

Regulatory Impact Assessment: the Tobacco Products Act

Main Points at a Glance and Full Summary

Commissioned by:
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Main Points at a Glance

The Federal Office of Public Health (FOPH) commissioned the Office for Labour and Social Policy Studies (BASS) to produce an assessment of the regulatory impact of the Tobacco Products Act (TobPA) on society, the economy and the State.

The Tobacco Products Act

In comparison with the current legislation, the TobPA would significantly alter regulation of e-cigarettes and of the marketing of tobacco products: the trade in e-cigarettes containing nicotine is to be legalised and the regulation of e-cigarettes with and without nicotine is to be harmonised with that of conventional tobacco products. With regard to the marketing of tobacco products, the TobPA imposes additional restrictions on advertising, sponsorship and sales promotion.

The need for state intervention

It is undisputed that the regulation of e-cigarettes needs to be revised. Based on current knowledge it must be assumed that smoking e-cigarettes is much less harmful than the use of conventional smoked tobacco products. The trade in nicotine-containing e-cigarettes is prohibited while the trade in the evidently more harmful cigarettes is permitted. This situation does not make economic sense.

More extensive regulation of the marketing of tobacco products is economically necessary precisely in the presence of a market failure where the benefits of regulation outweigh the cost. Since more than half of the smokers in Switzerland smoke even though they would prefer not to (a large proportion of smokers regret having ever started smoking or not having given up yet), and since many smokers' attempts to stop smoking end in failure, the existence of market failure is in our opinion indisputable. In the scientific literature, this market failure is ultimately ascribed to the limited rationality displayed by consumers (more specifically to «time-inconsistent preferences»). The results of the cost-benefit analysis of the TobPA indicate that the benefit of the marketing restrictions envisaged by the TobPA is greater than the cost of these restrictions. For this reason, we conclude that the interventions in economic freedom that will result from the TobPA are economically justified.

Costs of the Tobacco Products Act

The costs of the Tobacco Products Act between **2018 and 2060** are estimated to average **CHF**

18.0–21.2 million p.a.¹ These costs can be broken down as follows:

- Additional costs related to the regulation totalling an average of CHF 11.7 million annually for the tobacco industry and the e-cigarette industry.
- Reduction of corporate earnings distributed to individuals resident in Switzerland, amounting an average of CHF 5.9–9.0 million annually.
- Additional enforcement costs averaging CHF 320,000 annually for the cantons.
- Additional enforcement costs averaging CHF 120,000 annually at the federal level.

Benefits of the Tobacco Products Act

The benefit of the TobPA resides in the reduction of the social costs related to smoking, which amounted to CHF 9.9 billion in 2007 according to Fueglistler-Dousse et al. (2009).

The TobPA would therefore lead to a reduction in social costs of tobacco consumption because legalisation of trade in e-cigarettes containing nicotine and the proposed marketing restrictions would lead to a **reduction in prevalence** (the proportion of smokers in the Swiss population) in the period 2018–60.

■ Our evidence-based estimate shows that legalisation of trade in e-cigarettes containing nicotine would reduce the proportion of smokers in the population by **2.1%** (not percentage points).²

■ The impact of the marketing restrictions envisaged in the TobPA on prevalence has been estimated on the basis of an empirical analysis of the impact of the marketing restrictions introduced by the cantons between 2002 and 2012. This empirical analysis showed that the cantonal marketing restrictions have led to a statistically significant and substantial reduction in the proportion of the population that smokes (prevalence). Based on this impact of the cantonal marketing restrictions, we estimated that the marketing restrictions envisaged in the TobPA would lead to a reduction in prevalence of **between 5.4 and 9.9%** (not percentage points) in the longer term.

Overall we expect the TobPA to reduce prevalence in the long term by **7.6–11.9%, reducing**

¹ All the costs and benefits mentioned in this Management Summary that refer to the years 2018-60 were calculated using a discount factor of 2%.

² The difference between percent and percentage points: If the prevalence drops from 32% to 28%, for example, then it decreases by 4 percentage points (32% minus 28%) or by 12.5% (4% of 32%).

the number of smokers by between 142,000 and 224,000 persons. Such a reduction in the number of smokers would lead to a substantial reduction of the social costs related to tobacco consumption (benefit of regulation).

