

The development of modern revenue controls on alcoholic beverages

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Executive summary

Tax stamps are used by regulators in approximately fifty countries globally in an attempt to protect alcohol tax revenues. This article assesses their effectiveness and takes a closer look at the factors critical to determining the overall success of tax stamps and related technologies. We show that, in isolation, tax stamps are a sub-optimal policy choice. Instead, the goals of curbing illicit trade in alcohol and protecting tax revenues require a much wider package of effective monitoring, control and enforcement measures. High and discriminatory rates of tax should also be avoided as these incentivise illicit trade.

At best, modern electronic stamps may make a positive contribution where they are an integral part of a much wider system of enforcement and deterrence, and where the tax system is well-designed. But it is also possible for stamp schemes to be counter-productive. The extra costs imposed on business can create upward pressure on prices, providing an incentive to avoid regulated channels. Stamps can also be susceptible to counterfeiting, and may act as a cover for other fraudulent practices, such as the refilling of stamped bottles with illicit alcohol.

Stamps embedded with a means of electronic communication may help the authorities identify legitimate product in the distribution chain and enable verification by consumers. In certain circumstances, they have been associated with reductions in illicit activity and an increase in tax revenue. However, this requires the development and maintenance of complex logistic and IT control networks in order to be effective.

Before introducing any anti-illicit alcohol strategy, authorities should ensure that they have a full understanding of the size and nature of the market. Successful anti-fraud strategies must be evidence-based and targeted to the nature of fraud, and implementation will depend heavily on well-designed and well-resourced surveillance, interception and deterrence activities. Indeed, if enforcement is sufficiently robust (and the tax system well designed), then potentially costly tax stamp schemes could be avoided altogether, with little revenue impact. By contrast, if enforcement is not sufficiently robust, then tax stamps may have little or no effect.

Governments considering the introduction of a new stamp scheme should carefully examine whether alternative policies could achieve the desired outcome at a lower cost. That may mean stricter controls on licensing, more sophisticated systems of surveillance and control, enhanced penalties for illicit activity, awareness campaigns aimed at potential suppliers and consumers of illegal alcohol, and/or more resources for the revenue, border and police authorities. Effective controls also require a partnership approach amongst national and international enforcement agencies, and can be enhanced by a partnership approach with the legitimate alcohol industry.

Whatever systems of enforcement and control are put in place, governments should also remember the potential for elevated tax rates to encourage informal activity at the expense of the formal tax-paying sector, thereby undermining revenues and encouraging the range of other problems associated with illicit trade, from irresponsible drinking to the funding of other crime. A simple tax structure will also foster compliance and transparency.

The seven case studies in this paper illustrate a number of the points referred to above:

- In Denmark, the government abolished tax stamps on spirits in 2015, having previously removed stamping requirements on wine in 2001. Stamps were widely considered to be outdated and unnecessarily burdensome and costly.
- Turkey's tax stamp scheme is partially credited with helping to reduce illicit trade. But more recently, illicit trade appears to have been recovering, with many blaming sharp rises in tax rates and tighter regulations affecting taxed products.
- In South Korea, a scheme involving radio frequency identification (RFID) tags now applies to whisky-based products. This has added considerably to costs for industry and the authorities and has not prevented legal sales and associated tax revenues declining.
- In the UK, illicit activity in the spirits market fell following the introduction of a scheme covering that category. But this was introduced as part of a much wider package of enforcement measures and views vary significantly on the role of the stamps.
- In Kenya, electronic stamps may have helped to combat some illicit trade, but costs to the industry are a concern. It is, however, too early to judge the effectiveness of the scheme's more recent extension to beer, which has exacerbated the cost impact.
- In Colombia, despite a longstanding system of tax stamps for spirits, use of smuggled and artisanal products has remained stubbornly high, with legal spirits use falling.
- In Morocco, the introduction of an advanced tracking system is credited by some with containing illicit activity in general, but it is not possible to detect a positive impact in relation to alcohol. With the cost of formal alcoholic products very high relative to artisanal and smuggled products, legal alcohol use, and taxes, have recently declined.

