapour products	*25*	*48*	*73*	
Nicotine pouches	*0*	*3*	*3*	



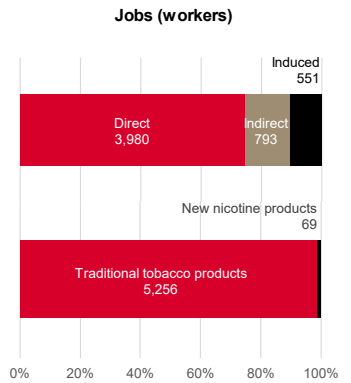
Wages by contribution type (across all product categories, in € millions)	**208**	**214**	**421**	
Direct	98	141	239	
Indirect	96	55	151	
Induced	13	18	32	
Wages by product category (direct, indirect and induced, in € millions)	**208**	**214**	**421**	
Traditional tobacco products	**172**	**196**	**369**	
Cigarettes	*168*	*183*	*352*	
Cigars, cigarillos and smoking tobacco	*1*	*3*	*4*	
Fine-cut tobacco	*3*	*10*	*13*	
Other tobacco products	*0*	*0*	*1*	
New nicotine products	**35**	**18**	**53**	
Heated tobacco products	*18*	*10*	*28*	
Vapour products	*17*	*7*	*25*	
Nicotine pouches	*0*	*0*	*1*	

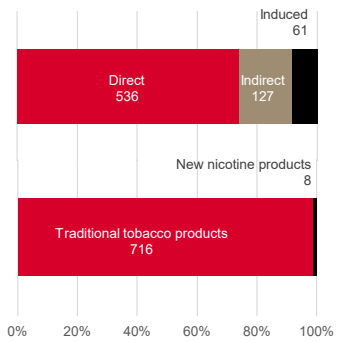


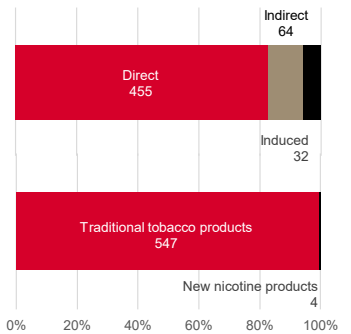
Source: S&P Global Market Intelligence

Economic contributions of the tobacco and related products sector to the economy of Cyprus

Economic indicator	Production	Wholesale, distribution and retail	Total	Charts
Employment by contribution type (across all product categories)	**321**	**5,003**	**5,325**	Jobs (workers)
Direct	0	3,980	3,980	
Indirect	90	703	793	
Induced	231	320	551	
Employment by product category (direct, indirect and induced)	**321**	**5,003**	**5,325**	
Traditional tobacco products	**288**	**4,968**	**5,256**	
Cigarettes	*239*	*4,394*	*4,633*	
Cigars, cigarillos and smoking tobacco	*10*	*113*	*122*	
Fine-cut tobacco	*35*	*456*	*490*	
Other tobacco products	*5*	*5*	*10*	
New nicotine products	**33**	**35**	**69**	
Heated tobacco products	*20*	*20*	*40*	
Vapour products	*12*	*14*	*25*	
Nicotine pouches	*2*	*2*	*4*	
Sales activity by contribution type (across all product categories, in € millions)	**40**	**684**	**724**	Sales activity (€ millions)
Direct	0	536	536	
Indirect	15	112	127	
Induced	25	36	61	
Sales activity by product category (direct, indirect and induced, in € millions)	**40**	**684**	**724**	
Traditional tobacco products	**36**	**680**	**716**	
Cigarettes	*30*	*602*	*632*	
Cigars, cigarillos and smoking tobacco	*1*	*15*	*17*	
Fine-cut tobacco	*4*	*62*	*66*	
Other tobacco products	*1*	*1*	*1*	
New nicotine products	**4**	**4**	**8**	
Heated tobacco products	*2*	*2*	*5*	
Vapour products	*1*	*2*	*3*	
Nicotine pouches	*0*	*0*	*0*	
GDP by contribution type (across all product categories, in € millions)	**20**	**531**	**551**	GDP contribution (€ millions)
Direct	0	455	455	
Indirect	6	57	64	
Induced	13	19	32	
GDP by product category (direct, indirect and induced, in € millions)	**20**	**531**	**551**	
Traditional tobacco products	**18**	**529**	**547**	
Cigarettes	*15*	*469*	*484*	
Cigars, cigarillos and smoking tobacco	*1*	*12*	*12*	
Fine-cut tobacco	*2*	*48*	*50*	
Other tobacco products	*0*	*0*	*1*	
New nicotine products	**2**	**2**	**4**	
Heated tobacco products	*1*	*1*	*2*	
Vapour products	*1*	*1*	*2*	
Nicotine pouches	*0*	*0*	*0*	
Wages by contribution type (across all product categories, in € millions)	**9**	**103**	**113**	Wages (€ millions)
Direct	0	74	74	
Indirect	3	21	25	
Induced	6	8	14	
Wages by product category (direct, indirect and induced, in € millions)	**9**	**103**	**113**	
Traditional tobacco products	**8**	**102**	**111**	
Cigarettes	*7*	*90*	*98*	
Cigars, cigarillos and smoking tobacco	*0*	*2*	*3*	
Fine-cut tobacco	*1*	*9*	*10*	
Other tobacco products	*0*	*0*	*0*	
New nicotine products	**1**	**1**	**2**	
Heated tobacco products	*1*	*1*	*1*	
Vapour products	*0*	*0*	*1*	
Nicotine pouches	*0*	*0*	*0*	



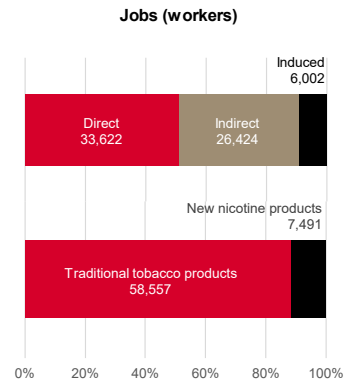




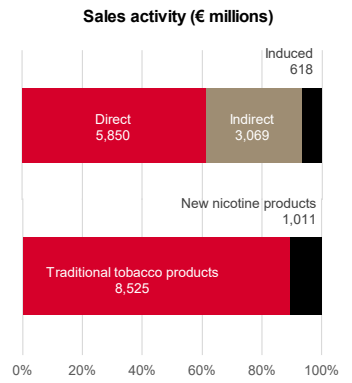
Source: S&P Global Market Intelligence

Economic contributions of the tobacco and related products sector to the economy of Czech Republic

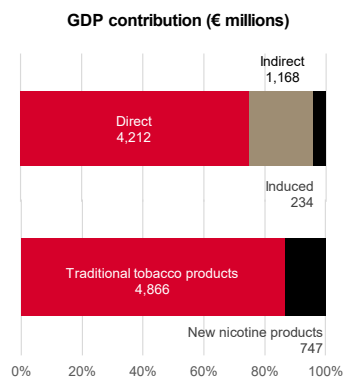
Economic indicator	Production	Wholesale, distribution and retail	Total	Charts
Employment by contribution type (across all product categories)	**21,309**	**44,739**	**66,048**	
Direct	2,781	30,841	33,622	
Indirect	16,007	10,417	26,424	
Induced	2,521	3,481	6,002	
Employment by product category (direct, indirect and induced)	**21,309**	**44,739**	**66,048**	
Traditional tobacco products	**20,797**	**37,760**	**58,557**	
Cigarettes	*17,301*	*33,282*	*50,583*	
Cigars, cigarillos and smoking tobacco	*215*	*1,527*	*1,742*	
Fine-cut tobacco	*3,222*	*2,786*	*6,008*	
Other tobacco products	*59*	*165*	*224*	
New nicotine products	**512**	**6,979**	**7,491**	
Heated tobacco products	*220*	*4,934*	*5,154*	
Vapour products	*266*	*1,547*	*1,813*	
Nicotine pouches	*26*	*497*	*524*	



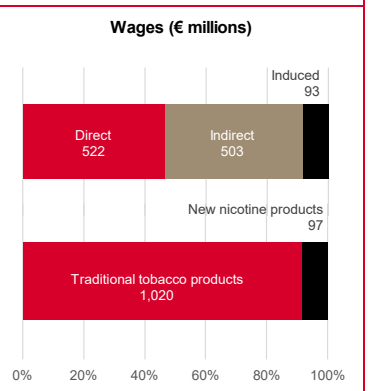
Sales activity by contribution type (across all product categories, in € millions)	**3,488**	**6,049**	**9,536**	
Direct	1,267	4,583	5,850	
Indirect	1,963	1,106	3,069	
Induced	257	360	618	
Sales activity by product category (direct, indirect and induced, in € millions)	**3,488**	**6,049**	**9,536**	
Traditional tobacco products	**3,432**	**5,093**	**8,525**	
Cigarettes	*2,944*	*4,497*	*7,442*	
Cigars, cigarillos and smoking tobacco	*26*	*207*	*232*	
Fine-cut tobacco	*457*	*368*	*826*	
Other tobacco products	*5*	*21*	*26*	
New nicotine products	**56**	**955**	**1,011**	
Heated tobacco products	*23*	*678*	*701*	
Vapour products	*30*	*209*	*239*	
Nicotine pouches	*3*	*68*	*71*	



GDP by contribution type (across all product categories, in € millions)	**1,109**	**4,504**	**5,613**	
Direct	289	3,923	4,212	
Indirect	724	444	1,168	
Induced	97	136	234	
GDP by product category (direct, indirect and induced, in € millions)	**1,109**	**4,504**	**5,613**	
Traditional tobacco products	**1,090**	**3,776**	**4,866**	
Cigarettes	*932*	*3,345*	*4,277*	
Cigars, cigarillos and smoking tobacco	*9*	*154*	*163*	
Fine-cut tobacco	*147*	*263*	*410*	
Other tobacco products	*2*	*14*	*16*	
New nicotine products	**20**	**728**	**747**	
Heated tobacco products	*8*	*519*	*527*	
Vapour products	*11*	*156*	*167*	
Nicotine pouches	*1*	*53*	*53*	



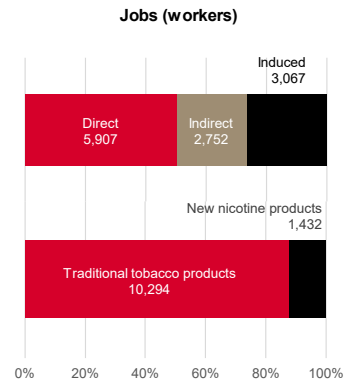
Wages by contribution type (across all product categories, in € millions)	**544**	**574**	**1,117**	
Direct	170	351	522	
Indirect	335	168	503	
Induced	39	54	93	
Wages by product category (direct, indirect and induced, in € millions)	**544**	**574**	**1,117**	
Traditional tobacco products	**535**	**485**	**1,020**	
Cigarettes	*466*	*427*	*893*	
Cigars, cigarillos and smoking tobacco	*4*	*20*	*24*	
Fine-cut tobacco	*64*	*37*	*101*	
Other tobacco products	*1*	*2*	*3*	
New nicotine products	**9**	**88**	**97**	
Heated tobacco products	*4*	*62*	*66*	
Vapour products	*5*	*20*	*25*	
Nicotine pouches	*0*	*6*	*7*	



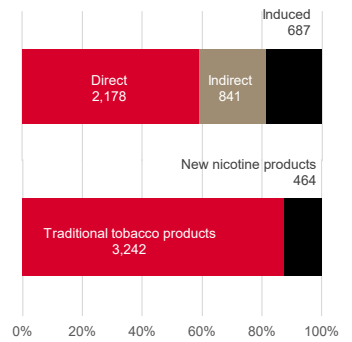
Source: S&P Global Market Intelligence

Economic contributions of the tobacco and related products sector to the economy of Denmark

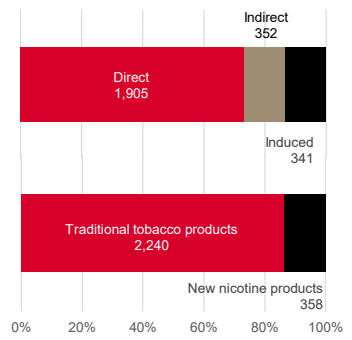
Economic indicator	Production	Wholesale, distribution and retail	Total	Charts
Employment by contribution type (across all product categories)	**3,294**	**8,432**	**11,726**	
Direct	295	5,612	5,907	
Indirect	1,747	1,005	2,752	
Induced	1,252	1,815	3,067	
Employment by product category (direct, indirect and induced)	**3,294**	**8,432**	**11,726**	
Traditional tobacco products	**3,023**	**7,272**	**10,294**	
Cigarettes	*2,169*	*6,294*	*8,463*	
Cigars, cigarillos and smoking tobacco	*85*	*189*	*274*	
Fine-cut tobacco	*510*	*697*	*1,207*	
Other tobacco products	*259*	*92*	*351*	
New nicotine products	**272**	**1,160**	**1,432**	
Heated tobacco products	*92*	*334*	*426*	
Vapour products	*93*	*441*	*534*	
Nicotine pouches	*87*	*385*	*472*	



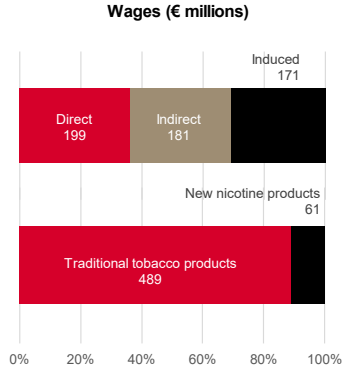
Sales activity by contribution type (across all product categories, in € millions)	**1,004**	**2,702**	**3,706**	
Direct	149	2,029	2,178	
Indirect	568	273	841	
Induced	286	401	687	
Sales activity by product category (direct, indirect and induced, in € millions)	**1,004**	**2,702**	**3,706**	
Traditional tobacco products	**925**	**2,316**	**3,242**	
Cigarettes	*682*	*2,015*	*2,697*	
Cigars, cigarillos and smoking tobacco	*27*	*58*	*85*	
Fine-cut tobacco	*147*	*215*	*362*	
Other tobacco products	*70*	*29*	*98*	
New nicotine products	**78**	**386**	**464**	
Heated tobacco products	*23*	*106*	*129*	
Vapour products	*26*	*146*	*172*	
Nicotine pouches	*30*	*134*	*163*	



GDP by contribution type (across all product categories, in € millions)	**385**	**2,213**	**2,598**	
Direct	28	1,877	1,905	
Indirect	215	137	352	
Induced	142	199	341	
GDP by product category (direct, indirect and induced, in € millions)	**385**	**2,213**	**2,598**	
Traditional tobacco products	**355**	**1,885**	**2,240**	
Cigarettes	*270*	*1,650*	*1,920*	
Cigars, cigarillos and smoking tobacco	*11*	*45*	*56*	
Fine-cut tobacco	*54*	*169*	*223*	
Other tobacco products	*21*	*21*	*41*	
New nicotine products	**30**	**328**	**358**	
Heated tobacco products	*10*	*86*	*96*	
Vapour products	*11*	*124*	*135*	
Nicotine pouches	*9*	*118*	*127*	



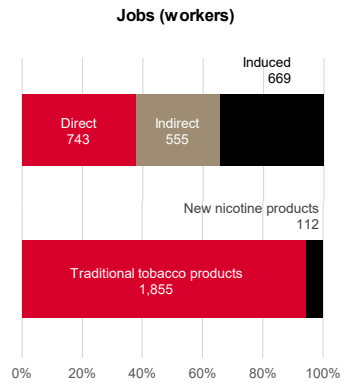
Wages by contribution type (across all product categories, in € millions)	**207**	**343**	**550**	
Direct	21	178	199	
Indirect	116	65	181	
Induced	71	100	171	
Wages by product category (direct, indirect and induced, in € millions)	**207**	**343**	**550**	
Traditional tobacco products	**191**	**298**	**489**	
Cigarettes	*147*	*256*	*402*	
Cigars, cigarillos and smoking tobacco	*6*	*8*	*14*	
Fine-cut tobacco	*27*	*30*	*57*	
Other tobacco products	*11*	*4*	*15*	
New nicotine products	**16**	**45**	**61**	
Heated tobacco products	*5*	*14*	*19*	
Vapour products	*6*	*17*	*23*	
Nicotine pouches	*5*	*14*	*19*	

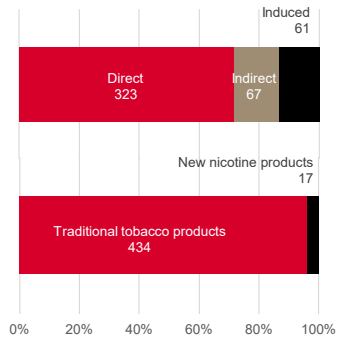


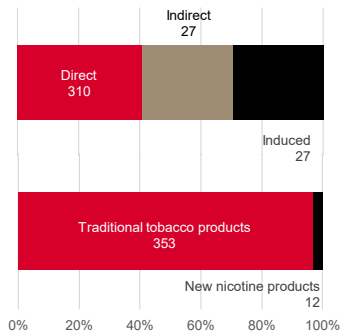
Source: S&P Global Market Intelligence

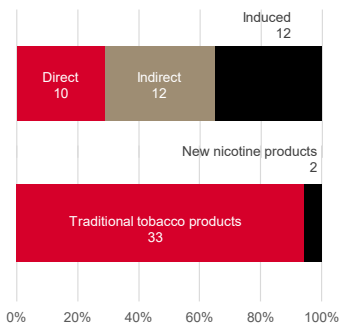
Economic contributions of the tobacco and related products sector to the economy of Estonia

Economic indicator	Production	Wholesale, distribution and retail	Total	Charts
Employment by contribution type (across all product categories)	**528**	**1,439**	**1,967**	Jobs (workers)
Direct	0	743	743	
Indirect	247	308	555	
Induced	281	388	669	
Employment by product category (direct, indirect and induced)	**528**	**1,439**	**1,967**	
Traditional tobacco products	**486**	**1,369**	**1,855**	
Cigarettes	*395*	*1,230*	*1,625*	
Cigars, cigarillos and smoking tobacco	*13*	*51*	*64*	
Fine-cut tobacco	*53*	*75*	*129*	
Other tobacco products	*24*	*14*	*38*	
New nicotine products	**42**	**70**	**112**	
Heated tobacco products	*18*	*26*	*45*	
Vapour products	*17*	*40*	*57*	
Nicotine pouches	*6*	*4*	*10*	
Sales activity by contribution type (across all product categories, in € millions)	**58**	**393**	**451**	Sales activity (€ millions)
Direct	0	323	323	
Indirect	33	34	67	
Induced	25	35	61	
Sales activity by product category (direct, indirect and induced, in € millions)	**58**	**393**	**451**	
Traditional tobacco products	**54**	**380**	**434**	
Cigarettes	*46*	*353*	*398*	
Cigars, cigarillos and smoking tobacco	*1*	*14*	*15*	
Fine-cut tobacco	*5*	*12*	*17*	
Other tobacco products	*2*	*2*	*4*	
New nicotine products	**4**	**13**	**17**	
Heated tobacco products	*2*	*3*	*4*	
Vapour products	*2*	*10*	*12*	
Nicotine pouches	*1*	*0*	*1*	
GDP by contribution type (across all product categories, in € millions)	**23**	**341**	**364**	GDP contribution (€ millions)
Direct	0	310	310	
Indirect	12	15	27	
Induced	11	16	27	
GDP by product category (direct, indirect and induced, in € millions)	**23**	**341**	**364**	
Traditional tobacco products	**21**	**331**	**353**	
Cigarettes	*18*	*311*	*329*	
Cigars, cigarillos and smoking tobacco	*1*	*12*	*12*	
Fine-cut tobacco	*2*	*8*	*11*	
Other tobacco products	*1*	*1*	*1*	
New nicotine products	**2**	**10**	**12**	
Heated tobacco products	*1*	*1*	*2*	
Vapour products	*1*	*9*	*9*	
Nicotine pouches	*0*	*0*	*0*	
Wages by contribution type (across all product categories, in € millions)	**11**	**23**	**35**	Wages (€ millions)
Direct	0	10	10	
Indirect	6	6	12	
Induced	5	7	12	
Wages by product category (direct, indirect and induced, in € millions)	**11**	**23**	**35**	
Traditional tobacco products	**10**	**22**	**33**	
Cigarettes	*9*	*20*	*29*	
Cigars, cigarillos and smoking tobacco	*0*	*1*	*1*	
Fine-cut tobacco	*1*	*1*	*2*	
Other tobacco products	*0*	*0*	*1*	
New nicotine products	**1**	**1**	**2**	
Heated tobacco products	*0*	*1*	*1*	
Vapour products	*0*	*1*	*1*	
Nicotine pouches	*0*	*0*	*0*	





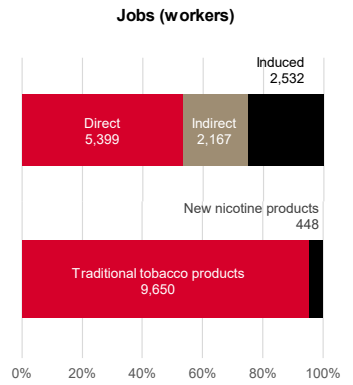


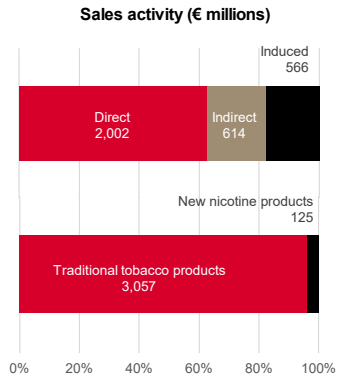


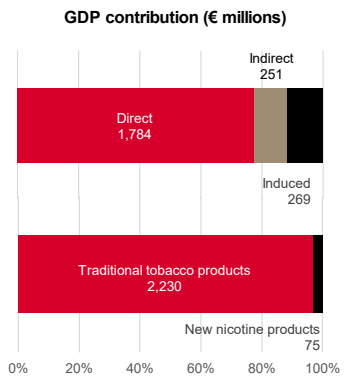
Source: S&P Global Market Intelligence

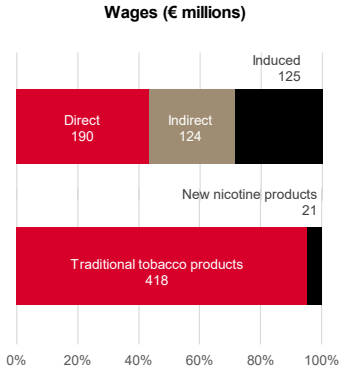
Economic contributions of the tobacco and related products sector to the economy of Finland

Economic indicator	Production	Wholesale, distribution and retail	Total	Charts
Employment by contribution type (across all product categories)	**1,696**	**8,401**	**10,098**	
Direct	0	5,399	5,399	
Indirect	646	1,521	2,167	
Induced	1,050	1,482	2,532	
Employment by product category (direct, indirect and induced)	**1,696**	**8,401**	**10,098**	
Traditional tobacco products	**1,546**	**8,104**	**9,650**	
Cigarettes	*1,224*	*6,426*	*7,650*	
Cigars, cigarillos and smoking tobacco	*49*	*804*	*853*	
Fine-cut tobacco	*204*	*837*	*1,042*	
Other tobacco products	*69*	*37*	*105*	
New nicotine products	**151**	**298**	**448**	
Heated tobacco products	*71*	*78*	*150*	
Vapour products	*62*	*209*	*270*	
Nicotine pouches	*18*	*11*	*28*	
Sales activity by contribution type (across all product categories, in € millions)	**469**	**2,714**	**3,182**	
Direct	0	2,002	2,002	
Indirect	233	381	614	
Induced	236	330	566	
Sales activity by product category (direct, indirect and induced, in € millions)	**469**	**2,714**	**3,182**	
Traditional tobacco products	**430**	**2,626**	**3,057**	
Cigarettes	*349*	*2,078*	*2,427*	
Cigars, cigarillos and smoking tobacco	*13*	*272*	*285*	
Fine-cut tobacco	*53*	*267*	*320*	
Other tobacco products	*15*	*10*	*24*	
New nicotine products	**38**	**87**	**125**	
Heated tobacco products	*17*	*19*	*36*	
Vapour products	*17*	*66*	*82*	
Nicotine pouches	*4*	*3*	*7*	
GDP by contribution type (across all product categories, in € millions)	**190**	**2,115**	**2,305**	
Direct	0	1,784	1,784	
Indirect	78	173	251	
Induced	112	157	269	
GDP by product category (direct, indirect and induced, in € millions)	**190**	**2,115**	**2,305**	
Traditional tobacco products	**174**	**2,056**	**2,230**	
Cigarettes	*142*	*1,623*	*1,765*	
Cigars, cigarillos and smoking tobacco	*6*	*224*	*229*	
Fine-cut tobacco	*22*	*206*	*227*	
Other tobacco products	*5*	*4*	*9*	
New nicotine products	**16**	**59**	**75**	
Heated tobacco products	*7*	*8*	*16*	
Vapour products	*7*	*50*	*56*	
Nicotine pouches	*2*	*1*	*3*	
Wages by contribution type (across all product categories, in € millions)	**95**	**345**	**439**	
Direct	0	190	190	
Indirect	42	82	124	
Induced	52	73	125	
Wages by product category (direct, indirect and induced, in € millions)	**95**	**345**	**439**	
Traditional tobacco products	**87**	**331**	**418**	
Cigarettes	*71*	*263*	*334*	
Cigars, cigarillos and smoking tobacco	*3*	*32*	*34*	
Fine-cut tobacco	*10*	*35*	*45*	
Other tobacco products	*2*	*2*	*4*	
New nicotine products	**8**	**13**	**21**	
Heated tobacco products	*4*	*4*	*8*	
Vapour products	*4*	*9*	*12*	
Nicotine pouches	*1*	*1*	*1*	







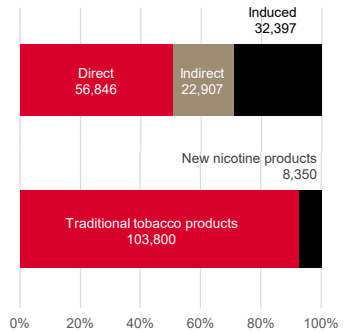


Source: S&P Global Market Intelligence

Economic contributions of the tobacco and related products sector to the economy of France

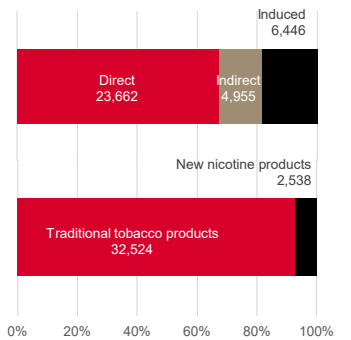
Economic indicator	Production	Wholesale, distribution and retail	Total	Charts
Employment by contribution type (across all product categories)	**20,113**	**92,037**	**112,150**	
Direct	541	56,305	56,846	
Indirect	6,146	16,762	22,907	
Induced	13,427	18,970	32,397	
Employment by product category (direct, indirect and induced)	**20,113**	**92,037**	**112,150**	
Traditional tobacco products	**18,389**	**85,412**	**103,800**	
Cigarettes	*15,206*	*67,481*	*82,687*	
Cigars, cigarillos and smoking tobacco	*632*	*3,250*	*3,883*	
Fine-cut tobacco	*2,320*	*14,418*	*16,738*	
Other tobacco products	*230*	*263*	*493*	
New nicotine products	**1,724**	**6,626**	**8,350**	
Heated tobacco products	*957*	*1,125*	*2,082*	
Vapour products	*690*	*5,408*	*6,097*	
Nicotine pouches	*78*	*92*	*171*	

Jobs (workers)



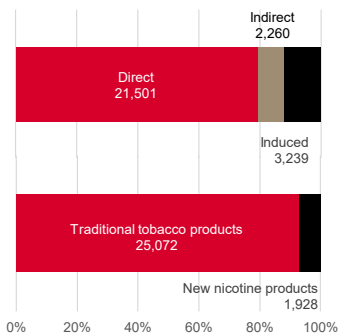
Sales activity by contribution type (across all product categories, in € millions)	**4,562**	**30,501**	**35,062**	
Direct	228	23,433	23,662	
Indirect	1,650	3,306	4,955	
Induced	2,684	3,762	6,446	
Sales activity by product category (direct, indirect and induced, in € millions)	**4,562**	**30,501**	**35,062**	
Traditional tobacco products	**4,193**	**28,331**	**32,524**	
Cigarettes	*3,523*	*22,260*	*25,783*	
Cigars, cigarillos and smoking tobacco	*136*	*1,086*	*1,222*	
Fine-cut tobacco	*491*	*4,932*	*5,423*	
Other tobacco products	*43*	*53*	*96*	
New nicotine products	**368**	**2,170**	**2,538**	
Heated tobacco products	*204*	*261*	*465*	
Vapour products	*149*	*1,891*	*2,039*	
Nicotine pouches	*16*	*18*	*34*	

Sales activity (€ millions)



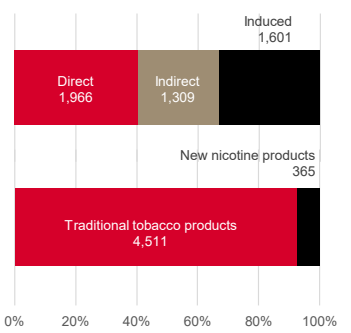
GDP by contribution type (across all product categories, in € millions)	**2,057**	**24,943**	**27,000**	
Direct	61	21,440	21,501	
Indirect	647	1,612	2,260	
Induced	1,349	1,890	3,239	
GDP by product category (direct, indirect and induced, in € millions)	**2,057**	**24,943**	**27,000**	
Traditional tobacco products	**1,888**	**23,185**	**25,072**	
Cigarettes	*1,578*	*18,159*	*19,737*	
Cigars, cigarillos and smoking tobacco	*64*	*892*	*957*	
Fine-cut tobacco	*226*	*4,107*	*4,333*	
Other tobacco products	*20*	*26*	*46*	
New nicotine products	**169**	**1,758**	**1,928**	
Heated tobacco products	*93*	*156*	*249*	
Vapour products	*69*	*1,593*	*1,663*	
Nicotine pouches	*7*	*9*	*16*	

GDP contribution (€ millions)



Wages by contribution type (across all product categories, in € millions)	**1,084**	**3,792**	**4,876**	
Direct	35	1,931	1,966	
Indirect	383	927	1,309	
Induced	666	934	1,601	
Wages by product category (direct, indirect and induced, in € millions)	**1,084**	**3,792**	**4,876**	
Traditional tobacco products	**994**	**3,517**	**4,511**	
Cigarettes	*835*	*2,786*	*3,621*	
Cigars, cigarillos and smoking tobacco	*34*	*133*	*168*	
Fine-cut tobacco	*114*	*584*	*698*	
Other tobacco products	*10*	*13*	*23*	
New nicotine products	**90**	**275**	**365**	
Heated tobacco products	*49*	*54*	*103*	
Vapour products	*37*	*216*	*253*	
Nicotine pouches	*4*	*5*	*8*	

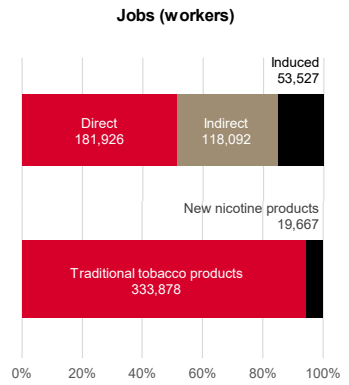
Wages (€ millions)



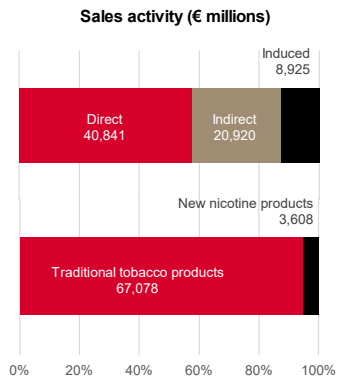
Source: S&P Global Market Intelligence

Economic contributions of the tobacco and related products sector to the economy of Germany

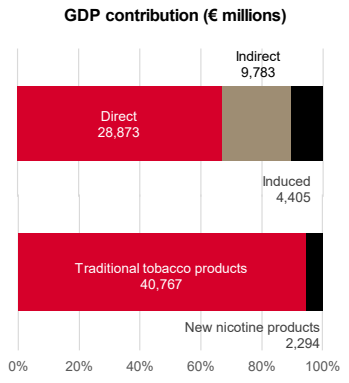
Economic indicator	Production	Wholesale, distribution and retail	Total	Charts
Employment by contribution type (across all product categories)	**94,160**	**259,385**	**353,544**	
Direct	5,841	176,085	181,926	
Indirect	66,153	51,939	118,092	
Induced	22,165	31,361	53,527	
Employment by product category (direct, indirect and induced)	**94,160**	**259,385**	**353,544**	
Traditional tobacco products	**89,469**	**244,408**	**333,878**	
Cigarettes	*66,558*	*196,413*	*262,971*	
Cigars, cigarillos and smoking tobacco	*1,200*	*9,768*	*10,968*	
Fine-cut tobacco	*21,181*	*37,765*	*58,946*	
Other tobacco products	*530*	*462*	*992*	
New nicotine products	**4,690**	**14,977**	**19,667**	
Heated tobacco products	*2,903*	*8,580*	*11,483*	
Vapour products	*1,604*	*6,155*	*7,759*	
Nicotine pouches	*183*	*242*	*425*	



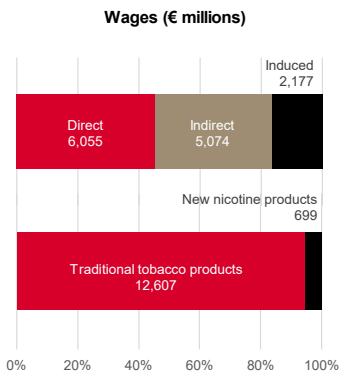
Sales activity by contribution type (across all product categories, in € millions)	**24,566**	**46,120**	**70,686**	
Direct	8,602	32,239	40,841	
Indirect	12,248	8,672	20,920	
Induced	3,716	5,209	8,925	
Sales activity by product category (direct, indirect and induced, in € millions)	**24,566**	**46,120**	**70,686**	
Traditional tobacco products	**23,618**	**43,460**	**67,078**	
Cigarettes	*18,032*	*34,925*	*52,957*	
Cigars, cigarillos and smoking tobacco	*239*	*1,737*	*1,976*	
Fine-cut tobacco	*5,268*	*6,718*	*11,986*	
Other tobacco products	*79*	*79*	*158*	
New nicotine products	**948**	**2,660**	**3,608**	
Heated tobacco products	*617*	*1,525*	*2,142*	
Vapour products	*300*	*1,093*	*1,393*	
Nicotine pouches	*31*	*42*	*73*	



GDP by contribution type (across all product categories, in € millions)	**9,016**	**34,046**	**43,062**	
Direct	1,938	26,936	28,873	
Indirect	5,244	4,540	9,783	
Induced	1,834	2,571	4,405	
GDP by product category (direct, indirect and induced, in € millions)	**9,016**	**34,046**	**43,062**	
Traditional tobacco products	**8,633**	**32,135**	**40,767**	
Cigarettes	*6,616*	*25,782*	*32,397*	
Cigars, cigarillos and smoking tobacco	*107*	*1,292*	*1,400*	
Fine-cut tobacco	*1,875*	*5,022*	*6,898*	
Other tobacco products	*35*	*38*	*73*	
New nicotine products	**383**	**1,911**	**2,294**	
Heated tobacco products	*236*	*1,101*	*1,337*	
Vapour products	*134*	*786*	*920*	
Nicotine pouches	*13*	*24*	*37*	



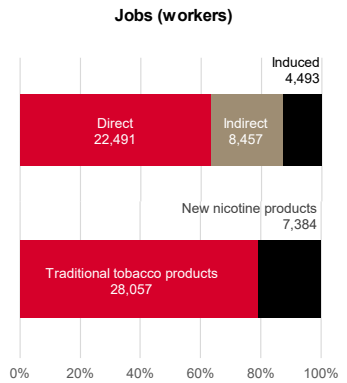
Wages by contribution type (across all product categories, in € millions)	**5,331**	**7,975**	**13,306**	
Direct	1,484	4,571	6,055	
Indirect	2,940	2,133	5,074	
Induced	907	1,271	2,177	
Wages by product category (direct, indirect and induced, in € millions)	**5,331**	**7,975**	**13,306**	
Traditional tobacco products	**5,105**	**7,502**	**12,607**	
Cigarettes	*4,007*	*6,039*	*10,046*	
Cigars, cigarillos and smoking tobacco	*60*	*298*	*358*	
Fine-cut tobacco	*1,021*	*1,145*	*2,166*	
Other tobacco products	*18*	*19*	*37*	
New nicotine products	**226**	**474**	**699**	
Heated tobacco products	*143*	*270*	*413*	
Vapour products	*76*	*194*	*270*	
Nicotine pouches	*7*	*9*	*16*	

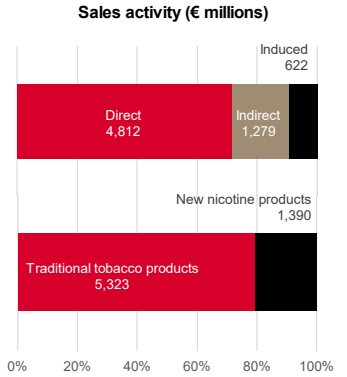


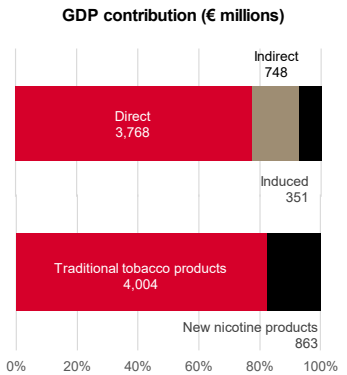
Source: S&P Global Market Intelligence

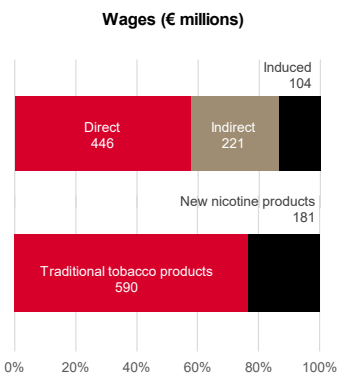
Economic contributions of the tobacco and related products sector to the economy of Greece

Economic indicator	Production	Wholesale, distribution and retail	Total	Charts
Employment by contribution type (across all product categories)	**9,614**	**25,827**	**35,441**	
Direct	1,773	20,718	22,491	
Indirect	5,949	2,508	8,457	
Induced	1,892	2,600	4,493	
Employment by product category (direct, indirect and induced)	**9,614**	**25,827**	**35,441**	
Traditional tobacco products	**5,808**	**22,250**	**28,057**	
Cigarettes	*5,470*	*16,645*	*22,115*	
Cigars, cigarillos and smoking tobacco	*65*	*1,080*	*1,145*	
Fine-cut tobacco	*249*	*4,490*	*4,739*	
Other tobacco products	*24*	*34*	*58*	
New nicotine products	**3,807**	**3,577**	**7,384**	
Heated tobacco products	*3,724*	*2,440*	*6,163*	
Vapour products	*75*	*1,125*	*1,200*	
Nicotine pouches	*8*	*12*	*20*	
Sales activity by contribution type (across all product categories, in € millions)	**1,854**	**4,859**	**6,713**	
Direct	806	4,006	4,812	
Indirect	789	490	1,279	
Induced	259	363	622	
Sales activity by product category (direct, indirect and induced, in € millions)	**1,854**	**4,859**	**6,713**	
Traditional tobacco products	**1,145**	**4,178**	**5,323**	
Cigarettes	*1,097*	*3,116*	*4,213*	
Cigars, cigarillos and smoking tobacco	*9*	*204*	*214*	
Fine-cut tobacco	*35*	*853*	*888*	
Other tobacco products	*3*	*5*	*8*	
New nicotine products	**709**	**681**	**1,390**	
Heated tobacco products	*697*	*466*	*1,163*	
Vapour products	*10*	*213*	*224*	
Nicotine pouches	*1*	*2*	*3*	
GDP by contribution type (across all product categories, in € millions)	**790**	**4,076**	**4,866**	
Direct	231	3,537	3,768	
Indirect	413	335	748	
Induced	146	205	351	
GDP by product category (direct, indirect and induced, in € millions)	**790**	**4,076**	**4,866**	
Traditional tobacco products	**506**	**3,498**	**4,004**	
Cigarettes	*480*	*2,600*	*3,080*	
Cigars, cigarillos and smoking tobacco	*5*	*173*	*178*	
Fine-cut tobacco	*19*	*723*	*742*	
Other tobacco products	*2*	*3*	*4*	
New nicotine products	**284**	**578**	**863**	
Heated tobacco products	*278*	*397*	*675*	
Vapour products	*6*	*180*	*186*	
Nicotine pouches	*1*	*1*	*2*	
Wages by contribution type (across all product categories, in € millions)	**301**	**471**	**771**	
Direct	109	337	446	
Indirect	149	72	221	
Induced	43	61	104	
Wages by product category (direct, indirect and induced, in € millions)	**301**	**471**	**771**	
Traditional tobacco products	**184**	**406**	**590**	
Cigarettes	*176*	*305*	*481*	
Cigars, cigarillos and smoking tobacco	*2*	*20*	*21*	
Fine-cut tobacco	*6*	*81*	*87*	
Other tobacco products	*1*	*1*	*1*	
New nicotine products	**117**	**64**	**181**	
Heated tobacco products	*115*	*44*	*159*	
Vapour products	*2*	*20*	*22*	
Nicotine pouches	*0*	*0*	*0*	





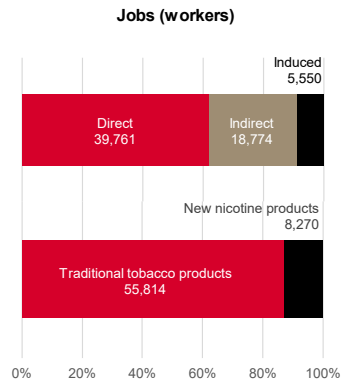




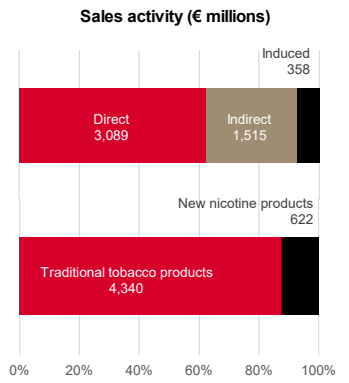
Source: S&P Global Market Intelligence

Economic contributions of the tobacco and related products sector to the economy of Hungary

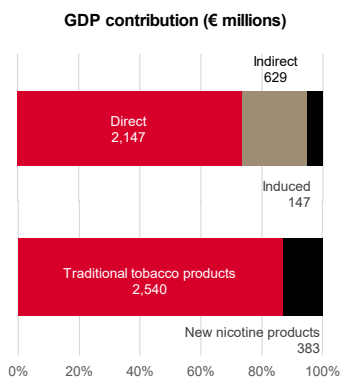
Economic indicator	Production	Wholesale, distribution and retail	Total	Charts
Employment by contribution type (across all product categories)	**18,966**	**45,118**	**64,084**	
Direct	5,907	33,854	39,761	
Indirect	10,744	8,030	18,774	
Induced	2,315	3,234	5,550	
Employment by product category (direct, indirect and induced)	**18,966**	**45,118**	**64,084**	
Traditional tobacco products	**16,707**	**39,108**	**55,814**	
Cigarettes	*4,828*	*28,045*	*32,873*	
Cigars, cigarillos and smoking tobacco	*3,202*	*1,778*	*4,980*	
Fine-cut tobacco	*8,624*	*9,223*	*17,847*	
Other tobacco products	*53*	*62*	*115*	
New nicotine products	**2,259**	**6,010**	**8,270**	
Heated tobacco products	*311*	*5,443*	*5,754*	
Vapour products	*1,560*	*520*	*2,080*	
Nicotine pouches	*388*	*47*	*436*	



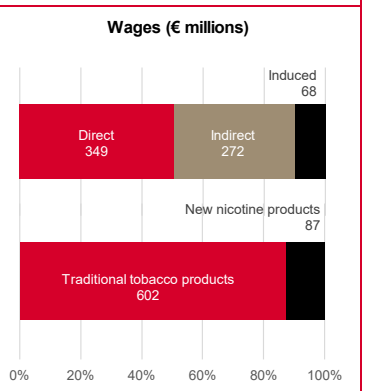
Sales activity by contribution type (across all product categories, in € millions)	**1,812**	**3,150**	**4,962**	
Direct	682	2,406	3,089	
Indirect	980	535	1,515	
Induced	149	209	358	
Sales activity by product category (direct, indirect and induced, in € millions)	**1,812**	**3,150**	**4,962**	
Traditional tobacco products	**1,609**	**2,731**	**4,340**	
Cigarettes	*458*	*1,961*	*2,419*	
Cigars, cigarillos and smoking tobacco	*395*	*124*	*519*	
Fine-cut tobacco	*753*	*641*	*1,395*	
Other tobacco products	*3*	*4*	*7*	
New nicotine products	**202**	**419**	**622**	
Heated tobacco products	*26*	*380*	*406*	
Vapour products	*137*	*36*	*173*	
Nicotine pouches	*40*	*3*	*43*	



GDP by contribution type (across all product categories, in € millions)	**580**	**2,343**	**2,923**	
Direct	144	2,003	2,147	
Indirect	374	254	629	
Induced	61	86	147	
GDP by product category (direct, indirect and induced, in € millions)	**580**	**2,343**	**2,923**	
Traditional tobacco products	**515**	**2,025**	**2,540**	
Cigarettes	*164*	*1,438*	*1,602*	
Cigars, cigarillos and smoking tobacco	*122*	*93*	*215*	
Fine-cut tobacco	*229*	*491*	*720*	
Other tobacco products	*1*	*2*	*3*	
New nicotine products	**64**	**319**	**383**	
Heated tobacco products	*9*	*292*	*302*	
Vapour products	*43*	*24*	*68*	
Nicotine pouches	*12*	*2*	*14*	



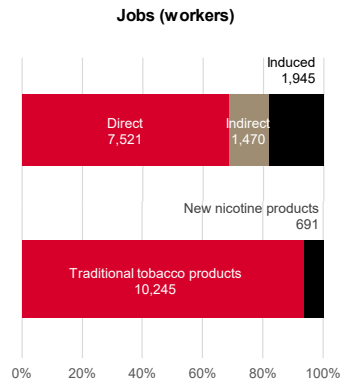
Wages by contribution type (across all product categories, in € millions)	**275**	**414**	**689**	
Direct	86	263	349	
Indirect	161	111	272	
Induced	28	39	68	
Wages by product category (direct, indirect and induced, in € millions)	**275**	**414**	**689**	
Traditional tobacco products	**242**	**360**	**602**	
Cigarettes	*76*	*260*	*337*	
Cigars, cigarillos and smoking tobacco	*64*	*16*	*80*	
Fine-cut tobacco	*101*	*83*	*184*	
Other tobacco products	*1*	*1*	*1*	
New nicotine products	**33**	**54**	**87**	
Heated tobacco products	*4*	*49*	*53*	
Vapour products	*23*	*5*	*28*	
Nicotine pouches	*5*	*0*	*6*	

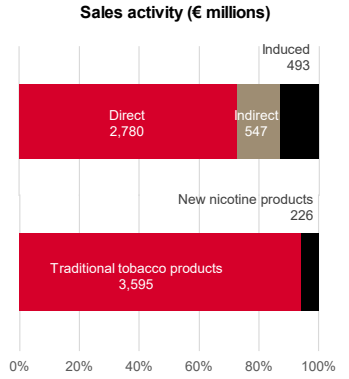


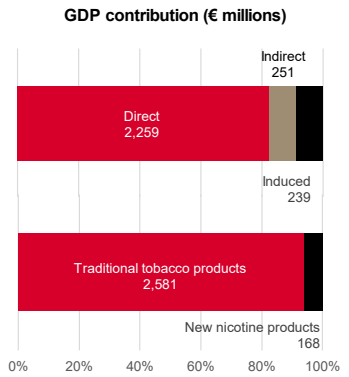
Source: S&P Global Market Intelligence

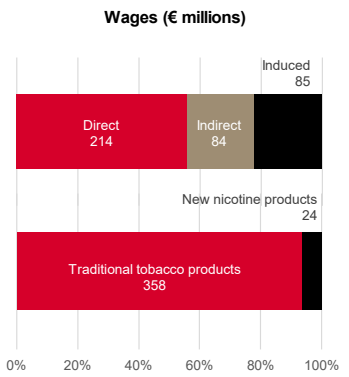
Economic contributions of the tobacco and related products sector to the economy of Ireland

Economic indicator	Production	Wholesale, distribution and retail	Total	Charts
Employment by contribution type (across all product categories)	**1,981**	**8,955**	**10,935**	
Direct	572	6,949	7,521	
Indirect	603	866	1,470	
Induced	806	1,139	1,945	
Employment by product category (direct, indirect and induced)	**1,981**	**8,955**	**10,935**	
Traditional tobacco products	**1,862**	**8,382**	**10,245**	
Cigarettes	*1,663*	*6,958*	*8,621*	
Cigars, cigarillos and smoking tobacco	*38*	*133*	*170*	
Fine-cut tobacco	*144*	*1,274*	*1,418*	
Other tobacco products	*18*	*18*	*35*	
New nicotine products	**118**	**573**	**691**	
Heated tobacco products	*66*	*61*	*127*	
Vapour products	*46*	*505*	*552*	
Nicotine pouches	*6*	*7*	*12*	
Sales activity by contribution type (across all product categories, in € millions)	**818**	**3,003**	**3,821**	
Direct	371	2,409	2,780	
Indirect	242	306	547	
Induced	205	288	493	
Sales activity by product category (direct, indirect and induced, in € millions)	**818**	**3,003**	**3,821**	
Traditional tobacco products	**783**	**2,812**	**3,595**	
Cigarettes	*724*	*2,333*	*3,057*	
Cigars, cigarillos and smoking tobacco	*11*	*43*	*54*	
Fine-cut tobacco	*43*	*431*	*474*	
Other tobacco products	*4*	*5*	*9*	
New nicotine products	**35**	**191**	**226**	
Heated tobacco products	*19*	*17*	*36*	
Vapour products	*14*	*172*	*186*	
Nicotine pouches	*2*	*2*	*3*	
GDP by contribution type (across all product categories, in € millions)	**309**	**2,440**	**2,749**	
Direct	109	2,151	2,259	
Indirect	101	150	251	
Induced	99	139	239	
GDP by product category (direct, indirect and induced, in € millions)	**309**	**2,440**	**2,749**	
Traditional tobacco products	**293**	**2,287**	**2,581**	
Cigarettes	*268*	*1,899*	*2,166*	
Cigars, cigarillos and smoking tobacco	*5*	*32*	*37*	
Fine-cut tobacco	*19*	*355*	*374*	
Other tobacco products	*2*	*2*	*4*	
New nicotine products	**15**	**153**	**168**	
Heated tobacco products	*8*	*8*	*16*	
Vapour products	*6*	*144*	*150*	
Nicotine pouches	*1*	*1*	*2*	
Wages by contribution type (across all product categories, in € millions)	**96**	**286**	**382**	
Direct	25	188	214	
Indirect	35	48	84	
Induced	35	50	85	
Wages by product category (direct, indirect and induced, in € millions)	**96**	**286**	**382**	
Traditional tobacco products	**90**	**268**	**358**	
Cigarettes	*82*	*222*	*304*	
Cigars, cigarillos and smoking tobacco	*2*	*5*	*6*	
Fine-cut tobacco	*6*	*40*	*46*	
Other tobacco products	*1*	*1*	*1*	
New nicotine products	**5**	**19**	**24**	
Heated tobacco products	*3*	*3*	*6*	
Vapour products	*2*	*16*	*18*	
Nicotine pouches	*0*	*0*	*1*	





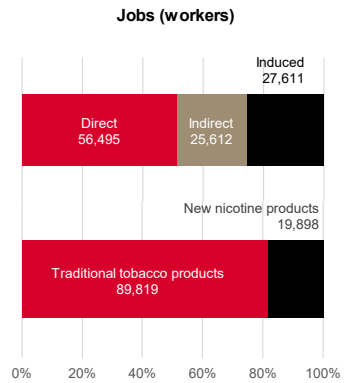


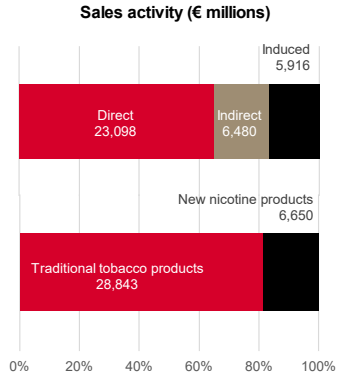


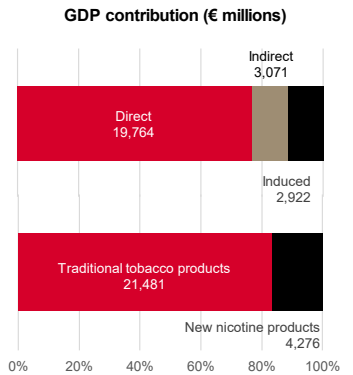
Source: S&P Global Market Intelligence

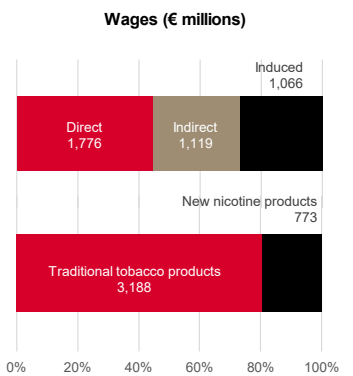
Economic contributions of the tobacco and related products sector to the economy of Italy