Using the best-case assumptions that we considered to be possible on the basis of the available empirical evidence and the scientific literature, we have estimated that the TobPA will lead to an average reduction in the social costs associated with tobacco consumption of **CHF 445 million to CHF 624 million** annually between 2018 and 2060.

Net benefit of the Tobacco Products Act

The net benefit of the TobPA is the difference between the benefit and the costs of the Act. We estimate that the net benefit of the TobPA in the period 2018–60 will average between **CHF 427 million and CHF 603 million annually.** The net benefit of the TobPA is positive even when assumptions are made that, from the perspective of the TobPA, are very pessimistic.

Distribution effects of the Tobacco Products Act

The TobPA will result in losses among certain groups in society that will be compensated by the gains made by other groups. These are neither costs nor benefits associated with the TobPA but relate to distribution. The most important distribution effects of the Tobacco Products Act are as follows:

■ **The tobacco industry:** The Tobacco Products Act would cause a substantial shift of revenue and jobs from the tobacco sector to other sectors of the economy. We estimate that revenue in the tobacco industry would decline in the period 2018–2060 by an average of **between CHF 111 million and 170 million annually.** Our calculations show that in the longer term the Tobacco Products Act would shift between **340 and 540 jobs** from the tobacco sector to other branches of the economy.

■ **Classic advertising media:** According to our evidence-based analyses, the TobPA would not lead to a reduction but to an increase in expenditure on marketing for tobacco products. However, a shift in expenses related to billboards and advertising in cinemas as well as in newspapers and magazines to other marketing instruments that are still permitted is likely. The loss of revenue in the classic advertising media would be negligible, although this does not apply to the trade journal «Cigar», for which the TobPA could represent an existential threat.

■ **Taxes:** The Tobacco Products Act would lead to a substantial reduction in revenue from to-

bacco tax, which is estimated to average **between CHF 115 million and 175 million annually** in the period 2018–60. Revenue from value-added tax and direct taxes would rise because the TobPA would mitigate the smoking-related loss of productivity in the economy. There should be no major impact on revenue from company tax. Overall, tax revenues can be expected to decrease.

■ **Social insurances:** The TobPA could be expected to have a positive effect on the finances of the statutory health insurance system and the invalidity insurance system. The impact that the TobPA would have on the mandatory pension system remains unclear.

Alternative regulations

The results of the impact assessment indicate that from an economic perspective, a systematic ban on advertising and sponsorship would probably be even more beneficial than the partial restrictions envisaged in the TobPA. On the other hand, they indicate that a ban on e-cigarette advertising in the classic advertising media is unlikely to generate any economic advantages, at least **at the present time.**

An appropriate approach to enforcement

The uncoordinated implementation of the analysis of tobacco products (product analysis) on a cantonal basis is not appropriate. The cantons need to coordinate their approach to enforcement in this area.

Summary

Tobacco products no longer fall within the scope of the new Foodstuffs Act (FoodA) that is scheduled to come into force in mid-2016. It is therefore envisaged that they should be regulated by a separate law, the Tobacco Products Act (TobPA). The consultation period for the preliminary draft of the Tobacco Products Act ended on 12 September 2014. For the purpose of the Federal Council's Dispatch on the Tobacco Products Act, the Federal Office of Public Health (FOPH) commissioned the Office for Labour and Social Policy Studies (BASS) to produce an assessment of the expected regulatory impact of the Tobacco Products Act (TobPA) on the economy, the State and society.

Current regulation

The Tobacco Products Act mainly affects the marketing of tobacco products, their distribution to minors and the regulation of e-cigarettes.

The current regulation governing the **marketing of tobacco products** can be summarised as follows: At the national level, only advertising «that specifically targets minors under 18 years of age» is prohibited (Art. 18 TobO). Billboard advertising in public spaces is banned in 15 cantons, cinema advertising in four. Two cantons (Valais and Solothurn) also ban event sponsorship.

The **distribution of tobacco products to minors** is currently regulated as follows: At national level there are no regulations prohibiting the distribution of tobacco products to children and adolescents. Ten cantons ban the distribution of tobacco products to the under-18s, 12 ban distribution to the under-16s. In four cantons, tobacco products can be sold to children and adolescents under the age of 16.