Overall, our review shows that tax stamps make a limited contribution to achieving their intended policy goals. To work well, the evidence base first needs to be established on the illicit market, and tax stamps should only be considered alongside key policy levers, including tax policy and the regulatory and enforcement framework. Success in curbing illicit trade and ensuring tax compliance will be assisted, and to a large extent facilitated, by:

- Ensuring that the excise duty system is well designed—simple, non-discriminatory and with rates not set so high as to incentivise a shift into the informal market
- Ensuring that the strategy to tackle fraud involves a robust understanding of the illicit market, credible and comprehensive data, a well-resourced monitoring and enforcement regime, and sufficient penalties to deter illicit trade
- Ensuring that tax stamps, if used, are difficult to counterfeit and not overly costly, and that procedures are in place to prevent other potential abuses of the stamp system.

1. Introduction

The sale of alcohol has long been subject to excise taxation, charged on the production or sale of specific products. Unlike customs duty, which is charged at the border when products are imported, excise duties are charged 'inland', typically on the sale or production for sale of the relevant good. Products which are subject to excise duties tend to be characterised by their inelastic consumer demand—when price goes up, demand for the product falls less than proportionately—as this makes them good candidates for raising revenue. To maximise that revenue, governments have often set high rates of excise duty for such goods.

Though overall demand may remain high in face of higher prices, reflecting the inelasticity, such policies very often lead to an increase in illicit trade as consumers seek cheaper sources of supply. In this way, setting excise rates excessively high will likely result in unintended fiscal and social consequences. For example, without effective forms of control, high rates of tax can result in a greater incidence of smuggling, non-declared domestic production, and greater use of counterfeit goods and illicit goods. As well as fuelling crime, this can have negative health implications (as counterfeit alcohol can be hazardous to public health, for example), higher enforcement costs, and a reduction in the revenues collected.

The term ‘illicit alcohol’ covers a range of situations including smuggling, tax evasion, and counterfeiting, and the problem will vary from market to market. It follows that a generic approach is unlikely to be effective. A guiding principle in introducing a tax stamp system should be that it is targeted to the problem, is effective and proportionate, and avoids significant disruption to legitimate business.

Governments have adopted a range of measures designed to ensure that taxes are paid and that illicit trade is minimised. More recently, governments have sought mechanisms that can also authenticate the goods and enable better tracking, to safeguard health and intellectual property rights, and ensure the provenance of products. In some jurisdictions tax stamps have been implemented to meet these multiple objectives—but with varying degrees of success.

This paper seeks to provide an assessment of the relative merits of tax stamps, drawing on the experience of a select group of countries. We regard the research as necessary as little if any research has been undertaken in this field, and hope that it will act as a spur to further, more extensive investigations. Due to the sparse nature of official data bearing on the study, and the need to distinguish cause and effect where data is available, some of the data and information had to be provided by industry sources, and some of the findings are based on interviews with industry experts based on the ground in the countries concerned.

We begin by reviewing the varying types and technologies of tax stamps, before providing an empirical assessment of their effectiveness via a case study approach. Finally, we provide an assessment of alternative and/or complementary means of tax and enforcement that can help to minimise tax evasion on excisable products.

2. Tax stamp types and technologies

2.1 What are tax stamps?

The use of tax stamps became widespread in the 19th century to collect taxes and fees. Stamps are issued by official bodies to indicate that a tax, duty or fee has been paid or pre-paid (or in some cases that tax is due). Usually, a producer will buy stamps from the government to the value of the duty owed, which are then affixed to each bottle to show that excise tax has been paid. The stamps come in many sizes and forms—e.g. gummed, perforated, printed or embossed—and may be fixed across a seal, so as to be destroyed when the bottle is opened.

2.2 Effectiveness of tax stamps

The design of the tax stamp and overall system can make an important difference to the effectiveness of the regime. In some circumstances a tax stamp system may actually increase the scope for alcohol-related fraud. The stamps themselves might be easily counterfeited, or it may be possible to re-fill genuinely-stamped bottles with illicit product. Any stamping and/or associated production processes therefore need to guard against these possibilities.