Economic indicator	Production	Wholesale, distribution and retail	Total	Charts
Employment by contribution type (across all product categories)	**20,507**	**89,210**	**109,717**	
Direct	1,351	55,144	56,495	
Indirect	7,607	18,005	25,612	
Induced	11,549	16,062	27,611	
Employment by product category (direct, indirect and induced)	**20,507**	**89,210**	**109,717**	
Traditional tobacco products	**13,199**	**76,620**	**89,819**	
Cigarettes	*10,857*	*67,250*	*78,107*	
Cigars, cigarillos and smoking tobacco	*472*	*2,321*	*2,793*	
Fine-cut tobacco	*1,700*	*6,832*	*8,531*	
Other tobacco products	*170*	*218*	*388*	
New nicotine products	**7,308**	**12,591**	**19,898**	
Heated tobacco products	*6,726*	*9,145*	*15,871*	
Vapour products	*522*	*3,348*	*3,869*	
Nicotine pouches	*61*	*98*	*158*	
Sales activity by contribution type (across all product categories, in € millions)	**5,279**	**30,214**	**35,493**	
Direct	822	22,276	23,098	
Indirect	1,994	4,486	6,480	
Induced	2,463	3,453	5,916	
Sales activity by product category (direct, indirect and induced, in € millions)	**5,279**	**30,214**	**35,493**	
Traditional tobacco products	**3,055**	**25,787**	**28,843**	
Cigarettes	*2,534*	*22,769*	*25,303*	
Cigars, cigarillos and smoking tobacco	*108*	*767*	*875*	
Fine-cut tobacco	*378*	*2,204*	*2,582*	
Other tobacco products	*35*	*47*	*82*	
New nicotine products	**2,224**	**4,427**	**6,650**	
Heated tobacco products	*2,093*	*3,259*	*5,352*	
Vapour products	*118*	*1,144*	*1,261*	
Nicotine pouches	*13*	*24*	*37*	
GDP by contribution type (across all product categories, in € millions)	**2,119**	**23,638**	**25,757**	
Direct	153	19,611	19,764	
Indirect	749	2,321	3,071	
Induced	1,217	1,705	2,922	
GDP by product category (direct, indirect and induced, in € millions)	**2,119**	**23,638**	**25,757**	
Traditional tobacco products	**1,396**	**20,085**	**21,481**	
Cigarettes	*1,157*	*17,807*	*18,965*	
Cigars, cigarillos and smoking tobacco	*50*	*590*	*639*	
Fine-cut tobacco	*173*	*1,665*	*1,838*	
Other tobacco products	*16*	*23*	*39*	
New nicotine products	**723**	**3,553**	**4,276**	
Heated tobacco products	*663*	*2,638*	*3,301*	
Vapour products	*54*	*900*	*955*	
Nicotine pouches	*6*	*14*	*20*	
Wages by contribution type (across all product categories, in € millions)	**892**	**3,068**	**3,960**	
Direct	101	1,674	1,776	
Indirect	347	772	1,119	
Induced	444	622	1,066	
Wages by product category (direct, indirect and induced, in € millions)	**892**	**3,068**	**3,960**	
Traditional tobacco products	**546**	**2,642**	**3,188**	
Cigarettes	*455*	*2,314*	*2,768*	
Cigars, cigarillos and smoking tobacco	*20*	*81*	*100*	
Fine-cut tobacco	*66*	*239*	*305*	
Other tobacco products	*6*	*8*	*15*	
New nicotine products	**346**	**427**	**773**	
Heated tobacco products	*322*	*308*	*630*	
Vapour products	*22*	*115*	*136*	
Nicotine pouches	*2*	*4*	*6*	







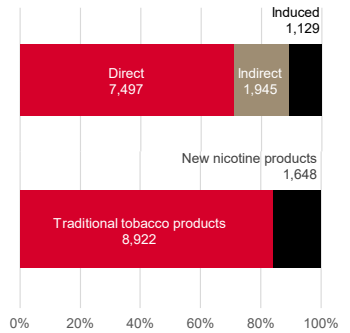


Source: S&P Global Market Intelligence

Economic contributions of the tobacco and related products sector to the economy of Latvia

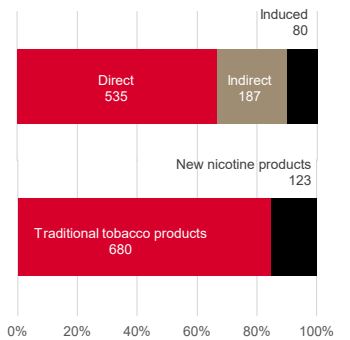
Economic indicator	Production	Wholesale, distribution and retail	Total
Employment by contribution type (across all product categories)	**1,100**	**9,470**	**10,570**
Direct	0	7,497	7,497
Indirect	626	1,319	1,945
Induced	475	654	1,129
Employment by product category (direct, indirect and induced)	**1,100**	**9,470**	**10,570**
Traditional tobacco products	**1,026**	**7,896**	**8,922**
Cigarettes	*866*	*6,958*	*7,824*
Cigars, cigarillos and smoking tobacco	*25*	*460*	*485*
Fine-cut tobacco	*101*	*464*	*565*
Other tobacco products	*33*	*14*	*47*
New nicotine products	**74**	**1,574**	**1,648**
Heated tobacco products	*32*	*1,212*	*1,244*
Vapour products	*33*	*358*	*391*
Nicotine pouches	*9*	*4*	*13*

Jobs (workers)



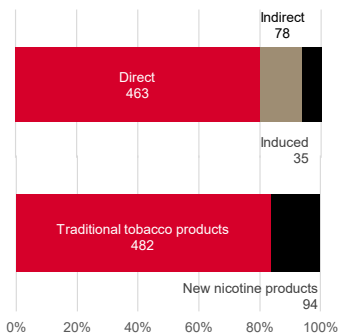
Sales activity by contribution type (across all product categories, in € millions)	**99**	**703**	**802**
Direct	0	535	535
Indirect	66	121	187
Induced	33	47	80
Sales activity by product category (direct, indirect and induced, in € millions)	**99**	**703**	**802**
Traditional tobacco products	**94**	**586**	**680**
Cigarettes	*82*	*517*	*598*
Cigars, cigarillos and smoking tobacco	*2*	*34*	*36*
Fine-cut tobacco	*8*	*34*	*42*
Other tobacco products	*2*	*1*	*3*
New nicotine products	**6**	**117**	**123**
Heated tobacco products	*2*	*90*	*92*
Vapour products	*3*	*27*	*29*
Nicotine pouches	*1*	*0*	*1*

Sales activity (€ millions)



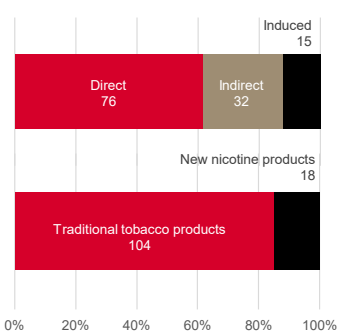
GDP by contribution type (across all product categories, in € millions)	**37**	**538**	**575**
Direct	0	463	463
Indirect	22	55	78
Induced	15	21	35
GDP by product category (direct, indirect and induced, in € millions)	**37**	**538**	**575**
Traditional tobacco products	**35**	**447**	**482**
Cigarettes	*30*	*395*	*425*
Cigars, cigarillos and smoking tobacco	*1*	*26*	*27*
Fine-cut tobacco	*3*	*25*	*28*
Other tobacco products	*1*	*0*	*1*
New nicotine products	**2**	**91**	**94**
Heated tobacco products	*1*	*71*	*72*
Vapour products	*1*	*20*	*21*
Nicotine pouches	*0*	*0*	*0*

GDP contribution (€ millions)



Wages by contribution type (across all product categories, in € millions)	**17**	**105**	**123**
Direct	0	76	76
Indirect	11	21	32
Induced	6	9	15
Wages by product category (direct, indirect and induced, in € millions)	**17**	**105**	**123**
Traditional tobacco products	**16**	**88**	**104**
Cigarettes	*14*	*78*	*92*
Cigars, cigarillos and smoking tobacco	*0*	*5*	*5*
Fine-cut tobacco	*1*	*5*	*7*
Other tobacco products	*0*	*0*	*0*
New nicotine products	**1**	**17**	**18**
Heated tobacco products	*0*	*13*	*14*
Vapour products	*0*	*4*	*4*
Nicotine pouches	*0*	*0*	*0*

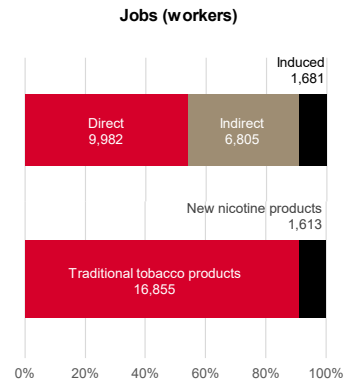
Wages (€ millions)



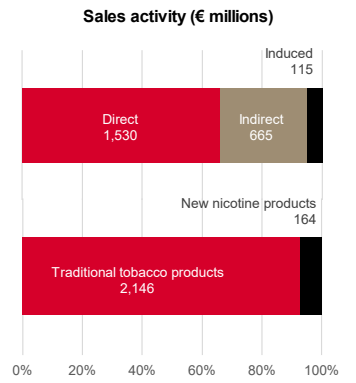
Source: S&P Global Market Intelligence

Economic contributions of the tobacco and related products sector to the economy of Lithuania

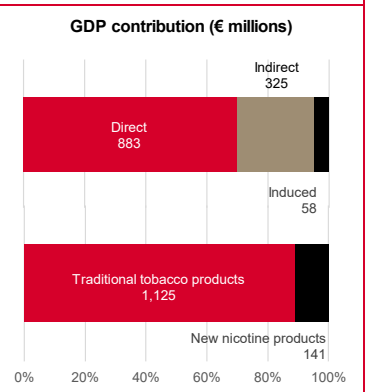
Economic indicator	Production	Wholesale, distribution and retail	Total	Charts
Employment by contribution type (across all product categories)	**10,703**	**7,765**	**18,467**	
Direct	4,079	5,903	9,982	
Indirect	5,920	884	6,805	
Induced	703	978	1,681	
Employment by product category (direct, indirect and induced)	**10,703**	**7,765**	**18,467**	
Traditional tobacco products	**10,569**	**6,285**	**16,855**	
Cigarettes	*10,309*	*5,694*	*16,004*	
Cigars, cigarillos and smoking tobacco	*47*	*336*	*383*	
Fine-cut tobacco	*176*	*236*	*412*	
Other tobacco products	*37*	*19*	*56*	
New nicotine products	**133**	**1,479**	**1,613**	
Heated tobacco products	*51*	*1,281*	*1,332*	
Vapour products	*72*	*192*	*264*	
Nicotine pouches	*11*	*6*	*17*	



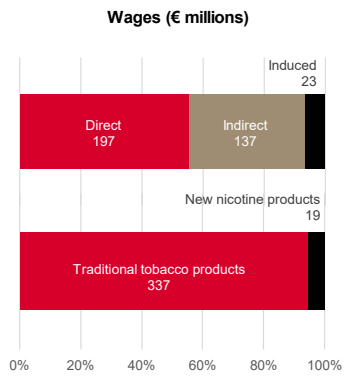
Sales activity by contribution type (across all product categories, in € millions)	**1,527**	**784**	**2,311**	
Direct	884	646	1,530	
Indirect	594	71	665	
Induced	48	67	115	
Sales activity by product category (direct, indirect and induced, in € millions)	**1,527**	**784**	**2,311**	
Traditional tobacco products	**1,516**	**631**	**2,146**	
Cigarettes	*1,495*	*574*	*2,070*	
Cigars, cigarillos and smoking tobacco	*4*	*34*	*39*	
Fine-cut tobacco	*14*	*21*	*35*	
Other tobacco products	*2*	*1*	*4*	
New nicotine products	**11**	**154**	**164**	
Heated tobacco products	*4*	*134*	*138*	
Vapour products	*6*	*19*	*25*	
Nicotine pouches	*1*	*0*	*1*	



GDP by contribution type (across all product categories, in € millions)	**590**	**676**	**1,266**	
Direct	280	604	883	
Indirect	286	39	325	
Induced	24	34	58	
GDP by product category (direct, indirect and induced, in € millions)	**590**	**676**	**1,266**	
Traditional tobacco products	**585**	**540**	**1,125**	
Cigarettes	*576*	*494*	*1,071*	
Cigars, cigarillos and smoking tobacco	*2*	*30*	*32*	
Fine-cut tobacco	*6*	*14*	*21*	
Other tobacco products	*1*	*1*	*2*	
New nicotine products	**5**	**137**	**141**	
Heated tobacco products	*2*	*120*	*122*	
Vapour products	*3*	*16*	*19*	
Nicotine pouches	*0*	*0*	*1*	



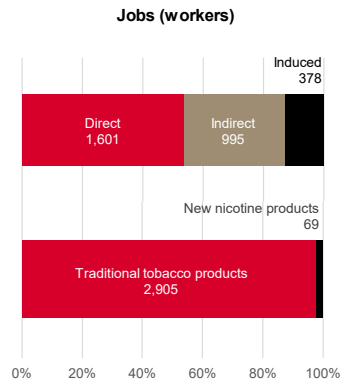
Wages by contribution type (across all product categories, in € millions)	**264**	**92**	**356**	
Direct	131	66	197	
Indirect	123	13	137	
Induced	9	13	23	
Wages by product category (direct, indirect and induced, in € millions)	**264**	**92**	**356**	
Traditional tobacco products	**262**	**75**	**337**	
Cigarettes	*259*	*68*	*327*	
Cigars, cigarillos and smoking tobacco	*1*	*4*	*5*	
Fine-cut tobacco	*2*	*3*	*5*	
Other tobacco products	*0*	*0*	*1*	
New nicotine products	**2**	**17**	**19**	
Heated tobacco products	*1*	*15*	*16*	
Vapour products	*1*	*2*	*3*	
Nicotine pouches	*0*	*0*	*0*	



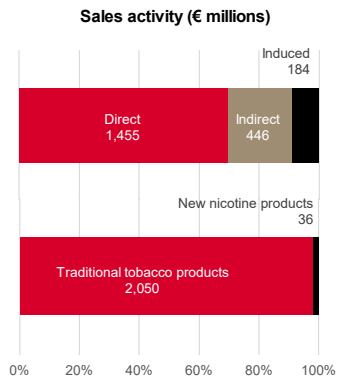
Source: S&P Global Market Intelligence

Economic contributions of the tobacco and related products sector to the economy of Luxembourg

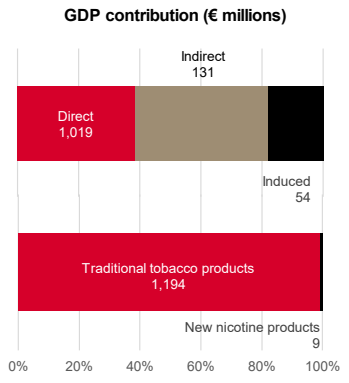
Economic indicator	Production	Wholesale, distribution and retail	Total	Charts
Employment by contribution type (across all product categories)	**369**	**2,605**	**2,974**	
Direct	0	1,601	1,601	
Indirect	210	785	995	
Induced	159	219	378	
Employment by product category (direct, indirect and induced)	**369**	**2,605**	**2,974**	
Traditional tobacco products	**335**	**2,570**	**2,905**	
Cigarettes	*262*	*2,347*	*2,610*	
Cigars, cigarillos and smoking tobacco	*9*	*62*	*71*	
Fine-cut tobacco	*57*	*155*	*212*	
Other tobacco products	*6*	*5*	*12*	
New nicotine products	**34**	**35**	**69**	
Heated tobacco products	*19*	*19*	*37*	
Vapour products	*13*	*14*	*28*	
Nicotine pouches	*2*	*2*	*4*	



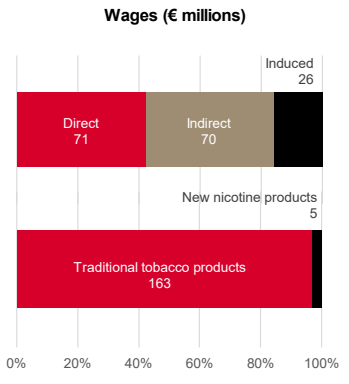
Sales activity by contribution type (across all product categories, in € millions)	**184**	**1,902**	**2,086**	
Direct	0	1,455	1,455	
Indirect	107	339	446	
Induced	77	108	184	
Sales activity by product category (direct, indirect and induced, in € millions)	**184**	**1,902**	**2,086**	
Traditional tobacco products	**167**	**1,883**	**2,050**	
Cigarettes	*136*	*1,730*	*1,866*	
Cigars, cigarillos and smoking tobacco	*5*	*44*	*49*	
Fine-cut tobacco	*24*	*106*	*130*	
Other tobacco products	*2*	*3*	*5*	
New nicotine products	**17**	**19**	**36**	
Heated tobacco products	*10*	*10*	*20*	
Vapour products	*6*	*8*	*14*	
Nicotine pouches	*1*	*1*	*2*	



GDP by contribution type (across all product categories, in € millions)	**52**	**1,152**	**1,204**	
Direct	0	1,019	1,019	
Indirect	29	102	131	
Induced	22	31	54	
GDP by product category (direct, indirect and induced, in € millions)	**52**	**1,152**	**1,204**	
Traditional tobacco products	**47**	**1,147**	**1,194**	
Cigarettes	*38*	*1,062*	*1,100*	
Cigars, cigarillos and smoking tobacco	*1*	*26*	*27*	
Fine-cut tobacco	*7*	*58*	*65*	
Other tobacco products	*1*	*1*	*1*	
New nicotine products	**4**	**5**	**9**	
Heated tobacco products	*2*	*3*	*5*	
Vapour products	*2*	*2*	*4*	
Nicotine pouches	*0*	*0*	*0*	



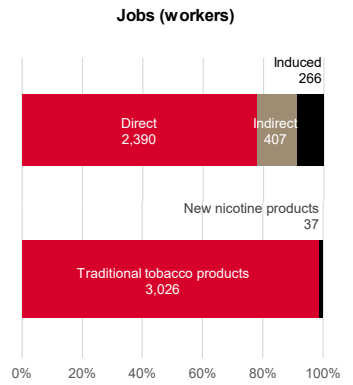
Wages by contribution type (across all product categories, in € millions)	**28**	**140**	**168**	
Direct	0	71	71	
Indirect	17	53	70	
Induced	11	15	26	
Wages by product category (direct, indirect and induced, in € millions)	**28**	**140**	**168**	
Traditional tobacco products	**25**	**137**	**163**	
Cigarettes	*21*	*124*	*145*	
Cigars, cigarillos and smoking tobacco	*1*	*3*	*4*	
Fine-cut tobacco	*4*	*9*	*13*	
Other tobacco products	*0*	*0*	*1*	
New nicotine products	**2**	**3**	**5**	
Heated tobacco products	*1*	*1*	*3*	
Vapour products	*1*	*1*	*2*	
Nicotine pouches	*0*	*0*	*0*	

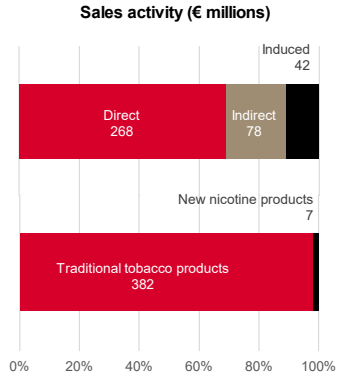


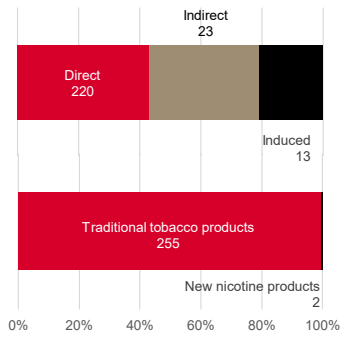
Source: S&P Global Market Intelligence

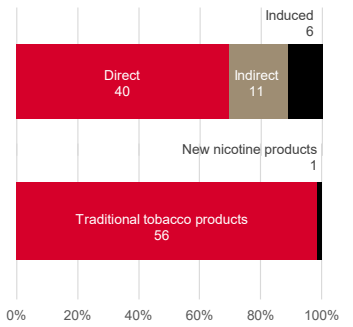
Economic contributions of the tobacco and related products sector to the economy of Malta

Economic indicator	Production	Wholesale, distribution and retail	Total	Charts
Employment by contribution type (across all product categories)	**166**	**2,898**	**3,063**	Jobs (workers)
Direct	0	2,390	2,390	
Indirect	54	353	407	
Induced	112	154	266	
Employment by product category (direct, indirect and induced)	**166**	**2,898**	**3,063**	
Traditional tobacco products	**148**	**2,878**	**3,026**	
Cigarettes	*122*	*2,481*	*2,603*	
Cigars, cigarillos and smoking tobacco	*5*	*53*	*57*	
Fine-cut tobacco	*17*	*340*	*357*	
Other tobacco products	*5*	*5*	*9*	
New nicotine products	**17**	**20**	**37**	
Heated tobacco products	*10*	*11*	*21*	
Vapour products	*6*	*7*	*13*	
Nicotine pouches	*1*	*1*	*3*	
Sales activity by contribution type (across all product categories, in € millions)	**31**	**358**	**389**	Sales activity (€ millions)
Direct	0	268	268	
Indirect	13	65	78	
Induced	17	25	42	
Sales activity by product category (direct, indirect and induced, in € millions)	**31**	**358**	**389**	
Traditional tobacco products	**28**	**354**	**382**	
Cigarettes	*23*	*305*	*328*	
Cigars, cigarillos and smoking tobacco	*1*	*7*	*7*	
Fine-cut tobacco	*3*	*42*	*45*	
Other tobacco products	*1*	*1*	*2*	
New nicotine products	**3**	**4**	**7**	
Heated tobacco products	*2*	*2*	*4*	
Vapour products	*1*	*1*	*2*	
Nicotine pouches	*0*	*0*	*0*	
GDP by contribution type (across all product categories, in € millions)	**9**	**248**	**257**	GDP contribution (€ millions)
Direct	0	220	220	
Indirect	3	20	23	
Induced	6	8	13	
GDP by product category (direct, indirect and induced, in € millions)	**9**	**248**	**257**	
Traditional tobacco products	**8**	**247**	**255**	
Cigarettes	*7*	*213*	*220*	
Cigars, cigarillos and smoking tobacco	*0*	*4*	*5*	
Fine-cut tobacco	*1*	*29*	*30*	
Other tobacco products	*0*	*0*	*0*	
New nicotine products	**1**	**1**	**2**	
Heated tobacco products	*0*	*1*	*1*	
Vapour products	*0*	*0*	*1*	
Nicotine pouches	*0*	*0*	*0*	
Wages by contribution type (across all product categories, in € millions)	**4**	**52**	**57**	Wages (€ millions)
Direct	0	40	40	
Indirect	2	9	11	
Induced	3	4	6	
Wages by product category (direct, indirect and induced, in € millions)	**4**	**52**	**57**	
Traditional tobacco products	**4**	**52**	**56**	
Cigarettes	*3*	*45*	*48*	
Cigars, cigarillos and smoking tobacco	*0*	*1*	*1*	
Fine-cut tobacco	*0*	*6*	*7*	
Other tobacco products	*0*	*0*	*0*	
New nicotine products	**0**	**0**	**1**	
Heated tobacco products	*0*	*0*	*1*	
Vapour products	*0*	*0*	*0*	
Nicotine pouches	*0*	*0*	*0*	





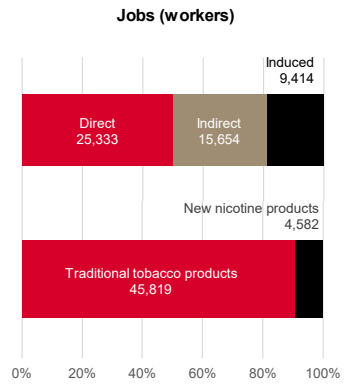




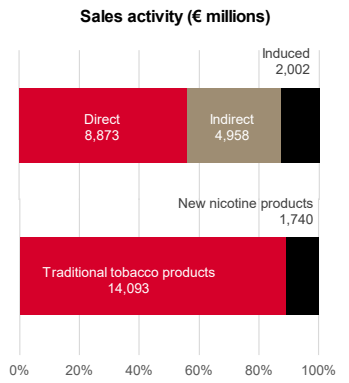
Source: S&P Global Market Intelligence

Economic contributions of the tobacco and related products sector to the economy of Netherlands

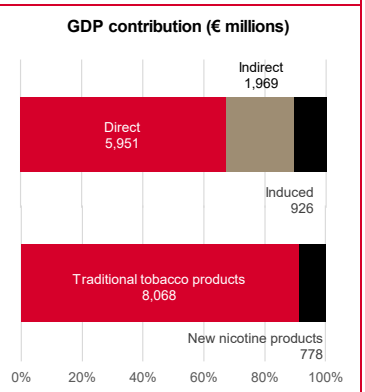
Economic indicator	Production	Wholesale, distribution and retail	Total	Charts
Employment by contribution type (across all product categories)	**15,838**	**34,563**	**50,401**	
Direct	713	24,620	25,333	
Indirect	11,302	4,352	15,654	
Induced	3,824	5,591	9,414	
Employment by product category (direct, indirect and induced)	**15,838**	**34,563**	**50,401**	
Traditional tobacco products	**13,510**	**32,309**	**45,819**	
Cigarettes	*9,927*	*23,467*	*33,394*	
Cigars, cigarillos and smoking tobacco	*203*	*1,260*	*1,463*	
Fine-cut tobacco	*3,267*	*7,496*	*10,764*	
Other tobacco products	*113*	*86*	*199*	
New nicotine products	**2,328**	**2,254**	**4,582**	
Heated tobacco products	*659*	*735*	*1,395*	
Vapour products	*1,632*	*1,196*	*2,828*	
Nicotine pouches	*36*	*323*	*359*	



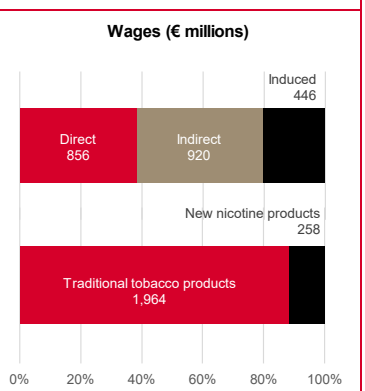
Sales activity by contribution type (across all product categories, in € millions)	**7,671**	**8,162**	**15,834**	
Direct	3,058	5,815	8,873	
Indirect	3,780	1,179	4,958	
Induced	834	1,169	2,002	
Sales activity by product category (direct, indirect and induced, in € millions)	**7,671**	**8,162**	**15,834**	
Traditional tobacco products	**6,461**	**7,632**	**14,093**	
Cigarettes	*4,777*	*5,534*	*10,311*	
Cigars, cigarillos and smoking tobacco	*54*	*298*	*352*	
Fine-cut tobacco	*1,606*	*1,781*	*3,388*	
Other tobacco products	*24*	*19*	*42*	
New nicotine products	**1,210**	**530**	**1,740**	
Heated tobacco products	*269*	*171*	*440*	
Vapour products	*932*	*282*	*1,215*	
Nicotine pouches	*9*	*77*	*85*	



GDP by contribution type (across all product categories, in € millions)	**2,460**	**6,385**	**8,845**	
Direct	658	5,292	5,951	
Indirect	1,417	552	1,969	
Induced	385	540	926	
GDP by product category (direct, indirect and induced, in € millions)	**2,460**	**6,385**	**8,845**	
Traditional tobacco products	**2,087**	**5,980**	**8,068**	
Cigarettes	*1,557*	*4,275*	*5,831*	
Cigars, cigarillos and smoking tobacco	*23*	*236*	*259*	
Fine-cut tobacco	*498*	*1,462*	*1,959*	
Other tobacco products	*10*	*8*	*18*	
New nicotine products	**373**	**405**	**778**	
Heated tobacco products	*85*	*119*	*205*	
Vapour products	*284*	*222*	*506*	
Nicotine pouches	*4*	*64*	*67*	



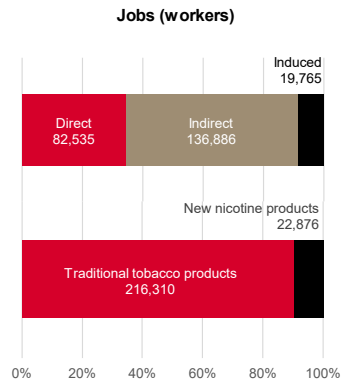
Wages by contribution type (across all product categories, in € millions)	**1,167**	**1,055**	**2,222**	
Direct	313	543	856	
Indirect	668	252	920	
Induced	186	260	446	
Wages by product category (direct, indirect and induced, in € millions)	**1,167**	**1,055**	**2,222**	
Traditional tobacco products	**980**	**984**	**1,964**	
Cigarettes	*754*	*730*	*1,485*	
Cigars, cigarillos and smoking tobacco	*12*	*38*	*50*	
Fine-cut tobacco	*210*	*211*	*421*	
Other tobacco products	*4*	*4*	*9*	
New nicotine products	**187**	**71**	**258**	
Heated tobacco products	*44*	*26*	*70*	
Vapour products	*141*	*36*	*178*	
Nicotine pouches	*2*	*9*	*10*	



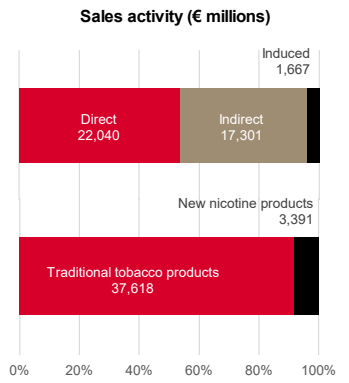
Source: S&P Global Market Intelligence

Economic contributions of the tobacco and related products sector to the economy of Poland

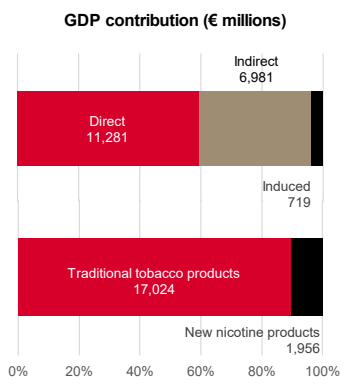
Economic indicator	Production	Wholesale, distribution and retail	Total	Charts
Employment by contribution type (across all product categories)	**144,378**	**94,808**	**239,186**	
Direct	16,890	65,645	82,535	
Indirect	119,172	17,714	136,886	
Induced	8,316	11,449	19,765	
Employment by product category (direct, indirect and induced)	**144,378**	**94,808**	**239,186**	
Traditional tobacco products	**134,433**	**81,877**	**216,310**	
Cigarettes	*121,377*	*75,314*	*196,691*	
Cigars, cigarillos and smoking tobacco	*4,482*	*722*	*5,203*	
Fine-cut tobacco	*8,341*	*5,655*	*13,995*	
Other tobacco products	*234*	*187*	*420*	
New nicotine products	**9,945**	**12,931**	**22,876**	
Heated tobacco products	*1,282*	*5,498*	*6,780*	
Vapour products	*8,481*	*7,343*	*15,824*	
Nicotine pouches	*182*	*90*	*272*	



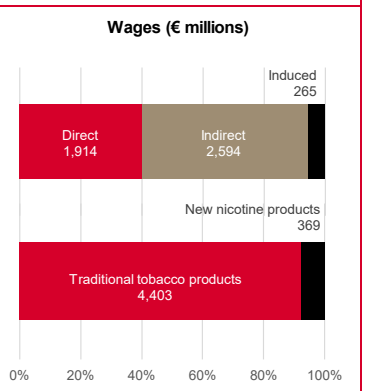
Sales activity by contribution type (across all product categories, in € millions)	**28,837**	**12,172**	**41,009**	
Direct	12,458	9,582	22,040	
Indirect	15,685	1,617	17,301	
Induced	694	973	1,667	
Sales activity by product category (direct, indirect and induced, in € millions)	**28,837**	**12,172**	**41,009**	
Traditional tobacco products	**27,143**	**10,475**	**37,618**	
Cigarettes	*24,870*	*9,697*	*34,567*	
Cigars, cigarillos and smoking tobacco	*937*	*75*	*1,011*	
Fine-cut tobacco	*1,320*	*687*	*2,007*	
Other tobacco products	*17*	*16*	*33*	
New nicotine products	**1,694**	**1,697**	**3,391**	
Heated tobacco products	*173*	*715*	*888*	
Vapour products	*1,497*	*974*	*2,470*	
Nicotine pouches	*24*	*9*	*33*	



GDP by contribution type (across all product categories, in € millions)	**9,212**	**9,769**	**18,980**	
Direct	2,629	8,651	11,281	
Indirect	6,283	698	6,981	
Induced	299	419	719	
GDP by product category (direct, indirect and induced, in € millions)	**9,212**	**9,769**	**18,980**	
Traditional tobacco products	**8,647**	**8,377**	**17,024**	
Cigarettes	*7,893*	*7,804*	*15,697*	
Cigars, cigarillos and smoking tobacco	*310*	*45*	*356*	
Fine-cut tobacco	*437*	*521*	*958*	
Other tobacco products	*7*	*7*	*14*	
New nicotine products	**565**	**1,391**	**1,956**	
Heated tobacco products	*58*	*580*	*638*	
Vapour products	*499*	*806*	*1,305*	
Nicotine pouches	*8*	*5*	*13*	



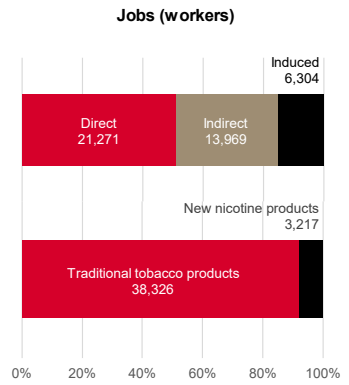
Wages by contribution type (across all product categories, in € millions)	**3,837**	**935**	**4,773**	
Direct	1,396	517	1,914	
Indirect	2,330	263	2,594	
Induced	110	155	265	
Wages by product category (direct, indirect and induced, in € millions)	**3,837**	**935**	**4,773**	
Traditional tobacco products	**3,592**	**811**	**4,403**	
Cigarettes	*3,300*	*741*	*4,040*	
Cigars, cigarillos and smoking tobacco	*132*	*9*	*141*	
Fine-cut tobacco	*158*	*59*	*217*	
Other tobacco products	*2*	*3*	*5*	
New nicotine products	**245**	**124**	**369**	
Heated tobacco products	*25*	*53*	*78*	
Vapour products	*217*	*70*	*287*	
Nicotine pouches	*3*	*1*	*4*	



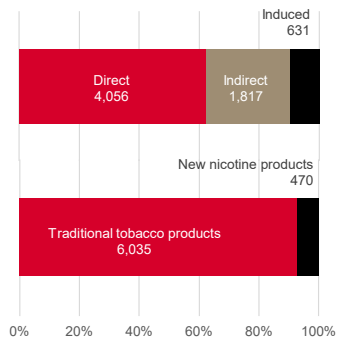
Source: S&P Global Market Intelligence

Economic contributions of the tobacco and related products sector to the economy of Portugal

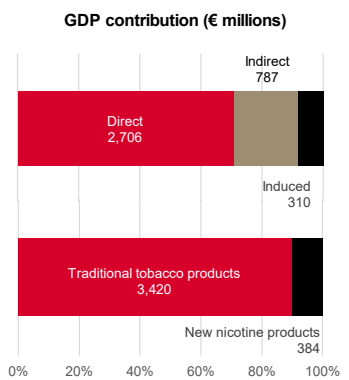
Economic indicator	Production	Wholesale, distribution and retail	Total	Charts
Employment by contribution type (across all product categories)	**18,439**	**23,103**	**41,543**	
Direct	5,368	15,902	21,271	
Indirect	10,429	3,539	13,969	
Induced	2,642	3,662	6,304	
Employment by product category (direct, indirect and induced)	**18,439**	**23,103**	**41,543**	
Traditional tobacco products	**18,164**	**20,162**	**38,326**	
Cigarettes	*17,627*	*17,924*	*35,552*	
Cigars, cigarillos and smoking tobacco	*132*	*781*	*913*	
Fine-cut tobacco	*366*	*1,408*	*1,774*	
Other tobacco products	*38*	*50*	*88*	
New nicotine products	**276**	**2,941**	**3,217**	
Heated tobacco products	*151*	*2,202*	*2,353*	
Vapour products	*111*	*722*	*833*	
Nicotine pouches	*13*	*17*	*30*	



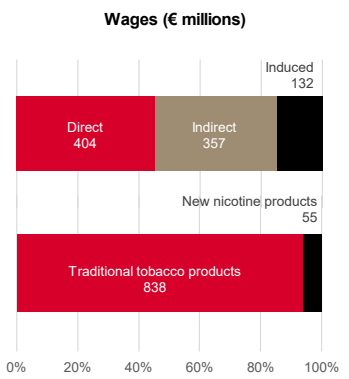
Sales activity by contribution type (across all product categories, in € millions)	**3,122**	**3,383**	**6,505**	
Direct	1,409	2,647	4,056	
Indirect	1,449	368	1,817	
Induced	263	368	631	
Sales activity by product category (direct, indirect and induced, in € millions)	**3,122**	**3,383**	**6,505**	
Traditional tobacco products	**3,092**	**2,942**	**6,035**	
Cigarettes	*3,035*	*2,629*	*5,664*	
Cigars, cigarillos and smoking tobacco	*15*	*114*	*129*	
Fine-cut tobacco	*39*	*194*	*233*	
Other tobacco products	*4*	*5*	*9*	
New nicotine products	**29**	**441**	**470**	
Heated tobacco products	*16*	*334*	*350*	
Vapour products	*12*	*105*	*117*	
Nicotine pouches	*1*	*2*	*3*	



GDP by contribution type (across all product categories, in € millions)	**1,025**	**2,779**	**3,803**	
Direct	292	2,414	2,706	
Indirect	604	184	787	
Induced	129	181	310	
GDP by product category (direct, indirect and induced, in € millions)	**1,025**	**2,779**	**3,803**	
Traditional tobacco products	**1,011**	**2,409**	**3,420**	
Cigarettes	*985*	*2,163*	*3,148*	
Cigars, cigarillos and smoking tobacco	*6*	*94*	*101*	
Fine-cut tobacco	*18*	*149*	*167*	
Other tobacco products	*2*	*2*	*4*	
New nicotine products	**13**	**370**	**384**	
Heated tobacco products	*7*	*284*	*291*	
Vapour products	*5*	*86*	*91*	
Nicotine pouches	*1*	*1*	*1*	



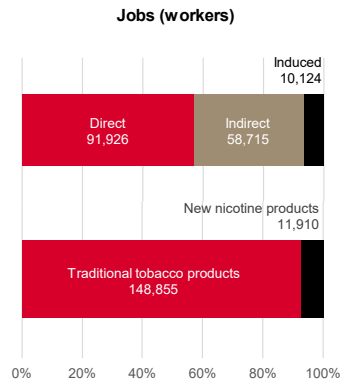
Wages by contribution type (across all product categories, in € millions)	**499**	**394**	**893**	
Direct	167	237	404	
Indirect	277	80	357	
Induced	55	77	132	
Wages by product category (direct, indirect and induced, in € millions)	**499**	**394**	**893**	
Traditional tobacco products	**493**	**344**	**838**	
Cigarettes	*482*	*305*	*787*	
Cigars, cigarillos and smoking tobacco	*3*	*13*	*16*	
Fine-cut tobacco	*8*	*25*	*33*	
Other tobacco products	*1*	*1*	*2*	
New nicotine products	**6**	**49**	**55**	
Heated tobacco products	*3*	*36*	*40*	
Vapour products	*2*	*12*	*15*	
Nicotine pouches	*0*	*0*	*1*	

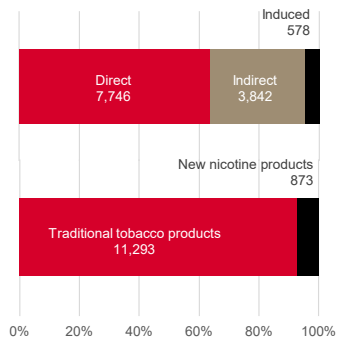


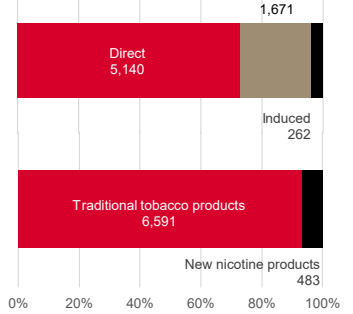
Source: S&P Global Market Intelligence

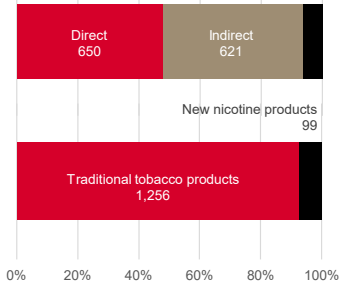
Economic contributions of the tobacco and related products sector to the economy of Romania

Economic indicator	Production	Wholesale, distribution and retail	Total	Charts
Employment by contribution type (across all product categories)	**50,854**	**109,911**	**160,765**	Jobs (workers)
Direct	10,683	81,243	91,926	
Indirect	35,911	22,803	58,715	
Induced	4,259	5,865	10,124	
Employment by product category (direct, indirect and induced)	**50,854**	**109,911**	**160,765**	
Traditional tobacco products	**46,006**	**102,849**	**148,855**	
Cigarettes	*44,755*	*99,797*	*144,552*	
Cigars, cigarillos and smoking tobacco	*266*	*1,540*	*1,806*	
Fine-cut tobacco	*915*	*1,428*	*2,342*	
Other tobacco products	*70*	*84*	*154*	
New nicotine products	**4,848**	**7,062**	**11,910**	
Heated tobacco products	*4,558*	*5,323*	*9,881*	
Vapour products	*255*	*1,691*	*1,946*	
Nicotine pouches	*35*	*48*	*83*	
Sales activity by contribution type (across all product categories, in € millions)	**5,251**	**6,915**	**12,166**	Sales activity (€ millions)
Direct	2,475	5,270	7,746	
Indirect	2,535	1,308	3,842	
Induced	241	337	578	
Sales activity by product category (direct, indirect and induced, in € millions)	**5,251**	**6,915**	**12,166**	
Traditional tobacco products	**4,822**	**6,471**	**11,293**	
Cigarettes	*4,747*	*6,284*	*11,031*	
Cigars, cigarillos and smoking tobacco	*17*	*96*	*113*	
Fine-cut tobacco	*54*	*86*	*140*	
Other tobacco products	*4*	*5*	*9*	
New nicotine products	**429**	**444**	**873**	
Heated tobacco products	*412*	*335*	*747*	
Vapour products	*15*	*106*	*121*	
Nicotine pouches	*2*	*3*	*5*	
GDP by contribution type (across all product categories, in € millions)	**1,979**	**5,094**	**7,073**	GDP contribution (€ millions)
Direct	802	4,338	5,140	
Indirect	1,068	603	1,671	
Induced	109	153	262	
GDP by product category (direct, indirect and induced, in € millions)	**1,979**	**5,094**	**7,073**	
Traditional tobacco products	**1,821**	**4,770**	**6,591**	
Cigarettes	*1,789*	*4,650*	*6,439*	
Cigars, cigarillos and smoking tobacco	*7*	*68*	*76*	
Fine-cut tobacco	*23*	*49*	*72*	
Other tobacco products	*2*	*2*	*4*	
New nicotine products	**158**	**325**	**483**	
Heated tobacco products	*151*	*247*	*398*	
Vapour products	*7*	*76*	*82*	
Nicotine pouches	*1*	*2*	*2*	
Wages by contribution type (across all product categories, in € millions)	**583**	**771**	**1,355**	Wages (€ millions)
Direct	144	506	650	
Indirect	405	216	621	
Induced	35	49	84	
Wages by product category (direct, indirect and induced, in € millions)	**583**	**771**	**1,355**	
Traditional tobacco products	**534**	**721**	**1,256**	
Cigarettes	*524*	*698*	*1,222*	
Cigars, cigarillos and smoking tobacco	*2*	*11*	*13*	
Fine-cut tobacco	*7*	*11*	*19*	
Other tobacco products	*1*	*1*	*1*	
New nicotine products	**49**	**50**	**99**	
Heated tobacco products	*47*	*37*	*84*	
Vapour products	*2*	*12*	*14*	
Nicotine pouches	*0*	*0*	*1*	





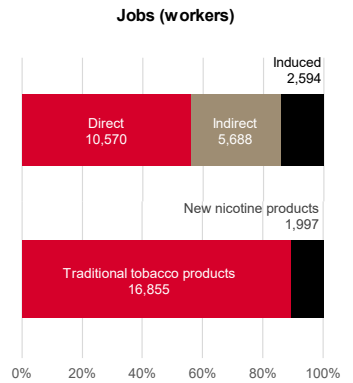


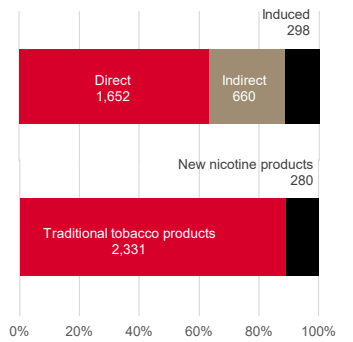


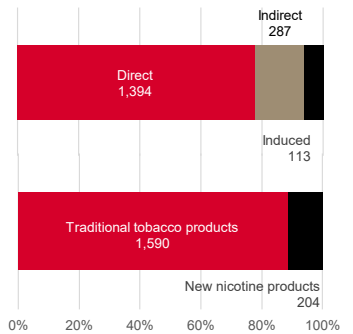
Source: S&P Global Market Intelligence

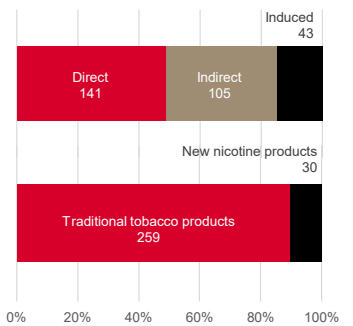
Economic contributions of the tobacco and related products sector to the economy of Slovakia

Economic indicator	Production	Wholesale, distribution and retail	Total	Charts
Employment by contribution type (across all product categories)	**3,571**	**15,281**	**18,852**	Jobs (workers)
Direct	443	10,127	10,570	
Indirect	2,037	3,651	5,688	
Induced	1,090	1,503	2,594	
Employment by product category (direct, indirect and induced)	**3,571**	**15,281**	**18,852**	
Traditional tobacco products	**3,360**	**13,494**	**16,855**	
Cigarettes	*2,852*	*11,711*	*14,563*	
Cigars, cigarillos and smoking tobacco	*107*	*995*	*1,102*	
Fine-cut tobacco	*382*	*657*	*1,039*	
Other tobacco products	*20*	*131*	*151*	
New nicotine products	**210**	**1,787**	**1,997**	
Heated tobacco products	*89*	*1,449*	*1,537*	
Vapour products	*108*	*240*	*349*	
Nicotine pouches	*13*	*98*	*111*	
Sales activity by contribution type (across all product categories, in € millions)	**450**	**2,160**	**2,610**	Sales activity (€ millions)
Direct	48	1,604	1,652	
Indirect	278	382	660	
Induced	124	174	298	
Sales activity by product category (direct, indirect and induced, in € millions)	**450**	**2,160**	**2,610**	
Traditional tobacco products	**425**	**1,906**	**2,331**	
Cigarettes	*363*	*1,656*	*2,019*	
Cigars, cigarillos and smoking tobacco	*14*	*143*	*157*	
Fine-cut tobacco	*46*	*89*	*135*	
Other tobacco products	*2*	*18*	*20*	
New nicotine products	**25**	**254**	**280**	
Heated tobacco products	*11*	*207*	*218*	
Vapour products	*13*	*33*	*46*	
Nicotine pouches	*1*	*14*	*15*	
GDP by contribution type (across all product categories, in € millions)	**174**	**1,620**	**1,794**	GDP contribution (€ millions)
Direct	13	1,382	1,394	
Indirect	114	173	287	
Induced	47	66	113	
GDP by product category (direct, indirect and induced, in € millions)	**174**	**1,620**	**1,794**	
Traditional tobacco products	**164**	**1,427**	**1,590**	
Cigarettes	*139*	*1,243*	*1,383*	
Cigars, cigarillos and smoking tobacco	*6*	*111*	*117*	
Fine-cut tobacco	*18*	*59*	*77*	
Other tobacco products	*1*	*14*	*14*	
New nicotine products	**10**	**194**	**204**	
Heated tobacco products	*4*	*161*	*164*	
Vapour products	*6*	*22*	*28*	
Nicotine pouches	*1*	*11*	*11*	
Wages by contribution type (across all product categories, in € millions)	**65**	**223**	**288**	Wages (€ millions)
Direct	6	134	141	
Indirect	41	64	105	
Induced	18	25	43	
Wages by product category (direct, indirect and induced, in € millions)	**65**	**223**	**288**	
Traditional tobacco products	**62**	**197**	**259**	
Cigarettes	*53*	*171*	*224*	
Cigars, cigarillos and smoking tobacco	*2*	*14*	*16*	
Fine-cut tobacco	*6*	*10*	*16*	
Other tobacco products	*0*	*2*	*2*	
New nicotine products	**4**	**26**	**30**	
Heated tobacco products	*2*	*21*	*22*	
Vapour products	*2*	*4*	*6*	
Nicotine pouches	*0*	*1*	*2*	





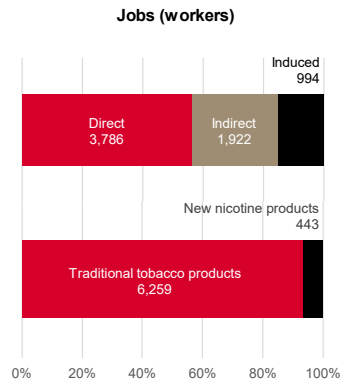


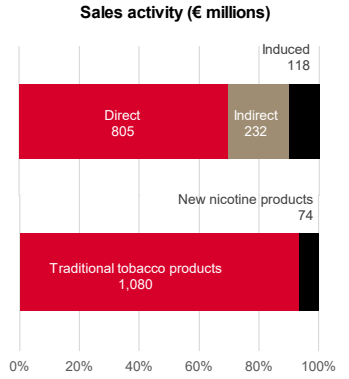


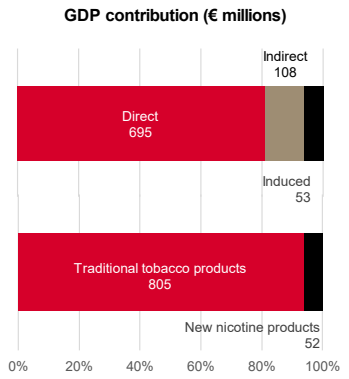
Source: S&P Global Market Intelligence

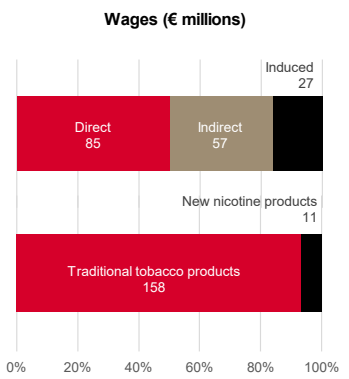
Economic contributions of the tobacco and related products sector to the economy of Slovenia

Economic indicator	Production	Wholesale, distribution and retail	Total	Charts
Employment by contribution type (across all product categories)	**771**	**5,931**	**6,702**	
Direct	0	3,786	3,786	
Indirect	353	1,569	1,922	
Induced	418	576	994	
Employment by product category (direct, indirect and induced)	**771**	**5,931**	**6,702**	
Traditional tobacco products	**688**	**5,571**	**6,259**	
Cigarettes	*551*	*4,939*	*5,489*	
Cigars, cigarillos and smoking tobacco	*27*	*321*	*348*	
Fine-cut tobacco	*102*	*303*	*405*	
Other tobacco products	*8*	*9*	*17*	
New nicotine products	**83**	**360**	**443**	
Heated tobacco products	*47*	*308*	*355*	
Vapour products	*32*	*49*	*80*	
Nicotine pouches	*4*	*4*	*8*	
Sales activity by contribution type (across all product categories, in € millions)	**106**	**1,048**	**1,154**	
Direct	0	805	805	
Indirect	57	175	232	
Induced	49	69	118	
Sales activity by product category (direct, indirect and induced, in € millions)	**106**	**1,048**	**1,154**	
Traditional tobacco products	**94**	**986**	**1,080**	
Cigarettes	*77*	*877*	*954*	
Cigars, cigarillos and smoking tobacco	*4*	*58*	*62*	
Fine-cut tobacco	*13*	*50*	*63*	
Other tobacco products	*1*	*1*	*2*	
New nicotine products	**11**	**62**	**74**	
Heated tobacco products	*7*	*55*	*61*	
Vapour products	*4*	*7*	*12*	
Nicotine pouches	*0*	*0*	*1*	
GDP by contribution type (across all product categories, in € millions)	**44**	**812**	**857**	
Direct	0	695	695	
Indirect	22	86	108	
Induced	22	31	53	
GDP by product category (direct, indirect and induced, in € millions)	**44**	**812**	**857**	
Traditional tobacco products	**40**	**765**	**805**	
Cigarettes	*32*	*682*	*714*	
Cigars, cigarillos and smoking tobacco	*2*	*46*	*47*	
Fine-cut tobacco	*5*	*37*	*42*	
Other tobacco products	*0*	*0*	*1*	
New nicotine products	**5**	**47**	**52**	
Heated tobacco products	*3*	*43*	*45*	
Vapour products	*2*	*5*	*7*	
Nicotine pouches	*0*	*0*	*0*	
Wages by contribution type (across all product categories, in € millions)	**24**	**145**	**169**	
Direct	0	85	85	
Indirect	13	44	57	
Induced	11	16	27	
Wages by product category (direct, indirect and induced, in € millions)	**24**	**145**	**169**	
Traditional tobacco products	**22**	**136**	**158**	
Cigarettes	*18*	*121*	*139*	
Cigars, cigarillos and smoking tobacco	*1*	*8*	*9*	
Fine-cut tobacco	*3*	*8*	*10*	
Other tobacco products	*0*	*0*	*0*	
New nicotine products	**3**	**9**	**11**	
Heated tobacco products	*1*	*8*	*9*	
Vapour products	*1*	*1*	*2*	
Nicotine pouches	*0*	*0*	*0*	