E-cigarettes are currently regulated as follows: Trade in **e-cigarettes containing nicotine** is banned. However, the importing and use of nicotine-containing e-cigarettes for personal use is permitted. **E-cigarettes without nicotine** are classified under the current legislation not as tobacco products but as consumer articles. As such they are regulated by the Federal Act on Foodstuffs and Utility Articles and the associated ordinance.

The Tobacco Products Act

The main legislative changes envisaged in the TobPA are the following:

■ **First-time regulation of e-cigarettes:** Art. 3 of the preliminary draft of the TobPA provides for the legalisation of trade in nicotine-

containing e-cigarettes and for the regulation of e-cigarettes either with or without nicotine corresponding essentially to that applicable to conventional tobacco products.

■ **Declaration of main ingredients:** In the implementing ordinance, mandatory declaration of the main ingredients of tobacco products on the packaging is envisaged (Art. 7 of the preliminary draft of the TobPA).

■ **Restriction of marketing for tobacco products:** Art. 13 of the preliminary draft of the TobPA envisages restrictions on certain forms of advertising, a ban on certain advertising media and restrictions on locations for advertising. Art. 14 of the preliminary draft of the TobPA envisages restrictions on the promotion of tobacco product sales. In this regard it bans: (a) the distribution of tobacco products free of charge, (b) the distribution of prizes and gifts, and (c) price discounts valid for a limited period and in specific places that target specific groups of people. Art. 15 of the preliminary draft of the TobPA envisages a ban on sponsoring international events with cross-border effects. Art. 16 of the preliminary draft of the TobPA requires advertising media to bear warnings. Concerning the impact of these marketing restrictions on tobacco products, the following facts need to be taken into consideration: Firstly, some of the planned restrictions already exist in some cantons under the current legislation. Secondly, the three major cigarette manufacturers have already voluntarily adopted some of the planned marketing restrictions as part of an agreement with the Swiss Commission for Fairness. Thirdly, Art. 13 of the preliminary draft of the TobPA should be interpreted as meaning that no restrictions on point-of-sale (POS) advertising are envisaged.

■ **Ban on distribution to minors and test purchases of tobacco:** As mentioned above, some cantons already ban the distribution of tobacco products to minors under existing legislation. Art. 18 of the preliminary draft of the TobPA now envisages a ban on the distribution of tobacco products **to** minors throughout Switzerland. The ban on the distribution of tobacco products **by** minors envisaged in the preliminary draft of the TobPA did not form part of the impact assessment because the Federal Council decided on 5 June 2015, in response to the outcome of the consultation process, that the latter ban should not be included in the draft Tobacco Products Act. In connection with the distribution ban to minors, Art. 19 of the preliminary draft of the TobPA empowers the cantons to perform test purchases of tobacco products. Some cantons that have already regulated the distribution of tobacco products to minors are

already performing test purchases under the current legislation.

■ **Annual reporting of marketing expenditures:** Art. 21 of the preliminary draft of the TobPA envisages that companies which place tobacco products on the market in Switzerland must report their expenditure on advertising, sponsorship and sales promotion activities to the FOPH once a year.

The need for state intervention

The need for tobacco products to be regulated is undisputed. Smokers generate costs that they do not bear themselves but are borne by society as a whole. These negative external effects of tobacco consumption must be internalised through taxation. Since it is assumed that the external costs of tobacco consumption in Switzerland are already covered by the tobacco tax, the marketing restrictions envisaged in the TobPA cannot be justified in terms of negative external effects. **In the literature, regulation that goes beyond the internalisation of external effects is justified in terms of market failure that is ultimately due to the limited rationality of consumers.** Consumers tend to overestimate the value of costs and benefits arising directly in the present compared with the value of costs that will be incurred in the future (present bias). For this reason they underestimate the future costs of tobacco consumption. At the same time, consumers underestimate the extent to which their preferences can change in the future (projection bias). Smokers thus underestimate the value that not smoking will have for their future self. This limited rationality results in **time-inconsistent preferences**. Consumers with time-inconsistent preferences consume more tobacco products in the present than is optimal in view of their long-term preferences. This means that the **market has failed because of negative externalities**.

The consumption behaviour of the present self has negative external effects on the future self. These «externalities» – as they are referred to in the literature – can be interpreted as a particular form of «externalities». The market failure is manifested empirically in various phenomena:

- More than half of the smokers in Switzerland would like to stop smoking; i.e. they smoke even though they would prefer not to.
- Some smokers regret having started smoking or not having stopped.
- Other smokers do not manage to stop smoking even though they want to (problems with self-control).