It follows that most paper tax stamps use highly specialised design features to guard against counterfeiting, along the same lines as for bank notes and using the same type of paper and ink. Regrettably, our case

studies find that even modern versions of paper tax stamps can be counterfeited, sometimes within weeks of their issue. To keep ahead of potential counterfeiters, stamps are regularly updated with technological improvements, including multiple security devices intended to prevent counterfeiting. The downside to this approach is that costs can be high for administration and enforcement agencies, as well as for industry.

Achieving the right balance between robustness and cost is therefore important. A costly system undermines the revenue-raising effectiveness of stamps, and/or increases the price of legitimate products. In the UK, production costs have been kept down by allowing stamps to be incorporated into the bottle's normal label, but this does nothing to prevent illicit re-filling, so other aspects of the enforcement and monitoring system are used to guard against that. Further, the rise of computerisation and the ability to track payments accurately have made the use of tax stamps as a revenue collection mechanism in developed countries less common.

3. Case studies: The effectiveness of tax stamps

A major difficulty for assessing the impact of tax stamps is the lack of available information, including that on the size of the legitimate alcohol market, on tax revenues, and on the size and nature of the illicit alcohol market. Typically, a robust post-implementation assessment of the system will not have been undertaken, as it would have been, ideally. Despite this, the following case studies attempt to examine and evaluate different tax stamp regimes based on the best available data. The profiles are informed by industry information and data, interviews with industry representatives on the ground, and information and data in the public domain. This includes data from the World Health Organization (WHO), for which the standard measure is pure litres of alcohol consumed by resident individuals aged 15 and over.¹

Note on choice of case studies and data sources

The countries were selected to ensure a variety of geographic locations and stages of economic development. In most cases, the schemes were introduced in the fairly recent past (2006-2012), to allow comparison between a 'before' and 'after' period. The two exceptions to this are Colombia, chosen as an example of a country with a longstanding scheme, and Denmark, which is pertinent as its scheme was abolished. The studies also encompass a range of different stamp features, stamp systems and wider anti-illicit strategies.

While some official estimates concerned with legal and illicit alcohol use, tax revenues, and tax shortfalls resulting from illicit activity, are available, the data is sparse. And we are unaware of any official or independent studies specifically investigating this subject. In some cases, we have had to rely on data supplied by industry sources—well-established, significant alcohol distributors based in the countries concerned—as no official or other information was available. The data so provided was checked by Oxford Economics for consistency with the wider economic, industry and fiscal data in the public domain and/or built into the company's suite of economic models.

Furthermore, hard data alone is insufficient to prove or disprove the usefulness of tax stamp schemes. Where an increase in revenues follows the introduction of stamps, that could be the result of the new scheme, but other explanations are also possible. For example, it may be that the scheme was introduced as part of a much wider package of anti-evasion measures, and that other elements of that strategy were the key to success.

The case studies also, therefore, relied on interviews with key figures in the countries concerned, to better understand the full picture and distinguish between cause and effect, and gather additional information such as that on business compliance costs. The interviewees included many with experience of working in the alcohol industry, but also some previously involved in government treasury functions. It is worth highlighting here that the legitimate drinks industry has a significant vested interest in the success of governments' anti-illicit alcohol strategies, and should therefore be expected to look favourably on any scheme able to counter illicit activity at a reasonable cost.

3.1 Denmark

3.1.1 Background

Tax stamps for wine and spirits had been a longstanding feature of the Danish system. But they were abolished in the case of wine in 2001, and eventually ceased to apply to spirits in 2015. Prior to that, two types of stamp had been operational—a paper strip stamp applied over the top and one side of the bottle, and a specially stamped ‘fiscal cap’. In practice, the bespoke complexities of operating the ‘fiscal capping’ machinery meant that the vast majority of imported products used the paper strip versions.

The decision to phase out tax stamps altogether followed a proposal by the Business Forum for Better Regulation (an independent body set up to advise the Danish Business Authority), motivated by a feeling that the system had become antiquated and imposed an unnecessary, material administrative burden on manufacturers and importers. Most member associations of the European Spirits Organisation supported the removal of strip stamps, reflecting concerns that they contravened the spirit of the European Single Market, their perceived ineffectiveness as a means of control, and the additional costs associated with their implementation.²

3.1.2 Cost impact for the industry

By general consensus, the introduction of tax stamps raised costs for producers, with a disproportionate impact on small firms. The Scotch Whisky Association (2011) paper pointed out that the requirement to apply strip stamps (of the type used in Denmark) reduced the efficiency of bottling line machinery by between 8 and 30 per cent and raised the overall cost of operating standard bottling processes on automated lines by between 7 and 10 per cent.