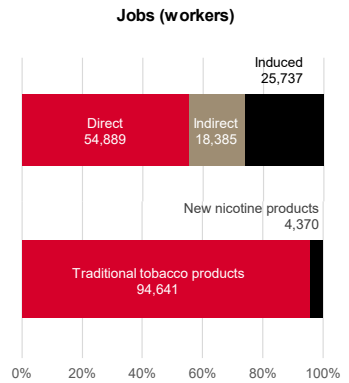


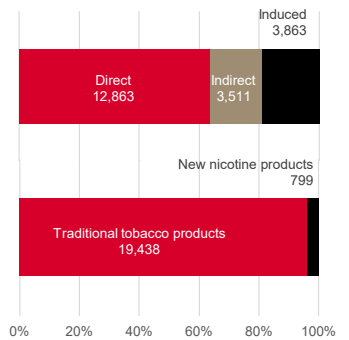


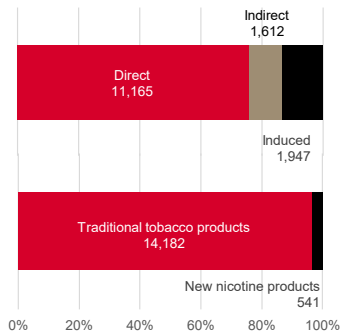
Source: S&P Global Market Intelligence

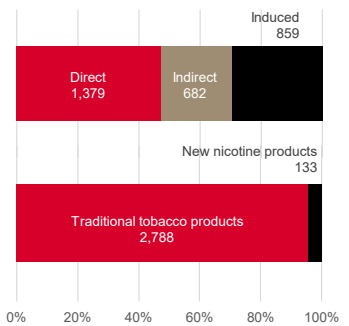
Economic contributions of the tobacco and related products sector to the economy of Spain

Economic indicator	Production	Wholesale, distribution and retail	Total	Charts
Employment by contribution type (across all product categories)	**19,389**	**79,622**	**99,011**	Jobs (workers)
Direct	979	53,910	54,889	
Indirect	7,674	10,710	18,385	
Induced	10,735	15,002	25,737	
Employment by product category (direct, indirect and induced)	**19,389**	**79,622**	**99,011**	
Traditional tobacco products	**18,244**	**76,397**	**94,641**	
Cigarettes	*12,599*	*64,228*	*76,828*	
Cigars, cigarillos and smoking tobacco	*4,028*	*3,263*	*7,291*	
Fine-cut tobacco	*1,469*	*8,706*	*10,175*	
Other tobacco products	*148*	*200*	*348*	
New nicotine products	**1,145**	**3,225**	**4,370**	
Heated tobacco products	*637*	*1,383*	*2,020*	
Vapour products	*456*	*1,772*	*2,228*	
Nicotine pouches	*52*	*70*	*122*	
Sales activity by contribution type (across all product categories, in € millions)	**3,955**	**16,281**	**20,237**	Sales activity (€ millions)
Direct	745	12,118	12,863	
Indirect	1,602	1,909	3,511	
Induced	1,609	2,255	3,863	
Sales activity by product category (direct, indirect and induced, in € millions)	**3,955**	**16,281**	**20,237**	
Traditional tobacco products	**3,773**	**15,665**	**19,438**	
Cigarettes	*2,395*	*13,188*	*15,583*	
Cigars, cigarillos and smoking tobacco	*1,126*	*675*	*1,801*	
Fine-cut tobacco	*230*	*1,771*	*2,001*	
Other tobacco products	*22*	*30*	*52*	
New nicotine products	**182**	**617**	**799**	
Heated tobacco products	*102*	*256*	*359*	
Vapour products	*72*	*350*	*422*	
Nicotine pouches	*8*	*11*	*18*	
GDP by contribution type (across all product categories, in € millions)	**1,587**	**13,136**	**14,723**	GDP contribution (€ millions)
Direct	162	11,003	11,165	
Indirect	615	997	1,612	
Induced	811	1,136	1,947	
GDP by product category (direct, indirect and induced, in € millions)	**1,587**	**13,136**	**14,723**	
Traditional tobacco products	**1,502**	**12,681**	**14,182**	
Cigarettes	*1,006*	*10,692*	*11,698*	
Cigars, cigarillos and smoking tobacco	*375*	*553*	*928*	
Fine-cut tobacco	*109*	*1,421*	*1,530*	
Other tobacco products	*10*	*15*	*25*	
New nicotine products	**86**	**456**	**541**	
Heated tobacco products	*47*	*180*	*228*	
Vapour products	*35*	*270*	*305*	
Nicotine pouches	*4*	*5*	*9*	
Wages by contribution type (across all product categories, in € millions)	**742**	**2,178**	**2,921**	Wages (€ millions)
Direct	87	1,291	1,379	
Indirect	297	386	682	
Induced	358	502	859	
Wages by product category (direct, indirect and induced, in € millions)	**742**	**2,178**	**2,921**	
Traditional tobacco products	**703**	**2,085**	**2,788**	
Cigarettes	*466*	*1,751*	*2,217*	
Cigars, cigarillos and smoking tobacco	*183*	*88*	*271*	
Fine-cut tobacco	*49*	*239*	*288*	
Other tobacco products	*5*	*7*	*11*	
New nicotine products	**39**	**94**	**133**	
Heated tobacco products	*22*	*41*	*63*	
Vapour products	*16*	*50*	*66*	
Nicotine pouches	*2*	*2*	*4*	





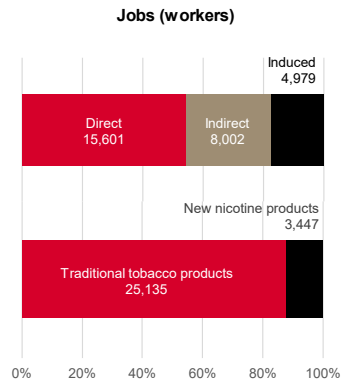


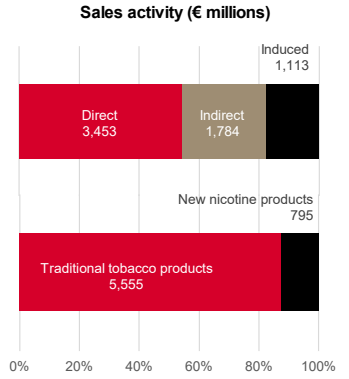


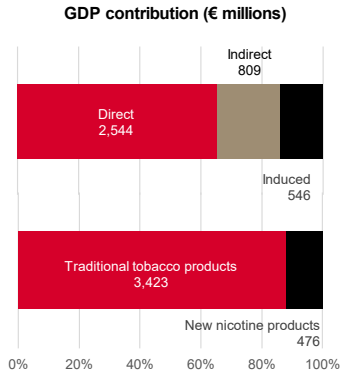
Source: S&P Global Market Intelligence

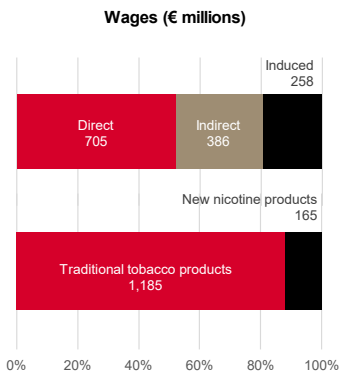
Economic contributions of the tobacco and related products sector to the economy of Sweden

Economic indicator	Production	Wholesale, distribution and retail	Total	Charts
Employment by contribution type (across all product categories)	**7,288**	**21,294**	**28,581**	
Direct	847	14,754	15,601	
Indirect	4,356	3,646	8,002	
Induced	2,085	2,894	4,979	
Employment by product category (direct, indirect and induced)	**7,288**	**21,294**	**28,581**	
Traditional tobacco products	**6,311**	**18,824**	**25,135**	
Cigarettes	*2,577*	*12,012*	*14,589*	
Cigars, cigarillos and smoking tobacco	*101*	*504*	*605*	
Fine-cut tobacco	*420*	*628*	*1,049*	
Other tobacco products	*3,212*	*5,680*	*8,893*	
New nicotine products	**977**	**2,469**	**3,447**	
Heated tobacco products	*137*	*851*	*988*	
Vapour products	*133*	*469*	*602*	
Nicotine pouches	*707*	*1,149*	*1,856*	
Sales activity by contribution type (across all product categories, in € millions)	**1,846**	**4,504**	**6,350**	
Direct	478	2,975	3,453	
Indirect	904	880	1,784	
Induced	463	650	1,113	
Sales activity by product category (direct, indirect and induced, in € millions)	**1,846**	**4,504**	**6,350**	
Traditional tobacco products	**1,570**	**3,985**	**5,555**	
Cigarettes	*671*	*2,557*	*3,228*	
Cigars, cigarillos and smoking tobacco	*25*	*107*	*132*	
Fine-cut tobacco	*101*	*140*	*242*	
Other tobacco products	*773*	*1,180*	*1,953*	
New nicotine products	**276**	**520**	**795**	
Heated tobacco products	*32*	*180*	*212*	
Vapour products	*33*	*100*	*133*	
Nicotine pouches	*211*	*239*	*450*	
GDP by contribution type (across all product categories, in € millions)	**727**	**3,172**	**3,899**	
Direct	113	2,431	2,544	
Indirect	386	422	809	
Induced	227	319	546	
GDP by product category (direct, indirect and induced, in € millions)	**727**	**3,172**	**3,899**	
Traditional tobacco products	**624**	**2,799**	**3,423**	
Cigarettes	*309*	*1,757*	*2,067*	
Cigars, cigarillos and smoking tobacco	*12*	*73*	*85*	
Fine-cut tobacco	*46*	*79*	*125*	
Other tobacco products	*257*	*889*	*1,146*	
New nicotine products	**102**	**374**	**476**	
Heated tobacco products	*15*	*126*	*141*	
Vapour products	*15*	*68*	*83*	
Nicotine pouches	*72*	*179*	*252*	
Wages by contribution type (across all product categories, in € millions)	**357**	**993**	**1,349**	
Direct	61	644	705	
Indirect	188	198	386	
Induced	107	151	258	
Wages by product category (direct, indirect and induced, in € millions)	**357**	**993**	**1,349**	
Traditional tobacco products	**306**	**878**	**1,185**	
Cigarettes	*154*	*565*	*719*	
Cigars, cigarillos and smoking tobacco	*6*	*24*	*30*	
Fine-cut tobacco	*22*	*32*	*53*	
Other tobacco products	*125*	*258*	*383*	
New nicotine products	**50**	**114**	**165**	
Heated tobacco products	*7*	*40*	*47*	
Vapour products	*8*	*22*	*30*	
Nicotine pouches	*35*	*52*	*88*	









Source: S&P Global Market Intelligence

Appendix B: Excise tax and VAT assumptions

Directive 2011/64.EU requires EU-27 member states to levy excise duties on tobacco products as follows:

- **Cigarettes**: a specific component between 7.5% and 76% of the total tax burden, expressed as a fixed amount per 1,000 cigarettes plus an ad valorem component expressed as a percentage of the maximum retail selling price. The overall excise must be at least €90 per 1,000 cigarettes and be at least 60% of the weighted average retail selling price. Countries that apply an excise duty of €115 or higher are not required to comply with the 60% criterion
- **Cigars and Cigarillos**: 5% of the retail selling price or €12 per 1,000 items or per kilogram
- **Fine-cut tobacco:** 50% of weighted average retail selling price or €60 per kilogram
- **Other smoking tobaccos**: 20% of retail selling price or €22 per kilogram

In addition, value added taxes (VAT), which differ by country (ranging from 14.5% to 21.2%), are applied on top of the excise duties.

The following table summarises the taxes that were assessed by country during 2021 and calculates the pre-tax value of tobacco sales and the effective tax rate levied on tobacco products. For the aggregate EU-27, the effective tax rate was 71.6% of the tax included retail selling price (TIRSP).

Summary of traditional tobacco and new nicotine product taxes by country, 2021 (millions of Euros)

Country	Product sales (TIRSP)	Excise taxes	VAT	Total taxes	Pre-tax value of products	Taxes (% of TIRSP)
Austria	€ 3,679B	€ 2,052B	€ 613B	€ 2,666B	€ 1,013B	72.5%
Belgium	€ 4,368B	€ 2,442B	€ 758B	€ 3,200B	€ 1,167B	73.3%
Bulgaria	€ 1,901B	€ 1,442B	€ 317B	€ 1,759B	€ 143B	92.5%
Croatia	€ 1,402B	€ 774B	€ 280B	€ 1,054B	€ 347B	75.2%
Cyprus	€ 536B	€ 161B	€ 86B	€ 247B	€ 289B	46.0%
Czech Republic	€ 4,632B	€ 2,431B	€ 804B	€ 3,235B	€ 1,397B	69.8%
Denmark	€ 2,030B	€ 1,239B	€ 406B	€ 1,645B	€ 385B	81.0%
Estonia	€ 323B	€ 236B	€ 54B	€ 290B	€ 33B	89.8%
Finland	€ 2,002B	€ 1,113B	€ 387B	€ 1,500B	€ 502B	74.9%
France	€ 23,494B	€ 14,287B	€ 3,917B	€ 18,204B	€ 5,291B	77.5%
Germany	€ 32,271B	€ 15,698B	€ 5,154B	€ 20,852B	€ 11,419B	64.6%
Greece	€ 4,028B	€ 2,169B	€ 779B	€ 2,948B	€ 1,080B	73.2%
Hungary	€ 2,440B	€ 1,103B	€ 519B	€ 1,622B	€ 818B	66.5%
Ireland	€ 2,409B	€ 1,338B	€ 418B	€ 1,757B	€ 652B	72.9%
Italy	€ 22,397B	€ 11,550B	€ 4,038B	€ 15,588B	€ 6,809B	69.6%
Latvia	€ 543B	€ 242B	€ 94B	€ 337B	€ 207B	62.0%
Lithuania	€ 666B	€ 347B	€ 116B	€ 463B	€ 203B	69.5%
Luxembourg	€ 1,455B	€ 702B	€ 211B	€ 913B	€ 542B	62.7%
Malta	€ 268B	€ 93B	€ 41B	€ 134B	€ 134B	50.0%
Netherlands	€ 5,822B	€ 3,314B	€ 1,011B	€ 4,324B	€ 1,497B	74.3%
Poland	€ 9,617B	€ 5,087B	€ 1,798B	€ 6,885B	€ 2,732B	71.6%
Portugal	€ 2,663B	€ 1,455B	€ 498B	€ 1,953B	€ 710B	73.3%
Romania	€ 5,283B	€ 3,030B	€ 844B	€ 3,873B	€ 1,410B	73.3%
Slovakia	€ 1,617B	€ 806B	€ 270B	€ 1,075B	€ 542B	66.5%
Slovenia	€ 807B	€ 410B	€ 146B	€ 555B	€ 252B	68.8%
Spain	€ 12,139B	€ 6,681B	€ 2,107B	€ 8,789B	€ 3,351B	72.4%
Sweden	€ 2,978B	€ 892B	€ 596B	€ 1,488B	€ 1,490B	50.0%
EU-27	**€ 151,773B**	**€ 81,096B**	**€ 26,262B**	**€ 107,358B**	**€ 44,415B**	**70.7%**

Source: S&P Global Market Intelligence

Appendix C: Economic contribution analysis methodology

Economic contribution analysis methodology

The findings and insights presented in this report are the result of a top-down macro analysis of how the production, distribution and selling of traditional tobacco and new nicotine products contribute to the economies of EU-27 member states. Industry-standard input-output (I-O) modelling techniques were used to trace how direct production and sales activities lead to follow-on supply chain and consumer activities, all of which stimulate economic contributions that accrue across the EU-27. Similar to dual entry accounting, I-O models link buying activities with selling activities both within and across industry sectors. As such, these models trace the flow of money through an economy, from an initial purchase through follow-on spending on inputs across supply and service networks. I-O techniques were originally pioneered by economist Wassily Leontief in the 1930s, ultimately earning him the 1973 Nobel Prize in Economics.

S&P Global applied these techniques to build economic impact models that were focused on two main links of the traditional tobacco and new nicotine products value chains. The first model focused on the production link, directly capturing the economic contributions associated with the manufacturing of traditional tobacco and new nicotine products while indirectly capturing the economic contributions generated by the sourcing of manufacturing inputs, such as raw tobacco, filters and so on. The second model focused on the sales link, directly capturing the economic contributions stimulated by consumer spending on traditional tobacco and new nicotine products while indirectly capturing the economic contributions from the associated wholesale and distribution activities.

The model inputs for the sales link analysis were created by first combining product category sales by member state from Euromonitor with data from eCigIntelligence and S&P Global's Global Consumer Service. This yielded a distribution of €151.7 billion worth of traditional tobacco and new nicotine products retail sales, by product category, across the EU-27 member states. However, taxes account for over 70% of aggregate retail sales. Using data from the European Commission's Excise Duty Tables from August 2021, pre-tax retail sales estimates — totaling €52.5 billion — were derived and used as model inputs. Thus, the economic contributions stimulated by the underlying value of the traditional tobacco and new nicotine products were derived.

For the production link analysis, preliminary model inputs were extracted from S&P Global's Comparative Industry Services, which, in turn, draws from OECD data as a primary source. Members of Tobacco Europe felt the OECD data may not fully capture recent shifts in production locations. Therefore, Tobacco Europe members provided guidance regarding the level of production activity by product category and member state. This was used to distribute €35.5 billion of production activity across the EU-27 member states, yielding the model inputs for the production link analysis.

Though input-output models are built using generally accepted techniques, the results obtained from these models can differ based on the underlying assumptions and data used to generate the model inputs. As described above, a top-down analysis such as this study typically uses model inputs derived from macro or country level data. Studies using bottom-up analyses, which often develop model inputs based on data collected at the entity level or through primary research surveys, would likely obtain a different set of of results. Moreover, an entity similarly conducting a top-down analysis but that utilizes different sources and methods to collect data will also likely develop model inputs that differ from those used by S&P Global.

Other factors that can lead to different results include, but are not necessarily limited to:

- The source data used to build the core models. As stated, S&P Global used data from the World Input-Output Database to build the models used in this study. Datasets are also available from Eurostat and the OECD. Models built from these datasets would likely produce different results than a WIOD-based model.
- The geographic scope of the models. The WIOD dataset includes industry-level transactions both within and across the EU-27 member states. This allowed S&P Global to develop a set of multi-regional models that captured the follow-on economic activity that occurred within the EU-27,

regardless of the member state in which the original economic activity occurred. For example, if cigarette production in Germany triggered follow-on supply chain activity in France, it was captured by the S&P Global models. A stand-alone model for Germany would have captured just the economic activity that remained in Germany.

- The vintage of the models. The S&P Global models started with core data from the World Input-Output Database (WIOD), which was published in 2014. Using data from S&P Global's proprietary asset, such as the Comparative Industry Service and Global Economy Service, the core data was updated to reflect 2021 conditions. In contrast, any analysis conducted using models built on the 2014 WIOD data would yield results based on core assumptions that do not reflect either post-pandemic conditions or the rise in new nicotine product sales.

The bottom line is different approaches and methodologies for collecting data, building and refining models, etc. may yield different modelled results. Each model brings a different perspective regarding how economic contributions are generated rather than a set of definitive results. Thus, results from different models can be viewed as establishing a range of possible answers.

Economic contribution analysis overview

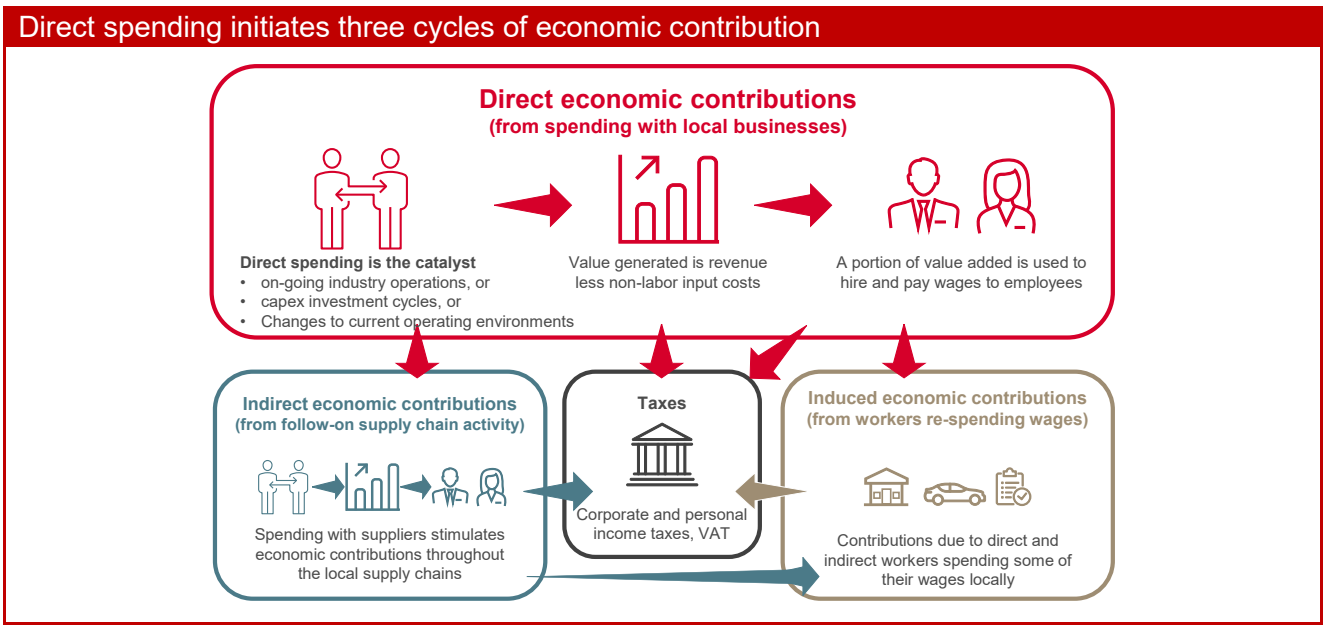
An economic contribution analysis quantifies how specific economic activity catalyses multiple rounds of contributions to key metrics such as economic output, employment, value added, and labour income. For this study, S&P Global Market Intelligence developed a set of models to trace how streams of economic activity initiated by the tobacco and new product value chains stimulate three levels of economic contribution throughout the EU-27 economy. The first level, designated as **direct contributions**, encompasses the economic contributions resulting from directly purchasing goods and services from businesses. The second level, **indirect contributions**, captures the follow-on effects that ripple through multiple tiers of tobacco companies' extended supply chains (i.e., suppliers' suppliers, etc.). The third level, **induced contributions**, covers the economic contributions due to the spending activity of people who work for tobacco companies or any of the extended supply chain businesses.

The direct, indirect, and induced contributions are reported for the following economic indicators:

- **Employment.** To produce their goods and services, companies must hire and retain employees. This indicator measures the number of workers required to support a given level of sales activity within an economy.
- **Sales activity (economic output).** In the context of this analysis, economic output represents the value of sales activity that occurs in the economy that is ultimately attributable to transactions initiated by the tobacco industry.
- **Value added (contribution to gross domestic product)**. Value added is the difference between the revenue businesses receive for a product or service and their non-labour input costs. Gross domestic product (GDP) is the sum of all value added across a national economy.
- **Labour income**. A subcomponent of value added, labour income captures the compensation paid to workers.
- **Taxes**: Businesses pay corporate taxes; employees pay personal taxes.

The following flow diagram presents the process by which the three economic contribution cycles (direct, indirect, and induced) interact and affect the key economic contribution metrics (employment, sales activity, GDP contribution, labour income, and taxes). The catalyst event occurs when firms directly engaged in the tobacco industry purchase products or services from local businesses (the arrow at the upper left portion of the graphic). At this point, money is exchanged (tobacco firms to the business) in return for a product or service (from the business to tobacco firms).

Direct spending initiates three cycles of economic contribution



Source: S&P Global Market Intelligence

These transactions initiate the “Direct economic contribution” cycle (shown in the red box in the graphic), beginning in the “Economic output” box. These sales then enable local businesses to accomplish two primary objectives:

- First, they buy the non-labour inputs (also known as intermediate purchases) needed to make and deliver their products and services from their supply network. This initiates the “Indirect economic contribution” cycle, which will be discussed later.
- Second, they generate what economists call “value added.” For the purposes of this analysis, value added is the difference between the value of the sales transactions and the intermediate purchases.

After the value added is distributed to workers or paid to tax authorities or retained as gross profits, the direct economic contribution cycle ends.

As previously mentioned, the local businesses that tobacco firms directly buy from, in turn, make intermediate purchases from their supply networks, which commences the “Indirect economic contribution” cycle. For this part of the discussion, we will designate the businesses that tobacco firms directly buy from as “tier 1 suppliers.” The tier 1 suppliers make intermediate purchases from their suppliers (tier 2 suppliers). The tier 2 suppliers then make intermediate purchases (from tier 3 suppliers), compensate their workers, pay taxes, and derive profits. This cycle repeats through the remaining tiers of the extended supply chain. The sum of the contributions stimulated by these multiple rounds of economic activity are the indirect impacts.

Tobacco firms and the local businesses in the direct and indirect supply networks pay their employees, who then spend a substantial portion of their income on household purchases (food, consumer goods, healthcare, education, housing, etc.) in their local economies. These sales transactions launch the “Induced economic contribution” cycle. The induced economic cycle is similar to the indirect economic contribution cycle in that it is multi-tiered. The main difference is the induced spending activity tends to centre on consumer activity.

Building an input-output model with the World Input-Output Database

S&P Global Market Intelligence built the core economic impact models upon input-output (I-O) data from the World Input-Output Database (WIOD) that contains sectoral spending and sales data for 43 countries and 56 sectors, based on Revision 4 of the United Nations' International Standard Industrial Classification (ISIC, Rev 4). For the purposes of this analysis, the model isolated all European countries in the EU-27 and aggregated the remaining countries as a "Rest of World" region. It also consolidated the sectors to align with S&P Global Market Intelligence internal data incorporated in the analysis. The 51 sectors are listed below.

Industry	Sector	Sector / Industry Description
1	A	Agriculture, Forestry and Fishing
2	B	Mining and Quarrying
3	C10-C12	Manufacture of Tobacco Products, Beverages and Food Products
4	C13-C15	Textiles, Apparel and Leather
5	C16	Manufacture of Wood and of Products of Wood and Cork, except Furniture
6	C17	Manufacture of Paper and Paper Products
7	C18	Printing and Reproduction of Recorded Media
8	C19	Manufacture of Coke and Refined Petroleum Products
9	C20	Manufacture of Chemicals and Chemical Products
10	C21	Manufacture of Basic Pharmaceutical Products
11	C22	Manufacture of Rubber and Plastics Products
12	C23	Manufacture of Other Non-Metallic Mineral Products
13	C24	Manufacture of Basic Metals
14	C25	Manufacture of Fabricated Metal Products, except Machinery + Equipment
15	C26	Manufacture of Computer, Electronic and Optical Products
16	C27	Manufacture of Electrical Equipment
17	C28	Manufacture of Machinery and Equipment N.E.C.
18	C29	Manufacture of Motor Vehicles, Trailers and Semi-Trailers
19	C30	Manufacture of Other Transport Equipment
20	C31_C32	Manufacture of Furniture, Safety, Fire, and Other Goods
21	C33	Repair and Installation of Machinery and Equipment
22	D35	Electricity, Gas, Steam and Air Conditioning Supply
23	E36	Water Supply, Sewerage, Waste Management and Remediation Activities
24	E37-E39	Sewerage, Waste and Remediation
25	F	Construction
26	G45	Wholesale and Retail Trade and Repair of Motor Vehicles and Motorcycles
27	G46	Wholesale Trade, except of Motor Vehicles and Motorcycles
28	G47	Retail Trade, except of Motor Vehicles and Motorcycles
29	H49	Land Transport and Transport via Pipelines
30	H50	Water Transport
31	H51	Air Transport
32	H52	Warehousing and Support Activities for Transportation
33	H53	Postal and Courier Activities
34	I	Accommodation and Food Service Activities
35	J58	Publishing Activities

36	J59_J60	Audiovisual and Broadcasting
37	J61	Telecommunications
38	J62_J63	IT and Information Services
39	K64	Financial Service Activities, except Insurance and Pension Funding
40	K65	Insurance, Reinsurance and Pension Funding, except Compulsory Social Security
41	K66	Activities Auxiliary to Financial Service and Insurance Activities
42	L68	Real Estate Activities
43	M69_M70	Legal, Accounting, Consultancy
44	M71	Architectural and Engineering Activities, Technical Testing and Analysis
45	M72	Scientific Research and Development
46	M73	Advertising and Market Research
47	M74_M75	Professional, Scientific, Veterinary
48	N	Administrative and Support Service Activities
49	OSTU + R	Public Admin and Defense, Other Services Arts, Entertainment and Recreation
50	P85	Education
51	Q	Human Health and Social Work Activities

The I-O data are organised into tables (input-output tables) that link the purchase and sale relationships between producers and consumers within an economy. The global I-O table captures domestic inter-industry trade activity as well as international trade between industries/countries. Economic transactions occur at the intersection of a column (purchasing activity) and a row (sales activity) in the graphic below.

There are a few features of the I-O table structure that are important to consider when building IO-based models.

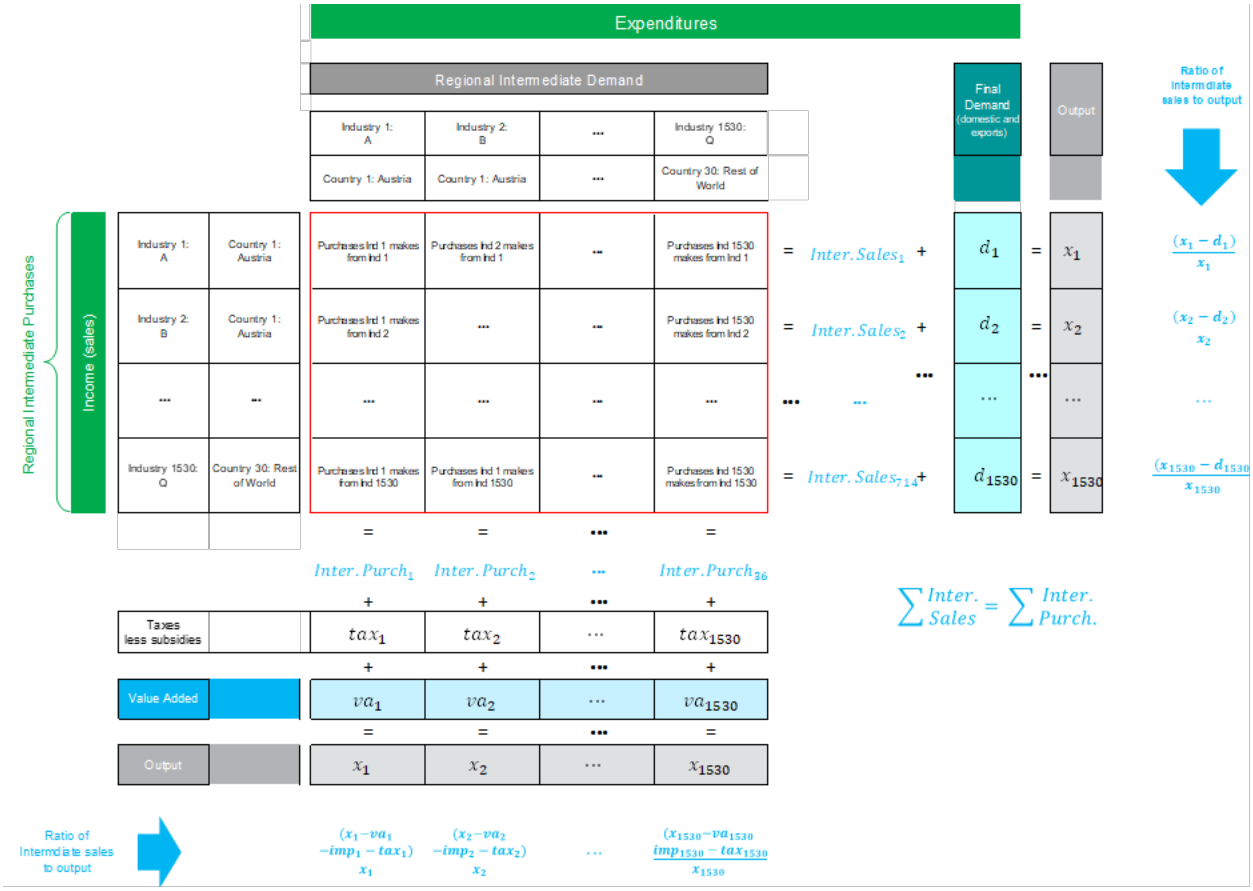
- In a balanced I-O table such as the World Input-Output table, the output, x_n, for any industry's rows equals the output of the same industry's column.

- The rows capture the flow of sales revenue into an industry. That is, the output shown in Industry 1's row, x_1, captures the payments industry 1 receives for its products and services both from intermediate sales to other industries and sales to end users (final demand).

- The "Intermediate Demand" columns break down the output, x_n, into: (1) the intermediate purchases industry n makes from both domestic industries and imports; (2) the value added, va_n, created by the industry.

- Value added, va_n, can be further broken down into three primary subcategories: labour income, other taxes, and gross operating profits. The value-added subcategories by industry were incorporated separately from the core I-O tables. In some cases, S&P Global Market Intelligence's proprietary data was used.

Format of the WIOD global input-output table



Source: S&P Global Market Intelligence interpretation of WIOD input-output table structure

Using techniques that ultimately earned economist Wassily Leontief the 1973 Nobel Prize in Economics, S&P Global Market Intelligence transformed the world I-O table into the core of the models used for the analysis. Reading across the industry rows in the I-O table reveals a simple equation that captures the relationship between the output of an economy, intermediate demand, and final demand.

$$\boldsymbol{Output = Intermediate\ Purchases + Final\ Demand}$$

As shown in the prior graphic, this concept can be broken out as a set of equations that capture these relationships on an industry or sector level. From the world I-O table, 1530 equations can be written:

$$x_1 = a_{1,1}x_1 + a_{1,2}x_2 + \cdots + a_{1,1530}x_{1530} + d_1$$

$$x_2 = a_{2,1}x_1 + a_{2,2}x_2 + \cdots + a_{2,1530}x_{1530} + d_2$$

$$\cdots$$

$$x_{1530} = a_{1530,1}x_1 + a_{1530,2}x_2 + \cdots + a_{1530,1530}x_{1530} + d_{1530}$$

Where:

- x_i is the gross output of industry i
- $a_{i,j}$ is the proportion of industry $j's$ gross output that is used for purchases from industry i
- d_i is the final demand for industry $i's$ products or services

Next, these equations can be represented in matrix form as follows:

$$\boldsymbol{X = AX + D}$$

Where:

- $\boldsymbol{X} = \begin{bmatrix} x_1 \\ \cdots \\ x_{1530} \end{bmatrix}$; a 1530-by-1 matrix (or vector) of industry sales (output)
- $\boldsymbol{A} = \begin{bmatrix} a_{1,1} & \cdots & a_{1,1530} \\ \vdots & \ddots & \vdots \\ a_{1530,1} & \cdots & a_{1530,1530} \end{bmatrix}$; a 1530-by-1530 Direct Requirements Matrix
- $\boldsymbol{D} = \begin{bmatrix} d_1 \\ \cdots \\ d_{1530} \end{bmatrix}$ **;** a 1530-by-1 (or vector) matrix of Final Demand by industry.

Finally, solving the above equation for X yields the relationship between changes in demand, D, affect gross output.

$$\boldsymbol{X - AX = D}$$

$$\boldsymbol{X(I - A) = D}$$

$$\boldsymbol{X = (I - A)^{-1}D}$$

Where:

- **I** represents a 1,530-by-1,530 identity matrix (top-left to lower-right diagonal is all 1s; other elements are 0s);
- **(I-A)$^{-1}$** represents the inverse matrix of **(I –A)**, also known as the **Leontief Inverse Matrix**.

The IO-based approach measures how changes in Final Demand, D, affect output, X. To assess how tobacco firms contribute to the European economy, S&P Global Market Intelligence created new Final Demand vectors, D, based on 2021 production levels and consumer spending on tobacco products across all EU-27 member states. S&P Global Market Intelligence then aggregated these data into the 1530 industries contained in the model to create a series of annual Final Demand vectors. Each annual Final Demand vector was brought into the corresponding economic impact model, where it was matrix multiplied by the Leontief Inverse Matrix, which yielded the industry-level changes in output, **X**.

S&P Global Market Intelligence also needed to quantify the contributions to GDP (value added), labour income and employment in the countries from which it sources goods and services. WIOD provides information on the value added for each industry. Thus, ratios of value-added-to-output by industry can be determined directly from any of the I-O tables S&P Global Market Intelligence used to create the models. In separate tables, the WIOD provides details on the components of value added (labour income, other taxes, gross operating profits) by industry. S&P Global Market Intelligence used these data to generate labour-income-to-output ratios by industry.

To quantify the employment effects, S&P Global Market Intelligence needed to calculate output-per-worker ratios by industry. To create the output-per-worker ratios, S&P Global Market Intelligence combined the WIOD output data with employment data from the OECD and WIOD.

S&P Global Market Intelligence analysed retail jobs supported by traditional tobacco and new nicotine product sales in terms of total jobs supported and full-time-equivalent (FTE) jobs. Retail establishments employ a high

number of part-time workers in Europe. In fact, employees in the retail sector worked the third-lowest number of hours in 2016 (latest year for which data was published) compared with all other sectors, according to data from WIOD. To view the jobs supported by traditional tobacco and new nicotine product sales on a more standardised basis, S&P Global Market Intelligence converted retail jobs to full-time equivalents.

To create estimates of full-time equivalent jobs supported, S&P Global Market Intelligence calculated unique output-per-employee ratios for each country's retail sector using output, employment, and total-hours-worked data from WIOD. First, an average weekly hours figure was calculated for each country's retail sector (ISIC code G47) using the total hours worked data from WIOD. Then, assuming a forty-hour work week as full-time, FTE conversion factors were created for each country's retail sector. For example, if retail employees in one country worked 20 hours per week on average, the FTE conversion factor would be 0.5. These factors were then applied to the retail employment figures to create FTE employment in each European country's retail sectors. The FTE employment figures were then used to create output-per-employee ratios.

The supported jobs estimated using the two different approaches differ by about 177,000 jobs. The reported figure in the body of the report, 1.55 million total jobs supported, uses output-per-employee ratios created using the original WIOD employment and output data. In terms of full-time equivalents, a total of 1.37 million jobs were supported using the method detailed above.

The ratios for value added/output, labour income/output and output/employment by industry were compiled into look-up tables. The industry output results were multiplied by the appropriate ratio to quantify the value added, labour income or employment impacts. For example, the output results for industry i were multiplied by the corresponding value added/output ratios to calculate the value-added impacts generated in industry i.

The following sections provide more detail on how the WIOD data, supplemented by data from S&P Global Market Intelligence and the OECD, was used to create the economic impact models. The model used to assess the tobacco industry's economic contributions was built within S&P Global Market Intelligence's EViews modelling environment.

Creating the Leontief Inverse Matrix

The heart of an input-output model is the Leontief Inverse Matrix. To create this matrix, S&P Global Market Intelligence started with WIOD's input-output tables. Below is a screenshot of a section of a 2014 input-output table, where only Austria's industry data are visible. 29 other countries are captured in the version of the I-O tables used for the analysis. The full list of countries is below.

millions of USD

Industry Code		A	B	C10-C12	C13-C15	C16	C17	C18	C19	C20	C21	C22	C23	C24
	Country	AUT	AUT	AUT	AUT	AUT	AUT	AUT	AUT	AUT	AUT	AUT	AUT	AUT
A	AUT	2,549	0	4,570	17	1,089	412	0	1	123	11	27	2	2
B	AUT	9	28	26	2	7	15	1	488	27	2	4	49	139
C10-C12	AUT	752	3	3,641	134	16	39	5	2	293	89	15	13	18
C13-C15	AUT	2	0	7	1	3	2	1	0	3	1	2	2	4
C16	AUT	34	8	36	5	1,653	53	5	1	16	3	37	29	62
C17	AUT	10	4	244	16	114	732	295	1	169	42	54	39	13
C18	AUT	2	1	21	3	3	17	202	0	6	4	6	4	4
C19	AUT	83	15	26	5	14	8	2	37	79	4	12	40	151
C20	AUT	46	7	94	33	36	58	11	27	859	41	142	43	39
C21	AUT	7	1	34	4	11	8	3	1	15	72	7	7	10
C22	AUT	21	4	142	15	26	20	25	2	49	17	125	53	15
C23	AUT	24	9	85	8	65	7	2	31	24	30	88	652	56
C24	AUT	16	6	34	4	25	24	4	2	62	8	65	38	2,201

The I-O table was transformed into the Leontief Inverse Matrix in three steps. The first step was creating the Direct Requirements Matrix (also known as the A Matrix). The Direct Requirements Matrix specifies the proportion of a given industry's output that is spent on intermediate purchases across all sectors. This means a Direct Requirements Matrix can be created by normalizing the intermediate purchases (the columns) of the I-O table relative to each industry's total output. In other words, each "intermediate purchases" cell in a given industry of the I-O table is divided by the total output of that industry. Shown in the screenshot below is a section of the 2021 Direct Requirements Matrix.

Countries included in economic contribution analysis			
Country abbreviation	**Country**	**Country abbreviation**	**Country**
AUT	Austria	IRL	Ireland
BEL	Belgium	ITA	Italy
BGR	Bulgaria	LTU	Lithuania
CYP	Cyprus	LUX	Luxembourg
CZE	Czech Republic	LVA	Latvia
DEU	Germany	MLT	Malta
DNK	Denmark	NLD	Netherlands
ESP	Spain	POL	Poland
EST	Estonia	PRT	Portugal
FIN	Finland	ROU	Romania
FRA	France	SVK	Slovakia
GRC	Greece	SVN	Slovenia
HRV	Croatia	SWE	Sweden
HUN	Hungary	ROW	Rest of World

The Direct Requirements Matrix provides insights into the direct spending between industries. For example, the C13-C15 (Textiles, Apparel and Leather) Austria column in the screenshot shows the proportional spending of that industry across all others. Assume D1 increases output by $100. The Direct Requirements Matrix shows that, to generate that $100 of additional output, Austria's C13-C15 sector will spend $0.41 with industry sector A (Agriculture, forestry and fishing) in Austria. This is the cell highlighted in yellow

A Matrix

Industry Code		A	B	C10-C12	C13-C15	C16	C17	C18	C19	C20	C21	C22	C23	C24
	Country	AUT	AUT	AUT	AUT	AUT	AUT	AUT	AUT	AUT	AUT	AUT	AUT	AUT
A	AUT	0.1997	0.0001	0.1664	0.0041	0.1060	0.0503	0.0001	0.0001	0.0068	0.0019	0.0034	0.0003	0.0001
B	AUT	0.0007	0.0083	0.0009	0.0004	0.0007	0.0019	0.0004	0.0658	0.0015	0.0004	0.0005	0.0056	0.0069
C10-C12	AUT	0.0589	0.0008	0.1326	0.0315	0.0016	0.0048	0.0015	0.0003	0.0161	0.0151	0.0019	0.0015	0.0009
C13-C15	AUT	0.0001	0.0001	0.0003	0.0002	0.0003	0.0003	0.0002	0.0000	0.0002	0.0002	0.0002	0.0002	0.0002
C16	AUT	0.0026	0.0025	0.0013	0.0012	0.1608	0.0065	0.0014	0.0001	0.0009	0.0006	0.0046	0.0034	0.0031
C17	AUT	0.0008	0.0011	0.0089	0.0037	0.0111	0.0895	0.0867	0.0001	0.0093	0.0070	0.0067	0.0044	0.0006
C18	AUT	0.0001	0.0003	0.0008	0.0007	0.0003	0.0021	0.0594	0.0001	0.0003	0.0006	0.0008	0.0005	0.0002
C19	AUT	0.0065	0.0043	0.0010	0.0011	0.0013	0.0010	0.0007	0.0050	0.0044	0.0007	0.0015	0.0046	0.0075
C20	AUT	0.0036	0.0022	0.0034	0.0078	0.0035	0.0070	0.0032	0.0036	0.0473	0.0070	0.0177	0.0049	0.0020
C21	AUT	0.0005	0.0004	0.0012	0.0009	0.0011	0.0009	0.0008	0.0002	0.0008	0.0121	0.0009	0.0008	0.0005
C22	AUT	0.0017	0.0013	0.0052	0.0035	0.0025	0.0024	0.0074	0.0003	0.0027	0.0029	0.0155	0.0061	0.0008
C23	AUT	0.0018	0.0027	0.0031	0.0019	0.0063	0.0009	0.0006	0.0042	0.0013	0.0050	0.0110	0.0747	0.0028
C24	AUT	0.0013	0.0019	0.0012	0.0008	0.0024	0.0030	0.0012	0.0002	0.0034	0.0013	0.0080	0.0044	0.1098

The next step is creating the (1-A) Matrix. This is accomplished by subtracting the Direct Requirements Matrix elements from an Identity Matrix. The results of this operation are shown in the following screenshot.

1-A Matrix

Industry Code		A	B	C10-C12	C13-C15	C16	C17	C18	C19	C20	C21	C22	C23	C24
	Country	AUT	AUT	AUT	AUT	AUT	AUT	AUT	AUT	AUT	AUT	AUT	AUT	AUT
A	AUT	0.934	0.000	-0.021	-0.001	-0.022	-0.012	0.000	0.000	-0.001	-0.001	-0.006	0.000	0.000
B	AUT	0.000	0.998	0.000	0.000	0.000	0.000	0.000	-0.002	0.000	0.000	-0.001	-0.005	-0.019
C10-C12	AUT	-0.099	-0.002	0.913	-0.020	-0.002	-0.006	-0.003	0.000	-0.010	-0.023	-0.004	-0.002	-0.001
C13-C15	AUT	0.000	0.000	0.000	1.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.002	-0.001	0.000
C16	AUT	-0.001	-0.001	0.000	0.000	0.968	-0.002	-0.001	0.000	0.000	0.000	0.000	0.000	0.000
C17	AUT	0.000	0.000	0.000	0.000	0.000	0.996	-0.005	0.000	0.000	0.000	-0.001	-0.002	0.000
C18	AUT	0.000	0.000	0.000	0.000	0.000	0.000	0.998	0.000	0.000	0.000	0.000	0.000	0.000
C19	AUT	-0.006	-0.005	0.000	0.000	-0.001	-0.001	-0.001	0.999	-0.002	-0.001	-0.003	-0.001	-0.002
C20	AUT	-0.001	-0.001	0.000	-0.001	0.000	-0.001	-0.001	0.000	0.996	-0.001	-0.023	-0.003	0.000
C21	AUT	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.002	0.000	-0.001	0.980	-0.003	-0.002	0.000
C22	AUT	-0.001	-0.001	-0.001	-0.001	-0.001	-0.002	-0.007	0.000	-0.002	-0.002	0.990	-0.001	0.000
C23	AUT	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.007	0.000
C24	AUT	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.999

The final transformation is inverting the (I-A) Matrix to create the Leontief Inverse Matrix. A portion of the 2021 Leontief Inverse Matrix is shown in the screenshot below.

Leontief Inverse Matrix

Industry Code		A	B	C10-C12	C13-C15	C16	C17	C18	C19	C20	C21	C22	C23	C24
		AUT	AUT	AUT	AUT	AUT	AUT	AUT	AUT	AUT	AUT	AUT	AUT	AUT
A	AUT	1.269	0.002	0.246	0.014	0.163	0.074	0.009	0.001	0.015	0.008	0.007	0.003	0.002
B	AUT	0.002	1.010	0.003	0.001	0.003	0.005	0.002	0.067	0.004	0.001	0.002	0.008	0.010
C10-C12	AUT	0.088	0.002	1.172	0.039	0.015	0.013	0.005	0.001	0.022	0.020	0.004	0.004	0.003
C13-C15	AUT	0.000	0.000	0.000	1.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
C16	AUT	0.006	0.004	0.004	0.003	1.196	0.011	0.004	0.001	0.003	0.002	0.007	0.006	0.007
C17	AUT	0.003	0.002	0.013	0.006	0.016	1.101	0.105	0.001	0.012	0.009	0.009	0.007	0.002
C18	AUT	0.001	0.002	0.004	0.002	0.002	0.004	1.081	0.001	0.002	0.002	0.002	0.002	0.001
C19	AUT	0.009	0.005	0.004	0.002	0.004	0.003	0.002	1.006	0.006	0.002	0.003	0.007	0.010
C20	AUT	0.006	0.003	0.007	0.010	0.007	0.010	0.006	0.005	1.054	0.009	0.021	0.007	0.004
C21	AUT	0.001	0.001	0.002	0.001	0.002	0.001	0.001	0.000	0.001	1.013	0.001	0.001	0.001
C22	AUT	0.003	0.002	0.008	0.004	0.005	0.004	0.010	0.001	0.004	0.004	1.017	0.008	0.002
C23	AUT	0.005	0.005	0.007	0.004	0.011	0.003	0.003	0.006	0.003	0.007	0.014	1.084	0.005
C24	AUT	0.004	0.004	0.005	0.003	0.007	0.006	0.004	0.001	0.006	0.003	0.012	0.008	1.131

The Leontief Inverse Matrix is also known as the Total Requirements Matrix because the coefficients capture how a marginal change in spending in industry i affects all industries in the economy, through multiple tiers of the supply chain. Building on the example from the direct requirements discussion, a $100 increase in the output of industry C13-C15 triggers a total increase of $1.40 in industry A. From the previous example, we know that C13-C15 directly spends $0.41 with industry A. This means an additional $0.99 of spending with sector A is stimulated during the indirect contribution cycle.

Quantifying Value Added, Labour Income and Employment

Use of a Leontief Inverse Matrix in an input-output model captures how direct changes in output in one or more industries leads to indirect changes in output across all industries in an economy. The next step of economic impact analysis is to determine how the key economic indicators of value added, labour income, and employment are affected. WIOD provides employment, labour income, and total value added for all industries/countries contained in the World I-O table. S&P Global Market Intelligence used these figures, as well as output, to create the following ratios in each industry/country. S&P Global Market Intelligence also used OECD figures for direct employment attributable to tobacco manufacturing to capture employment activity more accurately in that industry.

- Output per employee
- Labour income per $1 of output
- Total value added per $1 of output

These ratios were applied to the direct, indirect, and induced output results to generate the employment, labour income, and total value-added effects on the EU-27 economy.

Estimating Induced Impacts

Induced impacts are those stimulated by workers spending a portion of their income in the local economy. Typically, an enhanced version of an I-O table, known as a Social Accounting Matrix or SAM, is used to derive the induced impacts. As its name implies, a SAM extends the I-O framework to include financial flows beyond the industry-to-industry transactions in an I-O table. Examples of these flows include inter-institution transfers (e.g., government to households) and consumption (e.g., final demand). In a SAM-based model, a portion of the labour income workers receive is fed back into the economy via consumer purchase activity and general consumption.

A current SAM from WIOD does not exist; therefore, S&P Global Market Intelligence used a proxy approach to estimate the induced effects. The world I-O table contains industry-level household spending patterns for each country. The percentage distribution of household spending can be used as a proxy for the household spending patterns that initiate the induced impact cycle. For the induced impact analysis, S&P Global Market Intelligence assumed that 70% of direct and indirect labour Income would be re-spent in the local economy consistent with the household consumption distribution in each country.

The annual household consumption distributions were treated as inputs to the models. The models then determined the follow-on effects. Included in these effects is another, smaller round of labour income, which was fed back into the model. In theory, this represents an infinite loop in which each round of labour income was fed back into the model. Fortunately, there is a more efficient way to determine the total induced impacts. Recall that the household final consumption distribution is held constant. Thus, the labour income generated by the first round of the spending is feedback into the model using the same distribution. As such, the ratio of one round's labour income to the next round's labour income will be a constant. This is, by definition, an infinite geometric series.

Summing an infinite series requires determining the common ratio, r, which is the ratio of the labour income entering into round 1 divided by the labour income generated by round 1. The common ratio can be used to calculate a scale factor by which the initial results are multiplied to derive the infinite sum. The formula for this scale factor is as follows: $Induced\ scale\ factor = \frac{1}{1-r}$

For example, initial testing for the 2021 model indicated a common ratio in EU-27countries of approximately 33% (the exact figure varies by country). This leads to an induced scale factor of around 1.5. Thus, multiplying the first round of induced gross output impacts by 1.5 will yield the sum of gross output induced impacts. The value added, labour income and employment ratios can then be applied to determine the induced results for those metrics.