Under these conditions, efforts to regulate tobacco products that go beyond the internalisation of external effects are viewed as instruments for internalising in the present self the negative external effects of the present self on the future self, the aim being for the present self to smoke less – which, in the longer term, will increase the benefit. The reality of this theory was demonstrated empirically by Gruber and Mullainathan (2005) in a widely acclaimed publication «Do Cigarette Taxes Make Smokers Happier?» In both the USA and Canada, increases in the tobacco tax led to (potential) smokers becoming happier. The question of whether the Tobacco Products Act is necessary can be formulated as follows against this background: **Should the state intervene in economic freedom to make some of its citizens happier?** The economic answer to this question is that, if the market has failed and if intervention in economic freedom does not generate costs that are greater than the benefit of the intervention (positive net benefit), then it should. Otherwise it should not. Given the empirical evidence available, there is no question that the market has failed. The cost-benefit analysis that has been carried out shows that the benefit of the TobPA is greater than the costs associated with it. It must accordingly be deduced that the restrictions on marketing of tobacco products envisaged in the TobPA are economically justified. We thus conclude that the paternalism inherent in the TobPA is justified, but point out that certain economists probably reject state intervention of a paternalistic nature as a matter of principle.

Costs of the Tobacco Products Act

The Tobacco Products Act will generate additional costs for companies that place tobacco products on the market and additional enforcement costs for the State.

■ **Additional costs of regulation incurred by the tobacco industry:** The requirement to declare the main product ingredients will force the tobacco industry to modify the packaging of the products they put on the market. We estimate the one-off cost of modifying an estimated 3,500 packs at CHF 17.3 million. As a result of the regulation, ongoing, i.e. annually recurring, costs for the tobacco industry are most likely to arise from the marketing restrictions envisaged in the TobPA. These will result in a reallocation of marketing spend to less effective and thus less efficient marketing tools. Starting from an empirical analysis of the impact of marketing restrictions introduced at cantonal level between 1997 and 2007, we estimated on the basis of the available evidence that the marketing re-

restrictions envisaged in the TobPA will increase marketing expenditures by the tobacco industry by CHF 13.7 million p.a. Additional recurring regulation-related costs totalling CHF 136,000 and CHF 71,000 p.a. are likely to result from the annual reporting of marketing expenditures (Art. 21 of the preliminary draft of the TobPA) and the systematic enforcement of annual reporting of product composition (Art. 29). Overall, we therefore expect the TobPA to generate **one-off costs of CHF 17.3 million** and **recurring costs of CHF 13.9 million p.a.** for the tobacco industry. Viewed against the added value generated in the tobacco industry, which in 2011 totalled CHF 2.3 billion (KPMG 2013), these additional regulation-related costs can be considered low.

■ **Reduction of producer surplus:** «Producer surplus» is the term used by economists to describe the additional profit that remains after compensation by way of the return on capital, given the risk. A positive producer surplus can only exist where the market has failed, because where perfect competition exists the producer surplus is zero. We think that there is empirical evidence that the tobacco industry is achieving a producer surplus greater than zero, possibly as a result of the oligopolistic structure of the Swiss cigarette market. Our evidence-based analyses show that the TobPA will lead to a shift in revenue from the tobacco industry to other sectors in which no or a lower producer surplus is achieved. This shift in revenue will be associated with a reduction in producer surplus that must be taken into account in the impact assessment – albeit only to the extent that it affects individuals resident in Switzerland, because some of the producer surplus achieved in the tobacco industry is paid out to individuals/shareholders who are not resident in Switzerland. We estimate that the producer surplus will decline in the period 2018–60 by an average of **CHF 5.9–9.0 million annually**.³

■ **Additional costs of regulation for companies that market e-cigarettes not containing nicotine:** Application of the TobPA to e-cigarettes without nicotine will impose additional obligations on companies in the e-cigarette sector. We estimate that the requirement to submit a notification before bringing a product onto the market (Art. 10 of the preliminary draft of the TobPA), annual reporting of the composition of products (Art. 20) and annual reporting of marketing spend (Art. 21) will result in **one-off costs** to companies marketing nicotine-free e-cigarettes **of CHF 495,000** and **recurring**

costs associated with regulation of CHF 90,000 annually. These regulation-associated costs do not contain any costs resulting from regulation of the composition of and emissions from e-cigarettes under the terms of Art. 6 of the preliminary draft of the TobPA. It was not possible to estimate these costs during the impact assessment because the terms of the relevant ordinance were not known at the time. In view of the size of the Swiss market for e-cigarettes without nicotine, estimated at CHF 16 million in 2014, the above-mentioned regulatory costs cannot be considered negligible.