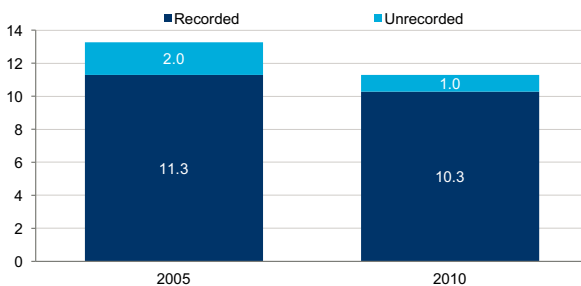
On top of this, firms were required to incur a significant capital expenditure cost with the price of stamping machines ranging between €50,000 and €235,000. Moreover, there was evidence to suggest that the per unit operational cost of implementing tax stamps fell with production volumes, so that the stamps imposed a relatively more damaging impact on smaller producers—a potentially anti-competitive effect.

3.1.3 Effectiveness in curbing illicit trade and impact on legal alcohol consumption

According to WHO data, there was a significant drop in unrecorded alcohol consumption between 2005 and 2010. But this was part of a wider decline in alcohol consumption over that period, with recorded consumption also declining, so the precise contribution of the tax stamp regime to the reduction in illicit use (if any) is unclear. In fact, WHO data point to a 9 per cent decline in recorded consumption volumes per head during that five-year period, led by a 19 per cent drop in legal spirits—the only type of drink covered by the stamp regime at the time.

Recorded and unrecorded consumption of alcohol in Denmark

Pure litres of alcohol consumed per person aged 15 and over

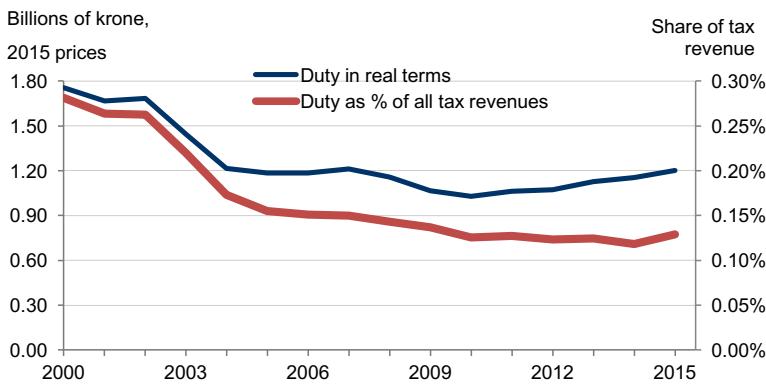


Source: World Health Organization

3.1.4 Impact on government revenues

While illicit trade fell significantly when the tax stamps were in operation, recorded use also eased back and there was no positive impact for tax revenues. Indeed, spirits duty revenues fell in inflation-adjusted terms, although that largely reflected a 45 per cent cut in duty rates in 2003. While the resulting 25 per cent drop in consumer prices was initially followed by a sharp rise in the level of recorded consumption per capita, this trend subsequently reversed. After 2004, excise duty revenues held steady. The most recent official data suggests that revenues from spirits duties were virtually unchanged in real terms in 2016, thereby holding above the levels achieved between 2009 and 2014, despite the abolition of the stamps.³

Excise duty revenues from spirits



Source: Oxford Economics/Eurostat

3.2 Turkey

3.2.1 Background

Strip stamps were introduced for all alcoholic drinks in Turkey in 2006, when illicit use was high as a share of total alcohol use (though not in absolute terms, by global standards). They were replaced by ‘next generation’ stamps in 2015—offering information to consumers via a mobile phone application. Once the stamps are activated, the Ministry of Finance and relevant Regulatory Board can monitor the movement of the products through the distribution chain.