Updating the World I-O Table with RAS procedure

S&P Global Market Intelligence used a standard matrix balancing process known as the RAS method to transform the World input-output models from their original vintage (2014) to the present year (2021). Updated input-output tables – which underpin the economic impact analysis – help ensure the results of the analysis are more accurate. Starting with the 2014 global model, the RAS method iteratively scales and rebalances first the rows and then the columns of the Direct Requirements Matrix (the A Matrix) until the coefficients converge to a create matrix that produces a balanced response to a targeted level of output. This means that for a targeted level of output, the sum of direct intermediate purchases equals the sum of direct intermediate demand. This section presents a brief discussion of the RAS methodology S&P Global Market Intelligence used to create A Matrices that were then transformed into Leontief Inverse matrices for models with data years 2015 to 2021. For a more extensive discussion, the reader is referred to Input-Output Analysis, Foundations and Extensions, Second Edition by Miller and Blair, where Chapter 7 presents a comprehensive overview of the RAS technique.

Based on the process put forth by Miller and Blair, transforming the 2014 global A Matrix to an A Matrix in subsequent years requires three sets of inputs. The first is the regional output by sector. For example, the output for each of the 1,530 industry sectors (51 sectors x 30 different countries) in 2020 is needed to create the A Matrix that will be transformed into the Leontief Inverse Matrix for that year. The two other sets of required inputs are: (a) intermediate sales by industry in each year; and (b) intermediate purchases by industry in each year.

Using the “Format of the WIOD global input-output table” graphic presented earlier in this appendix, one can derive the relationships between: (a) output and intermediate sales by industry; and (b) output and intermediate purchases by industry. Specifically, the I-O table can be used to derive ratios of intermediate-sales-to-output and intermediate-purchases-to-output by industry. Thus, if one knows the regional output by industry, one can derive estimates of the regional intermediate sales by industry and intermediate purchases by industry.

S&P Global Market Intelligence used gross output from its Comparative Industry group as the targets by which it updated the I-O table. Gross output by industry/geography was used in the RAS procedure. To align the classifications from the WIOD database and S&P Global Market Intelligence’s data, some sectors and countries were aggregated. Other industry-specific data, such as employment, labour income and value added, was sourced from either WIOD, the OECD, or internally at S&P Global Market Intelligence.

One more preparatory step is needed before beginning the RAS process. To facilitate the matrix multiplication required by the RAS process, the regional output by industry must be converted from a 1,530 row by 1 column matrix (or vector) to a 1,530 row by 1,530 column diagonal matrix, sometimes called the $\hat{x}$ matrix or x-hat matrix. To illustrate, a portion of the output data from the prior table are shown in $\hat{x}$ matrix format below. The figures are in millions of US dollars.

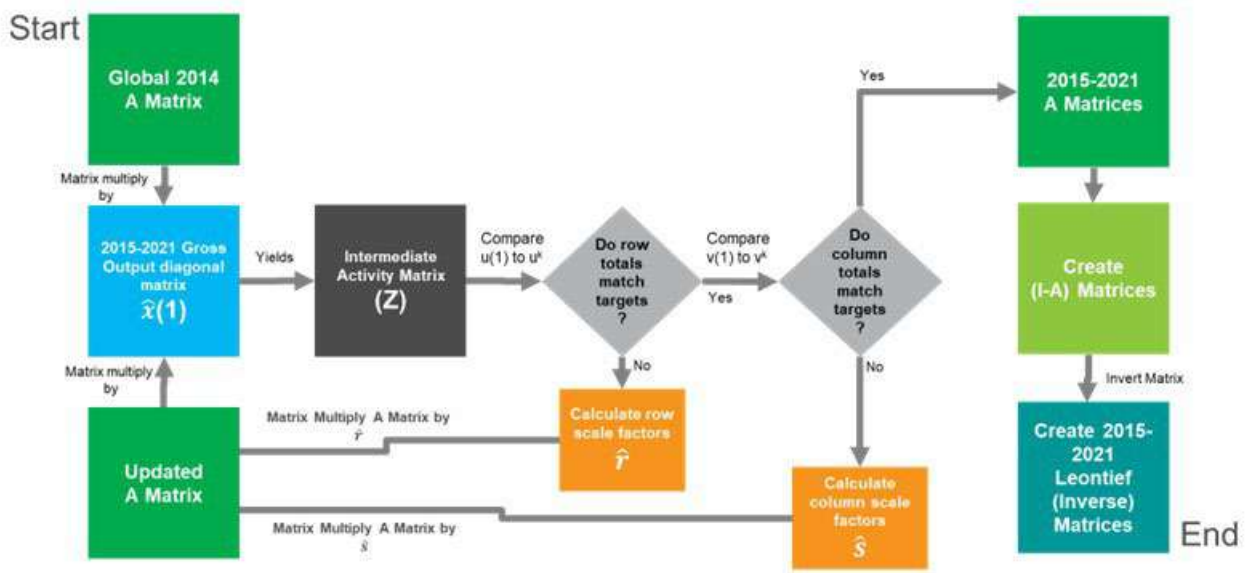
X-Hat Matrix

Industry Code		A	B	C10-C12	C13-C15	C16	C17	C18	C19	C20	C21	C22	C23	C24
	Country	AUT	AUT	AUT	AUT	AUT	AUT	AUT	AUT	AUT	AUT	AUT	AUT	AUT
A	AUT	12,012	-	-	-	-	-	-	-	-	-	-	-	-
B	AUT	-	3,168	-	-	-	-	-	-	-	-	-	-	-
C10-C12	AUT	-	-	23,943	-	-	-	-	-	-	-	-	-	-
C13-C15	AUT	-	-	-	3,239	-	-	-	-	-	-	-	-	-
C16	AUT	-	-	-	-	12,097	-	-	-	-	-	-	-	-
C17	AUT	-	-	-	-	-	7,966	-	-	-	-	-	-	-
C18	AUT	-	-	-	-	-	-	1,891	-	-	-	-	-	-
C19	AUT	-	-	-	-	-	-	-	8,979	-	-	-	-	-
C20	AUT	-	-	-	-	-	-	-	-	19,960	-	-	-	-
C21	AUT	-	-	-	-	-	-	-	-	-	6,842	-	-	-
C22	AUT	-	-	-	-	-	-	-	-	-	-	7,523	-	-
C23	AUT	-	-	-	-	-	-	-	-	-	-	-	9,317	-
C24	AUT	-	-	-	-	-	-	-	-	-	-	-	-	19,263

A schematic of the RAS process is shown below. To start the RAS process, the 2014 A Matrix is multiplied by the $\hat{x}$ Matrix of the future year. This results in what is known as an Intermediate Activity Matrix, which captures the first round of intermediate sales and intermediate purchase activity required to meet the target output in the $\hat{x}$ Matrix. Because the intermediate-purchases-to-output percentages were used as a constraining factor when the regional targets were derived, the sum of each industry column in the Intermediate Activity Matrix will match the Intermediate Purchases targets.

The sum of each row likely will not match the Intermediate Sales targets. For each industry, the target level is divided by the result to derive a set of scale factors. Each industry row of the A Matrix is multiplied by the corresponding scale factor to create an updated A Matrix. The updated A Matrix is then multiplied by the $\hat{x}$ Matrix, which results in an updated Intermediate Activity Matrix. This round, the sum of the rows will match the Intermediate Sales targets while the sum of the columns will likely not match the Intermediate Purchases targets. This time, scale factors are created for the columns, which are then used to update the A matrix again. This cycle repeats until the row and column sums of the Intermediate Activity Matrix converge to the Intermediate Sales and Intermediate Purchases targets. Once this convergence is achieved, the regional A Matrix is transformed into the (I-A) matrix, followed by the Leontief Inverse Matrix. The process was repeated for each year (2015-2021).

RAS process diagram



Source: S&P Global Market Intelligence interpretation of WIOD input-output table structure

Once the Leontief Inverse Matrix is created for each new year, the core of the models is in place, and direct, indirect and induced contributions to output can be captured using the new models for years 2015-2021.

Appendix D: Glossary

Capital expenditure (Capex)	This includes the investments made by establishments operating in a particular sector during a certain year, net of fixed assets sold.
Compound Annual Growth Rate (CAGR)	A measure of annual growth rate with the effect of compounding considered. The CAGR formula is equal to: [(ending value / beginning value) ^ (1/# of periods)] – 1
Corporate income tax	The tax levied on a corporation's income.
Direct impacts	The first-order responses throughout the economy due to direct sales transactions
Economic impact analysis	A study that examines the direct, indirect and induced impacts of the independent operators' production activities and supply chain spending.
Employment	This includes wages, salaries and self-employment jobs within the economy.
Extended supply chain	The network of suppliers who provide goods and services to the first tier of a supply chain. This is a subset of the indirect economic contributions.
Fiscal analysis	The estimation of the impacts of tax and non-tax contributions of an entity to the government in which it is currently operating.
Government revenues	The streams of revenues paid to a government agency.
Gross domestic product (GDP)	The sum of value added across all products and services produced within a national economy.
Gross state product (GSP)	The sum of value added across all products and services produced within a state economy.

Indirect impacts	The follow-on supply chain or purchasing network activities that are initiated by direct spending.
Induced impacts	The response of the economy to marginal changes in consumer spending from employees of the direct and indirect businesses.
Input-output analysis	The analysis uses an input-output table that represents a particular economy and depicts the flows of related economic transactions that take place within the country. It also shows the economic interconnections that exist between different components of the economic system, i.e., production activities, the government and supplier enterprises.
Labour income	This captures all forms of employment income, including employee compensation (wages and benefits, employer-paid payroll taxes, unemployment taxes, etc.) and proprietor income (payments received by self-employed individuals and unincorporated businesses).
New nicotine products	This includes the following product categories: vapour products, heated tobacco products, and nicotine pouches.
Operating expenditures (Opex)	This captures purchases of inputs and suppliers.
Output	The total value of all goods and services produced within an economy.
Personal income tax	The tax levied on an individual’s income.
Supply chain	The combination of the direct and indirect suppliers.
Tier-1 suppliers	The suppliers with whom the independent operators directly spend their capital expenditure and operating expenditure funds.
Traditional tobacco products	This includes the following product categories: cigarettes, cigars, cigarillos, fine-cut tobacco and smokeless tobacco products.
Value added	The difference between the revenue received for a product or service and its non-labour input costs. It is also understood as the difference between the value of sale and the cost of its required non-labour inputs.

OXFORD ECONOMICS

ASSESSING THE EFFECTIVENESS OF THE TOBACCO EXCISE DIRECTIVE, 2011-2024

REPORT FOR TOBACCO EUROPE

FEBRUARY 2026

tobacco europe

ABOUT OXFORD ECONOMICS

Oxford Economics was founded in 1981 as a commercial venture with Oxford University's business college to provide economic forecasting and modelling to UK companies and financial institutions expanding abroad. Since then, we have become one of the world's foremost independent global advisory firms, providing reports, forecasts, and analytical tools on more than 200 countries, 100 industries, and 8,000 cities and regions. Our best-in-class global economic and industry models and analytical tools give us an unparalleled ability to forecast external market trends and assess their economic, social, and business impact.

Headquartered in Oxford, England, with regional centres in New York, London, Frankfurt, and Singapore, Oxford Economics has offices across the globe in Abu Dhabi, Belfast, Chicago, Dubai, Dublin, Hong Kong, Los Angeles, Mexico City, Milan, Paarl, Paris, Philadelphia, Sydney, Tokyo, and Toronto. We employ 700 staff, including more than 450 professional economists, industry experts, and business editors—one of the largest teams of macroeconomists and thought leadership specialists. Our global team is highly skilled in a full range of research techniques and thought leadership capabilities from econometric modelling, scenario framing, and economic impact analysis to market surveys, case studies, expert panels, and web analytics.

Oxford Economics is a key adviser to corporate, financial, and government decision-makers and thought leaders. Our worldwide client base now comprises over 3,000 international organisations, including leading multinational companies and financial institutions; key government bodies and trade associations; and top universities, consultancies, and think tanks.

FEBRUARY 2026

The modelling and results presented here are based on information provided by third parties, upon which Oxford Economics has relied in producing its report and forecasts in good faith. Any subsequent revision or update of those data will affect the assessments and projections shown.

To discuss the report further please contact:

Vasilis Douzenis: vdouzenis@oxfordeconomics.com

Oxford Economics

4 Millbank, London SW1P 3JA, UK

Tel: +44 203 910 8061

TABLE OF CONTENTS

Glossary 3

Executive summary 4

1. Overview of tobacco taxation in Europe 6

1.1 The evolution of EU tobacco taxation policy 6

1.2 EU member states' performance relative to TED objectives 7

1.3 Emerging challenges in implementation 10

1.4 Outlook: Revision of the TED 11

2. Evaluating the success of the TED 13

3. Country case studies 16

3.1 High-tax Member States 19

3.2 Member states with stable and predictable taxation 34

4. Overarching conclusions 49

GLOSSARY

Term	Definition
C&C	Counterfeit and contraband cigarettes, including illicit whites
Cigarette	Any factory-made product that contains tobacco and is intended to be burned under ordinary conditions of use
Consumption	Actual total consumption of cigarettes in a market, including legal domestic consumption and illicit products as well as those legally purchased overseas
Contraband	Cigarettes that have either been bought in a lower-tax country and which exceed legal border limits or acquired without taxes for export purposes to be illegally re-sold (for financial profit) in a higher priced market
Counterfeit	Cigarettes that are illegally manufactured and sold by a party other than the original trademark owner.
EU / EU27	European Union
Illicit cigarettes	Refers to cigarettes that are consumed outside the legal domestic market, including contraband and counterfeit cigarettes as well as illicit whites. The use of the term illicit encompasses all such products regardless of origin, manufacturing method, or legality in the country of production.
Illicit whites	Cigarettes that are usually manufactured legally in one country/market but which the evidence suggests have been smuggled across-borders during their transit to the destination market under review where they have limited or no legal distribution and are sold without payment of tax
NDL	Non-Domestic Legal – product that is brought into the market legally by consumers, such as during a cross-border trip
DNP	Duty-Not-Paid consists of Counterfeit and Contraband (C&C) (including Illicit Whites) and Non-Domestic (Legal).
WAP	The weighted average price for cigarettes calculated by reference to the total value of all cigarettes released for consumption, based on the retail selling price including all taxes, divided by the total quantity of cigarettes released for consumption. The WAP is provided by the European Commission Excise Duty Tables.

EXECUTIVE SUMMARY

This report, commissioned by Tobacco Europe and prepared by Oxford Economics, assesses the impacts of the EU Tobacco Excise Directive (TED) on tobacco excise tax rates, prices, consumption patterns and fiscal outcomes across six Member States: Belgium, Czechia, France, Hungary, the Netherlands, and Poland. The analysis evaluates the TED's effectiveness against its key objectives—**price and tax convergence**, **cross-border trade**, **illicit trade**, and **revenue performance**—and considers the implications for the directive's forthcoming revision**.**

POLICY AT A GLANCE

The TED established a harmonised framework for tobacco taxation across the European Union, setting minimum rates and aligning structures to promote an integrated single market, reduce distortions, and support public health objectives. Despite this framework, **price differences remain**, reflecting a combination of national policy choices, broader economic conditions and consumer preferences. **In 2024, cigarette prices ranged from €3.10 in Bulgaria to €16.00 in Ireland**. These differences illustrate the complexity of balancing fiscal and health objectives within diverse national contexts.

UNEVEN OUTCOMES

While the TED aims to provide consistency in tax structures, the results across Member States remain mixed. In high-price markets such as France, the Netherlands, and Belgium, aggressive excise increases in recent years have resulted in abrupt price rises for consumers and **driven substantial growth in duty-not-paid (DNP) consumption—reaching 49% of total cigarette use in France**—as consumers sought cheaper untaxed alternatives.

In lower-price Member States such as Hungary and Czechia, excise duties rose gradually to meet EU minima, but **these increases still coincided with falling legal sales and declining real revenues.** In both markets, the share of illicit products has grown, reflecting higher prices, increased illicit activity originating from non-EU markets and limited deterrence capacity. Poland presents a contrasting case compared with other lower-price markets: illicit trade has declined sharply—from 13% to 4% of total consumption—supported by stronger border controls and the closure of illegal production facilities.

Across these examples, differing experiences illustrate the challenge of balancing revenue performance with public health objectives. Countries that increased excise duties rapidly—such as France, the Netherlands and Belgium—**saw prices rise much faster than real cigarette excise tax revenues as consumers shifted toward untaxed products**. In Hungary and Czechia, excise increases were initially more gradual and started from lower price levels, which limited early substitution into non-domestic products; however, **as increases accelerated after 2019, legal volumes and excise revenues also came under pressure.** Poland achieved more **stable fiscal outcomes** through stronger enforcement and sustained, predictable adjustments.

These outcomes suggest that the speed and sequencing of excise increases, and the strength of enforcement capacity, are the key factors shaping legal markets' responses and the extent of activity shifting into non-domestic channels.

REVISION OF THE TED

The European Commission's 2025 reform proposals aim to modernise the TED by revising the minimum excise duty (MED) level to incorporate purchasing power parity adjustments, introducing triennial inflation-linked updates, and extending the directive's coverage to include new nicotine and tobacco products. **These measures are designed to enhance price and tax convergence, reduce market fragmentation, and improve the directive's alignment with contemporary consumption patterns and public health objectives.** Any revision should also take into account the broader lessons identified in this analysis—particularly **the importance of gradual, coordinated adjustments, close alignment with neighbouring markets, and robust enforcement capacity**—to ensure that any future policy changes deliver **both fiscal stability and effective public health outcomes.**

1. OVERVIEW OF TOBACCO TAXATION IN EUROPE

1.1 THE EVOLUTION OF EU TOBACCO TAXATION POLICY

The EU first set out its approach to tobacco taxation formally in the early 1970s, with the EU Directive 72/464/EEC that aimed to coordinate excise duties across Member States and reduce distortions in the internal market.[1] In 1992, three key directives were adopted—92/79/EEC on cigarettes, 92/80/EEC on other manufactured tobacco, and 95/59/EC on the structure of excise duties—forming the backbone of EU tobacco tax policy. These rules were updated in 2002 to raise minimum tax levels in response to growing price disparities and smuggling.[2] By the late 2000s, however, the framework was fragmented, outdated, and inconsistent with evolving public health and market needs. This led to the adoption, in 2011, of Council Directive 2011/64/EU or TED, which consolidated the earlier directives, increased minimum excise duties, clarified definitions to combat fraud, and aligned taxation more closely with EU health objectives and the WHO Framework Convention on Tobacco Control.[3]

The TED introduced three core provisions: (i) common categories and definitions of tobacco products, (ii) harmonised excise tax structures, and (iii) minimum excise duty rates. It established minima for cigarettes, fine-cut smoking tobacco, cigars and cigarillos, and other smoking tobacco. For cigarettes, the TED required a mandatory mixed structure, combining both an ad valorem excise duty (set as a percentage of retail price) and a specific excise duty (a fixed amount per quantity). In addition, the directive sets an incidence requirement, under which the total excise burden must represent at least 60% of the weighted average retail selling price and not less than €90 per 1,000 cigarettes. The TED also includes an escape clause, allowing Member States that apply an excise duty of €115 or more do not need to comply with the 60% criterion above.[4]

For manufactured tobacco products other than cigarettes, Member States were given greater flexibility: the tax structure may be fully specific, fully ad valorem, or a mixture of both. These provisions were intended to ensure a consistent approach across the EU, prevent misclassification of products, and reduce opportunities for tax avoidance. The applicable minimum rates for each category are summarised in Fig. 1.

[1] World Bank, "Tobacco taxation in the European Union", 2017, accessed October 2025
[2] European Commission, "COUNCIL DIRECTIVE 2002/10/EC", 2002, accessed October 2025
[3] European Commission, "Council Directive 2011/64/EU", 2011, accessed October 2025
[4] European Commission, "Excise duties on tobacco", accessed October 2025

Fig. 1. Minimum excise tax rates for manufactured tobacco products

Category	Minimum rate
Cigarettes	60% of the weighted average retailing price[5] and not less than €90 per 1000 items
Fine-cut smoking tobacco	50% of the weighted average retail selling price or €60 per kilogram
Cigars and cigarillos	5% of the retail selling price or €12 per 1000 items or per kilogram
Other smoking tobaccos	20% of the retail selling price or €22 per kilogram

The TED's provisions operate through a set of drivers that shape how the directive functions in practice. Harmonised rules and coherent implementation are intended to provide consistency across Member States, while flexibility and derogations allow some national variation where needed. Cross-country and cross-product convergence aim to narrow differences in taxation levels both between Member States and between different types of tobacco products. Finally, minimum rates provide a baseline for consistency, while Member States retain flexibility to reflect local conditions.[6]

Through these drivers, the TED seeks to achieve six specific objectives:

1. ensure the proper functioning of the excise system,
2. promote market integration and remove obstacles to the internal market,
3. avoid tax-induced distortions of competition,
4. safeguard the principle of freely formed prices,
5. pre-empt fraud and smuggling, and
6. prevent substitution between products and deter consumption through taxation.

Together, these specific objectives serve two overarching goals:

- proper functioning of the internal market, and
- a high level of health protection.

The TED remains the cornerstone of EU tobacco excise policy, though discussions are ongoing on updating it to reflect new products and market developments.

1.2 EU MEMBER STATES' PERFORMANCE RELATIVE TO TED OBJECTIVES

1.2.1 Uneven progress toward convergence

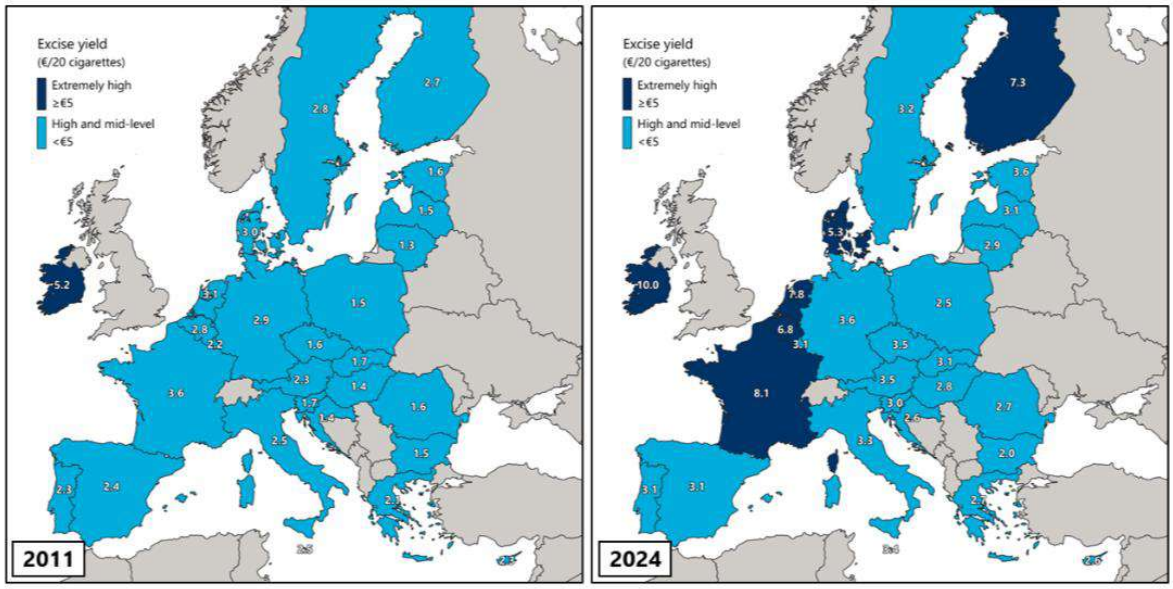
Although most EU Member States met the TED's minimum requirements by 2018, progress toward harmonising excise duty structures has remained uneven. While the Directive established a common framework, several countries—particularly Ireland, France, the Netherlands, Finland and Belgium—continue to set excise levels well above the minimum thresholds. These unilateral policy choices diverge from the Directive's harmonisation objectives and have contributed to unintended outcomes,

[5] EU countries that apply an excise duty of €115 or more do not need to comply with the 60% criterion above.

[6] European Commission, Study on Council Directive 2011/64/EU on the structure and rates of excise duty applied to manufactured tobacco, January 2019

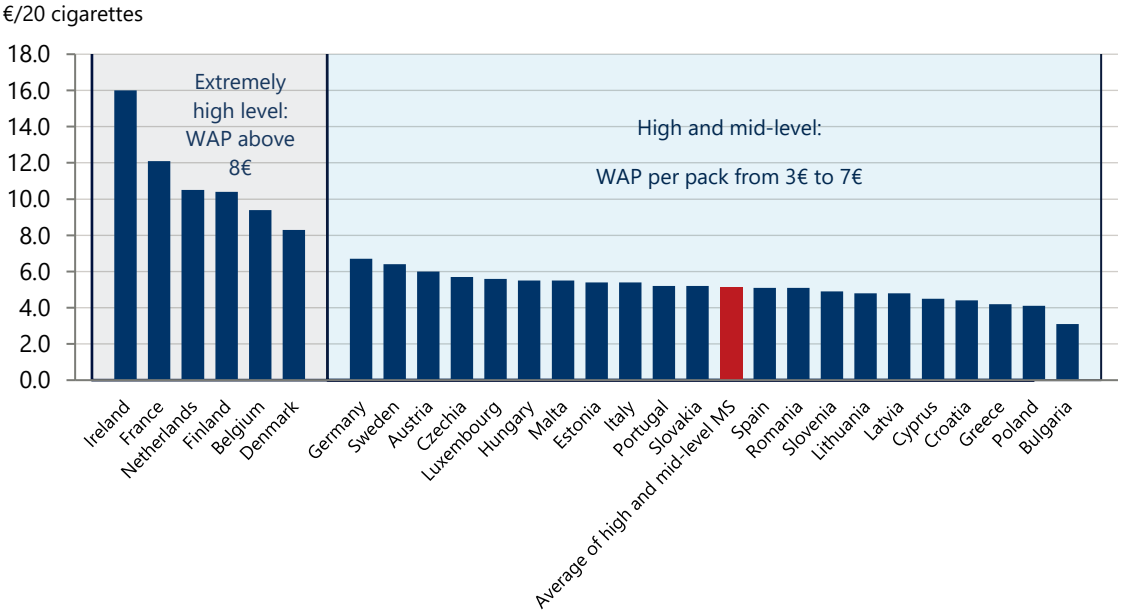
including elevated levels of illicit cigarette trade in high-tax jurisdictions. This evidence suggests that, in the absence of clear limits on the maximum excise level policy, harmonisation outcomes across the EU's 27 Member States remain difficult to achieve.

Fig. 2. Excise yield in EU Member States, €/pack of 20 cigarettes, 2011 and 2024



As a consequence, retail cigarette prices now vary substantially across the EU. In 2024, cigarette prices ranged from €3.10 in Bulgaria and €4.10 in Poland to €12.10 in France and €16.00 in Ireland— a difference of €12.90 per pack. This wide variation underscores the persistence of significant price gaps despite harmonised minimum rates.

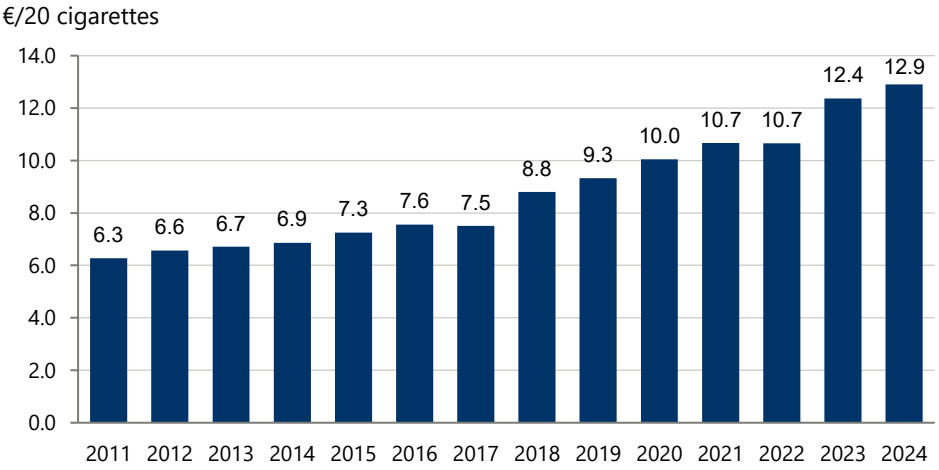
Fig. 3. Weighted average price (WAP) in EU Member States, 2024



Source: European Commission

Furthermore, the gap has widened over time: **in 2011, prices ranged from €2.20 per pack in Bulgaria to €8.47 in Ireland, a difference of €6.27 per pack, compared with €12.90 in 2024.**

Fig. 4. Evolution of the weighted average cigarette price (WAP) gap between Bulgaria and Ireland, 2011-2024



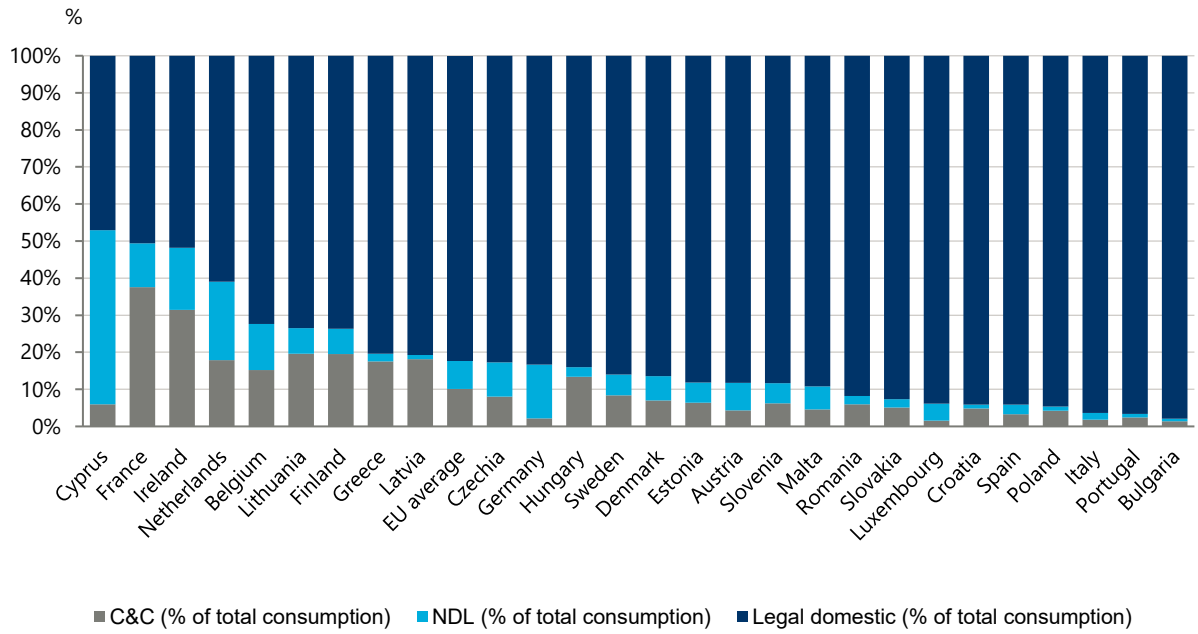
Source: European Commission

Price differences can influence consumer behaviour, alongside other factors such as enforcement capacity and market structure (including the relative shares of legal domestic sales, cross-border purchases, and illicit products). Member States with higher retail prices tend to exhibit greater shares of duty-not-paid (DNP) cigarette consumption—comprising both contraband and counterfeit (C&C) products and non-domestic legal (NDL) purchases. In 2024, France, Ireland, and the Netherlands recorded some of the highest DNP shares in the EU—49%, 48%, and 39% of total consumption, respectively. In contrast, lower-price markets such as Poland and Bulgaria reported much lower levels, at just 4% and 2% of total cigarette consumption.[7]

These patterns indicate that the TED has delivered more consistent outcomes across the majority of Member States once a small group of high-tax outliers (Ireland, France, the Netherlands, Finland, Belgium and Denmark) are set aside. These outliers disproportionately influence EU-wide averages, masking a broader pattern of convergence among the remaining Member States. Among the group that excludes the outliers, excise and price levels fall within a narrower range, indicating a greater degree of convergence in outcomes under the Directive.

[7] Oxford Economics calculations using KPMG data.

Fig. 5. Legal domestic, NDL, and C&C consumption cigarettes (% of total consumption of cigarettes) in EU Member States, 2024



Source: KPMG

Taken together, these findings suggest that while excise and price differentials remain central to explaining cross-border and illicit cigarette flows, structural and geographic conditions can also shape national outcomes. The purpose of this section is not to examine these dynamics in detail across all Member States, but rather to highlight a few notable examples that illustrate the diversity of outcomes under the TED. Chapter 3 then explores these dynamics in greater depth through six country case studies, analysing how differing excise policy trajectories and price environments have influenced consumption patterns, market structures, and fiscal performance.

1.3 EMERGING CHALLENGES IN IMPLEMENTATION

While the TED has provided a coherent framework for harmonising excise structures and setting minimum rates across the EU, several developments in the tobacco and nicotine market have introduced new challenges for policy implementation. These relate primarily to (i) the growing importance of novel products not currently covered by the TED, and (ii) continued divergence in national excise design and administration.

1.3.1 Expansion of new nicotine products not explicitly covered by the TED

In recent years, the EU nicotine market has expanded beyond traditional manufactured tobacco products to include a variety of new tobacco and non-tobacco nicotine products. These include heated tobacco (HTP), e-cigarettes, and nicotine pouches, most of which fall outside the categories harmonised under the TED. The market share of products not explicitly covered in the TED increased

from around 4% in 2018 to nearly 13% in 2023. Among these, heated tobacco currently holds the largest share in both sales value and user base.[8]

As of the end of 2024, 26 out of the 27 EU Member States apply excise duties to HTPs.[9] However, the structure and level of taxation vary widely. Some countries apply a mix of ad valorem and specific components — for instance, Portugal levies 15% of the retail selling price plus €93.5 per kilogram, with a minimum of €180 per kilogram — while others rely on specific rates only, which may be set per kilogram (as in the Netherlands, €347/kg) or per 1,000 items (as in Hungary, €90/1,000 sticks). A few Member States also differentiate between formats: France, for example, applies separate rates for HTP sticks and other product types, and Sweden taxes HTP sticks at the same rate as cigarettes, but other formats by weight.[10]

Taxation practices for other non-harmonised nicotine products also vary. France and the Netherlands do not apply an excise tax on e-cigarette liquids whereas other Member States impose flat-rate duties between €0.09/ml in Hungary and €0.70/ml in Slovenia. This divergence has resulted in a fragmented regulatory landscape and can produce incentives for substitution toward cheaper alternatives or between product types.[11]

The absence of harmonised definitions and minimum excise rates for new nicotine products presents ongoing administrative and policy challenges. Member States face increasing complexity in maintaining consistency across product categories, while at the EU level, these differences risk undermining the broader goals of the TED—namely, promoting market integration, preventing distortions, and supporting public health objectives.

1.4 OUTLOOK: REVISION OF THE TED

The analysis shows that, while the TED has created a unified framework for excise coordination across the EU, notable differences remain in price levels, tax structures, and enforcement outcomes. Persistent price gaps between Member States have been observed in countries implementing aggressive tax policies that far exceed the EU minima. Replicating such policies across other markets, given differences in purchasing power and broader economic conditions risks incentivising illicit activity.

The emergence of new nicotine products has further challenged the TED's scope, as these categories fall outside the harmonised structure.

In response to these developments, the European Commission announced proposals in July 2025 to update the TED.[12] The proposed reforms include:

[8] European Commission, "Study on the impact analysis of a review of tobacco taxation rules", 2025, accessed October 2025
[9] Malta remains the only Member State where HTPs are banned.
[10] European Commission, "Study on the impact analysis of a review of tobacco taxation rules", 2025, accessed October 2025
[11] European Commission, "Study on the impact analysis of a review of tobacco taxation rules", 2025, accessed October 2025
[12] European Commission, "Proposal for a COUNCIL DIRECTIVE on the structure and rates of excise duty applied to tobacco and tobacco related products", 2025, accessed October 2025

- increasing the Minimum Excise Duty (MED) using a combined approach where two thirds of the minimum rate for each Member State would be expressed in nominal terms and that one third would be adjusted to purchasing power based on each Member State' Price Level Index;
- introducing triennial updates of the MED to account for inflation and ensure rates remain relevant over time; and
- extending the scope of the TED to cover new nicotine products such as heated tobacco, e-cigarettes, nicotine pouches and other nicotine products.

These proposed adjustments are designed to improve alignment between Member States' taxation systems and address structural disparities that have emerged since 2011.

Overall, while the TED has established a unified framework for the taxation of tobacco products, implementation outcomes have differed widely across Member States.

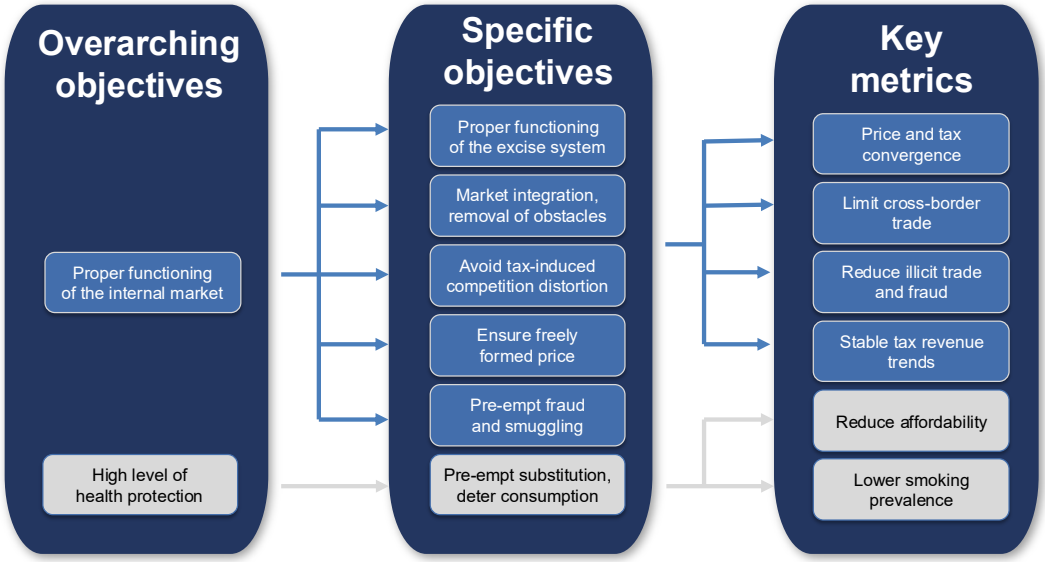
As the European Commission considers how to modernise the directive, future reforms should be informed by the lessons of Member States' experience to date. This analysis provides a structured evidence base to support that process. Oxford Economics has developed an evaluation framework to assess the TED's effectiveness against its key objectives, offering policymakers a consistent tool to gauge outcomes and guide future policy design.

Chapter 2 builds this analytical framework to assess these outcomes more systematically. It maps the TED's objectives to a series of measurable indicators to provide a consistent basis for evaluating national experiences. **Chapter 3** then applies this framework to six Member States—Belgium, Czechia, France, Hungary, the Netherlands, and Poland—illustrating how differences in excise policy and market conditions have shaped outcomes across the EU. **Chapter 4** brings these findings together to draw overarching conclusions and policy lessons for the future direction of the TED.

2. EVALUATING THE SUCCESS OF THE TED

To evaluate the effectiveness of the directive across six Member States—Belgium, Czechia, France, Hungary, the Netherlands, and Poland—we have mapped the TED's objectives to the following key metrics and identified how they can measure success:

Fig. 6. Key metrics to be used in the assessment



Key metrics for a proper functioning of the internal market

1. **Price and tax convergence:** the extent to which Member States' rates and price levels are aligning. Persistent disparities would indicate possible distortions within the internal market.
2. **Cross-border trade and non-domestic flows (NDL):** the scale of consumption or trade across borders driven by tax or price differentials, including whether consumers or smugglers exploit these gaps. This includes **NDL**—cigarettes purchased legally in another country and brought back by consumers, for example, during cross-border trips.
3. **Illicit trade and fraud:** estimates of illegal cigarette consumption, seizures, and tax evasion, serving as indicators of market malfunction or the growth of parallel illegal markets.
4. **Tax revenue trends:** whether Member States maintain stable revenue from tobacco, showing that taxation is effective, and collection systems function correctly.

High level of health protection

5. **Reduce affordability:** whether the MED has raised price floors, limited access to low-cost products, and reduced incentives for price-driven distortions.
6. **Smoking prevalence:** changes in smoking rates before and after the 2011 directive, to assess whether the policy has contributed to reductions in tobacco use over time.

This section outlines the metrics and data sources guiding our analysis. Since Member States have implemented the TED at different speeds and in varying ways, these indicators will help capture divergences—particularly in response to excise duty increases—and support comparative lessons across countries.

Data foundations for analysis

The following table sets out the key indicators used to assess tobacco excise tax outcomes. It brings together measures on price and tax convergence, cross-border and non-domestic flows, illicit trade, revenue trends, affordability, and smoking prevalence. For each area, the table lists the relevant metrics, their corresponding data sources, and what a successful outcome would entail.

Section 3 will use the indicators shown in Figure 6 to assess the effectiveness of tobacco tax policy in six EU Member States—Belgium, Czechia, France, Hungary, the Netherlands, and Poland—against the objectives set out in the TED.

Indicators of smoking prevalence were reviewed but ultimately excluded from the core assessment due to inconsistencies between major sources. For example, WHO data suggest stable prevalence in France over time, while Eurobarometer data show a decline. Consumer affordability was considered only as an intermediate indicator rather than a core outcome, as its effects are captured through price and consumption trends.

Fig. 7. Required data and the suggested public source

Objective	Metric	Source	Description	Determinant of TED success
Price and tax convergence	Average excise tax per pack	European Commission	Excise yield (€/20 cigarettes)	Price differentials across the six key countries should narrow post-2011.
	Average price per pack	European Commission	Weighted Average Price (€/pack of 20 cigarettes)	
Cross-border trade and non-domestic flows	Legal non-duty paid as a proportion of total consumption	KPMG	NDL as a share of total manufactured cigarette consumption[13]	The share of NDL cigarettes should stay low or decline, while price gaps with bordering countries narrowed to limit cross-border purchases.
	Average price per pack of the bordering countries	European Commission	Weighted Average Price (€/pack of 20 cigarettes)	
Illicit trade and fraud	Illicit consumption as a proportion of total consumption	KPMG	C&C as a share of total manufactured cigarette consumption	The share of C&C cigarettes should remain low or decline, indicating that excise increases are not offset by illicit trade.
Tax revenue trends	Real excise revenue	European Commission	Revenues from taxes on consumption (excise duties and similar charges) other than VAT by cigarettes	Real excise revenues should remain stable or grow over time, even as consumption declines.
Reduce affordability	Minimum excise tax per pack	European Commission	Minimum Excise Tax (€/20 cigarettes)	The minimum excise tax should raise the price of the cheapest products, and prices should keep pace with income, so affordability does not unintentionally increase.
	Cheapest products available	WHO	Tobacco retail price for a pack of 20 cigarettes: premium brand and cheapest brand (2022 only)	
	Average price per pack compared to disposable income	European Commission, Eurostat	Weighted Average Price (€/20 cigarettes) divided by gross disposable income of households per capita in Purchasing Power Standard[14]	
Smoking prevalence	Smoking prevalence[15]	WHO	Estimate of current cigarette smoking prevalence (%) (age-standardised rate)	The share of the population identified as current smokers should steadily decline.

[13] Total cigarette consumption is the sum of LDC, C&C and NDL. LDC—Legal Duty Paid (cigarettes purchased and consumed in the same country with all duties paid), C&C—Contraband & Counterfeit (illicit cigarettes that evade taxes or are fake products), NDL—Non-Domestic (Legal) (cigarettes purchased legally in another country and brought back by consumers, e.g., during cross-border trips).

[14] Purchasing power standards (PPS) are a way of adjusting income or price data so that they are comparable across countries with different cost-of-living levels.

[15] Smoking prevalence data from WHO are only reported for specific benchmark years (2010, 2015, 2020, 2021, 2022, and 2025). To produce annual estimates, we derived values for the missing years by assuming steady trends between the available data points.

3. COUNTRY CASE STUDIES

This section assesses how effective tobacco tax policy has been in six EU Member States—Belgium, Czechia, France, Hungary, the Netherlands, and Poland—in terms of achieving the objectives of the TED. The analysis focuses on four main policy goals, making allowances for national context and confounding factors:

1. **price and tax convergence,**
2. **cross-border purchasing (legal trade)**
3. **counterfeit & contraband (illegal) trade, and**
4. **tax revenue trends.**

For each country, performance against these goals is evaluated using comparable indicators on prices, consumption patterns, and fiscal outcomes. Price convergence is assessed by comparing each country's weighted average price (WAP) per pack with that of neighbouring countries[16,17] and the EU average. Since price levels largely reflect changes in excise duties, separate assessment of tax convergence was not necessary.

Cross-border trade and illicit activity are measured as a share of total cigarette consumption, distinguishing between **non-domestic legal (NDL)** and **contraband and counterfeit (C&C)** products. Together, these constitute the **duty-not-paid (DNP)** part of total cigarette consumption. Volume data are also examined to determine whether changes in market shares reflect substitution between product types or a broader decline in overall cigarette use.

Tax revenue performance is analysed using real excise receipts—calculated by deflating nominal revenues on cigarette consumption by the GDP deflator[18]. For France, Czechia, and Hungary, 2023 values are used as 2024 data were not yet available.

To illustrate how these dynamics play out across different market conditions, six Member States were selected to illustrate contrasting price environments and policy outcomes across the EU. France, the Netherlands, and Belgium represent high-price markets where cigarette prices exceed those of neighbouring countries and the EU average. In contrast, Hungary, Poland, and Czechia maintain comparatively low-price environments, despite steady progress toward EU minimum excise requirements.

[16] Neighbouring countries are defined as those sharing an intra-EU land or maritime border. The purpose of this classification is to identify locations where cross-border purchases of excise goods are most feasible. Certain maritime borders have been excluded based on limited ferry connectivity, availability of alternative transport routes (e.g. rail), and low passenger traffic. For this analysis, a maritime border is included only where an active ferry route operates with at least five crossings per day. Additional intra-EU neighbouring countries have been considered where significant non-domestic legal (NDL) flows were identified, based on findings from *KPMG, Illicit Cigarette Consumption in Europe, June 2025*.

[17] Only neighbouring countries with a WAP than the Member State in question were included, as these represent the most relevant cross-border alternatives. In the case of Poland, no neighbouring Member State had a lower WAP; therefore, the average WAP of neighbouring countries—regardless of price level—was used for comparative purposes.

[18] The GDP deflator is a measure of the price level of all new, domestically produced, final goods and services in an economy.

The results are presented in two parts: **Section 3.1** examines the higher-tax, higher-price Member States (France, the Netherlands, and Belgium), while **Section 3.2** focuses on the lower-tax, lower-price Member States (Hungary, Poland, and Czechia).

FRANCE

CIGARETTE TAX POLICY OUTCOMES 2011–2024

POLICY APPROACH

2024 excise per pack

€8.08 **122%**

2024 weighted average price

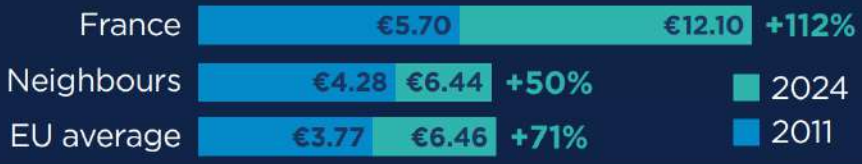
€12.10 **112%**

POLICY GOAL OUTCOMES

PRICE CONVERGENCE

✕ Not achieved

Gap with neighbouring countries widened



LIMIT CROSS-BORDER AND ILLICIT TRADE

✕ Not achieved

49% of cigarettes consumed in France in 2024 were non-duty-paid

○ C&C ○ NDL

INCREASE FISCAL REVENUES

✕ Not achieved

France's aggressive tobacco tax policy—far exceeding EU minimum rates—has not met its objectives. While domestic legal consumption declined, the rise in cross-border and illicit purchases offset the impact, undermining fiscal goals and failing to deliver the expected drop in total consumption.

Neighbouring countries included are those with lower WAP levels. Totals may not sum due to rounding.

tobacco europe

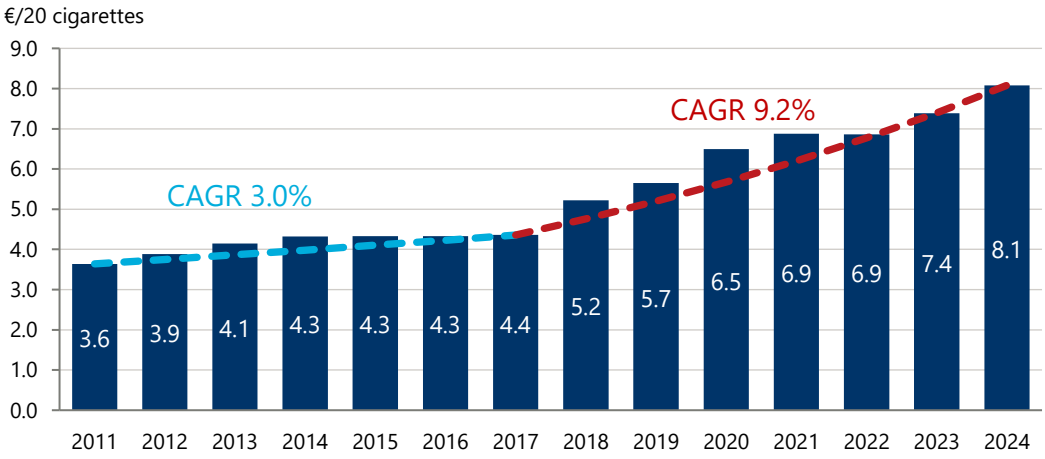
OXFORD ECONOMICS

3.1 HIGH-TAX MEMBER STATES

3.1.1 France case study

France is among the countries with the most aggressive tobacco taxation policies. The excise yield rose by 122% between 2011 and 2024, with steady increases from 2011 to 2017, when yields ranged between €3.64 and €4.36 per pack of 20 cigarettes. In 2018, a sharp hike of around 20% marked the start of a faster upward trend, bringing the yield to €8.08 by 2024. This acceleration is linked to the 2018–2022 National Tobacco Control Strategy, which set a target price of €10 per pack, achieved in 2020 through successive increases.[19]

Fig. 8. Excise yield in France, 2011 to 2024



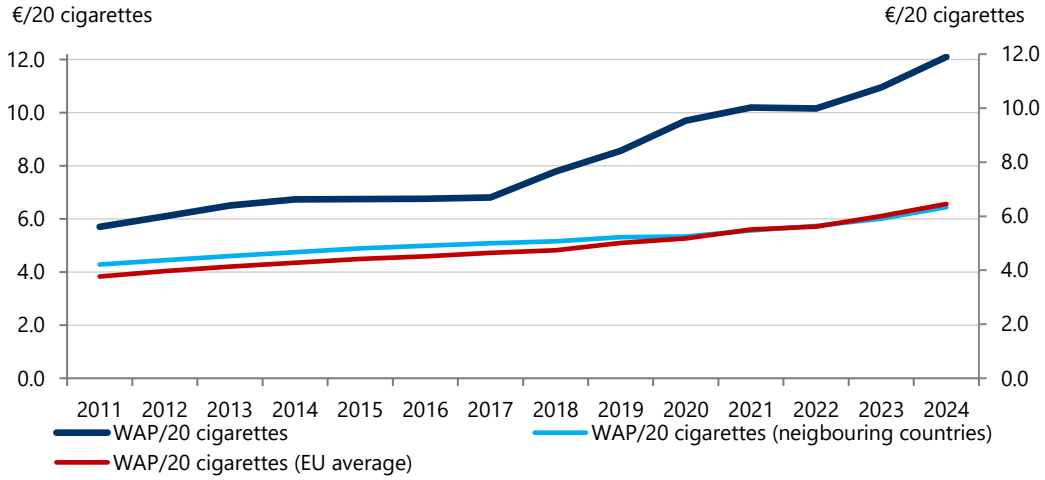
Source: European Commission

Objective: Price convergence

Excise hikes translated directly into higher retail prices. Between 2011 and 2024, the average price of a 20-cigarette pack surged from €5.70 to €12.10, an increase of 112%. By comparison, prices in neighbouring countries and across the EU remained much lower, increasing by about 50% and 71% respectively over the same period, to reach €6.44 and €6.46 per pack in 2024. Following the launch of the National Tobacco Control Strategy in 2018, the gap with both neighbours and the EU average widened further.