■ **Additional enforcement costs in the cantons:** The implementation of additional test purchases of tobacco (Art. 19 of the preliminary draft of the TobPA), enforcement of the proposed marketing restrictions (Art. 13-16) and the legalisation of trade in e-cigarettes containing nicotine (Art. 3) will result in additional one-off and recurring enforcement costs in the cantons. We estimate the **one-off costs of enforcement at CHF 288,000**, the **recurring costs at CHF 376,000 annually**.

■ **Additional enforcement costs at federal level:**

We estimate that the TobPA will result in additional **one-off costs of enforcement of CHF 344,000** and additional **recurring costs of CHF 137,000 annually** at federal level. Most of the additional one-off costs of enforcement are due to the planned modification of a platform for an electronic reporting procedure (CHF 219,000). The additional recurring enforcement costs are due to different changes that will arise from the TobPA. These additional enforcement costs at federal level are likely to be an overestimate of the cost impact of the TobPA at this level since they also include costs which, strictly speaking, are not due to the TobPA but to a planned change in the implementing duties (such as the transition to an electronic reporting procedure).

When projecting the costs associated with the TobPA into the future (2018-60) we assumed that the recurring costs will increase in line with the growth trend in real productivity from 1993 to 2013 and also, to some extent, proportionally to the population growth forecast of the Federal Statistical Office (FSO). **On this basis we estimate that the TobPA would result in costs totalling CHF 776–910 million in the period 2018-60. This is equivalent to annual costs averaging CHF 18.0–21.2 million.**

Benefits of the Tobacco Products Act

The TobPA would lead to a reduction in prevalence, i.e. the proportion of smokers in the population, in the period 2018-60. This reduction in

³ All the costs and benefits mentioned in this Summary that refer to the years 2018-60 were calculated using a discount factor of 2 percent.

prevalence between 2018 and 2060 would be linked to a reduction in the **social costs of tobacco consumption**, which Fueglistler-Dousse et al. (2009) estimated at **CHF 9.9 billion** for year 2007. The benefit of the TobPA resides in this reduction in the social costs of smoking in the period 2018-60. We quantified this benefit in three stages:

■ **Estimation of the impact of the TobPA on prevalence:** In the first stage we used the demographic projection issued by the FSO and an empirical assessment of the impact of the TobPA on prevalence to estimate how many fewer smokers there would be in the period 2018-60 as a result of the TobPA.

■ **Forecast costs per smoker in the period 2018-60:** In the second stage we used the social costs of tobacco consumption in 2007 – as calculated by Fueglistler-Dousse et al. (2009) – to estimate the social costs per smoker in the period 2018-60.

■ **Calculation of the reduction in the social costs of tobacco consumption:** In the third stage we calculated the benefit of the TobPA in the period 2018-60 by multiplying the number of people who stop smoking due to the TobPA (first stage) by the social cost per smoker (second stage).

Calculation of the benefit focused on assessing the impact of the TobPA on prevalence in the period 2018-60. The TobPA would reduce prevalence via three different chains of causality:

■ **Impact of the increase in regulation-associated costs on prevalence:** The increase in regulation-associated costs to companies would cause the price of tobacco products to rise. Price increases in turn result in a decrease in prevalence. Using the quantified additional costs associated with regulation in the tobacco industry and price elasticity of the prevalence estimated empirically at -0.39 , we estimated that the increase in regulation costs would lead to a reduction in prevalence of **0.125%** (not percentage points)⁴.

■ **Impact of the legalisation of nicotine-containing e-cigarettes on prevalence:** Legalisation of e-cigarettes containing nicotine would result in an increase in the proportion of the population smoking e-cigarettes. Since e-cigarettes are a substitute for cigarettes, this increase would be associated with a decrease in the number of smokers. Based on a comparison

with France, where trade in e-cigarettes containing nicotine is legal, we estimated on the basis of the available evidence that legalisation of e-cigarettes containing nicotine would reduce prevalence (in terms of smoking conventional tobacco products) by **2.1%** (not percentage points).