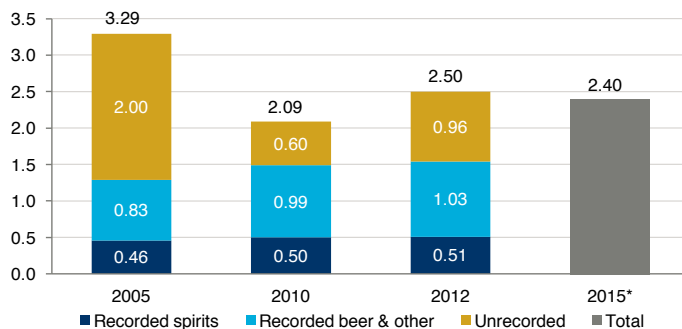
The stamps appear to have been successful in reducing illicit trade and unpaid taxes in the years immediately following their introduction, but more recently illicit activity is reported to have been on the increase in response to significant increases in tax rates. This underscores the point that, at best, tax stamps will only ever form a part of an effective tax and regulatory structure designed to minimise illicit consumption and maximise revenues.

3.2.2 Cost impact for the industry

Stamps are fixed to each bottle either on site by local manufacturers, or by importers at the border. The costs of the machinery needed to attach stamps are covered by the company to whom the scheme is outsourced (although this is effectively incorporated into the cost of the stamp). The cost impact for domestic manufacturers is lower as the process of fixing the stamps can be integrated into the wider production process. However, importers face higher costs as they need to unpack and repack bottles in order to fix the stamps.

Recorded and unrecorded consumption of alcohol in Turkey

Pure litres of alcohol consumed per person aged 15 and over



Source: World Health Organization
 * Projection. Consistent with unrecorded use of 0.95 litres if recorded use were the same as in 2014 (1.45 litres).

3.2.3 Effectiveness in curbing illicit trade

The period since 2006 has two distinct phases, with a pattern of improvement and then reversal reflected in the WHO figures. Untaxed use declined between 2005 and 2010, and the Turkish alcohol industry credits the introduction of tax stamps with reducing illicit activity at that time, not least because no other anti-illicit trade measures were introduced around the same time. More recently, however, illicit trade appears to have been increasing, with a clear rise in unrecorded consumption between 2010 and 2012.⁴ This picture is reinforced by anecdotal evidence of a more recent and ongoing increase in illicit trade in alcohol.

The most likely explanation for this reversal, and a view shared by both industry insiders and independent journalists in Turkey, is the set of stark policy changes made in recent years. Alcohol tax rates have risen at a sharp pace, such that in 2015 the price of a popular brand of Scotch whisky was 52 per cent higher than five years earlier (compared with a rise in general consumer prices of only 46 per cent).⁵ In addition, new restrictions on when, and where, alcohol can be sold, alongside a ban on all advertising and promotion of alcohol within the country's borders, were introduced in 2013. This suggests that any positive impacts of the stamp scheme in curbing illicit activity may have been offset by the negative impact of the wider tax and policy environment.

3.2.4 Impact on legal alcohol sales and on government revenues

The fall in untaxed use between 2005 and 2010 was accompanied by a modest rise in taxed use per head. International Wine and Spirits Research (ISWR) data show legal beer sales rising by 13 per cent in that time, with spirits up by 10 per cent and wine by 6 per cent. But since 2010, legal sales have fallen, with beer sales down by 10 per cent by 2015. Although sales of taxed spirits edged up by 4 per cent, and wine by 7 per cent, the overall impact is consistent with taxed alcohol per head (on the WHO basis) falling by 6 per cent over the five years. The initial increase in legitimate alcohol sales was followed by a rise in revenues from the 'special consumption tax' on beverages, from 0.21 per cent of GDP in 2008 to 0.33 per cent in 2012. But despite the sharp increase in tax rates since, this ratio had only edged up to 0.35 per cent by 2015.