[19] The Independent, "France to raise price of cigarettes in bid to stub out national nicotine habit, accessed September 2025

Fig. 9. WAP of cigarettes in France, neighbouring countries[20], and the EU average, 2011 to 2024

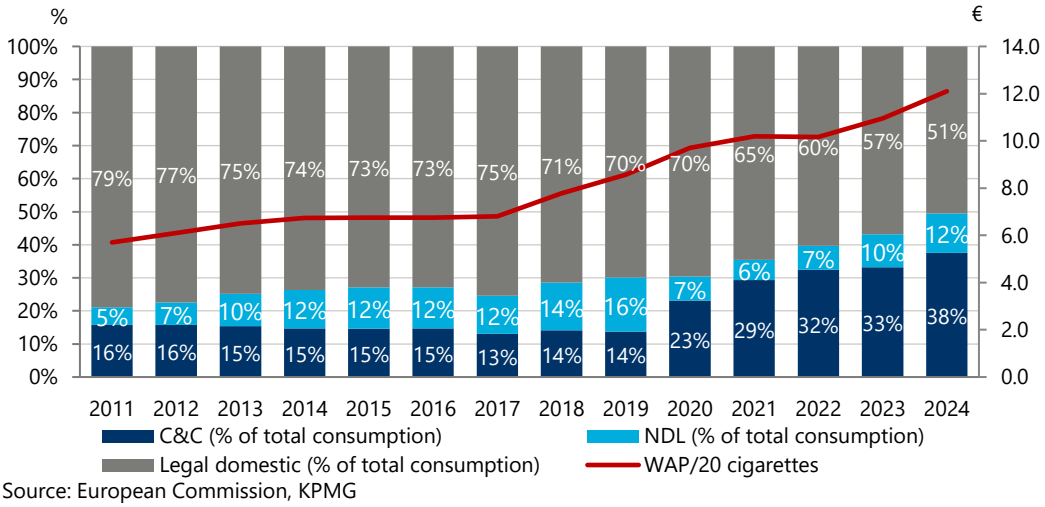


Source: European Commission

Objective: Limit cross-border and illicit trade

Nearly half of all cigarettes consumed in France now fall outside the domestic tax base. The share of C&C consumption has been increasing, reaching 38% of total consumption in 2024. At the same time, NDL purchases rose steadily until 2019. This trend reversed during the Covid-19 pandemic, when travel restrictions curtailed cross-border purchases.[21] Since then, however, the share of NDL tobacco in overall consumption appears to be rebounding.

Fig. 10. Legal domestic, NDL, and C&C consumption cigarettes (% of total consumption of cigarettes) in France, 2011 to 2024



Source: European Commission, KPMG

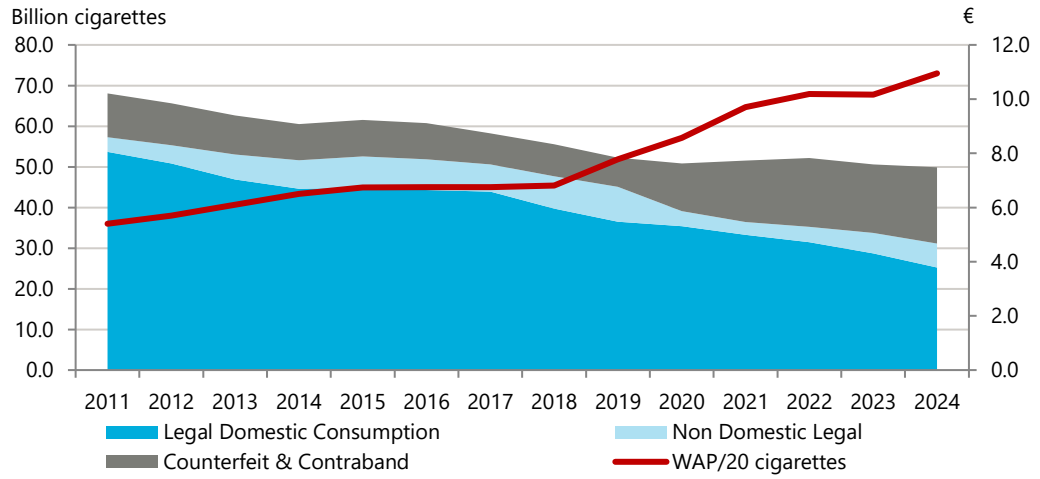
While legal domestic sales have declined steadily, the consumption of C&C has risen, particularly in recent years, contributing to the growing share on non-domestic and illicit products in total

[20] This is the average WAP in Spain, Luxembourg, Italy, Germany, and Belgium.

[21] KPMG, "Illicit cigarette consumption in Europe", 2024, accessed September 2024

consumption. Between 2022 and 2024, NDL cigarettes consumed in France increased by 55%, from 3.8 billion to 5.9 billion cigarettes. Over the same period, C&C cigarette consumption rose from 16.9 to 18.8 billion cigarettes, an increase of 11%. France now accounts for 48% of the C&C consumption in the EU. High prices at home have encouraged substitution from legal domestic purchases to cheaper DNP alternatives, with illicit cigarettes widely available in France.[22]

Fig. 11. Volume of legal domestic consumption of cigarettes, duty-not-paid cigarettes, and WAP of cigarettes in France, 2011 to 2024



Source: European Commission, KPMG

Objective: Maintain stable tax revenues

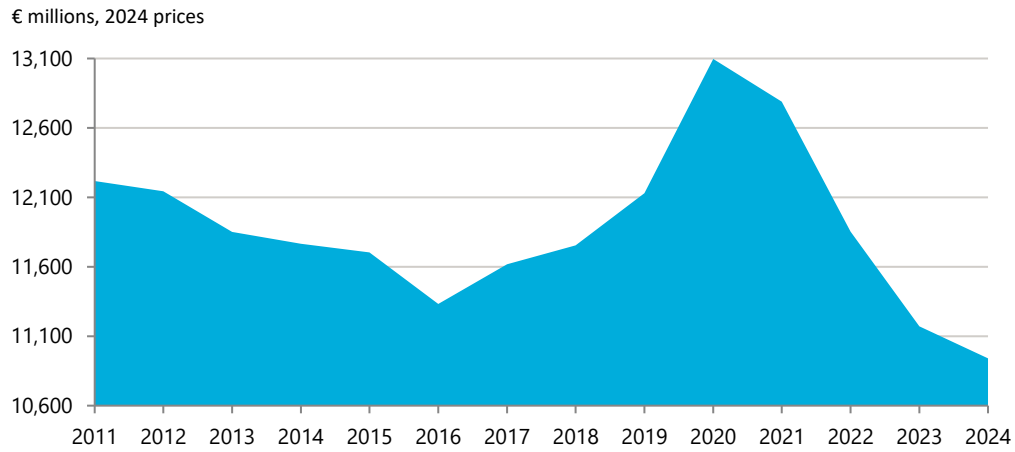
Real tax receipts from cigarettes in France declined modestly between 2011 and 2024, with a compound annual growth rate (CAGR) of –0.8%. Recent French tax policy has been characterised by large tax increases intended to raise prices and reduce legal domestic consumption. However, high cigarette prices have simultaneously encouraged the growth of DNP, which has eroded the taxable base. According to KPMG the French government lost approximately €9.5 billion in tax revenue in 2024 due to C&C activity.[23,24]

[22] The Guardian, "France struggles to stub out 'explosion' in contraband cigarettes", accessed September 2025

[23] KPMG, "Illicit cigarette consumption in Europe", June 2025, accessed October 2025

[24] Total tax revenue lost represents estimated excise and VAT if C&C volumes had been consumed legally in the country.

Fig. 12. Real cigarettes excise tax receipts in France, 2011 to 2024



Source: European Commission

Assessment and implications

France's tobacco taxation policy—among the most aggressive in the EU—has achieved its goal of substantially raising cigarette prices, but with significant trade-offs. Legal domestic consumption has fallen, but this has been to a considerable extent offset by sharp increases in non-domestic legal purchases and illicit trade. These shifts have undermined the fiscal objectives of the policy.

Following a period of moderate excise increases from 2011 to 2017—which led to declining sales volumes and excise receipts—France implemented one of the most aggressive excise hikes ever recorded, nearly doubling its already high tax level by 2024. While this initially drove substantial tax revenue growth, peaking in 2020, the subsequent collapse has been striking: by 2024, real cigarettes excise tax receipts fell below 2011 levels despite an excise rate per pack that was 225% higher (€8.10 in 2024 versus €3.60 is 2011).

NETHERLANDS

CIGARETTE TAX POLICY OUTCOMES 2011–2024

POLICY APPROACH

2024 excise per pack

€7.81 148%

2024 weighted average price

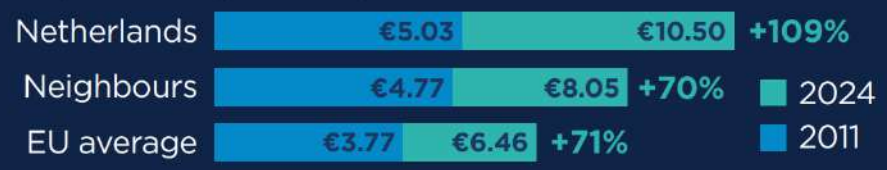
€10.50 109%

POLICY GOAL OUTCOMES

PRICE CONVERGENCE

✕ Not achieved

Gap with neighbouring countries widened



LIMIT CROSS-BORDER AND ILLICIT TRADE

✕ Not achieved

39% of cigarettes consumed in the Netherlands in 2024 were non-duty-paid

C&C NDL

INCREASE FISCAL REVENUES

✕ Not achieved

-1.1% CAGR

The Netherlands' accelerated tobacco tax strategy has not achieved its intended outcomes. Although domestic legal sales have declined, the fiscal and public health impact has been diluted by increased cross-border purchases and illicit trade at nearly 40%. These unintended consequences, driven by aggressive and abrupt excise increases in a compressed timeframe, have undermined revenue targets and failed to produce a significant reduction in overall tobacco consumption.

Neighbouring countries included are those with lower WAP levels. Totals may not sum due to rounding.

tobacco europe

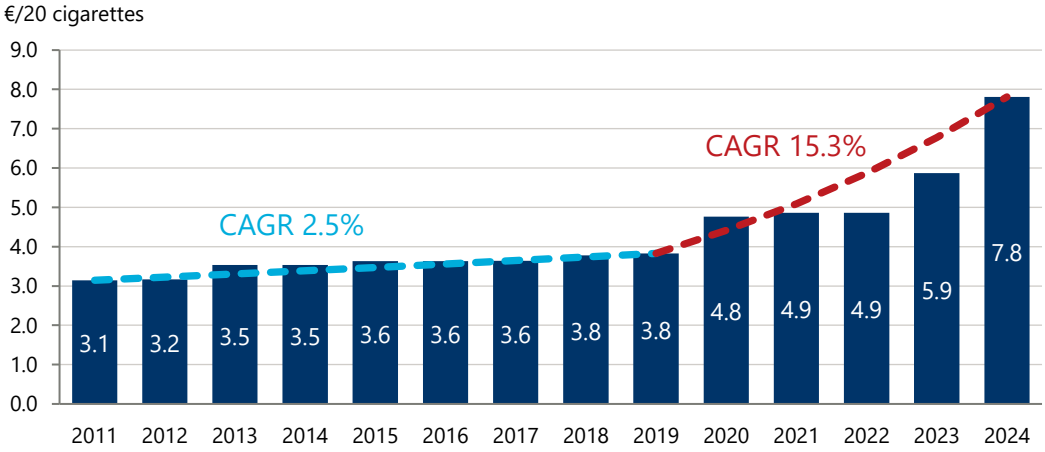
OXFORD ECONOMICS

3.1.2 The Netherlands case study

The Netherlands implemented gradual excise increases up to 2019, followed by sharper hikes under the National Prevention Agreement, which aims to achieve a "smoke-free generation" by 2040. The government raised the excise duty from €5.87 in 2023 to €7.81 in 2024, pushing the average pack price from €8.27 to €10.50.

These fiscal measures have been accompanied by broader tobacco control actions, including a ban on online tobacco sales (effective July 2023) and a ban on tobacco sales in supermarkets and catering establishments from July 2024. In addition, the government introduced a registration duty for tobacco outlets in 2024 to reduce and shrink the network of retail points.[25] By 2032, only specialist tobacco shops will be permitted to sell tobacco products.[26]

Fig. 13. Excise yield in the Netherlands, 2011 to 2024



Source: European Commission

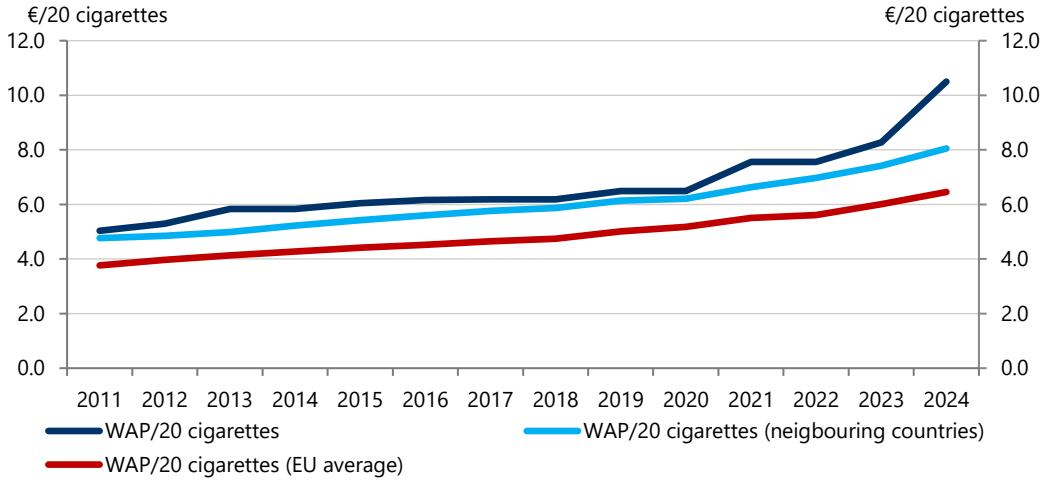
Objective: Price convergence

Excise increases in the Netherlands fed directly through to higher retail prices. Between 2011 and 2024, the average price of a 20-cigarette pack more than doubled, rising from €5.03 to €10.50. In comparison, prices in neighbouring countries and across the EU rose by around 70% over the same period, reaching €8.05 and €6.46 per pack, respectively, in 2024.

The sharper excise hikes introduced from 2020 onwards led to a widening price gap between the Netherlands, its neighbours, and the broader EU average.

[25] Government of the Netherlands, "Registration duty for tobacco outlets", accessed October 2025
[26] Government of the Netherlands, "Government measures to discourage smoking", accessed October 2025

Fig. 14. WAP of cigarettes in the Netherlands, neighbouring countries[27],and the EU average, 2011 to 2024

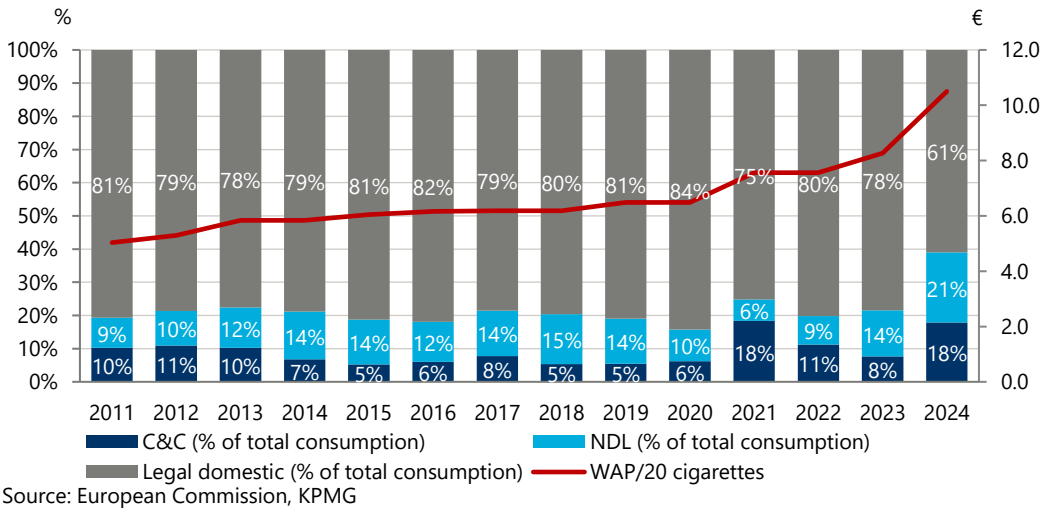


Source: European Commission

Objective: Limit cross-border and illicit trade

Around 40% of all cigarettes consumed in the Netherlands now fall outside the domestic tax base. Following temporary COVID-related disruption, DNP consumption stabilised but remained high, with a gradual shift from C&C to NDL. Following the 2024 excise increase, both C&C and NDL shares rose again, to 18% and 21%, respectively, while domestic legal cigarettes fell to around 61% of total consumption.

Fig. 15. Legal domestic, NDL, and C&C consumption cigarettes (% of total consumption of cigarettes) in the Netherlands, 2011 to 2024



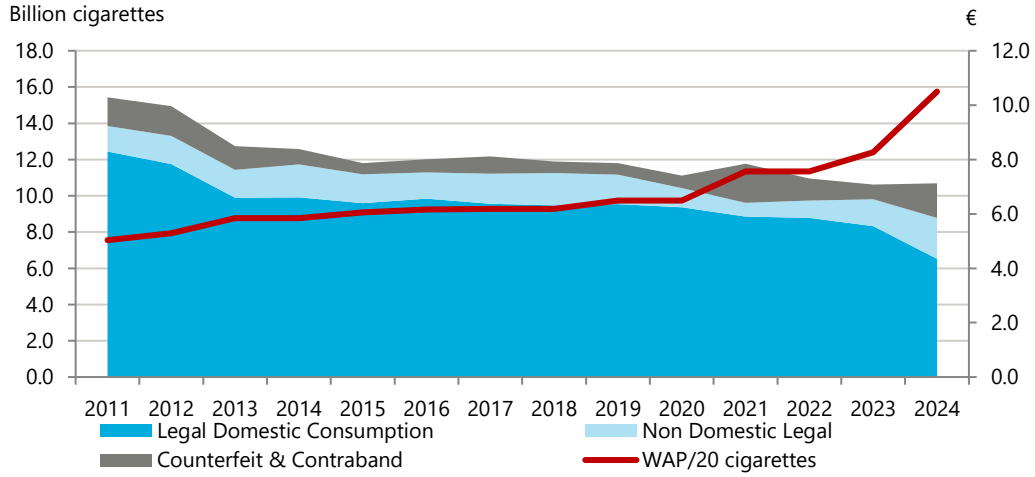
Source: European Commission, KPMG

While legal domestic sales have declined steadily, overall DNP consumption has remained high, fluctuating mainly in response to travel restrictions and tax changes rather than underlying demand.

[27] This is the average WAP in Germany and Belgium.

Between 2020 and 2024, NDL volumes increased from 1.1 to 2.3 billion cigarettes, while C&C volumes rose from 0.7 to 1.9 billion. These trends suggest that high domestic prices encourage substitution toward more affordable, DNP products.

Fig. 16. Volume of legal domestic consumption of cigarettes, duty-not paid cigarettes, and WAP of cigarettes in the Netherlands, 2011 to 2024



Source: European Commission, KPMG

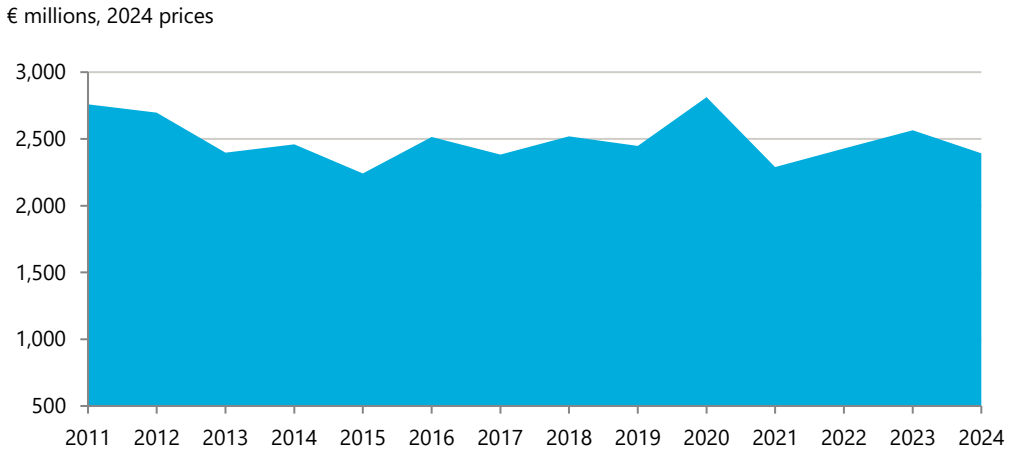
Objective: Maintain stable tax revenues

Real tax receipts from cigarettes in the Netherlands declined modestly between 2011 and 2024, with a CAGR of –1.1%. Recent tax policy has been characterised by large tax increases intended to raise prices and reduce legal domestic consumption. However, high cigarette prices have simultaneously encouraged the growth of DNP volumes, which has eroded the taxable base. KPMG estimates that the Dutch government lost approximately €869 million in tax revenue in 2024 due to C&C activity.[28,29]

[28] KPMG, "Illicit cigarette consumption in Europe", June 2025, accessed October 2025

[29] Total tax revenue lost represents estimated excise and VAT if C&C volumes had been consumed legally in the country.

Fig. 17. Real cigarettes excise tax receipts in the Netherlands, 2011 to 2024



Source: European Commission

Assessment and implications

The Netherlands' tobacco tax policy — initially implemented through gradual increases and then followed by sharp hikes under the National Prevention Agreement — has achieved substantial price increases but with notable trade-offs. While the average pack price more than doubled between 2011 and 2024, this fuelled a rise in DNP consumption, now accounting for nearly 40% of total cigarette use.

After a decline in the early 2010s, legal domestic cigarette consumption remained relatively stable for much of the period. However, the large excise increase implemented in 2024 coincided with a marked decline in legal volumes, as consumers increasingly substituted toward duty-not-paid products. Real excise revenues declined modestly over the period, reflecting recent pressure on the taxable base alongside persistently high DNP consumption. Absent further measures to contain illicit and non-domestic purchasing, these dynamics risk further weakening excise revenues, echoing developments in other high-price markets, including France.

BELGIUM

CIGARETTE TAX POLICY OUTCOMES 2011–2024

POLICY APPROACH

2024 excise per pack

€6.76 145%

2024 weighted average price

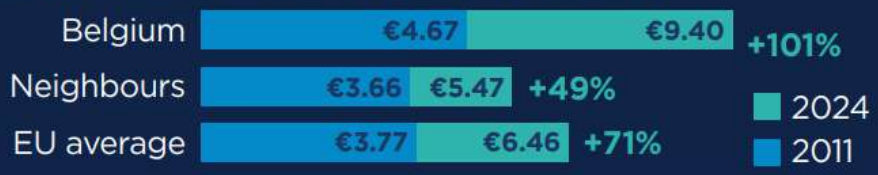
€9.40 101%

POLICY GOAL OUTCOMES

PRICE CONVERGENCE

✕ Not achieved

Gap with neighbouring countries widened



LIMIT CROSS-BORDER AND ILLICIT TRADE

✕ Not achieved

28% of cigarettes consumed in the Belgium in 2024 were non-duty-paid

C&C NDL

INCREASE FISCAL REVENUES

✓ Achieved

+2.0% CAGR

Belgium gradually increased its tobacco taxes until 2020, after which the pace of increases accelerated, culminating in a sharp 29% increase between 2023 and 2024. While fiscal revenues increased, Belgium's other policy objectives were not met. Legal domestic consumption declined, but this was partially offset by the rise in non-domestic and illicit purchases which limited further fiscal gains.

Neighbouring countries included are those with lower WAP levels. Totals may not sum due to rounding.

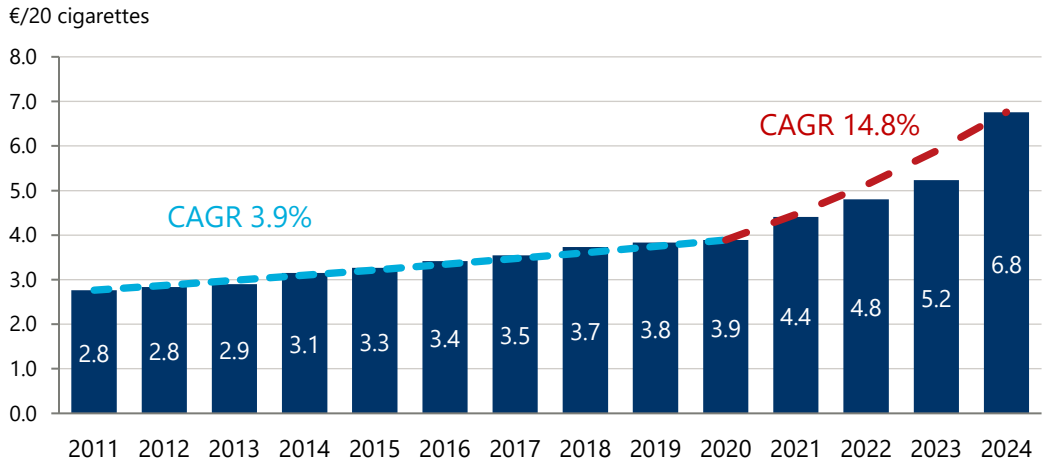
tobacco europe

OXFORD ECONOMICS

3.1.3 Belgium case study

The Belgian government has gradually increased tobacco excise duties over time as part of its efforts to discourage consumption and align with broader EU objectives. The most recent and steeper increase raised the excise duty from €5.23 in 2023 to €6.76 in 2024.[30,31]

Fig. 18. Excise yield in Belgium, 2011 to 2024



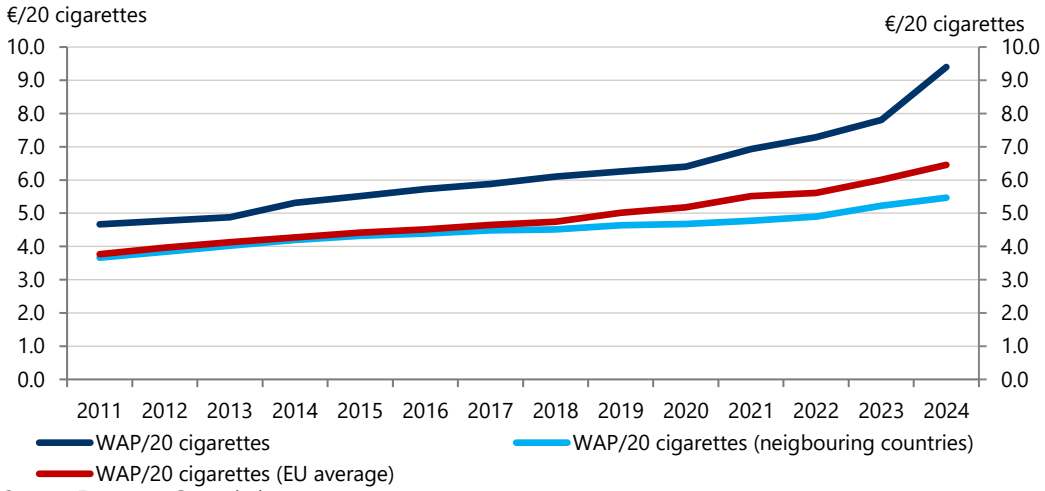
Source: European Commission

Objective: Price convergence

Excise tax increases have translated directly into higher retail prices. Between 2023 and 2024, the average price of a 20-cigarette pack rose sharply from €7.81 to €9.40, an increase of around 20%, reflecting the steeper excise adjustment. Over the 2011–2024 period, prices in neighbouring countries — including Germany, Poland, Luxembourg, and— as well as the EU average have remained consistently lower than in Belgium. The price gap with neighbouring countries widened markedly from €2.39 per pack in 2022 to €3.93 in 2024, while the differential with the EU average expanded from €1.68 to €2.94 per pack over the same period, underscoring the growing price divergence within the single market.

[30] The Brussels Times, "Belgium will raise tobacco prices by over a euro in 2021", accessed October 2025
[31] The Brussels Times, "Cigarette prices to increase by up to €1 in Belgium", accessed October 2025

Fig. 19. WAP of cigarettes in Belgium, neighbouring countries[32], and the EU average, 2011 to 2024

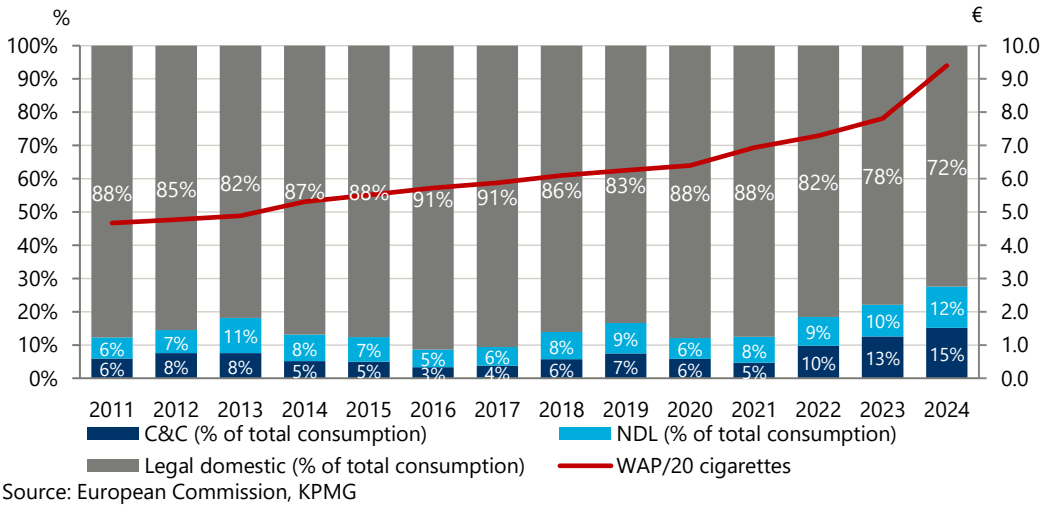


Source: European Commission

Objective: Limit cross-border and illicit trade

As domestic excise duties have continued to rise, non-domestic cigarette consumption has also increased. Since 2022, both C&C and NDL shares have increased, bringing total DNP consumption to around 28% of total cigarette consumption in 2024.

Fig. 20. Legal domestic, NDL, and C&C consumption cigarettes (% of total consumption of cigarettes) in Belgium, 2011 to 2024



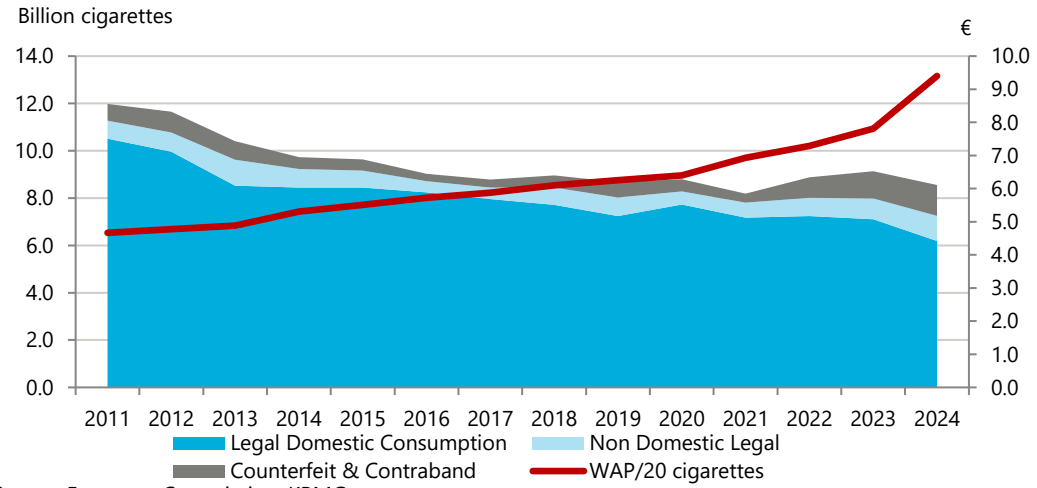
Source: European Commission, KPMG

Total cigarette consumption increased by an estimated 4% between 2021 and 2024, driven largely by growth in DNP consumption, which offset the decline in legal domestic sales. C&C volumes rose by 242%, while NDL volumes also increased, though more moderately at around 66%. The growth in DNP consumption reflects sustained cross-border purchasing and Belgium's ongoing role as a logistics and

[32] This is the average WAP in Germany, Poland, and Luxembourg.

distribution hub for cigarette flows within Europe, supported by its strategic location and transport infrastructure, including the port of Antwerp, which connects to major consumer markets such as France and the UK.[33]

Fig. 21. Volume of legal domestic consumption of cigarettes, duty-not-paid cigarettes, and WAP of cigarettes in Belgium, 2011 to 2024



Source: European Commission, KPMG

Objective: Maintain stable tax revenues

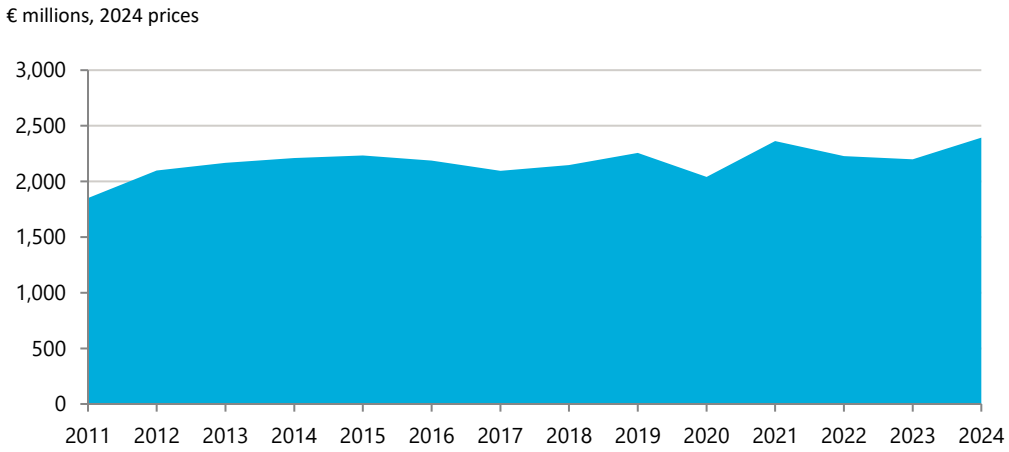
Real tax receipts from cigarettes in Belgium increased steadily between 2011 and 2024, with a CAGR of around 2.0%. This reflects sustained revenue growth supported by successive excise increases that offset declining domestic volumes. However, the expansion of DNP consumption has constrained the full fiscal gains from higher excise rates. KPMG estimates that the Belgian government lost approximately €544 million in tax revenue in 2024 due to C&C activity, underscoring continued pressure on the domestic tax base despite stronger receipts.[34,35]

[33] The Bulletin, "Illicit consumption of cigarettes in Belgium rises to 13% says new report amid EU-wide increase", accessed October 2025

[34] KPMG, "Illicit cigarette consumption in Europe", June 2025, accessed October 2025

[35] Total tax revenue lost represents estimated excise and VAT if C&C volumes had been consumed legally in the country.

Fig. 22. Real cigarettes excise tax receipts in Belgium, 2011 to 2024



Source: European Commission

Assessment and implications

Belgium's tobacco excise policy has achieved its objective of raising prices, but at the cost of encouraging non-domestic consumption. Between 2011 and 2024, the average pack price nearly doubled, outpacing regional and EU averages. However, as prices rose, both C&C and NDL shares increased, and total DNP consumption reached around 28% of total cigarette use in 2024.

Real cigarette excise receipts grew at a CAGR of 2.0% over the period, slower than the growth rate of the excise yield, and DNP inflows continue to erode the taxable base, with KPMG estimating annual revenue losses of roughly €544 million in 2024 linked to C&C activity.

POLAND

CIGARETTE TAX POLICY OUTCOMES 2011–2024

POLICY APPROACH

2024 excise per pack

€2.51 64%

2024 weighted average price

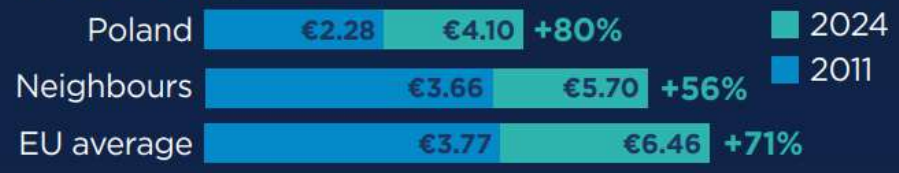
€4.10 80%

POLICY GOAL OUTCOMES

PRICE CONVERGENCE

✕ Not achieved

Prices remained well below neighbouring countries and EU average



LIMIT CROSS-BORDER AND ILLICIT TRADE

✓ Achieved

The DNP share fell sharply to **5%**, driven by a decline in C&C consumption

○ C&C ○ NDL

INCREASE FISCAL REVENUES

✓ Achieved

+0.9% CAGR

Stable excise increases coupled with a strong enforcement mandate in Poland have helped reduce illicit trade. As a result, the legal market has stabilised, supporting modest growth in real excise revenues.

Totals may not sum due to rounding.

tobacco europe

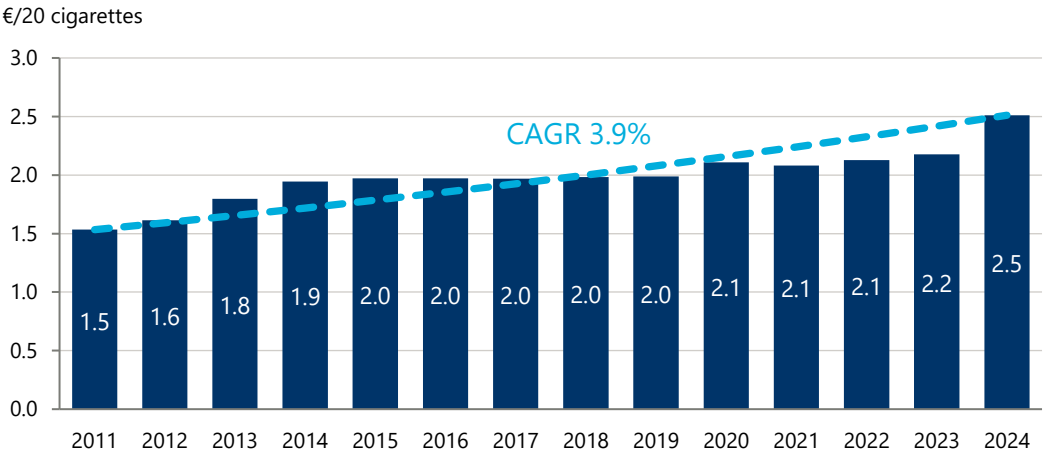
OXFORD ECONOMICS

3.2 MEMBER STATES WITH STABLE AND PREDICTABLE TAXATION

3.2.1 Poland case study

Poland implemented largely gradual excise increases throughout the 2010s and up to 2023 in line with EU minimum tax requirements. Most recently, between 2023 and 2024, excise duties increased at a moderately faster pace, lifting the excise yield per pack to €2.51.[36]

Fig. 23. Excise yield in Poland, 2011 to 2024



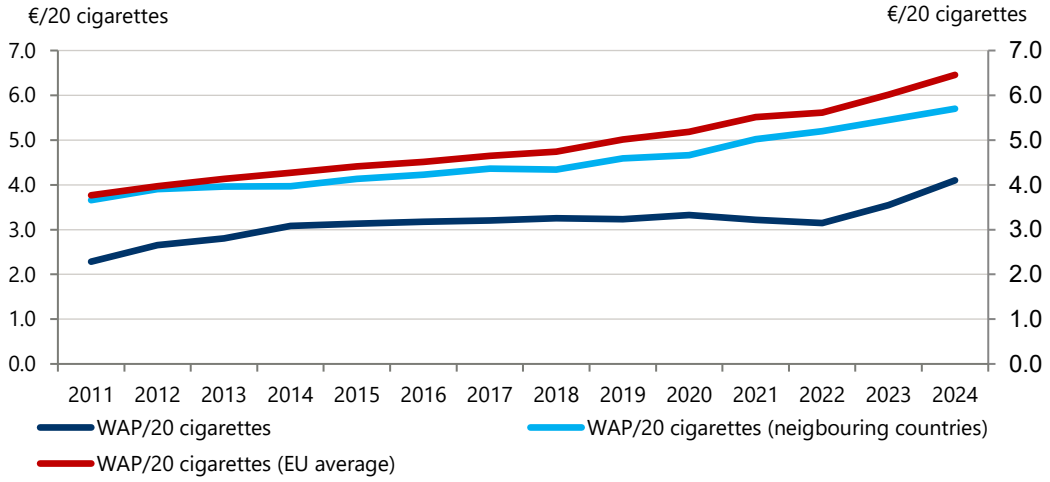
Source: European Commission

Objective: Price convergence

Cigarette prices in Poland have generally moved in line with excise duty adjustments, recording only marginal increases for much of the period in line with modest tax changes. As sharper excise hikes were introduced, price growth accelerated. Between 2023 and 2024, the average price of a 20-cigarette pack rose from €3.55 to €4.10—an increase of 17%. Over 2011–2024, prices in both neighbouring countries and the EU average remained consistently higher than in Poland, underscoring the country's comparatively lower-price environment despite recent increases.

[36] Government of Poland, "Tax rates (SDG)", accessed October 2025

Fig. 24. WAP of cigarettes in Poland, neighbouring countries[37] and the EU average, 2011 to 2024



Source: European Commission

Objective: Limit cross-border and illicit trade

Consumption of C&C cigarettes has historically been high in Poland but has declined in recent years. This decline is difficult to link directly to tobacco excise policy, as Poland's long-standing role as a hub for illicit cigarette activity reflects broader structural factors. The country's geography—sharing borders with Belarus and Ukraine, two of the largest sources of illicit cigarettes entering the EU—and its legacy of domestic illegal production have long sustained high levels of C&C trade. Between 2005 and 2017, Poland recorded nearly ten times more factory raids for illegal tobacco production than any other EU member, underscoring the scale of the issue.[38]

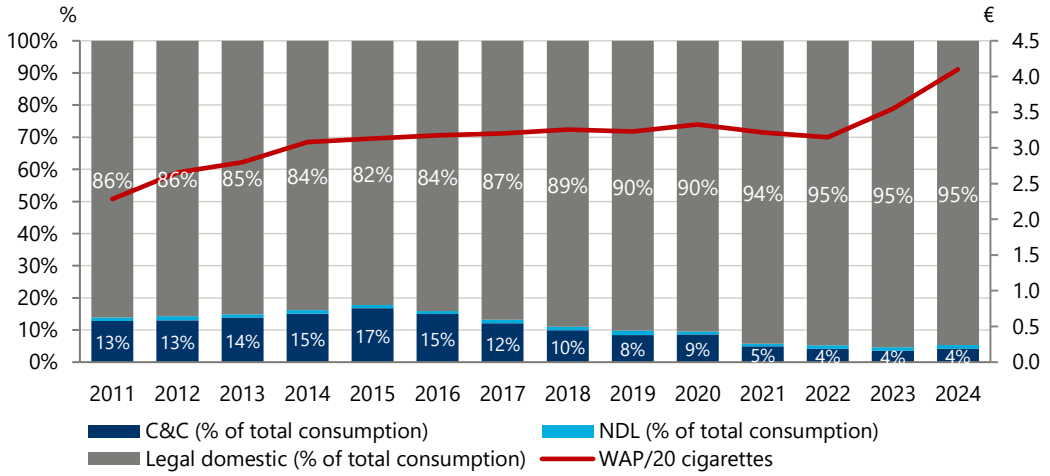
During 2020–2021, however, COVID-19 border restrictions, and a strengthened customs response disrupted established routes and led to a sharp decline in C&C inflows. Subsequent targeted enforcement actions and the closure of illegal production sites have helped maintain lower levels of C&C activity post-pandemic.[39]

[37] This is the average WAP in Germany, Czechia, Slovakia, Lithuania, Sweden and Italy. In the case of Poland, no neighbouring Member State had a lower WAP; therefore, the average WAP of neighbouring countries—regardless of price level—was used for comparative purposes.

[38] Philip Morris International, "The battle against illicit trade in Poland is gaining momentum" 2018, accessed October 2025

[39] Philip Morris International, "New KPMG report in the EU reveals largest increase of counterfeit cigarette consumption to date," 2019, accessed October 2025

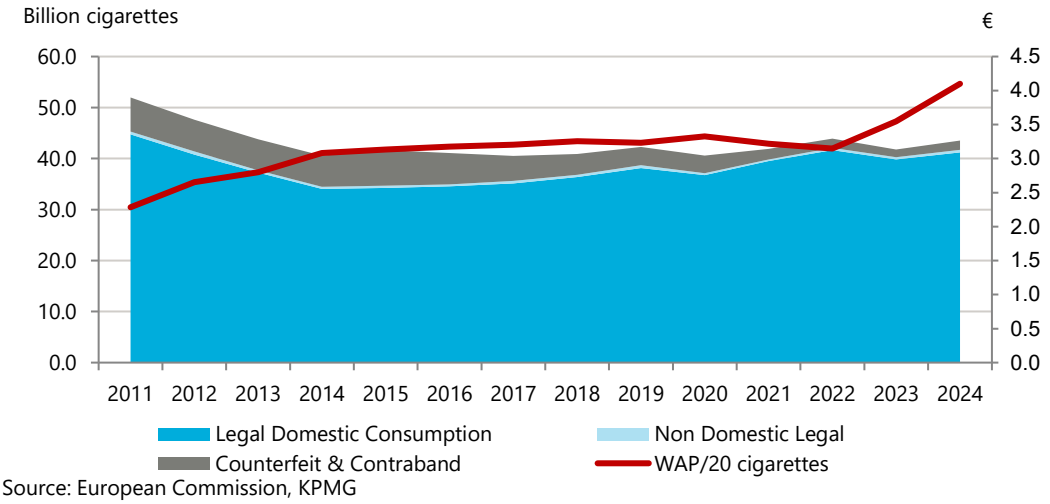
Fig. 25. Legal domestic, NDL, and C&C consumption of cigarettes (% of total consumption of cigarettes) in Poland, 2011 to 2024



Source: European Commission, KPMG

Total cigarette consumption declined by around 16% between 2011 and 2024, falling from 52.0 billion to 43.6 billion cigarettes. This reduction was accompanied by a sharp 72% drop in C&C volumes, reflecting the combined effects of enhanced border controls, tighter law enforcement, and the dismantling of domestic illicit production facilities. Some of the previously illicit consumption appears to have shifted toward the legal domestic market, as stricter oversight and reduced cross-border supply limited access to DNP products.

Fig. 26. Volume of legal domestic consumption of cigarettes, duty-not-paid cigarettes, and WAP of cigarettes in Poland, 2011 to 2024

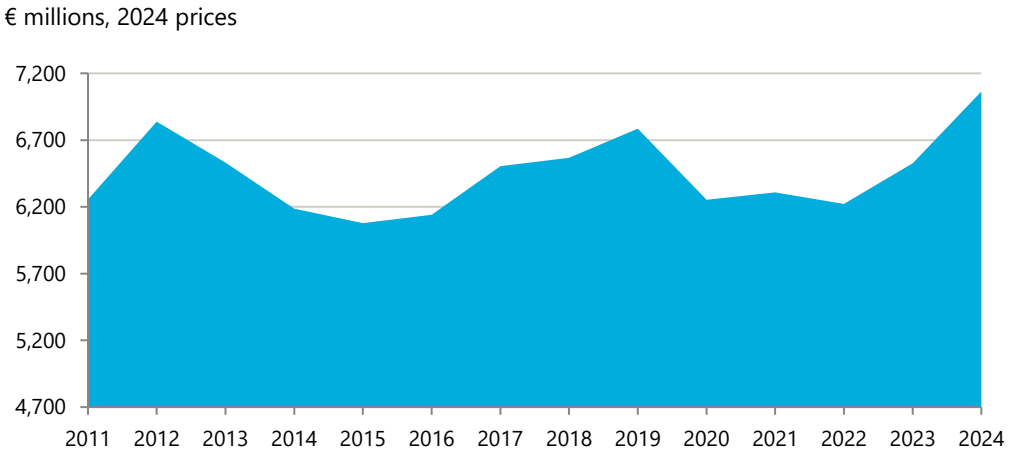


Source: European Commission, KPMG

Objective: Maintain stable tax revenues

Between 2011 and 2024, successive excise duty increases in Poland steadily raised the nominal tax burden per pack, while stronger enforcement supported a gradual formalisation of the market. Over the same period, total cigarette consumption declined by 16%—from 52.0 billion to 43.6 billion cigarettes—driven largely by a 72% reduction in C&C volumes, while legal domestic sales fell by just 8%. As a result, real tobacco excise revenues rose modestly, recording a CAGR of around 0.9%.

Fig. 27. Real cigarettes excise tax receipts in Poland, 2011 to 2024



Source: European Commission

Assessment and implications

Poland's tobacco excise policy has gradually increased prices while maintaining one of the lowest levels in the EU. However, given the country's historically high levels of C&C trade—and its recent decline largely driven by COVID-19 border restrictions, enhanced customs enforcement, and the closure of illegal production sites—it is difficult to isolate the impact of higher excise yields on illicit activity. Despite an 8% decline in legal domestic consumption between 2011 and 2024, real tobacco excise revenues rose modestly (CAGR 0.9%), supported by steady excise increases and a more stable legal market.

Poland's experience illustrates a cautious and incremental tobacco excise policy, which has supported price increases and revenue stability without significant market disruption.

HUNGARY

CIGARETTE TAX POLICY OUTCOMES 2011–2024

POLICY APPROACH

2024 excise per pack

€2.84 **102%**

2024 weighted average price

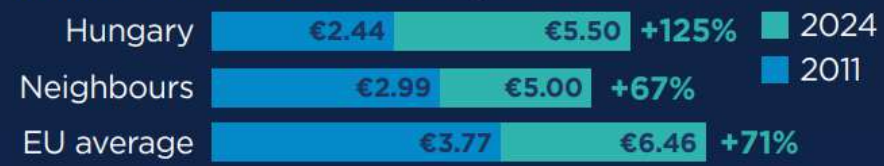
€5.50 **125%**

POLICY GOAL OUTCOMES

PRICE CONVERGENCE

✕ Not achieved

Prices close to those in neighbouring markets but remained below the EU average



LIMIT CROSS-BORDER AND ILLICIT TRADE

✕ Not achieved

16% of cigarettes consumed in Hungary in 2024 were non-duty-paid

○ C&C ○ NDL

INCREASE FISCAL REVENUES

✕ Not achieved

-7.0% CAGR

Hungary's excise duty increases—accelerating after 2021—combined with shifts towards hand-rolled tobacco and, more recently, heated tobacco products, curbed domestic legal cigarette consumption. At the same time, rising cross-border and illicit purchases weakened the tax base, contributing to a decline in tobacco excise revenues. In real terms, receipts fell at a CAGR of around –7% over the period.

Neighbouring countries included are those with lower WAP levels. Totals may not sum due to rounding.

tobacco europe

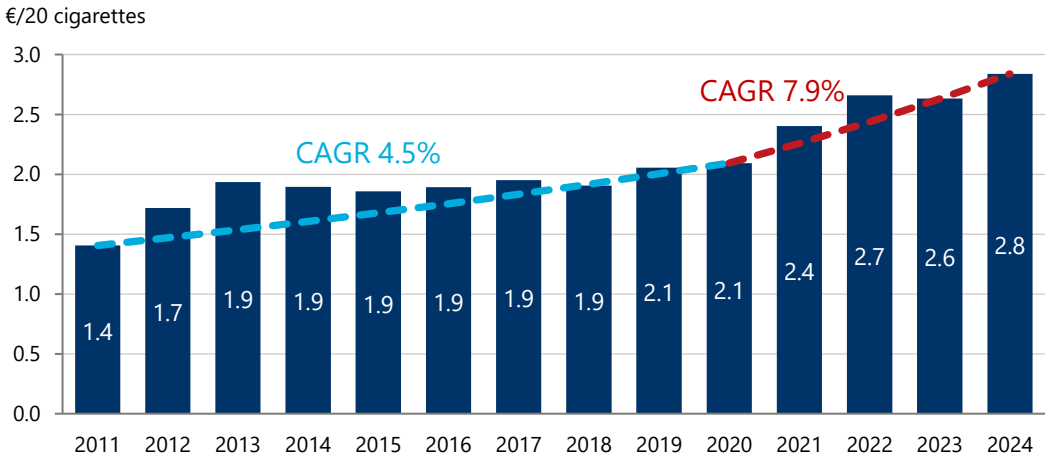
OXFORD ECONOMICS

3.2.2 Hungary case study

Hungary steadily increased its tobacco excise duties until 2020, primarily to align with the minimum rate requirements set by the European Union, with the pace of increases accelerating slightly thereafter[40]. As a result, the excise duty on a pack of 20 cigarettes reached €2.84 in 2024.

Further initiatives to restrict tobacco use included the introduction of a comprehensive clean air law in 2012, which banned smoking in all enclosed public places and certain outdoor areas such as playgrounds and public transport stops. This was followed by the adoption of combined pictorial and text health warnings in 2013 and tighter retail regulation limiting tobacco sales to licensed outlets and restricting access for minors.[41]

Fig. 28. Excise yield in Hungary, 2011 to 2024[42]



Source: European Commission

Objective: Price convergence

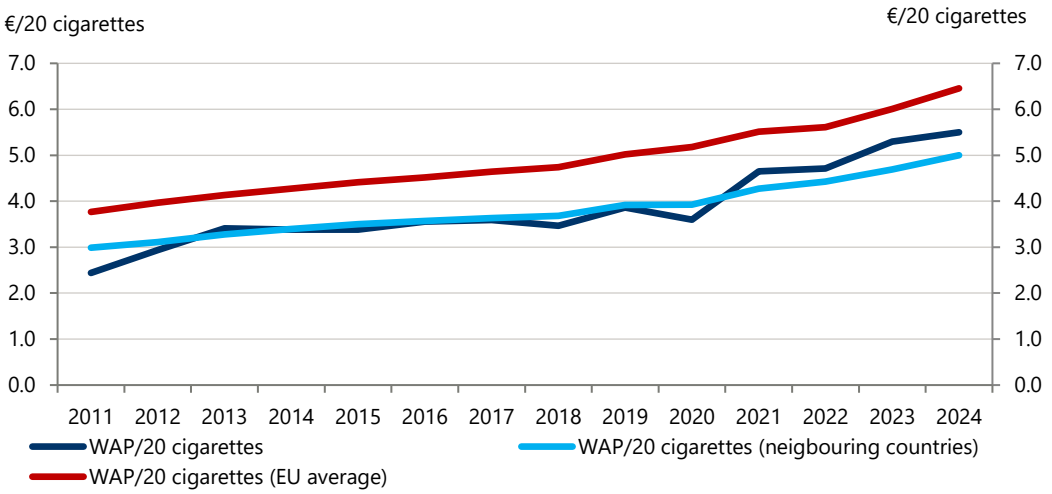
The average price of a 20-pack of cigarettes in Hungary remained broadly in line with neighbouring countries until 2021, when it rose above regional levels for the first time since 2011, reaching €5.50 in 2024. Prices across the EU have been consistently higher throughout the period, and the gap with the EU average price per pack continues to persist. To some extent, this persistence is underpinned by Hungary's VAT rate. Hungary applies the highest VAT rate in the EU (21.3%, compared with an EU average of around 17.7%). As a result, VAT materially increases the retail price, narrowing the gap with the EU average despite relatively moderate excise duties.