■ **Impact of marketing restrictions on prevalence:** The marketing restrictions envisaged in the TobPA would lead to a decline in demand for tobacco products and thus to a reduction of prevalence. We based our assessment of the impact of the marketing restrictions on prevalence on an empirical analysis of the impact of the marketing restrictions introduced by the cantons between 2002 and 2012. Firstly, we used a **multilevel (ML) model** based on individual data from the Swiss Health Surveys in 2002 and 2012 to determine whether prevalence declined more sharply in the cantons that introduced marketing restrictions between 2002 and 2012 than in cantons that did not introduce marketing restrictions. It emerged that the marketing restrictions at cantonal level reduced prevalence in the 15-40 age group by 4.25 percentage points (not percent). In other words, without the cantonal marketing restrictions, prevalence in the 15-40 age group would have been 4.25 percentage points higher in 2012. It would thus have been 36.1% instead of 31.9%. Secondly, we used an **autoregressive distributed lag (ADL) model** based on aggregated quarterly data to determine the impact on prevalence of the regulation-associated reduction in gross advertising spend in the classic advertising media from CHF 14.9 million per quarter in 2002 to CHF 5.5 million per quarter in 2012. This showed firstly that the cantonal marketing restrictions reduced prevalence in the 15-24 age group by 3.8 percentage points. Secondly, a reduction in gross advertising spend in the classic advertising media of CHF 1.0 million per quarter was associated with a reduction in prevalence of 0.4 percentage points in the 15-24 age group. Based on these empirical findings we estimated that **the marketing restrictions envisaged in the TobPA would reduce prevalence by between 5.4% (ADL estimate) and 9.9% (ML estimate) in the long term**. The short-term impact would not be as great as the long-term impact since we assumed that the TobPA would directly affect only the 15-40 (ML estimate) and 15-24 (ADL estimate) age groups. This means that the decline in prevalence in the over-40s and over-24s would occur with a time-lag.

Overall, we expect the TobPA to reduce prevalence in the long term by **7.6–11.9%**.

⁴ The difference between percent and percentage points: If the prevalence drops from 32% to 28%, for example, then it decreases by 4 percentage points (32% minus 28%) or by 12.5% (4% of 32%).

Based on these estimated effects of the TobPA on prevalence and the population scenarios developed by the SFO, we calculated that **the TobPA would reduce the number of smokers by between 142,000 and 224,000 in the long term (i.e. by 2060).**

Our estimates show that the above reduction in the number of smokers resulting from the TobPA would be associated with a **reduction in the social costs of tobacco consumption in the period 2018-60 of between CHF 19.2 billion (ADL estimate) and CHF 26.8 billion (ML estimate) at present value.** This is equivalent to an annual benefit from the TobPA averaging between CHF 445 million and CHF 624 million in the period 2018-60. About one third of this benefit derives from the legalisation of nicotine-containing e-cigarettes, the other two-thirds from the marketing restrictions envisaged in the TobPA.

Net benefit of the Tobacco Products Act

The net benefit of the TobPA is the difference between the present value of its benefit and the present value of the costs associated with it. **Our estimates show that the net benefit of the TobPA in the period 2018-60 will total between CHF 18.4 billion (ADL estimate) and CHF 25.9 billion (ML estimate).** This is equivalent to an annual net benefit averaging CHF 427 million to CHF 603 million.

The **most important and critical assumptions** underlying this result are the following:

- Smoking e-cigarettes has no negative effects on health.
- The reduction in prevalence is not associated with a reduction in the consumer surplus among people who quit smoking because of the TobPA.
- The reduction in the number of jobs and revenue in the tobacco industry is not associated with any costs other than the estimated reduction in the producer surplus.
- The costs to the health service caused by a smoker will increase between 2007 and 2060 in line with the growth trend for healthcare costs per head of population in the period from 1997 to 2012. The indirect and intangible costs per smoker will stagnate at the 2007 level.