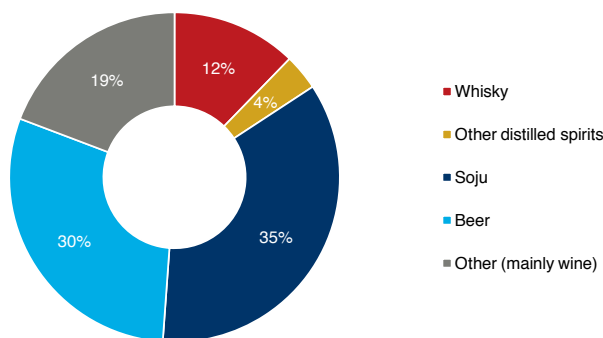
3.3 South Korea

3.3.1 Background

No stamp scheme existed in Korea until 2010, when a scheme consisting of RFID tags fitted to bottles was introduced to counter illicit trade in whisky products. The scheme was phased in gradually for whisky between 2010 and 2013, and extended to lower-alcohol whisky-based products in early 2016. It remains confined to these drinks only. As whisky accounts for only 4 per cent of recorded pure alcohol use, and for broadly 12 per cent of taxed sales by value, the impact on the overall alcohol market has been limited. There is no data relating specifically to the illicit whisky trade, but insights from industry players suggest that the scheme had helped to curb such trade—though with significant costs to business.

Breakdown of the market for alcohol in Korea

Approximate share of sales by value in 2015



Source: Oxford Economics estimates based on IWSR data and other industry sources

3.3.2 Cost impact for the industry

Tags are fixed by the manufacturer or importer and scanned by a reader through a labour-intensive process that also uses costly machinery—with imports having to be unpacked, tagged and re-packed. Some players see an upside, with the tags providing data on sales, making the market more transparent, and fostering cooperation between the authorities and legitimate business. But smaller firms typically take a less positive view. For them, the proportionate cost of fixing the stamps is higher as they often have to resort to contracting out the process.

3.3.3 Effectiveness in curbing illicit trade

Prior to the scheme, counterfeiting of whisky was not seen as a major problem. But illicit trade in genuine products was believed to exist, and industry insiders believe that the scheme has helped to counter this. The tags transmit information to the central authorities when the tags are fitted, and at the wholesale and retail stages. Counterfeiting is more difficult than for traditional tax stamps, and refilling tagged bottles with illicit product is difficult. Consumers are familiar with the scheme, and can read the tags using special scanners installed at outlets.

3.3.4 Impact on legal alcohol sales and government revenues

Despite the view that illicit trade has been curbed, legal sales of whisky fell from 22.6 million litres in 2010 to 15.8 million litres in 2015.⁶ However, this is simply a continuation of a longer-term trend, with sales having peaked at 31.8 million litres in 2002. Prices have been relatively stable, with the price of the most popular brand of Scotch rising by just 9 per cent over the last five years, which was only slightly below the 10 per cent rise in consumer prices generally.

Liquor tax revenues relating specifically to whisky declined from 265 billion Won in 2010 (0.15 per cent of central government tax revenue) to 171 billion Won in 2013 (0.08 per cent). This absolute decline was halted in 2014, as revenues increased marginally to 172 billion Won. However, without later time series data on the evolution of volumes or turnover it is not possible to gauge what effect the RFID system has had on whisky related tax revenues.

3.4 United Kingdom

3.4.1 Background

The UK tax stamp scheme came into effect in late 2006 in response to concerns about undeclared imports of genuine brands. The implementation of the technology was subject to an EU tender process, with the supplier supervised by the Her Majesty's Revenue and Customs (HMRC). Use of tax stamps by individual manufacturers is subject to a highly complex set of arrangements,⁷ with both regular and unannounced physical checks carried out.

The scheme applies only to beverages with an alcohol content of 30 per cent or more—so, in practice, almost exclusively spirits—and only to bottles of 35 cl or more. Since the scheme's introduction, illicit consumption of spirits has fallen, while legal sales of spirits, and associated duty revenues, have risen. But the precise contribution made by the tax stamps to this picture is unclear, as a wider set of enforcement policies has been introduced during the past decade.