[40] African Tobacco Control Alliance, "European Court: Hungary Failing to Comply with Tobacco Excise Tax Hike", accessed October 2025

[41] Tamas Joo, et al, "Impact of regulatory tightening of the Hungarian tobacco retail market on availability, access and cigarette smoking prevalence of adolescents", Tobacco Control, 2025, 34(4), 430-435, accessed October 2025

[42] The decline between 2022 and 2023 is driven by HUF–EUR exchange rate movements.

Fig. 29. WAP of cigarettes in Hungary, neighbouring countries[43], and the EU average, 2011 to 2024



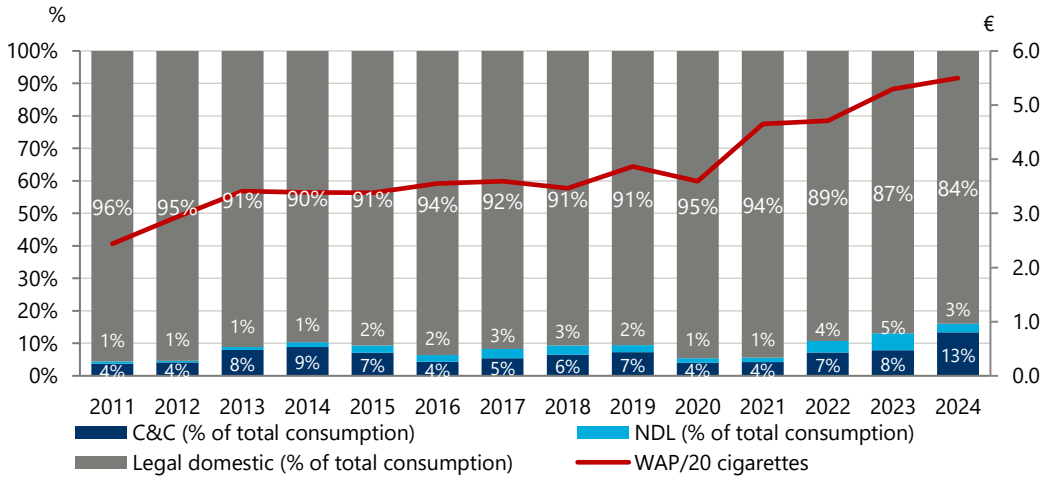
Source: European Commission

Objective: Limit cross-border and illicit trade

Hungarians have traditionally purchased cigarettes through the domestic legal market, supported by price advantages relative to neighbouring countries, and the EU average. Until 2021, over 90% of cigarette consumption came from these legal sales. However, recent sharper excise duty increases, and associated price hikes have eroded this share. The NDL segment remained marginal throughout most of the period, fluctuating between 1–3%, before rising temporarily to 5% in 2023 and settling at 3% in 2024. Meanwhile, C&C products have increased since 2022, accounting for 13% of total consumption in 2024—the highest level since 2011. In total, 16% of all cigarettes consumed in Hungary were DNP in 2024.

[43] This is the average WAP in Slovakia, Romania, Croatia, Slovenia and Italy.

Fig. 30. Legal domestic, NDL, and C&C consumption cigarettes (% of total consumption of cigarettes) in Hungary, 2011 to 2024



Source: European Commission, KPMG

Total cigarette consumption in Hungary has declined by around 50% since 2011, likely influenced by a combination of policy, economic, and behavioural factors. Successive excise duty increases have contributed to substantial rises in retail prices, while broader tobacco control measures may also have played a role by reducing product availability and convenience.

Shifts in consumer preferences also contributed to the decline, with many smokers turning to alternative products such as hand-rolled tobacco[44] and, more recently, heated tobacco products.[45] Together, these factors have led to a significant contraction in legal cigarette sales, with domestic legal volumes falling from around 12.4 billion cigarettes in 2011 to 5.5 billion in 2024.

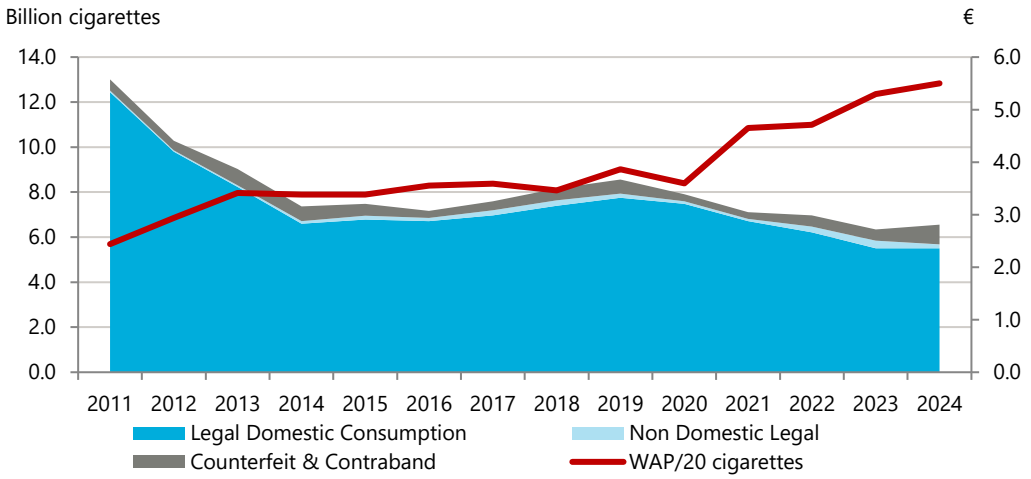
At the same time, Hungary's position along the EU's external border — particularly with Ukraine — has continued to expose the market to inflows of non-domestic products. Evidence from customs authorities shows that smuggling networks operating across these borders remain active, contributing to persistent illicit inflows.[46] The rise in NDP and C&C consumption reflects this structural exposure: C&C volumes rose from 0.3 billion cigarettes in 2021 to 0.9 billion in 2024, while NDL consumption also increased slightly over the same period. As a result, DNP accounted for around 16% of total consumption in 2024.

[44] European Observatory on Health Systems and Policies, "Reduction in cigarette purchases mainly due to shift to hand-rolled products, accessed October 2025

[45] Hungary Today, "Rising Demand for Heated Tobacco as Traditional Cigarette Sales Decline", accessed October 2025

[46] Hungary Today,"Illegal Cigarette Trade Causing Damage to Hungarian Economy", 2023, accessed November 2025

Fig. 31. Volume of legal domestic consumption of cigarettes, duty-not-paid cigarettes, and WAP of cigarettes in Hungary, 2011 to 2024

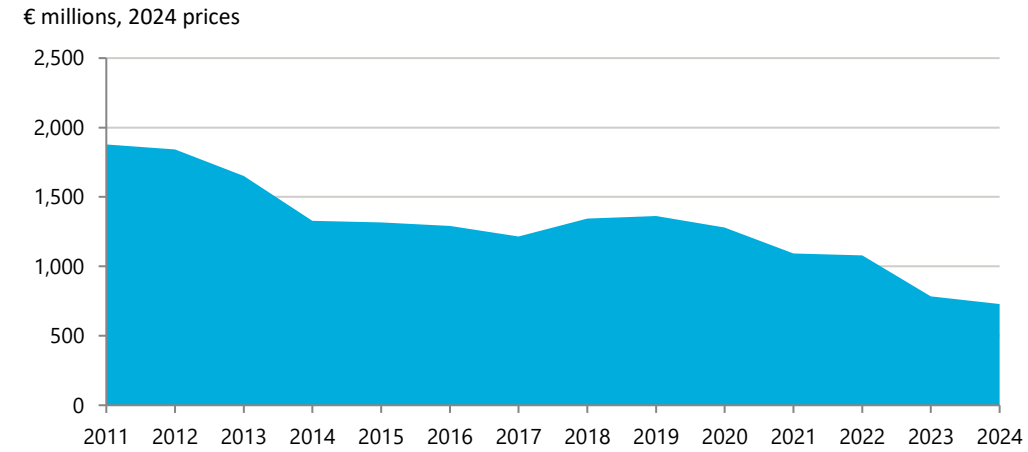


Source: European Commission, KPMG

Objective: Maintain stable tax revenues

Although Hungary's nominal tax burden per pack rose steadily over 2011–2024 due to successive excise duty increases, tax receipts declined as the tax base contracted. Legal domestic cigarette consumption fell by 56%, reducing taxable volumes, while the growing contraband and counterfeit C&C market after 2022 further undermined collections. As a result, real tobacco tax revenues fell at a CAGR of –7.0% over the period. However, part of this decline reflects high inflation, especially in 2022-2023, which eroded the real value of tax receipts; in nominal terms, revenues declined by an average of –1.6% per year over the period.

Fig. 32. Real cigarettes excise tax receipts in Hungary, 2011 to 2024



Source: European Commission

Assessment and implications

Hungary's tobacco excise policy has led to substantial price increases in line with EU minimum tax requirements and a marked contraction in legal cigarette sales. Since 2011, volumes have fallen by more than half as higher prices, tighter retail regulation, illicit inflows from non-EU borders and shifts toward alternative products reduced demand and contributed to greater DNP activity. The share of contraband and counterfeit cigarettes rose to 13% of total consumption in 2024.

Tobacco tax receipts declined in nominal terms (–1.6% CAGR) reflecting the declining tax base. However, high inflation—particularly during 2022–23—resulted in a much sharper decline in real terms, with real tobacco excise receipts falling at a CAGR of –7.0%

Overall, recent trends suggest that further excise increases may face increasing constraints as the legal tax base continues to contract and DNP consumption rises.

CZECHIA

CIGARETTE TAX POLICY OUTCOMES 2011–2024

POLICY APPROACH

2024 excise per pack

€3.48 | 112%

2024 weighted average price

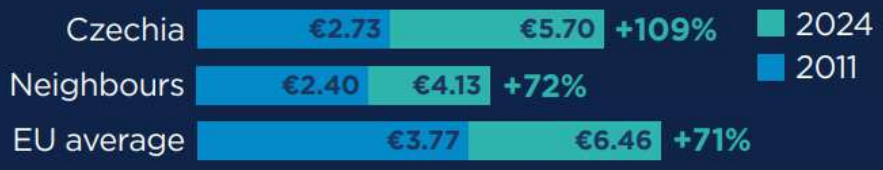
€5.70 | 109%

POLICY GOAL OUTCOMES

PRICE CONVERGENCE

✕ Not achieved

Gaps with both neighbouring countries and the EU average persist



LIMIT CROSS-BORDER AND ILLICIT TRADE

✕ Not achieved

17% of cigarettes consumed in Czechia in 2024 were non-duty-paid

○ C&C ○ NDL

INCREASE FISCAL REVENUES

✕ Not achieved

-2.5% CAGR

Successive excise increases in Czechia contributed to a decline in legal domestic consumption and a gradual shift toward DNP products. The contracting tax base weighed on fiscal outcomes, with real tobacco excise revenues declining over time.

Neighbouring countries included are those with lower WAP levels. Totals may not sum due to rounding.

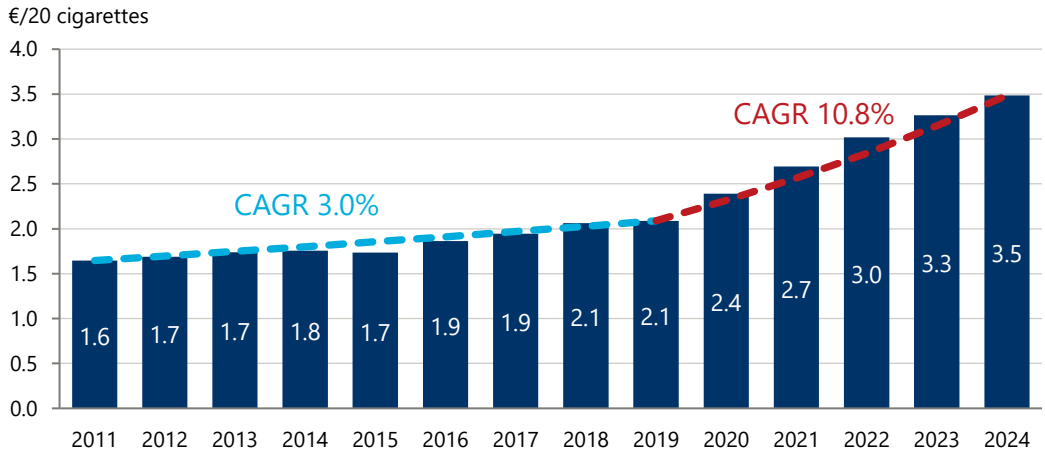
tobacco europe

OXFORD ECONOMICS

3.2.3 Czechia case study

Czechia has steadily increased its tobacco excise duties, primarily to align with the minimum rate requirements set by the European Union. As a result, the excise duty on a pack of 20 cigarettes reached €3.48 in 2024.

Fig. 33. Excise yield in Czechia, 2011 to 2024

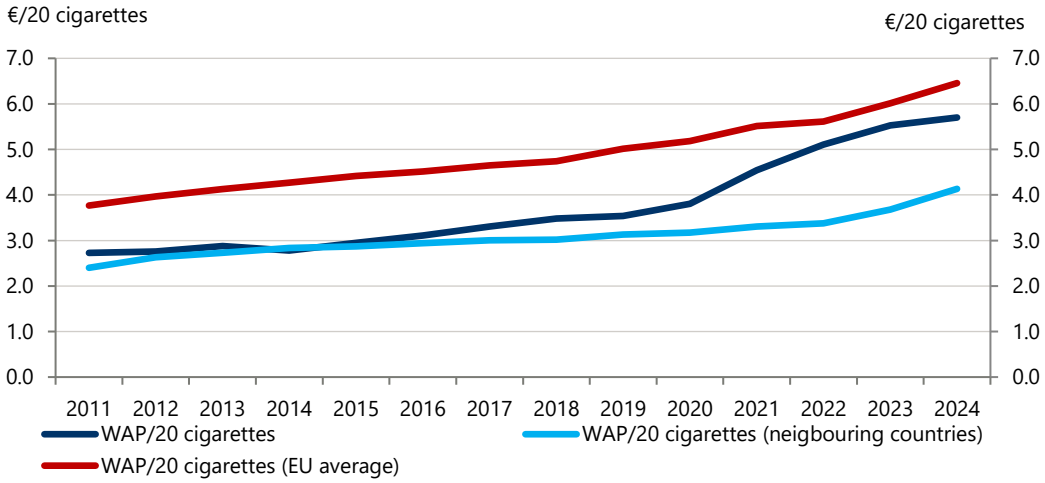


Source: European Commission

Objective: Price convergence

Excise increases translated into higher retail prices in Czechia. Between 2011 and 2024, the average price of a 20-cigarette pack surged from €2.73 to €5.70, an increase of 109%. By comparison, prices in neighbouring countries and across the EU also saw an increase of about 72% and 71% respectively over the same period, to reach €4.13 and €6.46 per pack in 2024

Fig. 34. WAP of cigarettes in Czechia, neighbouring countries[47], and the EU average, 2011 to 2024



Source: European Commission

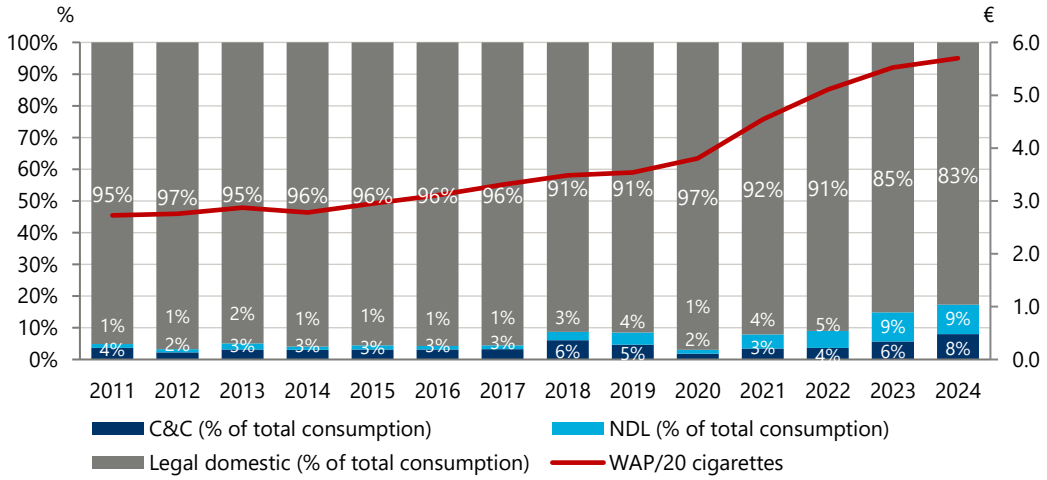
Objective: Limit cross-border and illicit trade

In Czechia, cigarette consumption has historically been concentrated in the domestic legal market, reflecting long-standing price differentials that favoured local purchases over cross-border or illegal alternatives. Throughout most of the 2011–2024 period, more than 90% of cigarettes consumed were sourced legally within the country. However, Czechia has been increasingly exposed to non-domestic inflows, supported by established smuggling routes from non-EU regions, particularly Belarus.[48] An exception to this trend occurred in 2020, when COVID-19 restrictions temporarily limited cross-border flows. Since 2021, the share of NDL and C&C cigarettes has increased steadily, reaching 9% and 8% of total consumption, respectively, in 2024.

[47] This is the average WAP in Poland, Slovakia, and Bulgaria.

[48] Global Organised Crime Index, "Czech Republic", accessed November 2025

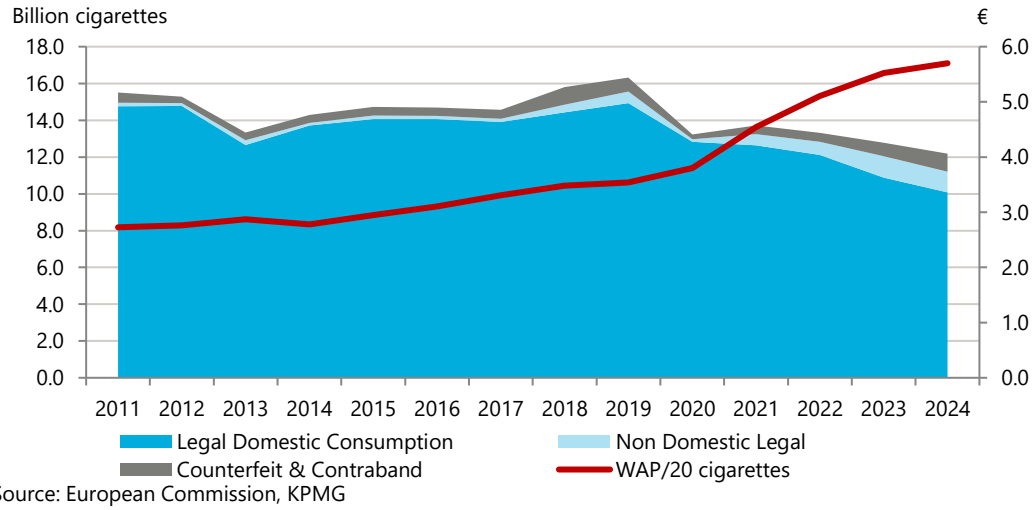
Fig. 35. Legal domestic, NDL, and C&C consumption cigarettes (% of total consumption of cigarettes) in Czechia, 2011 to 2024



Source: European Commission, KPMG

Total cigarette consumption in Czechia declined by around 25% between 2019 and 2024, falling from 16.3 billion to 12.2 billion cigarettes. The drop was driven mainly by a 32% fall in legal domestic sales, reflecting rising prices and a gradual shift toward DNP products. Part of this decline was offset by growth in NDL consumption (+78%) and, to a lesser extent, in C&C activity (+29%).

Fig. 36. Volume of legal domestic consumption of cigarettes, duty-not-paid cigarettes, and WAP of cigarettes in Czechia, 2011 to 2024

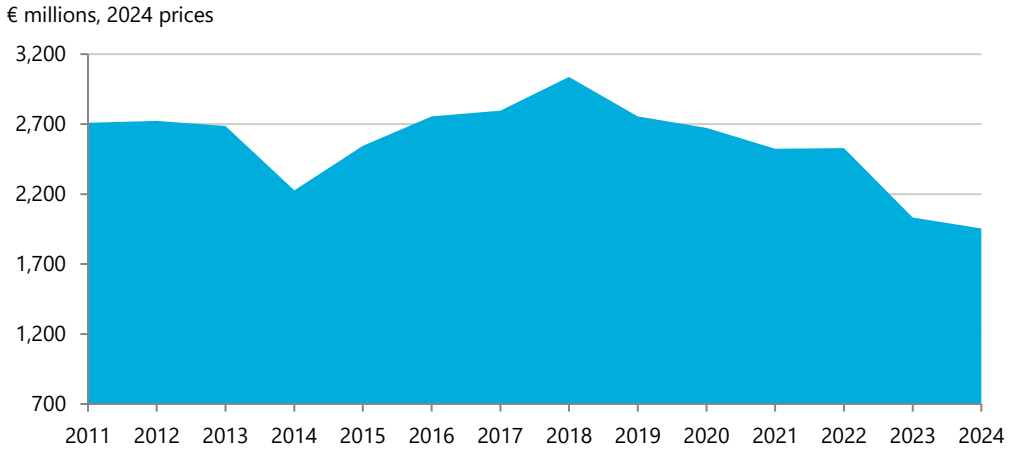


Source: European Commission, KPMG

Objective: Maintain stable tax revenues

Although Czechia's nominal tax burden per pack rose steadily between 2011 and 2024 through successive excise increases, total receipts declined as the tax base contracted. Legal cigarette consumption fell by 32%, reducing taxable volumes, while growth in the DNP market further undermined collections. As a result, real tobacco tax revenues recorded a CAGR of –2.5% over the period. The particularly sharp decline observed in 2022–23 also reflects the impact of elevated inflation during that period.

Fig. 37. Real cigarettes excise tax receipts in Czechia, 2011 to 2024



Source: European Commission

Assessment and implications

Czechia's tobacco excise policy has progressively increased prices to meet EU minimum tax requirements. As prices rose more sharply after 2019, in line with higher excise rates, total cigarette consumption fell by around 25%, driven primarily by a contraction in legal domestic sales and a gradual shift toward DNP products. The concurrent rise in NDL and C&C activity underscores growing substitution pressures as consumers seek cheaper alternatives. Despite successive tax hikes, the contracting tax base has weighed on fiscal outcomes, with real tobacco excise revenues declining at a CAGR of –2.5% between 2011 and 2024.

4. OVERARCHING CONCLUSIONS

Our analysis reveals how tobacco excise duty increases have shaped prices, market structures, and fiscal outcomes in six EU Member States. With notable differences in national policy implementation, comparative analysis involving Member States with similar implementation characteristics can yield informative insights on the effects of the TED across the European Union.

Across all six countries studied, successive excise duty increases between 2011 and 2024 raised retail prices significantly. In France, Belgium, and the Netherlands, the WAP more than doubled over the period, reaching between €9 and €12, well above the EU average of €6.5. In the lower-price markets of Hungary, Czechia, and Poland, retail prices also rose markedly—by between 60% and 120%—although they remained considerably below Western European levels. These developments demonstrate that the TED has been effective in elevating price floors and reducing the affordability of tobacco products, consistent with its public-health objective.

However, excise duty increases and the subsequent rise in prices have contributed to substitution toward cheaper cross-border or illicit products. The case studies collectively indicate that sharp, uncoordinated tax increases tend to erode the domestic tax base by encouraging substitution toward DNP cigarettes. In 2024, an estimated 49% of all cigarettes consumed in France and 39% in the Netherlands were sourced outside the domestic tax net, while Belgium's DNP share reached around 28%. In Central Europe, the patterns are similar though less extreme: the share of C&C cigarettes rose to 13% of total consumption in Hungary and 8% in Czechia, while Poland stands out as an exception. There, stronger border enforcement and factory closures helped reduce C&C cigarette consumption from 13% to 4% of total demand. These contrasts highlight that excise policies remain the dominant driver of non-domestic consumption, and that enforcement capacity and market structure critically shape the effectiveness of excise policy.

Fiscal outcomes have been similarly uneven. Belgium achieved sustained revenue growth, with real excise receipts rising by 2.0% annually, as steady excise increases allowed fiscal gains to offset declining sales. Poland also recorded modest growth in real revenues, supported by gradual rate increases and a more formalised legal market. By contrast, France, the Netherlands, Hungary, and Czechia all experienced declining real receipts, ranging from –0.8% to –7.0% annually, as higher prices reduced legal domestic sales and drove substitution toward duty-not-paid products. The comparative evidence thus suggests that countries combining gradual, indexed excise adjustments with consistent enforcement performed better fiscally than those pursuing rapid or uncoordinated hikes.

Overall, the evidence from these six case studies suggests several broad lessons for policy design:

- **Excise adjustments that were implemented in a stable manner generally coincided with steadier revenue outcomes**, whereas periods of rapid change were more often associated with increased cross-border purchasing and shifts toward illicit products.
- **Close alignment with neighbouring markets appears to help moderate these effects**, while **enforcement capacity continues to play a decisive role in determining fiscal performance.**

- In countries where monitoring and **compliance** improved—most notably Poland—**moderate duty increases were accompanied by more consistent fiscal and market outcomes**, even as prices continued to rise.

These comparative insights underscore that the success of tobacco excise policy rests not simply on raising rates, **but on achieving the right balance between price incentives, enforcement, and predictability across markets.**

These findings also carry implications for the future development of the TED. Member States whose excise rates already exceed the levels proposed under the revised directive will not be required to adjust their rates in response to the new minimums. However, the recent experience of these high-price markets shows that **continuing to raise excise duties unilaterally has not delivered the expected fiscal outcomes.** In several cases, repeated increases have coincided with rising DNP consumption, which has eroded the domestic tax base and limited revenue growth.

By contrast, Member States with **lower excise rates** will be directly affected by the proposed higher minimum rates. For these countries, the **scale and speed of adjustment will be critical.** If the new thresholds are set too high, or if transition periods are not sufficiently flexible, rapid price increases could intensify substitution toward DNP products and weaken revenue performance.

Global headquarters
Oxford Economics Ltd
60 St Aldates
Oxford, OX1 1ST
UK
Tel: +44 (0)1865 268900

London
4 Millbank
London, SW1P 3JA
UK
Tel: +44 (0)203 910 8000

Frankfurt
Marienstr. 15
60329 Frankfurt am Main
Germany
Tel: +49 69 96 758 658

New York
5 Hanover Square, 8th Floor
New York, NY 10004
USA
Tel: +1 (646) 786 1879

Singapore
6 Battery Road
#38-05
Singapore 049909
Tel: +65 6850 0110

Europe, Middle East and Africa

Oxford
London
Belfast
Dublin
Frankfurt
Paris
Milan
Stockholm
Cape Town
Dubai

Americas

New York
Philadelphia
Boston
Chicago
Los Angeles
Toronto
Mexico City

Asia Pacific

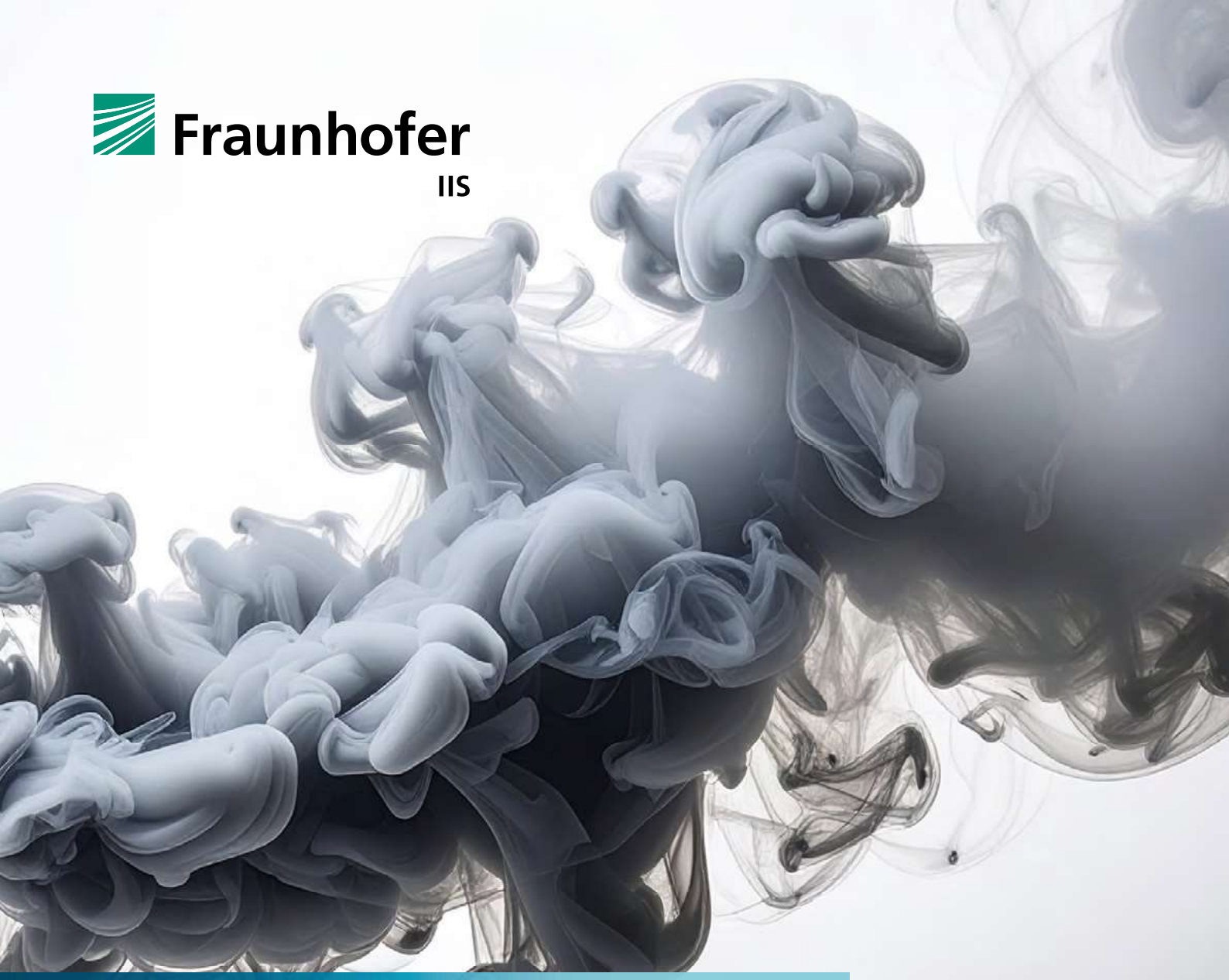
Singapore
Hong Kong
Tokyo
Sydney

Email:
mailbox@oxfordeconomics.com

Website:
www.oxfordeconomics.com

Further contact details:
www.oxfordeconomics.com/about-us/worldwide-offices

Fraunhofer IIS



The irregular market for e-cigarettes in Europe

Market structures, quantifications & supply chains

M·R·U
expertise in logistics

Comissioned by: SKR AG, Luzern

Authors: Uwe Veres-Homm, Daniel Reich, Horst Manner-Romberg, Jörg Storz

THE IRREGULAR MARKET FOR E-CIGARETTES IN EUROPE

Market structures, quantification and supply chains

Uwe Veres-Homm

Daniel Reich

Supply Chain Services at Fraunhofer IIS

in partnership with

Horst Manner-Romberg

Jörg Storz

MRU GmbH

February 2026

Summary

E-cigarettes are becoming increasingly popular, and their share of the market for nicotine products is growing. A relevant part of this market involves irregular trading. For policy-makers and society, this poses new challenges that can only be overcome in a targeted manner through a joint European approach. The lack of recent data on the irregular market for e-cigarettes constitutes a major challenge for political decision-makers.

Contribution and methodology of the study
This study performs the first comprehensive quantification of the irregular e-cigarette market in Europe and sheds light on its structures and supply chains. Its core contribution entails the systematic segmentation of the market into a legal ("white"), a grey (private personal consumption of non-compliant products) and a black sector (commercial illegal trade). This is based on a **quantitative model** that compares the estimated total demand for vaping products in each EU country with the official trade statistics (import/export data). The difference that cannot be explained statistically is reported as an irregular market and then further divided into grey and black market components based on country-specific factors. This methodological approach permits a solid, data-based assessment of the status quo and an assessment of future challenges.

Status quo:

- **3.1%** of Europeans aged 15 and over (11.9 million) **prefer e-cigarettes over traditional tobacco products** – and this trend is rising.
- E-cigarettes are **not regulated and taxed uniformly** within the EU.
- **90%** of the e-cigarettes imported into the EU **come from China**.
- **Irregular trade** in e-cigarettes in Europe has risen to a significant **48%**, equal to a volume of **€6.6 billion**.

New challenges:

- The irregular e-cigarette market is expected to exhibit **significant annual growth of 8.6 per cent**. This translates into a **market value of €10.83 billion** in 2030.
- **A large irregular market causes significant losses in tax revenue.** In Germany alone, the government loses millions in tobacco tax and value added tax each year due to the irregular market for vapes.
- **A large irregular market harbours incalculable health risks for consumers.** Irregular e-cigarettes may contain untested ingredients whose composition and effects are not controlled. This risk can manifest itself in acute poisoning, culminating in long-term adverse health effects.
- **A large irregular market jeopardises the protection of minors.** The illegal market ignores age controls, making it particularly easy for young people to gain access to vapes.[1] Legal protective mechanisms become ineffective, with the risk of early nicotine consumption increasing considerably.
- **A large irregular market impairs legal trade**. Legal traders who pay taxes and comply with regulations are at a significant price disadvantage compared to cheaply imported, illegal goods. These imports undermine the regulated market, thereby threatening the livelihoods of numerous small retailers. A significant proportion of illegal vapes originates from China, where there is enormous production capacity, ensuring continuous supplies to the European black market.

A sustainable improvement in the market situation requires a joint European regulatory approach and effective control mechanisms. These include a coordinated approach and

[1] SWR (2024).

the harmonisation of approval procedures, uniform product standards, harmonised taxation, more effective import controls and greater market transparency in order to create positive incentives and establish safe underlying conditions for consumers.

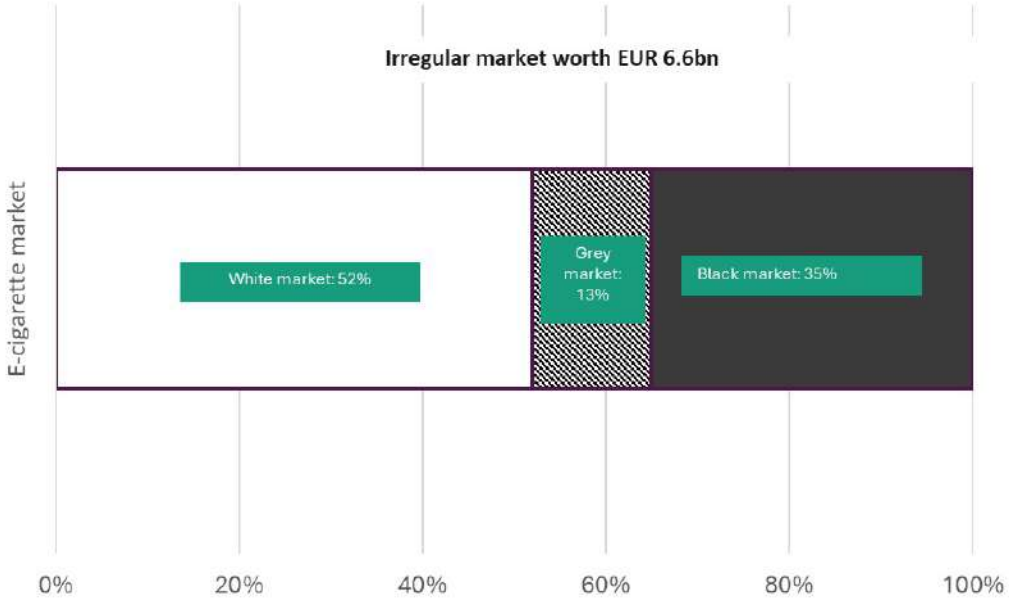


Figure 1: Breakdown of the e-cigarette market by white, grey and black market.
Source: *own illustration.*

Contents

1 BACKGROUND TO THE STUDY 6
2 THE EUROPEAN MARKET FOR VAPING PRODUCTS AT A GLANCE 7

2.1 DYNAMIC DEVELOPMENTS IN THE VAPING MARKET 7
2.2 DIFFERENT TYPES OF VAPES AND LIQUIDS: A "BOUQUET" OF DIFFERENT SYSTEMS, FLAVOURS AND PRODUCTS 7
2.3 TAXATION OF VAPING PRODUCTS IN THE EU 9
2.4 EUROPE-WIDE DIFFERENCES IN VAPING BEHAVIOUR 11

3 DELIVERY ROUTES AND IMPORT PROCEDURES 14

3.1 CUSTOMS CLASSIFICATION 14
3.2 CHINA THE EU'S MAIN SOURCE OF IMPORTS 14
3.3 DELIVERY ROUTES 17
3.3.1 Air freight 17
3.3.2 Sea freight 19
3.3.3 Rail transport 20
3.4 IMPORT PROCEDURE 22

4 MARKET SEGMENTATION AND QUANTIFICATION OF THE IRREGULAR MARKET ... 26

4.1 DISTINCTION BETWEEN GREY AND BLACK MARKET 26
4.2 MODEL FOR MARKET QUANTIFICATION AND SEGMENTATION 27
4.3 RESULTS – THE IRREGULAR MARKET ACCOUNTS FOR ALMOST HALF OF THE TOTAL EUROPEAN MARKET FOR VAPING PRODUCTS 29
4.4 FROM TONNES TO EUROS – CALCULATION OF MARKET VALUE 35

5 SOLUTIONS AND RESEARCH REQUIREMENTS 37
6 SUMMARY 40
7 SOURCES 41
8 COPYRIGHTS - ILLUSTRATIONS 45

1 Background to the study

E-cigarettes and the liquids vaporised in them constitute a significant and dynamically growing part of the European market for nicotine products.

In view of the still young market segment and the disparate regulatory approaches within the EU, a relevant proportion of these products is not distributed via official channels. This applies to certain bricks-and-mortar retailers who fail to comply with the relevant legal requirements and, at times, offer products that are not fit for sale. Moreover, illegal products are frequently offered via specialised sales platforms that do not charge tobacco tax or adhere to the minimum age restrictions prescribed by youth protection laws.

Against this backdrop, the Risk and Location Analysis department at Fraunhofer IIS was commissioned, in conjunction with MRU GmbH, to examine the international supply chains for vaping products. On this basis, the scope of unofficial business and its implications for transport service providers that are often unknowingly involved in it, as well as possible starting points for targeted regulatory measures, were to be highlighted.

One important aim of the analysis was therefore to provide a solid assessment of the current state of the grey and illegal market for vaping products based on practical and scientific findings and to estimate the correlating quantities.

This study examines the European market for vaping products with a particular focus on market structures, the regulatory framework, the extent of the grey and black markets and the underlying logistics. Against the backdrop of dynamic developments, such as rising sales volumes, growing product diversity and cross-border trade, the question arises as to how the market is structured, what regulatory and logistical factors apply and what proportion of the total volume is accounted for by the irregular market. The analysis includes an overview of market trends, consumer behaviour and tax regulations (Chapter 2), followed by an examination of supply routes, customs classifications and China's role as the main source country (Chapter 3). Chapter 4 is dedicated to the modelling and economic evaluation of the grey market, while Chapter 5 identifies possible solutions and research requirements.

2 The European market for vaping products at a glance

2.1 Dynamic developments in the vaping market

In recent years, sales figures for e-cigarettes and other vaping products have risen significantly in Europe. Nicotine-containing liquids in a variety of flavours have become especially attractive to younger consumers. The market is very dynamic due to changing consumer trends. Although the health risks associated with nicotine-containing vaping products are frequently debated in public discourse, they fall outside the scope of this study. Rather, the study concentrates on providing a market analysis of vaping products in the European Union (EU).

The market for vaping products is characterised by a considerable lack of transparency on the supply and manufacturer side. In Germany alone, a regularly updated list issued by the Federal Office of Consumer Protection and Food Safety records more than 470,000 different types of e-cigarettes and accessories, including an immense number of disposable products.[2] A large part of these goods are manufactured in China: It is estimated that Chinese manufacturers account for up to 90 per cent of global production output.[3] In view of this, it is particularly remarkable to note that the sale of aromatised e-cigarettes, with the exception of tobacco flavours, is prohibited on the Chinese market itself. This discrepancy between production figures and consumption rules underscores the complex regulatory framework and market structure that characterise international trade in vaping products.[4]

2.2 Different types of vapes and liquids: A “bouquet” of different systems, flavours and products

The market for vaping products encompasses a wide range of systems, flavours and product concepts. The range extends from inexpensive disposable e-cigarettes and uncomplicated pod systems to modular devices with refillable tank vaporisers and individually adjustable output. This broad range appeals to different consumer groups and reflects the great diversity of the industry. The diversity of the vaping market is not only reflected in the different systems and flavours, but also in the thousands of manufacturers worldwide whose products contribute to the constantly growing range of products on offer.

[2] Federal Office of Consumer Protection and Food Safety (2025): List of declared e-cigarettes (August 2025). The list contains over 70,000 disposable e-cigarette products.

[3] 2FIRSTS (2022)

[4] Lyu et al. (2024)

Figure 2: Schematic representation of different types of e-cigarettes.
***Source**: see Chapter 8 (Copyrights – Illustrations),*

E-cigarettes are all based on the same principle: They consist of a vaporiser with a heating element and a small tank for the liquid to be vaporised.
They also have a suitable rechargeable battery as a power source and a mouthpiece. Advanced models have a microprocessor built into the mouthpiece that allows the temperature to be controlled precisely.

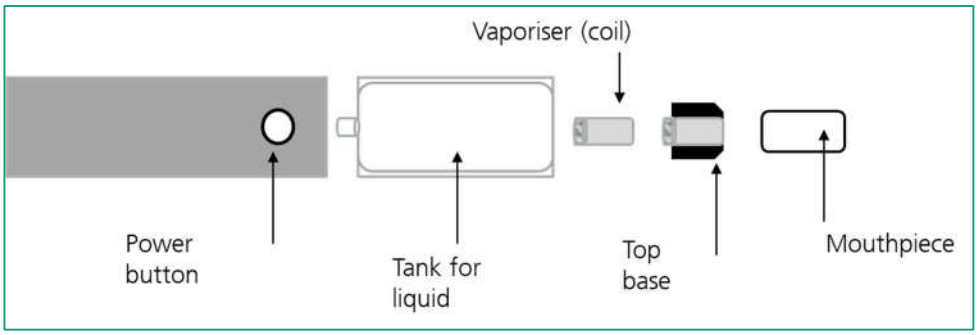


Figure 3: Schematic structure of an e-cigarette.
***Source:** own illustration based on Flotter-Dampfer (2025).*

The composition of the liquids varies depending on the individual product and manufacturer and can include either nicotine-containing or nicotine-free ingredients.
In either case, the liquids are heated by an electric heating element and inhaled as an aerosol (vapour). Refill packs are available for the cartridges of many e-cigarettes, allowing the device to be used several times and thus ensuring a longer service life. This contrasts with vaporisers, often called "vapes" for short, which are usually disposable. The liquid contained in vapes is also vaporised via a battery-operated heating element, but neither the battery nor the liquid tank can be replaced. This product feature means that disposable vapes have a comparatively poor environmental footprint[5], as they have to be disposed of completely after a single use and leave behind both electronic and chemical waste.

The variety of vaping products is reflected not only in the technical design of the devices, but also in the wide range of flavours and product variants. The example of some well-known manufacturers[6] clearly shows how differentiated the market has become: They

[5] Federal Ministry for the Environment, Climate Action, Nature Conservation and Nuclear Safety (2025).

[6] The most important brands on the German market according to Statista Market Insights (2025) are VUSE, Elfbar, Juul, Njoy, blu, Pulze.

offer a wide range of different device types, including disposable vapes, rechargeable systems and models with pre-filled or refillable cartridges. In addition, many vape manufacturers state that their range includes several hundred different flavours, ranging from classic tobacco and menthol flavours to fruity, sweet or exotic creations. This product diversity plays a key role in ensuring that different consumer preferences can be catered for.

The applicable regulation stipulates that e-cigarettes may only be placed on the market[7] if they comply with the European **Tobacco Products Directive**. The main regulations governing the marketing of e-cigarettes in the EU are:

- Nicotine-containing liquids must not exceed a maximum nicotine concentration of 20 mg/ml.
- Disposable e-cigarettes or disposable cartridges containing nicotine may have a maximum volume of 2 ml.
- Tanks and clearomisers (vaporisers) may have a maximum capacity of 2 ml.
- Refill containers (liquids) may have a maximum volume of 10 ml.
- Only ingredients of a high purity may be used.
- Apart from nicotine, only ingredients that pose no risk to human health in heated or unheated form may be used.
- E-cigarettes must bear the CE label.
- Manufacturers and importers must register all products that they wish to place on the EU market via the standardised electronic format on the **EU Common Entry Gate (EU-CEG)** platform.

It is also important to note that this EU directive only sets minimum standards. Member states are free to enact stricter national regulations. Market observers estimate that a large proportion of vapes and e-cigarettes (in the EU) are now illegal or are being sold illegally. Numerous products are offered – both online and in physical stores – that do not comply with the EU directive or national regulations and are therefore not marketable. Some of the illegal products are offered via "specialised" sales platforms that do not charge the tobacco tax that is normally payable, nor do they comply with the specifications regarding volumes and ingredients or adhere to the minimum age requirements prescribed by youth protection laws.

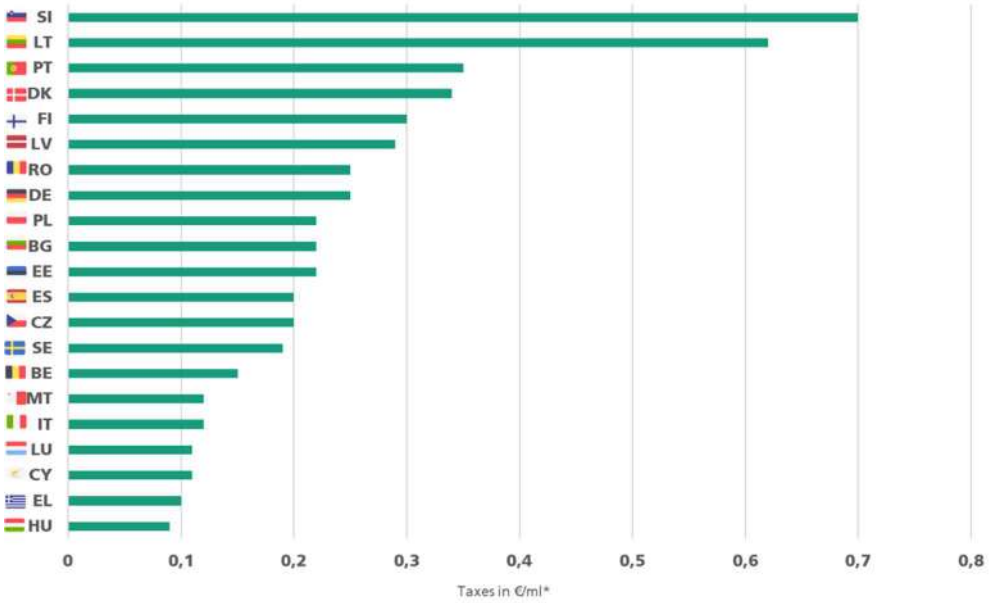
2.3 Taxation of vaping products in the EU

The imposition of specific taxes on nicotine liquids and other vaping products has grown in importance in several European countries in recent years. They are intended not only to generate tax revenue but also to exert a steering effect on health policy and curb consumption, particularly among young people. Against this backdrop, an analysis of the tax aspects of the vaping market is highly relevant for a comprehensive market analysis. However, there has been a lack of reliable and consistent data on the actual volume of tax revenue from this segment within the European Union to date, partly due to the fact that, in some cases, taxation has only been in place for a few years. Despite the enormous quantities of products sold, the market remains extremely opaque due to the large number of operators, product diversity and confusing supply chains, which makes it even more difficult to record and evaluate the tax effects accurately.

The excise duty on liquids varies considerably within Europe, both in terms of its amount and the underlying calculation system. Figure 4 provides an overview of tax levels across

[7] The marketing of e-cigarettes in the EU is mainly governed by the Tobacco Products Directive (TPD) 2014/40/EU.

the individual EU member states and thus illustrates the existing discrepancies. In most countries, the tax is levied on a quantity basis, usually per millilitre (ml) of e-liquid. However, there are also exceptions: In countries such as Italy, France or the Netherlands, nicotine liquids are currently not subject to any special excise duty, but only to normal value-added tax. This heterogeneous tax treatment reflects different regulatory approaches, making it difficult to analyse the tax burden at the European level.
These differences in tax treatment have a direct impact on pricing in the legal market and may also generate potential incentives to circumvent the regulations via the grey or illegal market. The excise duty rate on e-liquids varies considerably within the European Union, as Figure 4 shows. While several member states, including France, Croatia, Italy and the Netherlands, currently do not levy a specific excise duty on nicotine-containing liquids, some other countries impose significantly higher duties on e-liquids. At the lower end of the range are Hungary (€0.09/ml) and Greece (€0.10/ml), while the highest rates are levied in Lithuania (€0.63/ml) and Slovenia (€0.70/ml).[8] These major differences illustrate the heterogeneous tax landscape and the resulting price differentials between national markets, which in turn can potentially create regulatory incentives to circumvent and distort competition.



**** Data not available for: AT, SK, NL, HR, FR, IE***
Figure 4: Tax on nicotine liquids in the EU member states, as of 31 December 2024.
Source: *Own illustration. Data basis: European Commission – Excise Duties Overview (2025).*

Due to the absence of any reliable or clearly defined statistical records on tax revenues in individual EU member states, it is currently not possible to draw any firm conclusions about the overall volume of tax revenue across the EU. However, the combination of the sales figures for vaping products in conjunction with the national tax rates clearly shows the potential for an increase in tax revenues. The considerable disparity in the tax models within Europe and the shortcomings in records of the tax revenues generated by vaping products underline the lack of harmonisation of excise duties at the EU level. This fragmentation can encourage cross-border trade and the emergence of irregular markets.

[8] European Commission – Excise Duties Overview (2025).

2.4 Europe-wide differences in vaping behaviour

The European Union has a total population of around 449.3 million.[9] Around 24.6 per cent of the population over the age of 15 are smokers, equivalent to some 94.3 million people. The proportion of vapers *(e-cigarettes)* stands at 3.1 per cent, i.e. around 11.9 million people.[10] In general, it is clear that vaping is a growing market, although it is still much smaller than traditional smoking.

The prevalence of vaping in the EU member states varies considerably and reflects the different levels of acceptance of these products among the population. While in countries with high smoking rates, such as Bulgaria, Greece or Hungary, vaping is being introduced more slowly in some cases, there is an increasing tendency in Western and Northern European countries to substitute or supplement tobacco products with e-cigarettes.

Although there is little direct scientific evidence to date on the extent to which vaping is being underreported, it can be assumed that vaping consumption is subject to substantial underestimation. Evidence can be derived in particular from the extensive body of research on the underreporting of traditional tobacco consumption. Numerous studies have shown that self-reported smoking habits frequently fail to reflect actual behaviour.[11] Moreover, adolescents are regarded as particularly prone to underreporting, as they frequently conceal their use of tobacco and nicotine products out of concern about parental repercussions or social stigma. This can be seen, for example, in the US "National Youth Tobacco Survey (2021)",[12] in which school students were significantly more likely to report vape use when asked at school compared to when they were asked at home.[13]

[9] Destatis (2025) and Eurostat (2025).

[10] European Commission (2023).

[11] Morean et al. (2018).

[12] Gentzke et al. (2023).

[13] Morean et al. (2018).