We believe that these assumptions are the best that can be made on the basis of the available empirical evidence and the scientific literature. In order to test the reliability of the finding according to which the net benefit of the TobPA is positive, we defined a scenario based on the following, **very pessimistic assumptions.** In our opinion and from the standpoint of the

TobPA, these assumptions are partly wrong and partly unrealistic:

- There is zero benefit from legalising e-cigarettes because, for example, it emerges in the future that smoking e-cigarettes is just as harmful as smoking conventional cigarettes. This assumption is unrealistic on the basis of available knowledge on the harmfulness of e-cigarettes.
- The marketing restrictions envisaged in the TobPA reduce prevalence by «only» 5.4% (pessimistic ADL estimate).
- A smoker causes no more healthcare costs than a non-smoker over his or her entire lifespan. The direct costs per smoker are zero. The TobPA therefore offers no benefit at all in terms of costs incurred in the health service. This assumption is unrealistic.
- The reduction in prevalence is associated with a reduction in the consumer surplus, which according to Ashley et al. (2014) would account for 75.5% of the benefit of the TobPA. This means that people who no longer smoke because of the TobPA would experience disadvantages (costs) equivalent to three-quarters of the benefit of the TobPA. This in turn would mean that people who quit smoking because of the TobPA would be willing to pay a great deal of money to prevent the TobPA coming into force – even though they would still have the possibility to smoke under the TobPA as before. This assumption is wrong according to the leading experts on the economics of addiction.
- Future costs and benefits are not discounted with a factor of 2%, as recommended in the EAER handbook on assessment of the impact of regulation, but using a discount factor of 4%.

Even making these assumptions, the net benefit of the TobPA is still positive: In this scenario, the cumulative net benefit during the period 2018-60 is CHF 584 million, equivalent to an average annual benefit of CHF 13.6 million.

Distribution effects

The TobPA will result in losses among certain groups in society that will be compensated by the gains made by other groups. These are neither costs nor benefits associated with the TobPA – they are distribution effects. The major distribution effects of the TobPA are as follows:

- **Decrease in revenue and jobs in the tobacco industry:** The TobPA will lead to a situation in which revenue and the number of jobs in the tobacco industry are lower than they would be if the current legislation were not changed. However, apart from the reduction in the producer surplus that we have estimated, this is a

distribution effect. Additional revenue will be generated and additional jobs created to the same extent in other sectors. The smokers «put off» by the TobPA will use the financial resources that they would have invested in smoking if the TobPA had not been introduced for other forms of consumption. «Economists have shown both theoretically and empirically that, for the nation as a whole, employment gains from spending on other products will offset any employment losses from reduced spending on tobacco products.» (FDA RIA 2011, 36736/3617). We estimate that cumulative **revenue in the tobacco industry** in the period 2018–60 **will decline** by between CHF 3.6 billion (ADL estimate) and CHF 5.5 billion (ML estimate). The average reduction in revenue will accordingly be between CHF 111 million and CHF 170 million per year. Our estimates show that this decline in revenue for the tobacco industry would result in long-term (i.e. by 2060) **job losses in the tobacco industry** of between 340 and 540 positions. By way of comparison, in 2011 the Swiss tobacco industry employed 6,695 people.

■ **Reduction of tax revenue:** The decline in tobacco consumption induced by the TobPA will be associated with a reduction in revenue from tobacco tax. We estimate that the cumulative **reduction in revenue from tobacco tax** in the period 2018–60 will be between CHF 4.9 billion (ADL estimate) and CHF 7.6 billion (ML estimate). This is equivalent to an annual loss in tax revenues of CHF 115–175 million on average. By way of comparison, revenue from tobacco tax amounted to CHF 2.3 billion in 2014. **Revenue from value-added tax and direct taxes**, on the other hand, will increase as a result of lower smoking-related productivity losses. We assume that the additional revenue from value-added tax and direct taxes will not compensate for the lower revenue from tobacco tax, but we cannot definitely assess the overall effect on tax revenue since we were unable to quantify the effect on value-added tax and direct taxes in the context of the impact assessment.

■ **Effects on social insurance:** We were unable to quantify the effects of the TobPA on the financial situation of the social insurance systems in the context of the impact assessment. Studies of the situation in the USA and in Germany indicate that the TobPA would lead to an increase in income and to a reduction of expenditures on the part of the **statutory health insurance system** and the **invalidity insurance system**. The effect on the **mandatory pension system** is unclear.

■ **Impact on the classic advertising media (cinema, billboards, adscreens, newspapers and magazines):** Our evidence-based analyses show that the TobPA would not lead to a reduction in revenue in the advertising media and marketing sector but rather to an increase. Revenues would, however, be redistributed within the industry. Income from the classic advertising media (cinema, billboards, adscreens, newspapers and magazines) would decline, to be replaced by a higher level of income from POS advertising and event sponsorship. The gross spend on tobacco products in the classic advertising media was CHF 15.5 million in 2014. The gross advertising spend includes volume discounts, deeply discounted advertising rates (free space), rebates and commission for advisors and agents. We estimate the maximum effective reduction in income (net/net/net) in 2014 as a result of the TobPA at CHF 10 million. Seen against total income in the classic advertising media (cf. Swiss Advertising Statistics Foundation), the effect of this reduction is negligible for all the advertising media concerned. This does not apply to the trade journal «Cigar», for which the TobPA could represent an existential threat.

Alternative regulations

The impact assessment has identified the following alternative forms of regulation:

■ **Regulation of marketing for tobacco products:** Has this regulatory impact assessment identified any factors that would suggest that the net benefit of a more systematic ban on advertising and sponsorship would be lower than the net benefit of the partial restrictions envisaged in the TobPA? We cannot identify any such factors. In our opinion, the results of our impact assessment indicate that the net benefit of a more systematic ban on advertising and sponsorship would be greater than the net benefit of the marketing restrictions envisaged in the TobPA. We also believe that it would not make economic sense to take a different approach to different forms of advertising (billboard advertising in public areas vs. poster advertising at points of sale; events with international impact vs. events without international impact).

■ **Regulation of marketing for e-cigarettes:** The findings of this impact assessment have shown that e-cigarettes represent an opportunity to improve public health since it must be assumed that smoking e-cigarettes is much less harmful than smoking conventional cigarettes. People who smoke e-cigarettes containing nicotine are ex-smokers or smokers who have substantially reduced their daily cigarette consump-

tion. There is no empirical evidence that e-cigarettes encourage people to start consuming tobacco. Against this background, we feel that the growth of the market for e-cigarettes should not be countered **at the present time** by marketing restrictions and the resulting increase in the cost of marketing. On the contrary, companies in the e-cigarette sector should be allowed for the time being to deploy suitable marketing tools to encourage as many smokers as possible to switch to e-cigarettes containing nicotine.

■ **Extension of the Federal Act on Protection against Passive Smoking to e-cigarettes:** Since the economic entities (in particular catering and transport companies) have already extended protection against second-hand smoke to e-cigarettes on a basically voluntary basis, the impact of extending the corresponding Federal Act to cover e-cigarettes will be low. The question of whether protection against passive smoking should be extended to cover e-cigarettes or not is therefore not particularly significant from an economic point of view.

■ **Further-reaching marketing restrictions by the cantons (Art. 17 of the preliminary draft of the TobPA):** On the one hand, individual approaches adopted by the cantons generally lead to additional regulation-related costs for the companies in the tobacco industry. On the other hand, we interpret the results of this impact assessment to mean that further-reaching marketing restrictions would further reduce the social costs of tobacco consumption. It was not possible to weigh up the costs and benefit of Art. 17 of the preliminary draft of the TobPA in the course of this impact assessment since it is not known whether the cantons are planning to introduce further-reaching regulations. In a survey, three out of the 19 cantons responded that they were considering further-reaching restrictions – particularly in terms of event sponsorship.

■ **Regulation of snus:** In the course of this impact assessment it was not possible to study whether the benefit of legalising snus would outweigh the costs associated with such regulation. It is however certain that there is no material justification for regulating snus and chewing tobacco differently, as envisaged in the TobPA.

■ **Transitional regulation:** Extension of the deadline for modifying the packaging of tobacco products as envisaged in Art. 7 of the preliminary draft of the TobPA from two to four or five years would substantially reduce the costs incurred by tobacco industry companies owing to the need to make these modifications.

An appropriate approach to enforcement

With one exception, we found no empirical evidence that enforcement as envisaged in the TobPA would be inappropriate. This exception concerns the fact that several cantons have deemed uncoordinated canton-by-canton implementation of product analysis (testing of tobacco products and e-cigarettes) not to be appropriate. We share this opinion because, among other things, product analysis requires substantial capital outlay and tobacco products are usually distributed throughout Switzerland and not just in individual cantons. Cantonal enforcement should be coordinated – for example by designating a national reference laboratory.