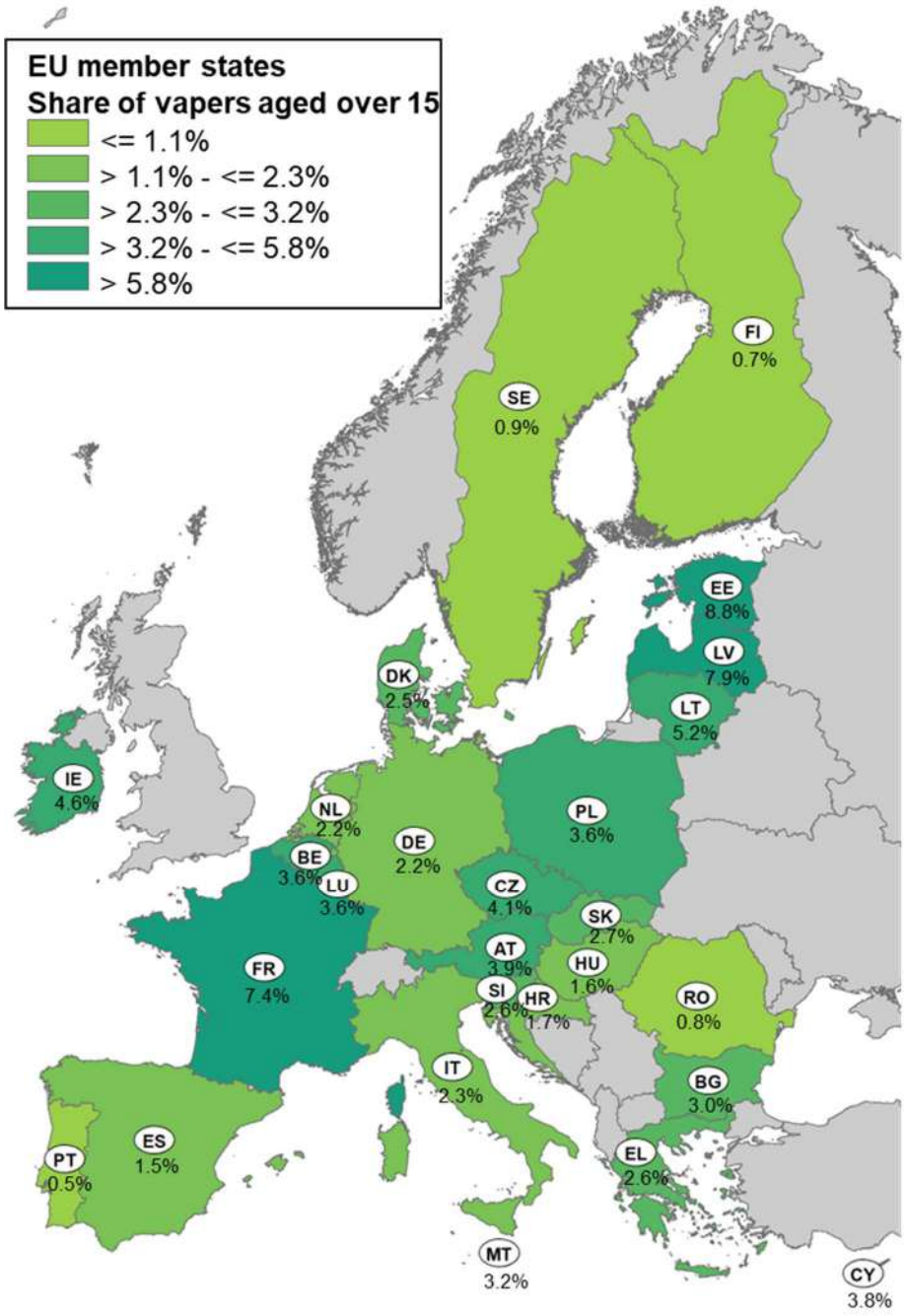


Figure 5: Percentage of vapers per EU country in the total population over 15 years of age.
Source: *Own presentation. Data basis: European Commission (2023).*

As Figure 5 shows, the proportion of vapers in the total population ranges from just 0.5% in Portugal to 8.8% in Estonia. In addition to Estonia, particularly high prevalence rates are also found in Latvia (7.9% and France (7.4%), while countries such as Sweden (0.9%), Finland (0.7%) and Romania (0.8%) have significantly lower rates. Germany and the Netherlands are in the lower midfield with 2.2% in both cases, while Ireland (4.6%) and the Czech Republic (4.1%) have above-average shares.[14] These differences can be attributed to a variety of factors, including cultural attitudes towards smoking, national regulations and the availability of products.

[14] European Commission data basis (2023).

The results underline the need to take country-specific characteristics into account in market analyses. After the description of the market structure, product diversity and the differences in consumption and taxation behaviour across Europe, the next step focuses on the logistical side of the vaping market. Chapter 3 analyses the international supply routes, the customs classification of the products and the import processes with a particular focus on China as the main country of origin.

3 Delivery routes and import procedures

3.1 Customs classification

HS (Harmonised Commodity Description and Coding System) codes are used to systematically classify and statistically record vaping products in international trade. These play a central role in customs and tax classifications. The following table lists the relevant HS codes for nicotine products and e-cigarettes. The examples illustrate typical product types within the specific category:

HS code	Description of goods	Examples
240412	Products containing nicotine, intended for inhalation without combustion (excl. containing tobacco or reconstituted tobacco)	- E-cigarette liquids (20 mg nicotine/ml).
854340	Electronic cigarettes and similar personal electric vaporising devices	- Electronic cigarette (50g, 120mm x 20mm). - Refillable e-cigarette (2ml liquid capacity). - Disposable e-cigarette (already contains the liquid).

Table 1: HS codes for nicotine products (liquids) and e-cigarettes.
Source: *Own illustration based on Customs Portal Europe (2025).*

3.2 China the EU's main source of imports

The European e-cigarette industry consists of a large number of players, including major international manufacturers, specialised start-ups, online retailers and physical shops.[15] In Germany, the industry association Verband des eZigarettenhandels e.V. (VdeH) was established in 2011 and is regarded as the leading organisation representing the interests of the e-cigarette industry in Germany. It unites players along the entire value chain, from retailers to producers, and is committed to ensuring the serious, legal and sustainable development of the market. The VdeH Code obliges its members to distribute products responsibly and in full compliance with the law, with particular emphasis on safeguarding minors, ensuring product safety and combating the black market. The association clearly distances itself from illegal, untaxed or harmful products such as "big vapes", nitrous oxide or psychoactive substances.[16]

One central aspect of the discussion about market structures and regulation concerns the origin of the products. Around 90 per cent of all e-cigarettes imported into the EU come from China.[17] The aromatised fruit-flavoured e-cigarettes produced may only be exported, as such products were banned domestically due to their particular appeal to young people.

[15] VdeH members' page (no year stated).

[16] VdeH (2025).

[17] Eurostat data basis (2025).

China's dominant global role is also reflected in the European Union's trade statistics. Data from 2024 shows that the Netherlands, Germany and Belgium in particular are the main importers of nicotine liquids (HS 240412) and electronic cigarettes (HS 854340) from third countries, with a dominant share of just over 91% originating in China[18]. In 2024, the Netherlands imported around 11,763 tonnes of nicotine liquids and 2,622 tonnes of e-cigarettes from outside the EU, while Germany imported 5,260 tonnes of liquids and 3,334 tonnes of e-cigarettes. Imports of nicotine liquids and e-cigarettes in particular are experiencing rapid growth in the EU (see Figure 6). In 2022, all EU countries collectively imported around 30,888 tonnes, while over 45,000 tonnes of nicotine liquids and e-cigarettes were imported into the EU from third countries in 2024.[19]

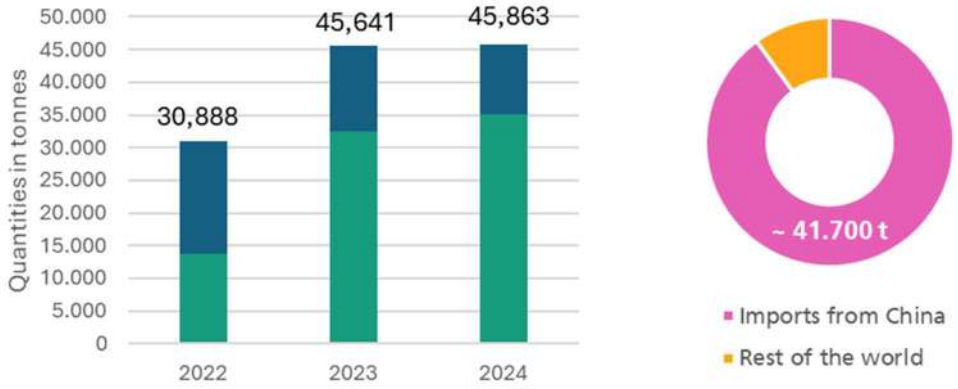


Figure 6: EU imports of nicotine liquids (green) and e-cigarettes (blue) (tonnes).
Source: *Own illustration. Data basis: Eurostat (2025).*

The structural imbalance between imports and exports within the EU, particularly in the Netherlands and Belgium, is striking. These countries import only small amounts from other EU countries but export large quantities, indicating that they act as logistical hubs for Chinese products in the European market. At the same time, there is evidence that some of these goods are being circulated through opaque distribution channels, suggesting grey-market activity or gaps in tax reporting.

An example of the lack of transparency in the flow of goods can be seen with the Netherlands: Although the country exported around 10,250 tonnes of nicotine liquids (HS 240412) to other EU countries in 2024, these countries together reported imports of around 17,000 tonnes.[20] This points to the possible existence of grey market structures, non-transparent distribution channels or discrepancies in the foreign trade statistics for vaping products.

The problem of unregulated imports is further exacerbated by developments on the black market. In May 2025, for example, more than 45,000 illegal vapes and 1,100 litres of e-liquids were confiscated during a truck inspection by German customs in Cologne. Among other things, tax codes and permits were missing.[21]

[18] This corresponds to approx. 31,800 tonnes.

[19] Eurostat data basis (2025).

[20] Eurostat data basis (2025).

[21] German Federal Customs (2025).

Example of illegal vapes:
One problem is posed by "super vapes". These are disposable products with up to 15,000 puffs. Although EU law does not stipulate a limit on the number of puffs, a maximum filling quantity of 2 ml and a nicotine content of no more than 20 mg/ml apply. In practice, this usually corresponds to around 600 puffs.

It is not possible to determine the exact number of manufacturers operating worldwide. The highly dynamic Chinese market is characterised on the one hand by strict regulatory supervision by the State Tobacco Monopoly Administration (STMA)[22] and on the other by the continued presence of illegal businesses. It is estimated that more than 170,000 companies were involved in the production of e-cigarettes and accessories in China during periods of extreme industry growth.[23] Since 2022/23, the number has fallen to an estimated 640 licensed companies nationwide. Around 450 licensed companies are registered in Shenzhen alone[24]. Chinese production has increasingly focused on export markets over the years due to the STMA's comprehensive regulatory framework, including mandatory licensing, the prescribed technical standards (GB standard[25]), the ban on online sales and advertising in the domestic market and consumption taxes.[26]

Shenzhen is currently regarded as the main centre for licensed e-cigarette production. The companies registered there account for up to 72 per cent of Chinese e-cigarette production.[27] In addition, 70 per cent of the vaping device manufacturers are based in Shenzhen.[28] However, the discrepancy between officially registered and illegally operating companies is immense. In March 2022, there were more than 11,000 e-cigarette companies in Shenzhen alone.[29] To avoid attracting the attention of the authorities, companies use tactics such as "port shopping"[30] and frequent brand changes.
At the same time, there is evidence that manufacturers are producing compliant products for the domestic market while also producing illegal products for export. Manufacturers have often reached a remarkable scale.[31]

[22] VAPEAST (2023).

[23] iiMedia (2021).

[24] 2FIRSTS (2024).

[25] GB standards (GuoBiao standards) in China are national standards that regulate the safety, quality and performance of various products. They are set by the Standardisation Administration of China (SAC) and serve as the basis for standardisation, safety and quality in various industries. GB standards are either mandatory (GB) or recommended (GB/T).

[26] Since 1 November 2022, e-cigarettes have been subject to excise duty in China. This is levied at a rate of 36 per cent for production and imports and an additional 11 per cent for wholesale. (Tobacco Reporter (2024)).

[27] 2FIRSTS (2025).

[28] ALD (2024).

[29] 2FIRSTS (2022) (2).

[30] The term "port shopping" originates from cruise tourism. Manufacturers and retailers offer their vaping products to travellers in duty-free shopping at selected shops in ports and airports.

[31] One example is ALD Group Limited, with its "Fresor" technology platform, 5 factories, over 4,000 employees (more than 500 R&D employees alone) and a monthly production of over 50 million units.
The JWEI Group, which was founded in 2008, also claims to have two factories with fully automated production lines in China (production capacity of 10 million units per month) and 4 R&D centres (in China, the United States, France and South Korea).

3.3 Delivery routes

Given that a large proportion of the vapes and liquids consumed in Europe are produced in China, logistics are of crucial importance. All forms of transport are used to carry goods to Europe: Ship, train, plane and (rarely due to the distances involved) road haulage. While experienced buyers – both commercial and private ones – (can) place their orders directly with manufacturers in China, e.g. via online sales platforms, individual purchases are usually handled via physical shops.

With respect to transportation, there are clear differences between online trade with private and small customers and typical commercial trade with wholesalers and importers. In simple terms, the vaping products ordered online are sent via a postal company or one of the well-known, internationally active express parcel services.

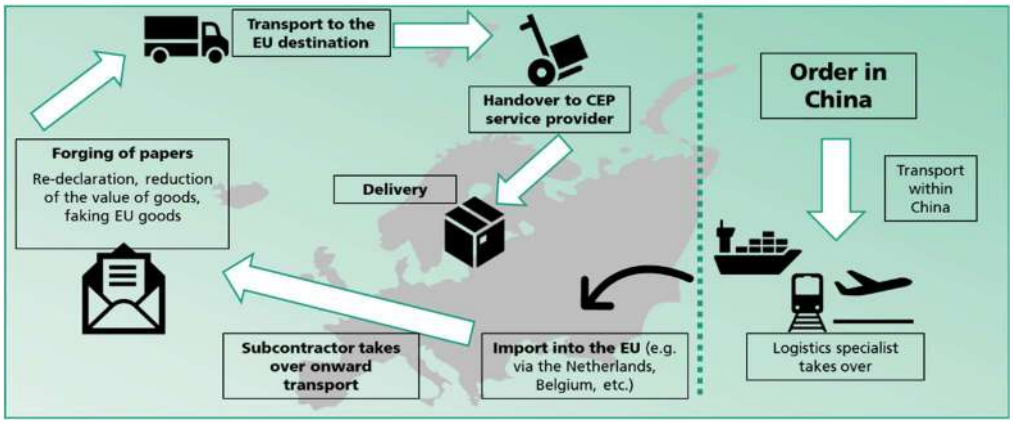


Figure 7: Diagram showing delivery process for an online direct order in China.
Source: *own illustration, based on Vapers.Guru (2025).*

In typical commercial trade, the buyer orders directly from a manufacturer (assuming that the manufacturer offers this option), from an exporter or from a wholesaler.
These suppliers usually have established contracts with transport companies, i.e. shipping companies, airlines or express parcel services. Alternatively, the suppliers work with freight forwarders who handle the entire intermodal process.

One characteristic of commercial trade is that intermediaries (wholesalers or importers, as well as manufacturers' foreign locations) may be involved in the sales process. This means that it is not fully clear where the ordered goods are dispatched from. This is relevant for customs processing.
In this context, it is important to note that the place of dispatch may also be in a country (including within the EU) other than the one in which the authorised supplier's registered office is located. One reason for this may be that orders can be processed more quickly and at less expense.

3.3.1 Air freight

The major CEP service providers, such as DHL, FedEx and UPS, operate regular air freight routes with their own aircraft between China and Europe. Cargo is also loaded onto passenger flights.

DHL Express operates a total of more than 30 international air freight routes with its own freighters from its southern Chinese gateway in Shenzhen. The Shenzhen – Leipzig route, where the company's European hub is located, has had six direct return flights per week

since 2019. Boeing 777 freighter aircraft are used, resulting in a weekly freight capacity of more than 500 tonnes.

FedEx uses its own hubs in Cologne, Paris and especially Liège as destinations for direct flights from China. It has a total of six gateways in China: Beijing, Shanghai, Guangzhou, Shenzhen, Qingdao and Xiamen, from where more than 300 flights a week are operated. The airports in China that are relevant for the European routes are Shanghai and Guangzhou, where the FedEx Asia Pacific Hub is located.

Boeing 777F freighters fly five times a week from both airports to destinations in Europe. They each have a capacity of 81 tonnes, translating into a weekly transport capacity of 810 tonnes.

Shenzhen Airport is the international air freight hub for UPS; the European hub is located in Cologne. The integrator also uses Shanghai and Hong Kong airports as hubs.
Direct flights are operated between the hub in Cologne and the Chinese hub in Shenzhen. It also operates a total of 200 weekly flights to and from key Chinese business centres such as Chengdu, Qingdao and Zhengzhou; some of these flights also reach destinations in Europe. Almost only large-capacity freighters are used, carrying between 70 and 110 tonnes of freight, depending on the model.

Additional air freight capacities are arising from the expansion efforts of Chinese CEP services. Thus, Cainiao, the logistics subsidiary of e-commerce giant Alibaba, opened a European hub in Liège, Belgium, in 2021. It is worth noting in this regard that this site is supplied by road from the Dongguan production centre in southern China.[32]

The company has been operating a direct flight between Xi'an in central China and Liège since September 2024. It is operated twice a week using a Boeing 767-300F freighter.

SF Express, the market leader in the Chinese CEP market, has amassed considerably larger capacities. The newly built Ezhou mega airport in central China was officially opened in the summer of 2022.

SF Holding and the Hubei provincial government invested the equivalent of more than 7.8 billion euros in what is described as "Asia's first professional cargo airport".[33]
Once completed, Ezhou will be the fourth largest airport in the world, handling more than 2.6 million tonnes of freight and 1.5 million passengers. Flights from Ezhou Airport go to Liège in Europe and, since the summer of 2023, also to Frankfurt.

The Ezhou – Frankfurt route is operated twice a week with a Boeing B747-400 freighter. Since summer 2024, the Ezhou – Budapest route has also been operating twice a week. Oslo has also been served twice a week with a B767-300 wide-body freighter since the beginning of 2025.

Overall, China's express services have built up considerable air freight capacities. At the beginning of 2025, the companies had 150 of their own cargo-only aircraft in operation[34]:

- SF Express 89 freighters,
- JD.com 7 freighters,

[32] Alizila (2022).

[33] KEP-Verlagsgesellschaft mbH. (2022). CEP News (issue 29/2022).

[34] 36Kr (2025).

- China Post 42 freighters and
- YTO Express 13 freighters.

3.3.2 Sea freight

The chart below illustrates the sea freight corridor from China to Europe (including stop-overs at other ports) and, in particular, the onward distribution from Hamburg to Northern Europe. According to the Port of Hamburg, 20 per cent of containers arriving from China are forwarded to other ports.

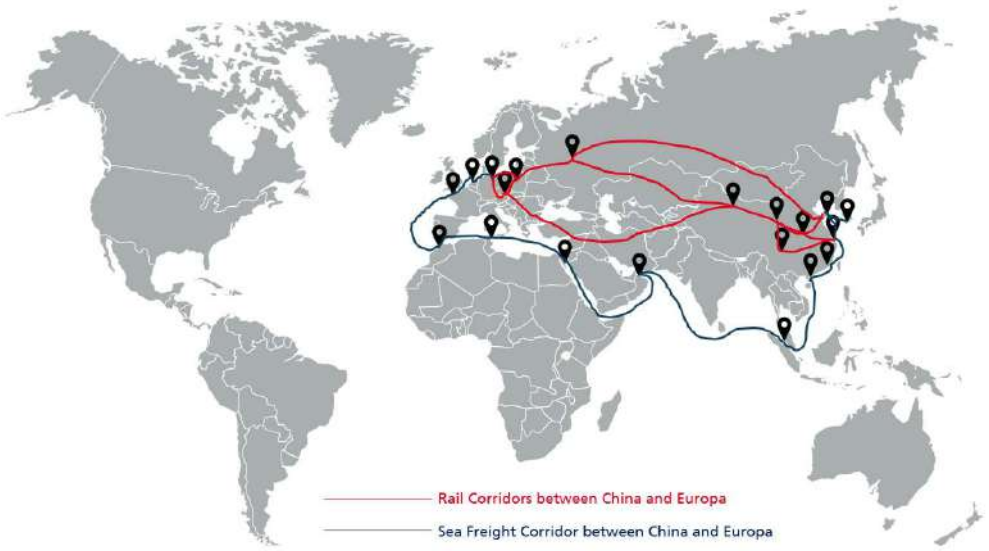


Figure 8: Rail and sea freight between China and Europe.
Source: *Own illustration.*

Sea freight remains the predominant mode of transport, largely due to its cost advantages, and is particularly significant given that maritime routes constitute the principal means of moving imports from China to Europe. Up to 90 per cent of the total trade between China and Europe is transported by sea.

Another reason is presumably the fact that sea freight shipments are usually palletised at the delivery plants or warehouses, and the pallets are packed in sea containers. As the containers are generally not checked by customs after being loaded, the actual quantities and qualities may well deviate from the documentation.

According to official figures, the main European ports for imports from China to the EU are Antwerp in Belgium, Hamburg and Rotterdam. A total of around 9.9 million TEUs[35] were handled via Rotterdam in 2022 (Antwerp approx. 13.5 million TEUs[36], Hamburg approx. 6.3 million TEUs[37] annually).

[35] Clingendael Institute (2023).

[36] Journal of Commerce (2023).

[37] Container News (2022).

3.3.3 Rail transport

Container block trains from China reach many terminals in Europe by rail. These are located in Poland (Malaszewicze, Warsaw, Lodz and Poznan), in the Czech Republic (Prague), in Hungary (Budapest) and in Germany (Hamburg, Duisburg and Nuremberg).[38]

In addition to the sea route, Figure 8 also shows the rail freight delivery route from China to Europe (including stopovers at other rail terminals) as well as onward distribution from Hamburg. The route, which traverses Russian territory, has hardly been used since Russia's attack on Ukraine.

The number of freight trains arriving in Europe from China each week fluctuates and is influenced by various factors, including demand, geopolitical developments and infrastructure capacity.

In 2023, a total of around 17,000 freight trains[39] travelled from China to Europe. The number in 2024 is estimated to be around 19,390. In terms of individual weeks, this breaks down as follows:

- 17,000 trains per year (2023) / 52 weeks = approx. 327 trains per week = approx. 26,160 containers per week.
- 19,392 trains per year (2024) / 52 weeks = approx. 373 trains per week = 29,840 containers per week.

The main dispatch stations in 2024 were Xi'an (3,849 train journeys), Chengdu (2,285), Chongqing (2,059) and Zhengzhou (2,052)[40].

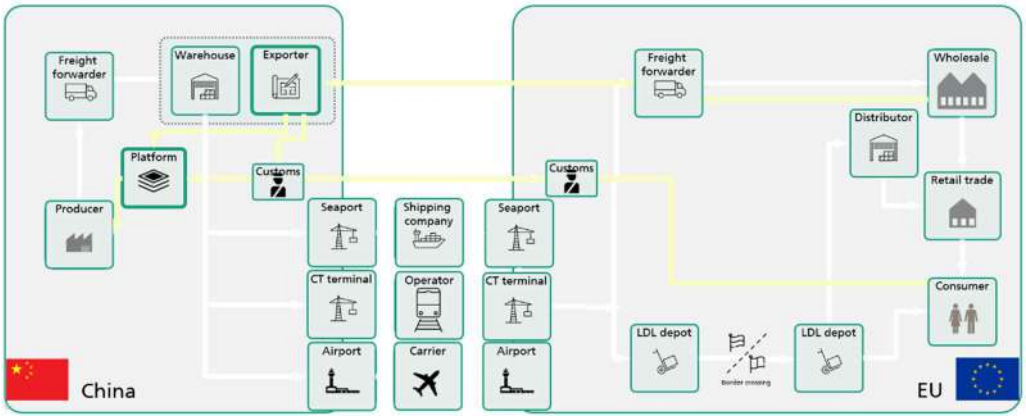


Figure 9: Supply routes and players along the supply chain for vaping products.
Source: *own illustration.*

From a logistical point of view, the above details describe linehauling, i.e. the transportation of goods over long distances between the points of departure and arrival. The "first" and "last mile" should also be included to provide a full representation of the entire supply chain. The "first mile" designates the transport routes from the place of origin (e.g. the manufacturer) to the first transhipment centre. The "last mile", on the other hand, refers to the route from the last receiving station to the end customer (e.g. front door). The diagram below illustrates the entire transport chain. On the first mile in

[38] GCD Glomb Container Dienst (no year stated)

[39] China State Railway Group (2024).

[40] New Silk Road Discovery (2025).

China, the shipments – as described above – are collected from the manufacturer and transported to the relevant transhipment point. Similarly, consignments are transported over the "last mile" from the last receiving station to the ultimate customer. What is relevant here is that customs clearance is mandatory in both the exporting and the importing country.

In addition to the volumes and packaging units shown, the supply chain for vaping products between China and Europe is extremely complex and multi-layered. Regardless of whether the order is placed directly by end customers via online platforms or whether wholesalers or retailers purchase larger quantities via intermediaries or trading platforms in China, numerous players are involved in the process. These include producers, Chinese wholesalers and retailers, local and foreign logistics service providers, platform providers, customs offices and, where applicable, specialised importers or fulfilment service providers. The large number of interfaces and players involved makes the supply chain for vaping products a highly networked and sensitive logistical process.

The supply chain for vaping products is not only international, but also highly complex and multi-layered, involving numerous players, different transport routes and specific national regulations. This structure renders end-to-end traceability along the entire chain difficult. It creates potential gaps in supervision, particularly in the case of cross-border deliveries, which may encourage the entry of unauthorised or non-compliant products into European markets.

3.4 Import procedure

Regardless of whether transportation is by air, rail or sea, the (customs) process is always the same. When an order is received online, the seller issues a commercial invoice for the ordered goods, a certificate of origin if necessary, the export customs declaration and the consignment note. This is generally only required for statistical purposes. In commercial trade, identical documents (commercial invoice, a certificate of origin, the export customs declaration and the consignment note) are issued for the ordered goods. In commercial business, the export customs declaration can also be submitted by an authorised forwarding agent.

The packaging for vapes (e-cigarettes) must be labelled with the name of the manufacturer or supplier[41]. This is a legal requirement, especially in the European Union, to ensure traceability and compliance with safety standards.

In addition to the manufacturer's information, the packaging of vapes and e-liquids must contain further information, including:

- Product name and description.
- List of all ingredients in descending order of weight.
- Nicotine content and nicotine per dose (if applicable).
- Health warnings (e.g. "This product contains nicotine, which is a highly addictive substance.")
- Batch ID.
- Warning that the product must be kept out of the reach of children and adolescents.
- A leaflet with instructions on use and storage as well as details of any contraindications.

Customs processing of the imports begins in the first EU country in which the goods arrive. There are basically three different registration procedures:

1. Declaration for free circulation: This means that the goods are declared by the recipient, an authorised forwarding agent or the importer. Customs will determine the amount of duties payable (taxes, customs duties and any other duties) on the basis of the documents submitted.
2. Customs transit procedure 1 (T1): In this case, the goods are transferred physically and for customs purposes to the customs warehouse of the importer, forwarder or consignee. The goods remain subject to customs supervision and cannot be released for free circulation.
3. Customs transit procedure 2 (T1): With this procedure, the goods are not placed in a customs warehouse of an importer or freight forwarder physically or for customs purposes but transported directly to the recipient. Before the goods can be released to the recipient, however, they must be presented to customs.

The customs declaration is submitted electronically in accordance with the commercial documents, either at the border customs office (airport or seaport of arrival) or at the bonded warehouse.

[41] Under the CLP Regulation (Regulation (EC) No. 1272/2008 on the classification, labelling and packaging of substances and mixtures), the labels must state the supplier's name, address and telephone number among other things.

However, the physical handling of imports differs from this purely customs-related procedure. The scanning of goods for identification purposes has become an established procedure at airports. Physical checks (counting, analysing), on the other hand, are only performed irregularly. Even at seaports, more intensive physical checks (counting, analysing) are the exception rather than the rule.

Although it is possible to scan entire containers nowadays, only a few European ports have such facilities and, even if they do, not every terminal is equipped with its own scanner. In addition, the entire process of scanning a container is time-consuming, as it entails not only actually X-raying the consignments but also other steps such as data processing, transporting the container to the scanning zone and the actual customs release. In practice, the goal of completing all these steps within three hours cannot always be fully achieved.

In view of the enormous quantities of containers that regularly reach the ports, it is obvious that it is impossible to physically check the quantity and content declarations, let alone carry out comprehensive inspections. As a result, the physical checks performed by customs are necessarily confined to spot checks.

Day-to-day procedures of the customs authorities

A recent report from Belgium provides an impression of the huge quantities which the customs authorities face. Thus, Belgium's Central Economic Council (Conseil central de l'économie) has warned the country's government "of an uncontrollable influx of parcels from China".
According to the Council, up to 4 million parcels currently pass through Belgian customs every day. "This is a dramatic surge, and these packages are mainly coming from China," a spokesman told the news agency "AFP" (10 July).[42]
Belgium is one of the main gateways for goods from China to the EU. They enter the EU via the port of Antwerp and the air freight hub in Liège.[43]
For the sake of completeness, it should be noted that the quantities mentioned above refer to the total number of shipments arriving from China, not just vaping products.

An example of a calculation of the quantities of vapes contained in standard packets, in this case disposable e-cigarettes, is as follows: The packaging unit of a single vape is 10 x 2 x 2 centimetres. A standard box measuring 60 x 30 x 14 centimetres can usually hold up to 400 vapes, including packaging material. In this calculation, for example, 36 of these standard cartons are stacked on a Euro pallet measuring 120 x 80 x 235 centimetres, corresponding to a total quantity of 14,400 vapes per pallet. A complete 20-foot container can hold a total of 12 such pallets, although in the vaping sector, containers are typically not loaded exclusively with vapes but are grouped together with various other consignments. Table 2 illustrates typical packaging units and the actor levels used to transport the vaping products from China to the EU shown in Figure 10, which amounted to approximately 41,700 tonnes in 2024.
Germany, Belgium, the Netherlands and Luxembourg act as logistical gateways for imports of e-cigarettes and nicotine liquids from China due to their central location and their seaport and airport infrastructure. These countries account for over 50% of imports (23,300 tonnes out of a total of 41,700 tonnes). This underlines their importance as the main hubs for the European market.

[42] Conseil central de l'économie (2025).

[43] KEP-Verlagsgesellschaft mbH. (2025). CEP News (15 July 2025), quoting the Conseil central de l'économie.

			
Pack 10 x 2 x 2 cm	**Box** 60 x 30 x 14 cm	**Pallet** 120 x 80 x 235 cm (assuming 32 cartons)	**Container** 20 feet
Product level (1 e-cigarette/vape)	Retail level (approx. 400 vapes)	Wholesale level (approx. 14,400 vapes)	Forwarder level
Weight incl. packaging: approx. 45g	Weight incl. box and filling material: approx. 19 kg	Weight incl. pallet: approx. 630 kg	

Table 2: Comparison of packaging units and levels
Source: *own illustration.*

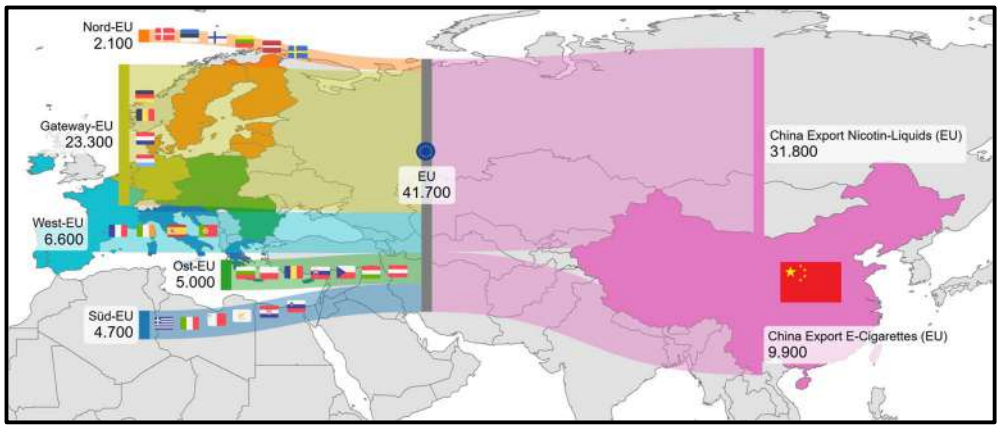


Figure 10: Total registered trade flows (nicotine liquids and e-cigarettes in tonnes) from China to the EU in 2024.
Source: *own illustration, based on Eurostat data (2025).*

The following figure (Figure 11) shows the proportion of imported liquids and e-cigarettes in intra-EU trade compared to the proportion from China. While Portugal and Finland source almost all of their imports from intra-EU trade, the gateway countries Belgium, Netherlands, Luxembourg and Germany, as well as Ireland, Malta, Latvia and Croatia, have a much larger quantity of direct imports from China.

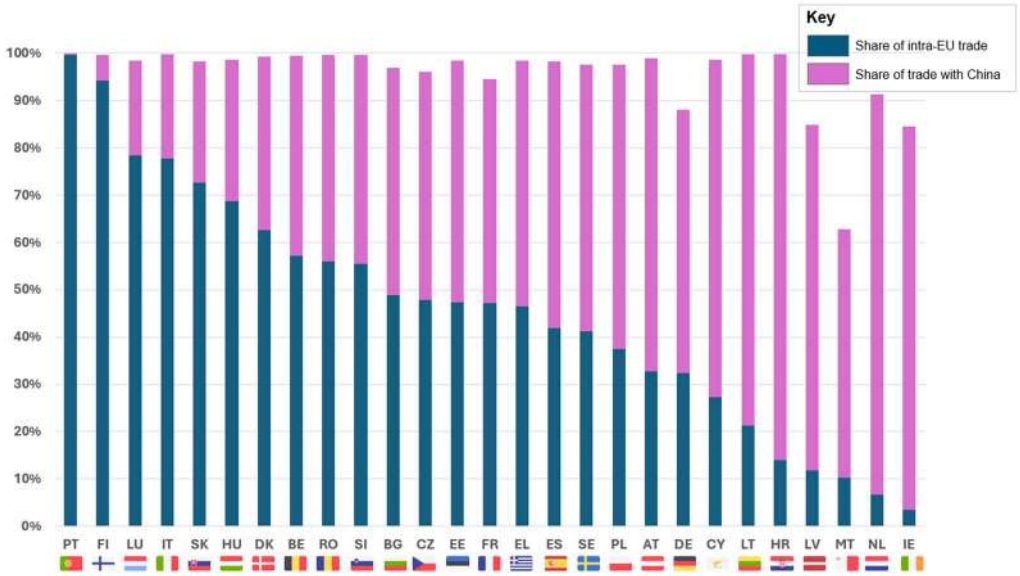


Figure 11: Proportion of imported e-cigarettes and liquids from intra-EU trade compared to direct purchases from China.

Source: *own illustration, based on Eurostat data (2025).*

This supply chain structure, which varies greatly from country to country, offers gateways and loopholes for irregular trade in vaping products, as transport within the EU is usually controlled to a much lesser extent than imports from third countries.

4 Market segmentation and quantification of the irregular market

4.1 Distinction between grey and black market

It is more difficult to draw a clear distinction between the grey and black market for vaping products than for cigarettes or branded products, for example, as the market is still relatively young. Nevertheless, they also have certain things in common: While the grey market frequently offers original products through unauthorised channels motivated by lower prices and better availability, the black market particularly includes unauthorised, counterfeit, untaxed and therefore illegal e-cigarette products, which can pose health and safety risks for consumers.

Unlike the black market, grey market activities are generally covered to a certain extent by the applicable law and are considered unofficial, but not necessarily illegal. The brand owners of the products traded on the grey market are usually compensated as normal, but customs duties, taxes or approval rules in the recipient country are often circumvented. One typical example is the private import of taxable goods up to a certain limit, such as cigarettes (max. 200 units from non-EU countries), spirits (max. 10 litres over 22% by volume from EU countries) or tobacco substitutes (no more than 10 retail packs).[44]

The main motivation for grey market trade often lies in price differences between different markets but can also be due to the limited availability of certain products via official channels or the avoidance of specific market conditions such as national licensing restrictions. The global nature of e-commerce greatly facilitates the growth of the grey market, as online platforms allow unauthorised sellers to reach consumers across different regions.

The black market for e-cigarettes, on the other hand, entails the illegal sale of vaping products. This includes stolen, counterfeit or prohibited goods as well as incorrectly taxed products. The motivation for black market trade arises from the sale of illegal goods with the intention of maximising profits, evading tax and gaining potentially higher profit margins due to the lack of compliance costs.

In reality, the picture is quite different depending on the national legal situation and local tax regulations: For example, while online orders of tobacco substitutes from abroad are permitted in some countries (up to certain limits and subject to compliance with customs regulations in some cases), they are generally prohibited in other countries and not (yet) regulated at all in others.[45] This means that the definition of the grey and black market

[44] Directorate General of Customs (no year stated) .

[45] Three current regulations are listed here as examples:
Germany – Vaping products that meet the general quality and safety requirements may be imported from abroad via online orders, provided they contain a German tax mark. If this is not the case, the goods are not marketable in Germany, posing an offence against the Tobacco Tax Act - General Customs Directorate (2025).

can also vary from country to country. Table 3 shows some of the typical criteria for the classification of individual cases, without claiming to be definitive or exhaustive.

Criterion	Grey market	Black market
Actors	Private individuals	Commercial operators
Motivation	Inexpensive purchase for own use	Realisation of profits
Legality	No (direct) violation of the law	Clear violations of the law with the intention of making a profit
Product origin	Original products paid for with the manufacturer	Unregistered products and products with illegal specifications, including counterfeits in some cases
Tax effect	Within the legal requirements	Deliberate tax fraud

Table 3: Typical criteria for distinguishing grey and black markets.
Source: *own illustration.*

As it is usually difficult to distinguish between the grey and black markets, even in individual cases, a pragmatic definition of the two segments has been used for this study, focusing in particular on the scope and intention of the activities from the end customer's perspective:

Black market for nicotine liquids and e-cigarettes
The black market entails commercial trade in illegal, counterfeit or untaxed products with the intention of making a profit.

Grey market for nicotine liquids and e-cigarettes
The grey market comprises the private purchase for personal consumption of untaxed products or products that are not permitted in the user's own country.

4.2 Model for market quantification and segmentation

On the basis of this definition, an econometric model was developed to estimate the market for vaping products in Europe, which includes both the legal ("white"), grey and illegal ("black") market. Indicators of trade in the grey and black market, such as general purchasing power and the relative rate of national taxation, were also taken into account in addition to demographic data, import/export volumes and price elasticities.

France – The purchase of tobacco products via the Internet (online shops, classified ads or social networks) is strictly prohibited, regardless of the location of the site - Direction générale des douanes et droits indirects (2025). Vaping products are currently excluded from this rule and may be ordered online, provided that the corresponding taxation and labelling requirements are met - Ministère de l'Economie des Finances et de la Souveraineté Industrielle et Numerique (2025).

Poland – The online sale of tobacco products, e-cigarettes and liquids containing nicotine was banned in full on 5 July 2025. Online trade in e-cigarettes and refill containers has been brought into line with online trade in tobacco products - Ministerstwo Zdrowia (2025).

Market segmentation and quantification of the irregular market

Generally speaking, the model was developed as far as possible on the basis of publicly available data, supplemented by research in various specific aspects in certain national markets.
The same procedure was applied in all EU countries and essentially concentrated on the following steps, which are summarised in Figure 12.

1. **Determination of expected total demand for vaping products per country**
   Extrapolation of the number of active vaping consumers per EU member state[46] taking into account structural components[47], as well as different consumption profiles (daily vs. occasional), forms of consumption (open systems, pre-filled pod systems, disposables) and packaging factors.[48]

2. **Comparison with statistical quantity structure**
   Evaluation of the HS codes per country shown in Table 1[49], taking into account imports (intra- and extra-EU) plus – if possible – national production volumes minus exports (intra- and extra-EU) as "official" volumes per country = "white market"; remaining part of the expected total demand defined as "irregular", i.e. "grey or black market".

3. **Segmentation of the irregular market**
   Country-specific breakdown of the volumes on the grey and black market that cannot be explained by the statistics, assuming that the grey market largely comprises online orders and factoring in regulatory measures, price differences and the availability of products in stores.

[46] This was based on the results of the European Commission (2024), which were supplemented by individual data provided by local associations.

[47] Among other things, the country-specific age cohorts, the ratio of vapers to smokers and information from national institutions on the number of vapers were included to largely eliminate any gaps and structural underreporting in the European Commission's data (2024).

[48] In order to render the quantity of liquid and the number of disposables comparable with quantity of imports and exports, a specific packaging factor for product packaging and retail or transport packaging for open systems, prefilled pod systems and disposables was determined and included in the calculations.

[49] Eurostat (2025).

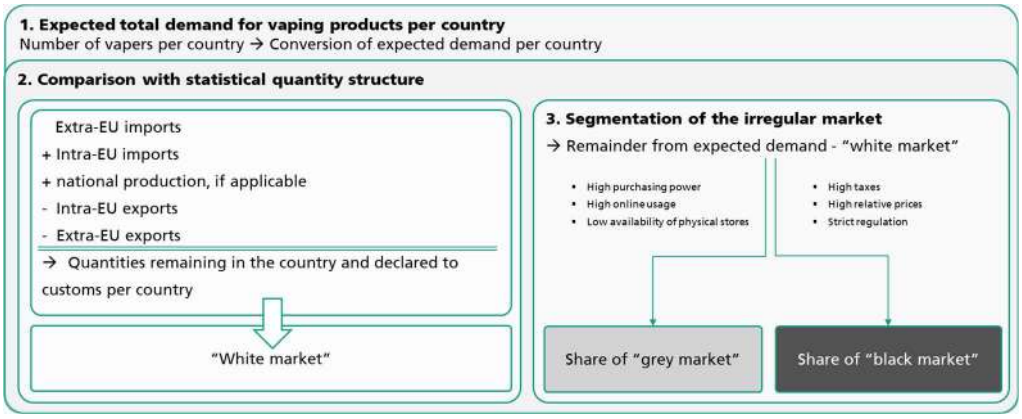


Figure 12: Overview of the quantification of the white, grey and black markets.
Source: *own illustration.*

Despite the inclusion of the most specific and granular data possible in the model, individual assumptions and, in particular, the basic data used in this model are also subject to certain uncertainties, e.g.

- A tendency to underestimate the base population of regular and occasional vaping users per country due to small sample sizes of the available sources and a tendency to underreport respondents.
- The conversion of millilitres of liquids or the number of disposables in expected total demand to the tonnages used in foreign trade statistics is based on assumptions concerning product and retail packaging, which can only include rough average values due to the variety of products, despite the breakdown by product group.
- Products are not clearly categorised in the HS foreign trade classification system: Whether, for example, disposables were always classified as "electronic cigarettes and similar personal electronic vaporising devices" as provided for in the nomenclature and not erroneously as "products containing nicotine for inhalation without combustion (without tobacco/reconstituted tobacco)" can only be determined on a case-by-case basis and not at the macroeconomic level. In practice, this does happen (either intentionally or unintentionally).
- The definition used to delineate the grey market with a focus on private purchases for personal consumption represents a simplification of the complex market situation in the vaping sector. In reality, for example, private purchases from obviously illegal operators are just as common as legal commercial direct imports of non-EU goods into countries that do not impose any tax on liquids.

Despite the distinction between liquids and disposables as well as the grey and black markets, the following results should therefore not be construed as definitive values but as model-based estimates and interpreted accordingly with caution.

4.3 Results – The irregular market accounts for almost half of the total European market for vaping products

The results of the market segmentation model used show[50] that

[50] Due to the logic of the model, which is based on physical quantities of goods, it should be borne in mind that the statements and percentages included here always refer to the product level and not the monetary level.

Market segmentation and quantification of the irregular market

- Europe-wide, around 48 per cent of the vaping products consumed can be allocated to the irregular market segment.
- The grey market for vaping products used by private individuals to cover their personal needs is estimated to account for around 13 per cent of the total market.
- The remaining 35 per cent and thus a good third of the expected total physical demand for vaping products in Europe is statistically untraceable and can therefore be attributed to the commercial black market.
- The liquids market segment (including pre-filled pod systems) accounts for around 2/3 of the total European market for vaping products, with a higher percentage of the grey market likely in many countries.
- The disposables segment constitutes around 1/3 of the total European market for vaping products, although the black market can be assumed to account for a larger proportion in many countries.
- There are major differences in terms of market structures and segments in the EU countries.
- The share accounted for by the irregular market is disproportionately larger in scenarios with higher taxes and non-harmonised regulations, because online channels, gateway countries and incomplete commodity codes offer incentives and opportunities to circumvent the white market.

Tables 4 and 5 show the results of the market segmentation, broken down into liquids and disposables, as well as the respective share of the grey and black market in the EU member states in 2024.

	market segment liquids			market segment disposables		
country	liquids demand in t	"remaining" quantities liquids in t	share of "irregular" market liquids	disposable demand in t	"remaining" quantities disposables in t	share of "irregular" market disposables
AT	422	-196	47%	259	-153	59%
BE	804	-97	12%	597	-265	44%
BG	319	-191	60%	116	-79	68%
CY	98	-75	76%	87	-14	16%
CZ	1.216	-773	64%	354	-259	73%
DE	2.850	-1.068	37%	1.060	-337	32%
DK	139	-86	62%	62	-21	35%
EE	105	-45	43%	87	-34	39%
EL	946	-564	60%	255	-99	39%
ES	1.472	-635	43%	580	-160	28%
FI	64	-46	72%	11	-5	41%
FR	4.434	-2.288	52%	2.542	-1.753	69%
HR	199	-119	60%	255	-109	43%
HU	499	-361	72%	206	-87	42%
IE	827	-295	36%	314	-213	68%
IT	3.142	-1.570	50%	1.260	-358	28%
LT	202	-122	60%	101	-34	34%
LU	39	-16	41%	22	-15	67%
LV	314	-163	52%	93	-28	31%
MT	44	-14	33%	9	-6	68%
NL	1.440	-372	26%	1.109	-431	39%
PL	3.739	-2.024	54%	1.830	-1.229	67%
PT	415	-144	35%	185	-36	19%
RO	770	-264	34%	415	-250	60%
SE	328	-77	23%	96	-64	67%
SI	93	-42	45%	68	-34	51%
SK	350	-257	73%	132	-45	34%
EU27	**25.268**	**-11.905**	**47%**	**12.103**	**-6.118**	**51%**

Table 4: Market segmentation by liquids and disposables in the EU countries.
Source: *own illustration.*

country	liquids & disposables: share of "irregular" market overall	Share of "grey market"	Share of "black market"
AT	51%	14%	86%
BE	26%	11%	89%
BG	62%	25%	75%
CY	48%	16%	84%
CZ	66%	45%	55%
DE	36%	20%	80%
DK	53%	38%	62%
EE	41%	21%	79%
EL	55%	14%	86%
ES	39%	29%	71%
FI	67%	35%	65%
FR	58%	34%	66%
HR	50%	23%	77%
HU	63%	54%	46%
IE	45%	21%	79%
IT	44%	14%	86%
LT	52%	63%	37%
LU	51%	16%	84%
LV	47%	13%	87%
MT	39%	12%	88%
NL	32%	37%	63%
PL	58%	13%	87%
PT	30%	24%	76%
RO	43%	20%	80%
SE	33%	69%	31%
SI	47%	30%	70%
SK	63%	59%	41%
EU27	**48%**	**28%**	**72%**

Table 5: Overall results for shares of the irregular market with respective share of the grey and black market in the EU countries
Source: *own illustration.*

To aid understanding, the core results of the German market have been selected as examples and explained in greater detail below:

Columns	Interpretation
Liquids market segment	The **total demand for liquids** (including pre-filled pod systems) is estimated to be **2,850 tonnes** (excluding packaging) in 2024. Of this, 1,782 tonnes (excluding packaging) are reflected in the statistical data and thus allocated to the "white" market. The remaining **1,068 tonnes (38 per cent of total demand)** are not statistically traceable and **are allocated to the grey or black market**.
Disposables market segment	The **total demand for disposables** is estimated to be **1,060 tonnes** (excluding packaging) in 2024. Of this, 723 tonnes (excluding packaging) are reflected in the statistical data and thus allocated to the "white" market. The remaining **337 tonnes (32 per cent of total)** are not statistically traceable and **are allocated to the grey or black market**.
Share of "irregular" market	**In total** (i.e. both product segments), **36 per cent** of the German market is not statistically traceable and therefore **attributable to the irregular market**.
Segmentation of "irregular" market into grey and black market	On the basis of consumer behaviour and market structures in Germany, it can be assumed that around **20 per cent of the "irregular" quantities are in the grey market**. The remaining **80 per cent of the "irregular" market is accounted for by the black market**.

Table 6: Explanation of the results using Germany as an example.
Source: *own illustration.*

The results for the other countries can be interpreted in a similar way. Figure 13 shows the share of the irregular market in the overall market in the individual EU countries at a regional level.

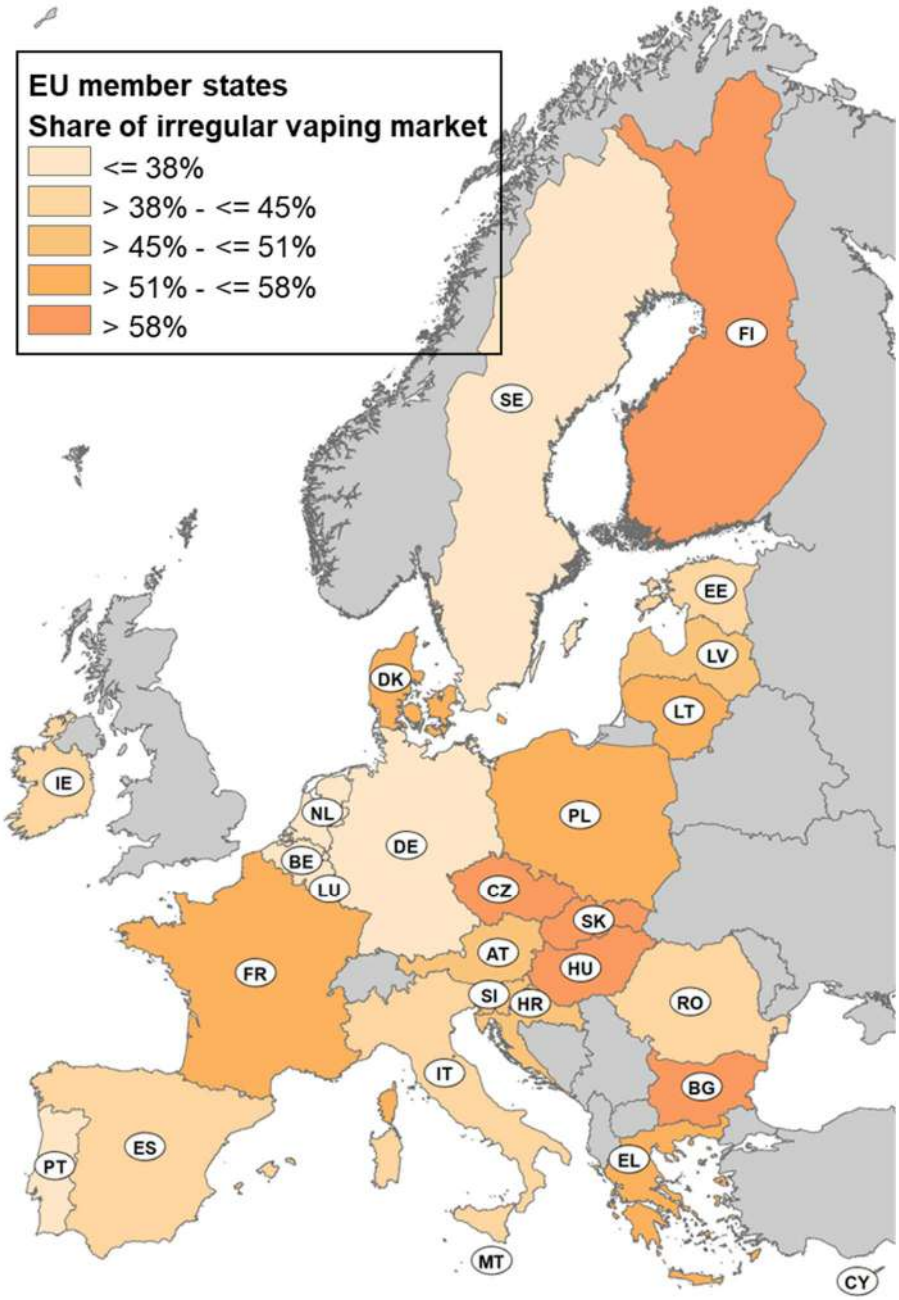


Figure 13: Share of the irregular market in the total market in EU countries
Source: *own illustration.*

This shows a very clear disparity in terms of irregular market shares, which is only explained here by reference to the largest markets as examples:

- In the six largest markets in absolute terms based on expected total demand – France, Poland, Italy, Germany, Netherlands and Spain – the "irregular" market accounts for between 58 per cent (France and Poland) and 32 per cent (Netherlands) of the total market. While the very high share in France can be interpreted as constituting a special effect caused by the hitherto largely absent market

regulation and taxation[51], the significantly lower shares in the Netherlands and Germany can be attributed to a better foreign trade reporting and statistics system, among other things.

- There are also major differences in the share of the grey market in the six largest markets: At around 13 per cent, Poland is at the lower end of the range, reflecting the population's low affinity to e-commerce, the lack of cheaper alternatives in neighbouring countries and the comparatively high density of physical stores per vaper. The "irregular" market here is very commercially organised and therefore more akin to the black market. By contrast, the Netherlands has a significantly above-average grey market share of 37 per cent, which is mainly due to the high affinity to e-commerce and the low density of physical stores. The local market is therefore more aligned to the online channel and purchasing by consumers via the grey market.

A comparison with the illegal market for cigarettes and tobacco heaters, in which the share of counterfeit and illegal goods is estimated to stand at around 10 per cent in Europe[52] makes it clear that the grey and black market for e-liquids and disposables is generally more pronounced.

4.4 From tonnes to euros – calculation of market value

In order to estimate the financial dimensions of the shares accounted for by the grey and black market in addition to the market segmentation based on physical quantities, the results shown in Table 4 were converted to millilitres (liquids) or quantities (disposables) and assigned with average prices[53] for the category in question in the individual countries.[54]

Consequently, the "irregular" market for vaping products in the EU member states can be assumed to have a total value of around €6.6 billion.[55] Around €1.8 billion of this is attributable to the grey market and the remaining €4.8 billion to the commercial black market.

Estimates of the resulting loss of tax revenue vary from country to country. For example, the amount which the government has lost in tax revenue due to illegal trade can be assumed to equal €119 million in Germany.[56]

[51] Vaping liquids are still not taxed in France, although this has been the subject of intense debate since 2024. Apart from the usual labelling requirements and a ban on disposables in force since February 2025, this is a comparatively unregulated market by European standards.

[52] KPMG (2025)

[53] For this purpose, price data from at least five online shops per country for unflavoured liquids and disposables were collected and evaluated to obtain rough averages.

[54] At this stage, a pragmatic approach was deliberately chosen. Accordingly, complex methodological tools are not used to convert the market segmentation, which is already subject to uncertainties and assumptions (see explanations on page 26), into a financial result as this is only seemingly more accurate. The euro amounts calculated should therefore be interpreted as a rough estimate.

[55] Although this is only a rough figure, it constitutes a conservative estimate. The average prices per country used for extrapolation purposes are based on standard online retail products. The retail price is usually higher due to the additional trading and distribution stages. Accordingly, the figure derived should be interpreted as the lower limit of the actual market values.

[56] According to Destatis (2025), tax revenue from tobacco product substitutes in Germany totalled €265 million in 2024. Taking into account the estimated share of the black market of around 29% of total demand for vaping products in Germany, the lost tax revenue amounts to €119 million.

Given the expected annual market growth of between 5.8 per cent and 12.9 per cent by 2030[57] and the still very disparate regulatory approaches within the EU, it can be assumed that the unofficial and illegal markets and supply channels will continue to benefit from growing end-customer demand in the coming years. As these players can act faster, more flexibly and at lower costs than their competitors on the "white" market, disproportionately strong growth can be expected in the future in the grey and black market for vaping products.

Assuming an annual growth rate of 8.6 per cent[58], the irregular market will reach a significant scale of €10.83 billion by 2030. The potentially dynamic growth in the share accounted for by the irregular market over the next few years is shown in Table 7.

	2024	2025	2026	2027	2028	2029	2030
Scale in € billion	*6.6*	*7.2*	*7.8*	*8.5*	*9.2*	*10.0*	*10.8*

Table 7: Projected size of the irregular market for e-cigarettes in the EU by 2030.
Source: *own illustration.*

Since this development is neither in the interests of the tax authorities nor of consumer protection in the EU member states, the following chapter will outline possible solutions and research requirements in order to record, control and regulate the market for vaping products more effectively.

[57] Mordor Intelligence (2025) with a CAGR forecast of 5.77 per cent in Europe until 2030.
Persistence Market Research (2025) with a CAGR forecast of 7.2 per cent in Europe until 2032.
Data Insights Market (2025) with a CAGR forecast of 12.9 per cent in Europe until 2032.

[58] This is based on a pragmatic assumption of the average value of the above-mentioned sources.

5 Solutions and research requirements

The irregular market for vaping products in Europe currently poses a challenge for legal market players as well as for regulatory authorities. National unilateral action and solely prohibition-based approaches have so far proven to be ineffective and tend to serve the expansion of the grey and black market via intra-European free trade.

A viable solution therefore requires a coordinated, integrated approach at the EU level, which includes both a harmonised regulatory environment and the close involvement of international partners – especially China. In addition, effective control mechanisms and transparent corporate structures are necessary to prevent circumvention strategies.

These fields of action are explained in greater detail below.

Regulation

At first glance, one option in this regard is a blanket ban on vaping products in general or individual product categories such as disposables.[59] A closer analysis of the existing consumer base, however, suggests that this measure is not expedient and may even be counterproductive. With currently almost 12 million regular or occasional vapers in the EU member states, the abolition of the "white" market by means of a complete ban would either lead to a return to classic cigarettes or, as is the case with narcotics, a shift in demand towards the black market, making effective control even more difficult.

Even in a market that remains legal but is more strictly regulated, a viable solution is only possible if compliance with EU regulations is already ensured at the production level in the manufacturing countries. As by far the most important exporter of vaping products to Europe, China has a special role to play here. The Chinese should also have an interest in safeguarding their own vaping industry in the long term by complying with international and, in particular, European standards. This calls on both sides for an approach that is aligned with existing embargo and sanction mechanisms and ensures the traceability and conformity of vaping products exported to Europe.

Last but not least, the current lack of regulatory harmonisation among EU member states is also encouraging the emergence and growth of the grey market. Greater coordination and standardisation of the regulatory framework within the EU is important to eliminate national differences, close the resultant loopholes and counter irregular trade effectively. Uniform authorisation procedures, product standards and taxation models would prevent retailers from deliberately moving to countries with less stringent regulations and serving the grey market there. Coordinated legislation also promotes fair competition and facilitates the enforcement of pan-European measures. The currently ongoing evaluation of the European Union's Tobacco Products Directive already takes into account new nicotine products such as liquids and e-cigarettes and, in its new form (TPD 3), can be seen as a potential step in this direction.

[59] Currently, France, Belgium and Ireland have already imposed a complete ban on non-refillable disposable vapes.

Import controls

An all-encompassing solution for import controls on e-cigarettes and liquids does not appear to be feasible. Shifting responsibility solely to the customs authorities is not expedient in view of the limited personnel resources, which do not permit increased physical inspection frequencies. Rather, all parties involved along the supply chain must work in partnership and act across borders to prevent the increased influx of uncontrolled imports from becoming the norm.

A key difficulty in accurately collecting data on the grey market for vaping products arises from the lack of precision in the internationally applied HS codes. In their current form, these customs tariff numbers do not allow a clear distinction to be made between the various vaping products. Moreover, there has been no EU-wide harmonisation of goods and product classifications for vaping products to date, resulting in national differences in statistical records. These classification differences mean that it is difficult to quantify the actual scale of the market shares. This poses a major obstacle in the analysis and regulation of the grey market.

In addition, manufacturers often take advantage of the scope for circumventing regulatory measures through multiple company registrations and complex corporate structures. Effective regulation must therefore also address and prevent such circumvention mechanisms.

One possibility for this is a "blacklist" or compliance database for importers and distributors, which is maintained alongside the existing register. Such a database could include manufacturers, exporters, etc. who have been found during customs inspections to distribute illegal products. As soon as new customs declarations from a flagged manufacturer, exporter or trader registered are submitted, targeted checks could be carried out. This could significantly heighten the efficiency of the controls.

In addition, the efficiency of such a "blacklist" or compliance database could be improved through partnerships with other customs authorities in Europe.
There is a need for research into the specific structure of digital systems for tracking the supply chain. For example, a graph or solid-based data structure could enhance the accessibility and reliability of a compliance database and identify manufacturers' circumvention strategies at an early stage.

Market transparency

The actual size of the market for vaping products and the high share accounted for by the grey and black market have so far been largely underestimated. This lack of awareness is a major reason for the fact that official interest and regulatory control have so far been weak.

One major problem in the analysis of the grey vaping market is the lack of data on actual usage. So far, there are only very few and often not very reliable samples indicating who uses which products and how often. The lack of differentiation between product classes – for example disposable vapes, refill systems or liquids – is particularly problematic. In the absence of this differentiation, no reliable statements can be made about how usage will change if certain products, such as disposable vapes, are banned.

In contrast to the classic cigarette market with only a few large companies, there are thousands of operators in the vaping sector, many of whom are small and difficult to track. This makes a clear assessment of the market structure considerably more difficult. Industry associations or independent market observers can make an important contribution in this regard by creating transparency about what manufacturers play a leading

role, what products are particularly in demand and what developments are currently shaping market trends.

6 Summary

E-cigarettes are increasingly gaining a foothold in the European tobacco and nicotine market. However, the irregular market is also expanding in the individual EU member states.

Irregular trade in e-cigarettes and liquids can currently be assumed to account for around 48 per cent of the total market. It has a volume of €6.6 billion and could grow to around €11 billion by 2030, according to estimates. This is causing high losses of tax revenue, while at the same time posing health risks due to uncontrolled ingredients and jeopardising the protection of minors due to a lack of age verification. Legal retailers face unfair competition, while the existing supply chains offer additional loopholes due to the high number of shipments and the numerous players involved.

Around 3.1 per cent of Europeans say they use vaping products, ranging from 0.5 per cent in Portugal to 8.8 per cent in Estonia. The range goes from inexpensive disposable devices and liquid components to high-quality systems with tested ingredients, 90 per cent of which come from China. National regulation and taxation differences create considerable price and market differentials, which fuel the incentives for irregular trade.

The results show that blanket bans or national unilateral action have little chance of success. Bans in individual countries may push existing consumers in the EU economic area, which is characterised by the largely free movement of goods, into the black market or back to traditional tobacco products. Instead, what is required are practical solutions that combine consumer protection with realistic market conditions. This includes transparent supply chains, stronger partnerships with countries of origin such as China and independent market monitoring to better understand usage trends and the actual size of the irregular market.

A coordinated approach at the EU level is proposed as a solution. Harmonised authorisation procedures, uniform product standards and coordinated taxation regimes can close loopholes and ensure fair competition. In addition, the use of digital traceability systems, improved statistical tracking and unified European sanction mechanisms are recommended. Only a coordinated approach can stabilise the market in the long term, ensure consumer protection and secure tax revenue.

7 Sources

2FIRSTS. (2022). ***China's E-cigarette industry displayed at Dortmund tobacco expo.*** **Retrieved on 1 September** 2025 **from https://www.2firsts.com/news/chinas-e-cigarette-industry-displayed-at-dortmund-tobacco-expo**

2FIRSTS. (2022) (2). ***Global and China Electronic Cigarette Market Analysis*****. Retrieved on 7** August 2025 **from** https://www.2firsts.com/news/global-and-china-electronic-cigarette-market-analysis

2FIRSTS. (2024). ***E-Cigarette Industry Shifts: "Heaven Gifts + Geekvape" Surpass Smoore as Market Leader*****. Retrieved on 7** August 2025 **from** https://www.2firsts.com/news/e-cigarette-industry-shifts-heaven-gifts--geekvape-surpass-smoore-as-market-leader

2FIRSTS. (2025). ***China's STMA holds e-cigarette regulatory press conference, discloses policy enforcement and industry development guidelines*****. Retrieved on 7** August 2025 **from** https://www.2firsts.com/news/e-cigarette-2-2

36Kr. (2025). Retrieved on 7 August 2025 **from** https://www.36kr.com/p/3113924990422788

ALD. (2024). ***Top 10 disposable vape manufacturers in China 2024*****. Retrieved on 7** August 2025 **from** https://www.aldvapor.com/top-10-disposable-vape-manufacturers-in-china/

Alizila. (2022). ***News from Alibaba*****. Retrieved on 7 August 2025 from** https://www.alizila.com/alibaba-news-roundup-aliexpress-launches-world-cup-sale-cainiao-expands-european-deliveries-11-11-pre-sales-begin/

BMJ Group. (2024). ***A comprehensive content analysis of 104 Chinese electronic cigarette manufacturing enterprise official websites*****.**

German Federal Office of Consumer Protection and Food Safety. (2025) ***List of notified e-cigarettes*****. (as of August** 2025 **). Retrieved on 1 September 2025 from https://www.bvl.bund.de/DE/Arbeitsbereiche/03_Verbraucherprodukte/02_Verbraucher/05_Tabakerzeugnisse/05_Listung-Tabak-EZigaretten/Listung-Tabak-EZigaretten_node.html**

German Federal Ministry for the Environment, Climate Action, Nature Conservation and Nuclear Safety (2025). ***Disposable e-cigarette.*** **Retrieved on 1 September 2025 from** https://www.bundesumweltministerium.de/themen/kreislaufwirtschaft/abfallarten-und-abfallstroeme/elektro-und-elektronik-altgeraete/einweg-e-zigarette

China State Railway Group Co., Ltd. (2024). ***China-Europe freight train trips surpass 10,000 by July 10; over 1.08 million TEUs transported.*** **Xinhua, via english.gov.cn. Retrieved on 7** August 2025 **from** https://english.www.gov.cn/news/202407/29/content_WS66a704dec6d0868f4e8e98d0.html

Clingendael Institute. (2025). ***China's strategic relevance to the port of Rotterdam.*** **Retrieved on 8 September 2025 from** https://www.clingendael.org/sites/default/files/2023-12/Chinas_strategic_relevance_to_the_port_of_Rotterdam.pdf

Conseil central de l'économie. (2025). ***Accueil*****. Retrieved on 7** August 2025 **from** https://www.ccecrb.fgov.be/

Container News. (2022). ***Port of Hamburg sees container volume fall in 2022.*** **Retrieved on 7 September 2025 from** https://container-news.com/port-of-hamburg-sees-container-volume-fall-in-2022/

Data Insights Market. (2025). ***Europe E-Cigarettes Market Unlocking Growth Potential: 2025-2033***

Sources

***Analysis and Forecasts*. Retrieved on 7** August 2025 **from https://www.datainsightsmarket.com/reports/e-cigs-430643**

Destatis. (2025). Genesis database of the German Federal Statistical Office - Code: 73411-0003 Taxation of tobacco products (water pipe tobacco, heated tobacco, substitutes): Germany, Years, Tax code, retrieved on 1 September 2025 from https://www-genesis.destatis.de/datenbank/online/statistic/73411/table/73411-0003

Direction générale des douanes et droits indirects. (2021). *Achat de tabac et de cigarettes sur internet*. Retrieved on 7 August 2025 **from https://www.douane.gouv.fr/fiche/achat-de-tabac-et-de-cigarettes-sur-internet**

European Commission. (2021). *Attitudes of Europeans towards tobacco and electronic cigarettes* (Special Eurobarometer 506). Publications Office of the European Union.

European Commission. (2023). *Special Eurobarometer 539: Attitudes of Europeans towards tobacco and related products* [Dataset]. Retrieved on 1 September 2025 from https://europa.eu/eurobarometer/surveys/detail/2995

European Commission. (2025). Access2Markets - Excise Duties. Retrieved on 1 September 2025 from https://trade.ec.europa.eu/access-to-markets/en/content/excise-duties

Eurostat. (2025). Dataset ds-059341- International trade of EU and non-EU countries since 2002 by HS2-4-6 for HS codes 240412 and 854340.

Flotter-Dampfer. (2025). Retrieved on 7 August 2025 **from https://www.flotter-dampfer.de/**

FresorTech. (no year stated). *About FRESOR - Revolutionary Vape Technology.* Retrieved on 7 August 2025 **from https://www.fresortech.com/about**

Generalzolldirektion. *Post- oder Kuriersendungen, Internetbestellungen – Besonderheit Tabakwaren und Substitute für Tabakwaren*. Retrieved on 7 August 2025 **from https://www.zoll.de/DE/Privatpersonen/Postsendungen-Internetbestellungen/Sendungen-innerhalb-der-EU/Steuern/steuern_node.html**

Generalzolldirketion (no year stated) Genussmittel bei Reisen innerhalb der EU. Retrieved on 7 August 2025 **from https://www.zoll.de/DE/Privatpersonen/Reisen/Reisen-innerhalb-der-EU/Steuern/Genussmittel/genussmittel.html**

Gentzke et al. (2023, March). *Impact of Survey Setting on Current Tobacco Product Use: National Youth Tobacco Survey, 2011.* Retrieved on 1 September 2025 from https://pmc.ncbi.nlm.nih.gov/articles/PMC11036859/

Global Times (2025). *China calls on domestic airlines to expand all-cargo capacity to help boost international service.* Retrieved on 1 September 2025 from https://www.globaltimes.cn/page/202502/1329116.shtml

iiMedia. (2021). *Development status and market research analysis report of China's e-cigarette industry in the 1st half quarter of 2021.* Retrieved on 1 September 2025 from https://www.iimedia.cn/c400/76987.html

JWEI Group. (n. d.). *Professional manufacturing bases and production capabilities*. Retrieved on 7 August 2025 **from https://www.jwei.com/manufacture.php**

KEP-Verlagsgesellschaft mbH. (2022). *CEP News* (issue 29/2022).

KEP-Verlagsgesellschaft mbH. (2025). CEP News (15 July 2025).

KPMG. (2025). ***Illicit cigarette consumption in Europe: Results for the calendar year 2024*****. Report commissioned by Philip Morris Products SA. Retrieved on 11** June 2025 **from** https://www.pmi.com/resources/docs/default-source/itp/illicit-cigarette-consumption-in-europe-2024-results.pdf

Lyu, et al. (2024). ***The impact of new regulations on prevention and control of e-cigarettes on adolescents in middle schools - A city in China, 2022-2023*****. China CDC Weekly, 6(14), 289-293.** https://doi.org/10.46234/ccdcw2024.056

Ministerstwo Zdrowia. (2025). ***Od 5 lipca zakaz sprzedaży e-papierosów i woreczków nikotynowych osobom poniżej 18. roku życia*****. Retrieved on 7** August 2025 **from** https://www.gov.pl/web/zdrowie/od-5-lipca-zakaz-sprzedazy-e-papierosow-i-woreczkow-nikotynowych-osobom-ponizej-18-roku-zycia

Ministère de l'Économie, des Finances et de la Souveraineté Industrielle et Numérique. (2025). ***Vos questions, nos réponses sur les cigarettes électroniques*****. Retrieved on 7** August 2025 **from** https://www.economie.gouv.fr/dgccrf/les-fiches-pratiques-et-les-faq/vos-questions-nos-reponses-sur-les-cigarettes-electroniques

Mordor Intelligence. (2025). ***Europe E-Cigarettes Market Size & Share Analysis - Growth Trends and Forecast (2025-2030)*****. Retrieved on 7** August 2025 **from** https://www.mordorintelligence.com/industry-reports/europe-e-cigarettes-market-industry

Morean et al. (2018). ***Psychometric Evaluation of the E-cigarette Dependence Scale. Nicotine and Tobacco Research, 21*****(11), 1556-1564.** https://doi.org/10.1093/ntr/ntx271

New Silk Road Discovery. (2025). ***More than 19,000 China-Europe freight trains operated in 2024, with Xi'an, Chengdu, Chongqing and Zhengzhou leading the way*****. Retrieved on 7** August 2025 **from** https://www.newsilkroaddiscovery.com/more-than-19000-china-europe-freight-trains-operated-in-2024-with-xian-chengdu-chongqing-and-zhengzhou-leading-the-way/

Persistence Market Research. (2025). ***E-cigarette Market Size, Share, and Growth Forecast for 2025-2032*****. Retrieved on 7** August 2025 **from** https://www.persistencemarketresearch.com/market-research/e-cigarette-market.asp

Statista Market Insights. (2025). E-Zigaretten: Marktdaten & -analyse. https://de.statista.com/statistik/studie/id/69278/dokument/e-zigaretten-marktdaten-und-analyse/

SWR. (2024). ***Vapes und E-Zigaretten: Verbraucherzentrale BW kritisiert mangelnden Jugendschutz.*** **Retrieved on 27 August 2025 from** https://www.swr.de/swraktuell/baden-wuerttemberg/verbraucher-schutz-einweg-vapes-verstoesse-jugendschutz-100.html

Tobacco Reporter. (2024). ***Feeling the Squeeze*****. Retrieved on 7** August 2025 **from** https://tobaccoreporter.com/2024/05/01/feeling-the-squeeze/

VAPEAST. (2023). ***China's E-Cigarette Industry: Regulations and Export Updates...*** **Retrieved on 1** September **2025 from** https://vapeast.com/chinas-e-cigarette-industry-regulations-and-export-updates/

Vapers.Guru (2025). ***News*****. Retrieved on 11 June 2025 from** https://www.vapers.guru/category/topnews/

Verband des eZigarettenhandels e.V. (VdeH). (n. d. **).** ***Unsere Mitglieder*****. Retrieved on 7** August 2025 **from** https://vd-eh.de/mitglieder/

Sources

Verband des eZigarettenhandels e. V. (VdeH). (2025). ***Untersuchung zu illegalen Vapes in Shisha-Shops in Berlin*****. [PDF]. Retrieved on 7** August 2025 **from https://vd-eh.de/wp-content/uploads/2025/02/20251002-PM-VdeH-veroeffentlicht-umfassende-Untersuchung-zu-illegalen-Vapes-in-Shisha-Shops-in-Berlin.pdf**

Customs. (2025). ***Zoll stellt bei Großaufgriff verbotene Vapes und unversteuerte E-Liquids sicher*****. Retrieved on 1 September 2025 from https://www.zoll.de/SharedDocs/Pressemitteilungen/DE/Zigaretten/2025/z47_grossaufgriff_k.html**

Customs Portal Europe. (2025). ***Customs tariff numbers, EZT, Taric, HS-Code - European Customs Portal*** **https://www.zolltarifnummern.de/**

8 Copyrights - Illustrations

Cover of the Study
AI generated

Figure 2: Schematic representation of different types of e-cigarettes.
© microstock77 - stock.adobe.com

Table 2: Comparison of packaging units and levels: Pack
© Anha - stock . adobe.com

Table 2: Comparison of packaging units and levels: Box
© Janina_PLD - stock . adobe.com

Table 2: Comparison of packaging units and levels: Pallet
© Lichtfexx - stock.adobe.com

Table 2: Comparison of packaging units and levels: Container
© kv_san - stock.adobe.com

E-cigarettes are gaining importance across Europe—and with them, the irregular trade. A lack of data has so far made it difficult to assess its actual extent and dynamics. This study provides the first comprehensive quantification of the irregular e-cigarette market in Europe and analyzes its structures and supply chains.

A data-based model enables the differentiation between legal, gray, and black market segments. The results thus create a scientifically grounded basis for regulatory and political strategies.

Contact

Fraunhofer Institute for Integrated Circuits IIS
Directors
Prof. Dr.-Ing. Albert Heuberger (executive)
Prof. Dr.-Ing. Bernhard Grill
Prof. Dr. Alexander Martin

Am Wolfsmantel 33
91058 Erlangen

telefone +49 9131 776-0
info@iis.fraunhofer.de
www.iis.fraunhofer.de

Research Area for Supply Chain Services
Nordostpark 84
90411 Nuremberg

telefone +49 911 58061-9500
scs-info@iis.fraunhofer.de
www.scs.fraunhofer.de

OPEN ACCESS

Transformation of the tobacco product market in Japan, 2011–2023

K Michael Cummings ,[1] Avery Roberson,[1] David T Levy ,[2] Rafael Meza,[3,4] Kenneth E Warner ,[5] Geoffrey T Fong,[6,7] Steve Shaowei Xu,[6] Shannon Gravely ,[6] Bibha Dhungel ,[8,9] Ron Borland ,[8,10] Richard J O'Connor ,[11] Maciej Lukasz Goniewicz ,[11] David T Sweanor[12]

► Additional supplemental material is published online only. To view, please visit the journal online (https://doi.org/10.1136/tc-2024-058734).

For numbered affiliations see end of article.

Correspondence to
Dr K Michael Cummings; cummingk@musc.edu

Received 25 March 2024
Accepted 8 October 2024
Published Online First 29 October 2024

ABSTRACT

Objective This study updates a previous paper that examined trends in the sale of cigarettes and heated tobacco products (HTPs) in Japan between 2011 and part way through 2019. The current study includes complete unit sales data through 2023.

Methods Data on cigarette and HTP sales were obtained from public sources available from the websites and stockholder reports for the Tobacco Institute of Japan, Philip Morris International and Japan Tobacco. We used joinpoint regression using the parametric method to test for trends in both per capita and total sales for the three outcome variables assessed between 2011 and 2023: (1) cigarette sales, (2) HTP sales and (3) combined cigarette and HTP sales. Joinpoint regression identifies changes in trends and estimates the annual per cent change (APC) for each trend segment.

Results Between 2011 and 2023, per capita and total cigarette sales declined by 52.6% and 52.7%, respectively. From 2011 to 2015, per capita cigarette sales in Japan decreased −1.5% APC; from 2015 to 2018, the decline accelerated to −10.5% APC and continued to fall −7.3% APC between 2018 and 2023. Between 2016 and 2018, per capita HTP sales increased by 149.0% APC, and since 2018, they have increased by 8.1% APC.

Conclusion While many factors may account for the decreased sale of cigarettes in Japan over the past 12 years, the increased sale of HTPs appears to be a factor.

WHAT IS ALREADY KNOWN ON THIS TOPIC

⇒ This study updates a previous paper that examined covariation in trends in the sale of cigarettes and heated tobacco products (HTPs) in Japan between 2011 and part way through 2019.

WHAT THIS STUDY ADDS

⇒ This paper updates the prior analysis to include trends in the sale of cigarettes and HTPs from 2019 to 2023 and shows that between 2011 and 2023, per capita and total cigarette sales in Japan declined by over 50%. The decline in cigarette sales was minimal from 2011 to 2015 but increased markedly after 2015 following the introduction of HTPs.

HOW THIS STUDY MIGHT AFFECT RESEARCH, PRACTICE OR POLICY

⇒ Halving the cigarette market in Japan in just over a decade is a remarkable achievement and figuring out how to replicate this type of change elsewhere should be a priority for public health research. Clinical trials are needed to test if HTPs can help addicted cigarette smokers transition away from smoking.

INTRODUCTION

As the harms of cigarette smoking have become better understood and smoking control measures have been put in place in many countries, cigarette sales have started to drop, especially in high-income countries.[1] Cigarette makers have started diversifying their product lines to include various non-combustible nicotine products such as heated tobacco products (HTPs), electronic cigarettes and oral tobacco products.[2]

In 2019, Japan was among the 10 countries with the largest number of tobacco smokers worldwide.[3] Japan was a testing ground for HTPs when IQOS was first launched by Philip Morris International (PMI) in Nagoya, Japan, in 2014, with national expansion in 2016.[4–12] After PMI introduced IQOS, other cigarette companies, including Japan Tobacco (JT), British American Tobacco (BAT) and Imperial Tobacco (IT), also introduced HTPs in Japan. PMIs IQOS, JT's Ploom X, BAT's glo and IT Pulze HTPs all work essentially the same way. Each of these products uses a heated tobacco stick inserted into a battery-powered heating device that, when sucked on, causes the temperature in a heating chamber around the tobacco stick to heat the tobacco. The resulting aerosol contains nicotine and flavourings but lower levels of toxins than those found in conventional cigarettes.[13 14] One heated tobacco stick is roughly equivalent to a single cigarette. JT's Ploom Tech product is a hybrid system that uses tobacco-infused capsules and liquid cartridges inserted into a heating device with roughly four heated tobacco sticks, equivalent to a single capsule.

In a previously published paper, we reported that the decline in cigarette sales in Japan was associated with an increase in heated tobacco stick or equivalent sales up to part of 2019.[15] This paper updates the prior analysis to include trends in the sale of cigarettes and HTPs from 2019 to 2023.

METHODS

Data on cigarette and HTP sales used for this study were obtained from various public data sources

To cite: Cummings KM, Roberson A, Levy DT, *et al*. *Tob Control* 2026;**35**:79–82.

Table 1 Total and per capita (≥18 years) sales of cigarettes and heated tobacco products* in Japan from 2011 to 2023

Year	Total cigarette sales (billions)	Per capita cigarette sales	Total heated tobacco sticks or equivalent sales (billions)	Per capita heated tobacco stick or equivalent sales	Total combined cigarette and heated tobacco stick or equivalent sales (billions)	Per capita combined cigarette and heated tobacco stick or equivalent sales
2011	195.3	1817	0	0	195.3	1817
2012	196.6	1831	0	0	196.6	1831
2013	192.6	1794	0	0	192.6	1794
2014	186.2	1736	0	0	186.2	1736
2015	182.3	1695	0	0	182.3	1695
2016	173.8	1614	5.1	47	178.9	1662
2017	146.5	1360	20.3	188	166.8	1548
2018	133.6	1239	34.6	321	168.2	1560
2019	125	1163	37.3	347	162.3	1510
2020	114.9	1066	40.3	374	155.2	1439
2021	105.2	979	45.1	419	150.3	1398
2022	97.7	911	50.3	469	148	1380
2023	92.2	862	56.5	529	148.7	1390

*Each HTP heated tobacco stick is consider equivalent to one cigarette. For tobacco capsule systems such as JTI's Ploom Tech, we counted five tobacco capsules equivalent to a single cigarette.
HTP, heated tobacco product.

available from websites and shareholder reports from the Tobacco Institute of Japan, PMI and JT. Table 1 shows total sales of cigarettes (billions of units), heated tobacco sticks or their equivalents (in billions) and per capita sales of both expressed as products divided by the Japanese population ≥18 years of age each year.

We used joinpoint regression using the parametric method to test for trends in both per capita and total sales for the three outcome variables assessed between 2011 and 2023: (1) cigarette sales, (2) HTP sales and (3) combined cigarette and HTP sales. Joinpoint regression identifies changes in trends and estimates the annual per cent change (APC) for each trend segment.[16–18] We report the identified trend segments and the corresponding APCs and 95% CIs for each tobacco product group.

RESULTS

Table 1 shows that between 2011 and 2023, per capita and total cigarette sales declined by essentially identical amounts, 52.6% and 52.7%, respectively. Our analytical results for per capita sales and total sales were comparable, so we only report findings based on per capita sales. Online supplemental materials provide the same analyses based on total sales. Figure 1 displays the trends in the per capita cigarette and HTP sales measures from 2011 to 2023.

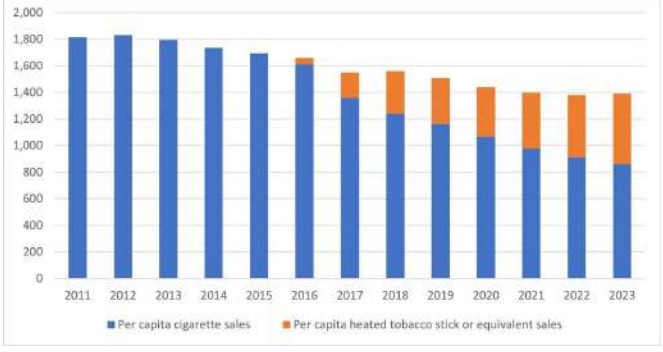


Figure 1 Per capita cigarette and heated tobacco stick or equivalent sales in Japan, 2011–2023.

Table 2 and figure 2 summarise the joinpoint regression results for per capita cigarette sales, HTPs and combined cigarettes and HTPs. As shown in table 2, from 2011 to 2015, per capita cigarette sales in Japan decreased slightly at a −1.5% APC (95% CI −3.0% to 0.0%). From 2015 to 2018, the decline in per capita cigarette sales accelerated to −10.5% APC (95% CI −14.6% to −6.1%), and it continued to fall at a rate of −7.3% APC (95% CI −8.2% to −6.3%) between 2018 and 2023. Between 2016 and 2018, per capita HTP sales increased by 149.0% APC (95% CI 132.3% to 166.8%). Since 2018, it has increased at an 8.1% APC (95% CI 6.4% to 9.8%). Combined sales decreased from 2011 to 2023 at −2.6 APC (95% CI −2.9 to −2.3).

DISCUSSION

Between 2011 and 2023, per capita and total cigarette sales in Japan declined by 52.6% and 52.7%, respectively. During the same time period in the USA, per capita cigarette sales dropped by about 45%.[19] In both the USA and Japan, the cigarette market is declining at least partially in response to a more diverse marketplace of nicotine and tobacco products. In Japan, HTPs are the primary legal competition for cigarettes, whereas in the USA, the decline in cigarette consumption is associated with the increased use of electronic cigarettes and oral tobacco products.[4 20]

Table 2 Joinpoint regressions testing for trends in per capita cigarette, heated tobacco stick or equivalent and combined cigarette and heated tobacco stick or equivalent sales in Japan 2011–2023

Outcome variables	Years	APC, %	95% CI
Per capita cigarette sales	2011–2015	–1.5	–3.0 to 0.0
	2015–2018	–10.5	–14.6 to –6.1
	2018–2023	–7.3	–8.2 to –6.3
Per capita heated tobacco stick or equivalent sales	2016–2018	149.0	132.3 to 166.8
	2018–2023	8.1	6.4 to 9.8
Per capita cigarette and heated tobacco stick or equivalent sales	2011–2023	–2.6	–2.9 to –2.3

APC, annual per cent change.

The downward shift in cigarette sales in Japan after 2015 is remarkable since Japan has been slow in adopting tobacco control policies consistent with the WHO's Framework Convention on Tobacco Control and its guidelines.[21] This is especially true for tobacco advertising and sponsorship, in which the JT Association self-regulates its members. Thus, both cigarettes and HTPs are widely marketed with few restrictions. Also, while Japan prohibits the sale of nicotine-containing electronic cigarettes, there are likely illicit sales of e-cigarettes happening which, if prevalent, could be accounting for some of the decline in cigarette sales.[22]

In Japan, per capita cigarette sales declined sharply between 2016 and 2018, right after HTPs were introduced into the marketplace. From 2018 to 2023, per capita cigarette sales continued to decrease while HTP sales continued to increase, but both at a slower pace, corresponding to tax increases on both cigarettes and HTPs and the introduction of non-tax tobacco control measures such as smoke-free laws and larger text-only health warnings.[23 24]

Because this study relies on aggregate sales data, we cannot address the extent to which individual cigarette smokers are substituting HTPs, either partially or completely, for conventional cigarettes or their reasons for doing so. Recent studies of HTP users in Japan report that most HTP users also smoke cigarettes, which would reduce the potential harm reduction benefit of the growing sales and use of HTPs.[7–11] Also, HTPs are used more often by younger age groups, whereas older adults are more likely to smoke cigarettes.[7 12]

Other factors may account for the fall in cigarette sales in Japan including the increase in tobacco prices although inexpensive by international standards.[12 21 22] However, the introduction and competitive marketing of HTPs beginning in 2016 in Japan does correspond to declining cigarette sales which is also consistent with prevalence trends reflected in Japan's National Health and Nutrition Surveys covering a similar period.[12 15] Nicotine products are known substitutes for cigarettes and can aid

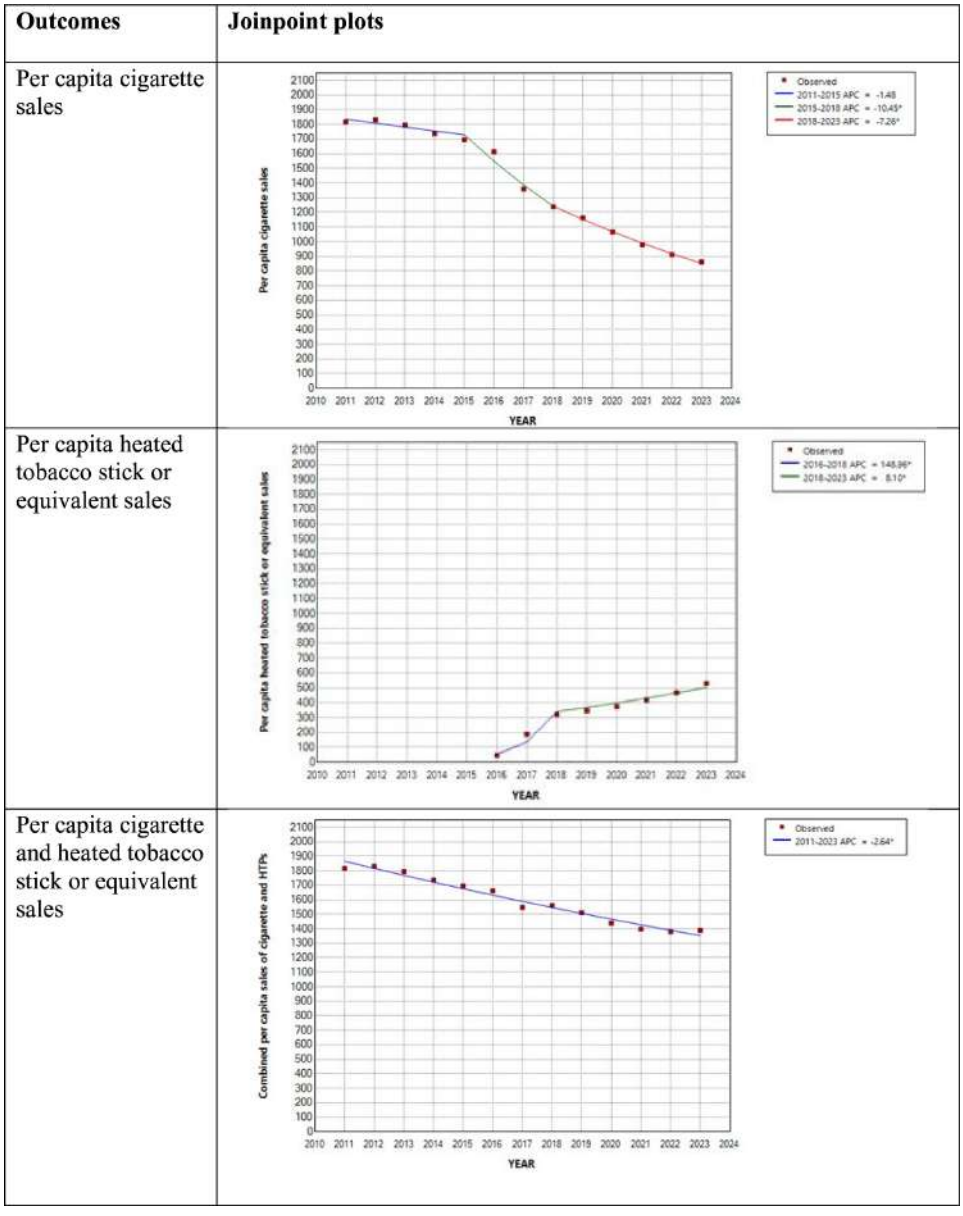


Figure 2 Joinpoint regression plots for per capita cigarette, heated tobacco stick or equivalent, and combined cigarette and heated tobacco stick or equivalent sales in Japan, 2011-2023.

smoking cessation, so there is a plausible causal mechanism.[25 26] Developing a better understanding of the mechanisms involved in halving the cigarette market in Japan in just over a decade and working out how best to replicate such changes elsewhere should be a priority for public health research.

Author affiliations
[1]Department of Psychiatry and Behavioral Sciences, Medical University of South Carolina, Charleston, South Carolina, USA
[2]Lombardi Comprehensive Cancer Center, Georgetown University, Washinton, District of Columbia, USA
[3]Department of Integrative Oncology, BC Cancer Research Institute, Vancouver, British Columbia, Canada
[4]School of Population and Public Health, The University of British Columbia, Vancouver, British Columbia, Canada
[5]Department of Health Management and Policy, University of Michigan, Ann Arbor, Michigan, USA
[6]Department of Psychology, University of Waterloo, Waterloo, Ontario, Canada
[7]Ontario Institute for Cancer Research, Toronto, Ontario, Canada
[8]The University of Melbourne School of Psychological Sciences, Melbourne, Victoria, Australia
[9]Department of Health Policy, National Center for Child Health and Development, Setagaya-ku, Japan
[10]Deakin University School of Psychology, Burwood, Victoria, Australia
[11]Department of Health Behavior, Roswell Park Cancer Institute, Buffalo, New York, USA
[12]Faculty of Law, University of Ottawa, Ottawa, Ontario, Canada

X Geoffrey T Fong @gfong570

Contributors Conceptualisation: KMC and DTS (lead). Data curation: KMC and DTS (lead). Formal analysis: KMC, AR and KEW (lead). Funding acquisition: KMC and GTF (lead). Methodology: KMC and DTS (lead). Writing–original draft preparation: KMC, AR and DTS (lead). Writing–review and editing: all authors (equal contribution). As the corresponding author, I – KMC – am responsible for the overall content (as guarantor) for the paper.

Funding US National Cancer Institute (P01 CA200512, P30 CA138313).

Competing interests KMC has been a paid expert witness in litigation against the cigarette industry. MLG received a research grant from Pfizer and served as a member of the scientific advisory board of Johnson & Johnson. GTF has served as an expert witness and consultant for governments defending their country's tobacco control policies and regulations in litigation, and was and unpaid member of he Health Canada Vaping Products Scientific Advisory Group 2017-2020. All others have no conflicts of interest to declare.

Patient consent for publication Not applicable.

Provenance and peer review Not commissioned; externally peer reviewed.

Data availability statement All data relevant to the study are included in the article or uploaded as online supplemental information.

ORCID iDs
K Michael Cummings https://orcid.org/0000-0002-7103-7017
David T Levy https://orcid.org/0000-0001-5280-3612
Kenneth E Warner https://orcid.org/0000-0002-8214-1776
Shannon Gravely https://orcid.org/0000-0001-5224-9105
Bibha Dhungel https://orcid.org/0000-0002-0014-8385
Ron Borland https://orcid.org/0000-0003-0059-178X
Richard J O'Connor https://orcid.org/0000-0003-0644-182X
Maciej Lukasz Goniewicz https://orcid.org/0000-0001-6748-3068

REFERENCES

1 World Health Organization. WHO global report on trends in prevalence of tobacco use 2000–2030, ce: CC BY-NC-SA 3.0 IGO. Geneva, 2024. Available: https://www.who.int/publications/i/item/9789240088283 [accessed 26 Feb 2024]
2 Hill S, Chaiton M, Edwards R. Tobacco Industry "Transformation"—The Current State of Play. *Nicotine Tob Res* 2023;25:1807–9.
3 GBD 2019 Tobacco Collaborators. Spatial, temporal, and demographic patterns in prevalence of smoking tobacco use and attributable disease burden in 204 countries and territories, 1990-2019: a systematic analysis from the Global Burden of Disease Study 2019. *Lancet* 2021;397:2337–60.
4 Stoklosa M, Cahn Z, Liber A, *et al*. Effect of IQOS introduction on cigarette sales: evidence of decline and replacement. *Tob Control* 2020;29:381–7.
5 Odani S, Tabuchi T. Prevalence of heated tobacco product use in Japan: the 2020 JASTIS study. *Tob Control* 2022;31:e64–5.
6 Kinjo A, Kuwabara Y, Fujii M, *et al*. Heated Tobacco Product Smokers in Japan Identified by a Population-Based Survey. *J Epidemiol* 2020;30:547–55.
7 Sutanto E, Miller C, Smith DM, *et al*. Prevalence, Use Behaviors, and Preferences among Users of Heated Tobacco Products: Findings from the 2018 ITC Japan Survey. *Int J Environ Res Public Health* 2019;16:4630.
8 Gravely S, Meng G, Xu SS, *et al*. n.d. Estimating the percentage of Japanese adults using heated tobacco products who have quit smoking cigarettes: Cross-sectional findings from the 2018-2021 International Tobacco Control (ITC) Japan Surveys [Under review]. *Nicotine Tob Res*.
9 Xu SS, Meng G, Gravely S, *et al*. n.d. Changes in total tobacco stick consumption among Japanese adults transitioning between cigarette smoking and heated tobacco product use: Findings from the 2018-2021 ITC Japan Surveys [Under review]. *Nicotine Tob Res*.
10 Odani S, Tsuno K, Agaku IT, *et al*. Heated tobacco products do not help smokers quit or prevent relapse: a longitudinal study in Japan. *Tob Control* 2024;33:472–80.
11 Harada S, Sata M, Matsumoto M, *et al*. Changes in Smoking Habits and Behaviors Following the Introduction and Spread of Heated Tobacco Products in Japan and Its Effect on FEV_1 Decline: A Longitudinal Cohort Study. *J Epidemiol* 2022;32:180–7.
12 Levy D, Issabakhah M, Liber A, *et al*. Trends in Cigarette and HTP Use in Japan: An Analysis of the National Health and Nutrition Survey. *Tob Control* 2025;34:659–63.
13 Simonavicius E, McNeill A, Shahab L, *et al*. Heat-not-burn tobacco products: a systematic literature review. *Tob Control* 2019;28:582–94.
14 Lüdicke F, Picavet P, Baker G, *et al*. Effects of Switching to the Tobacco Heating System 2.2 Menthol, Smoking Abstinence, or Continued Cigarette Smoking on Biomarkers of Exposure: A Randomized, Controlled, Open-Label, Multicenter Study in Sequential Confinement and Ambulatory Settings (Part 1). *Nicotine Tob Res* 2018;20:161–72.
15 Cummings KM, Nahhas GJ, Sweanor DT. What Is Accounting for the Rapid Decline in Cigarette Sales in Japan? *Int J Environ Res Public Health* 2020;17:3570.
16 Surveillance Research Program US National Cancer Institute. Joinpoint trend analysis software. 2020. Available: https://surveillance.cancer.gov/joinpoint [Accessed 05 Mar 2024].
17 Kim HJ, Chen HS, Midthune D, *et al*. Data-driven choice of a model selection method in joinpoint regression. *J Appl Stat* 2023;50:1992–2013.
18 Kim HJ, Chen HS, Byrne J, *et al*. Twenty years since Joinpoint 1.0: Two major enhancements, their justification, and impact. *Stat Med* 2022;41:3102–30.
19 Nkosi L, Odani S, Agaku IT. 20-Year Trends in Tobacco Sales and Self-Reported Tobacco Use in the United States, 2000-2020. *Prev Chron Dis* 2022;19:E45.
20 Levy DT, Yuan Z, Luo Y, *et al*. The Relationship of E-Cigarette Use to Cigarette Quit Attempts and Cessation: Insights From a Large, Nationally Representative U.S. Survey. *Nicotine Tob Res* 2018;20:931–9.
21 Tanigaki J, Poudyal H. Challenges and opportunities for greater tobacco control in Japan. *Int J Drug Policy* 2019;70:78–86.
22 Reuters. E-cigarettes around the world. 2024. Available: https://www.reuters.com/business/healthcare-pharmaceuticals/e-cigarettes-around-world-2023-12-19/ [Accessed 29 Aug 2024].
23 Matsuyama Y, Tabuchi T. Stepwise Tobacco Price Increase and Smoking Behavioral Changes in Japan: The Japan "Society and New Tobacco" Internet Survey 2017–2021 Longitudinal Study. *Nicotine Tob Res* 2023;25:657–64.
24 Japan National Tax Agency. Review of tobacco taxation under the 2018 tax reform. n.d. Available: https://www.nta.go.jp/information/other/data/h29/tabacco/03.htm
25 Pope DA, Poe L, Stein JS, *et al*. Experimental tobacco marketplace: substitutability of e-cigarette liquid for cigarettes as a function of nicotine strength. *Tob Control* 2019;28:206–11.
26 Fagerström K. Can alternative nicotine products put the final nail in the smoking coffin? *Harm Reduct J* 2022;19:131.

Supplemental materials

Table S1. Joinpoint regressions testing for trends in total cigarette, heated tobacco stick or equivalent, and combined cigarette and heated tobacco stick or equivalent sales in Japan 2011-2023

Outcome variables	**Years**	**APC, %**	**95% CI**
Total cigarette sales	2011-2015	-1.5	-2.9 to 0.0
	2015-2018	-10.3	-14.3 to -6.2
	2018-2023	-7.4	-8.3 to -6.4
Total heated tobacco stick or equivalent sales	2016-2018	148.3	134.1 to 163.2
	2018-2023	7.9	6.5 to 9.4
Combined cigarette and heated tobacco stick or equivalent sales	2011-2023	-2.6	-2.9 to -2.4

Figure S1. Total cigarette and heated tobacco stick or equivalent sales in billions in Japan, 2011-2023.

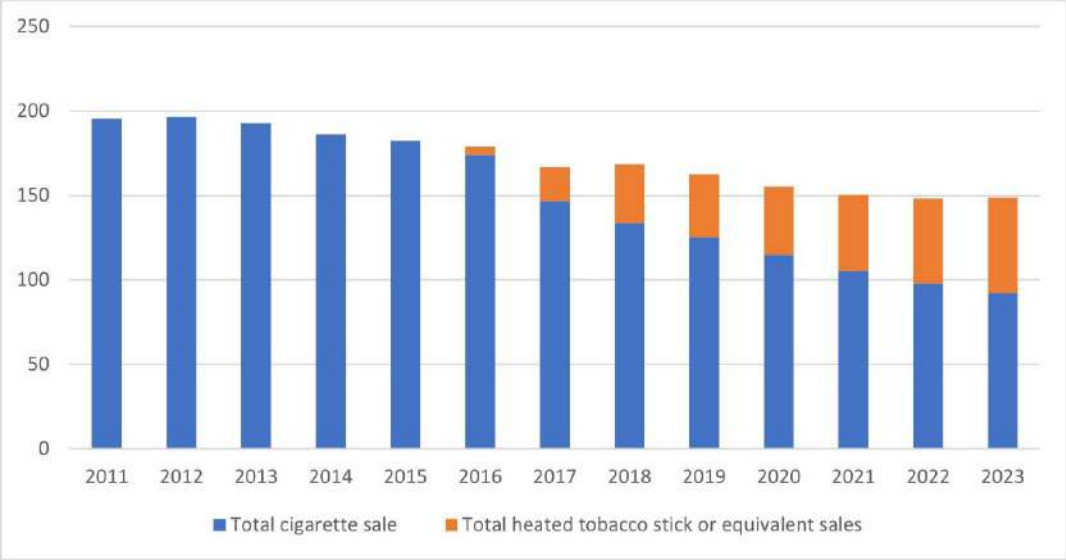
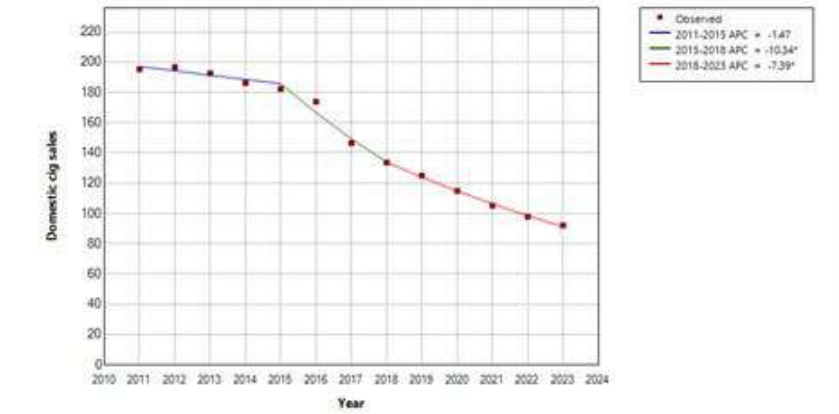
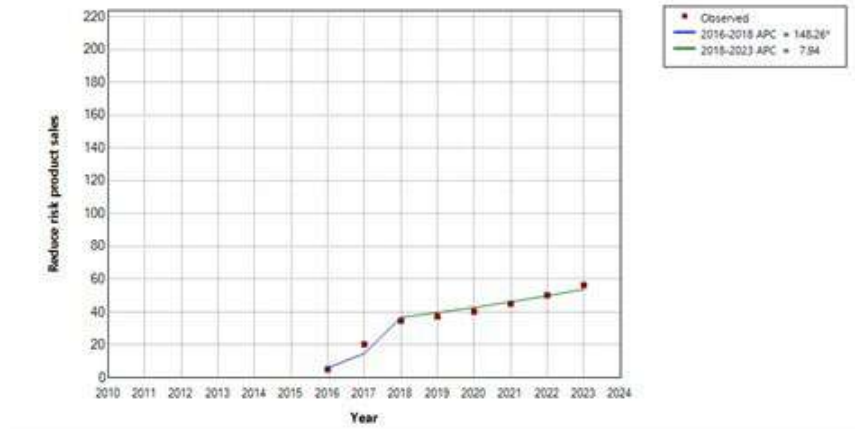
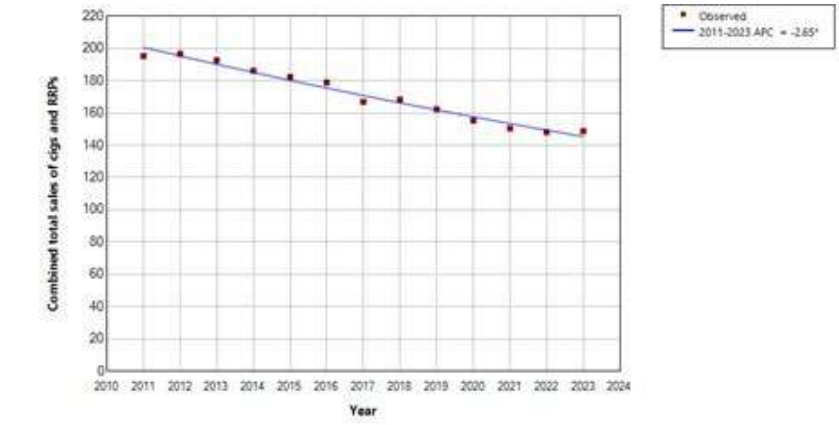


Figure S2. Joinpoint regression plots for total cigarette, heated tobacco stick or equivalent, and combined cigarette and heated tobacco stick or equivalent sales in Japan, 2011-2023

Outcomes	Joinpoint plots
Total cigarette sales (billions)	
Total heated tobacco stick or equivalent sales (billions)	
Combined cigarette and heated tobacco stick or equivalent sales (billions)	

*Indicates that the annual percent change (APC) is significantly different from zero at the alpha = 0.05 level