3.4.2 Cost impact for the industry

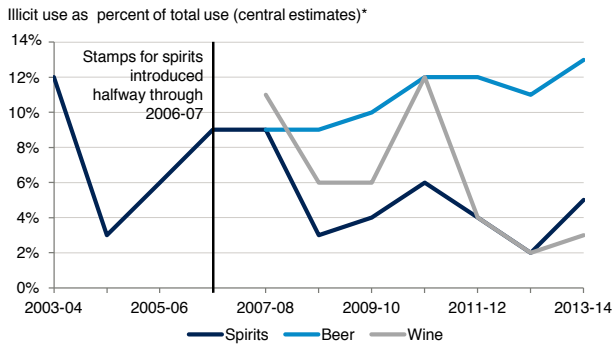
In some cases, the manufacturers or importers have the choice of incorporating the tax stamp into the bottle's main label, keeping costs lower than otherwise. But set-up costs were still regarded by the industry as significant, with ongoing costs still seen as such by smaller manufacturers. A further consequence of the incorporation of stamps into bottle labels is that stamped products cannot be exported, reducing the flexibility of producers in managing stock.

3.4.3 Effectiveness in curbing illicit trade

HMRC produces estimates of illicit consumption of spirits, beer and wine, and associated tax shortfalls. These suggest that the anti-illicit strategy has been successful for spirits, with illicit trade falling from 10.5 per cent of the market in the six full fiscal years prior to the scheme's introduction, to 4.7 per cent in the seven subsequent full years. But it is unclear how much of this fall can be attributed to the stamps, which have no kind of electronic feature. Many industry insiders argue that strip stamps have in fact made little, if any, contribution, and would prefer the system to be ended due to its costs. And the decline in illicit spirits has been broadly matched by a decline in illicit wine, to which stamps do not apply.

Success in bearing down on illicit use of spirits and wine is likely, instead, to be directly related to wider anti-fraud strategy. This includes the digitisation of warehousing declarations and alcohol movement records; use of due diligence and the Alcohol Wholesaler Registration Scheme to tackle criminal threats; liaison between the authorities and firms to make legitimate supply chains more secure; regulatory tightening to reduce fraud opportunities; co-ordinated sector working with police, health and local consumer protection authorities and more resources for fraud detection activity. More than 330,000 litres of illegal spirits were seized in 2015-16, with a revenue value (duty plus VAT) of £4.3 million. Although that is small compared with the remaining tax gap (£250 million for spirits duty plus VAT, for 2013-14), the fall in illicit activity is consistent with activities of this kind having a considerable deterrent effect.

Illicit consumption of alcohol in the UK



Finally, it is worth noting the recent rise in illicit trade in beer, which is mainly smuggled or diverted (within the EU) genuine product, rather than counterfeit product. As a result, the shortfall in beer, wine and spirits duty revenues together fell only from 10.3 per cent in 2007-08 to 7.6 per cent in 2013-14, whereas that for spirits and wine alone dropped from 9.6 per cent to 4.2 per cent. Estimates and projections published by WHO, meanwhile, show that total unrecorded alcohol use in the UK fell from 9.7 per cent of the market in 2005 to 8.6 per cent in 2012, but nudged back up to above 11 per cent by 2015. Some industry experts have therefore suggested that the policy of applying the scheme to spirits, but not to beer, is inconsistent.

3.4.4 Impact on legal alcohol sales and government revenues

Legal sales of spirits rose by 16 per cent in volume terms between 2005 and 2015, compared with growth in the adult population of 9 per cent. That was achieved despite significant price rises, partly related to increases in duty. The cost of the most popular brand of vodka increased by 57 per cent over the 10 years, compared with a rise in the general consumer price level of only 25 per cent. HMRC's estimates of the percentage shortfall in excise duty closely follow the share of illicit consumption in the market. Helped by the downward shift in the latter, spirits duty revenues increased by a cumulative 36 per cent in real terms between 2005-06 and 2015-16, to £3.15 billion, ahead of the 18 per cent rise in the relevant rate of excise duty.

3.5 Kenya

3.5.1 Background

The history of tax stamps for alcohol in Kenya falls into three phases. The system was extended from tobacco to spirits in 2006, in an attempt to curb significant illicit use and tax losses. But the stamps had no electronic function and were easy to counterfeit, and illicit trade remained widespread. This prompted the introduction of new electronic stamps in early 2013, as part of the wider Excisable Goods Management System enabling stamped products to be tracked and validated. But the effectiveness of that system remains unclear and disputed. Finally, in early 2016 the system was extended to cover all alcoholic drinks including beer.

3.5.2 Cost impact for the industry

The tax stamp and tracking systems have added significantly to costs, taking into account the installation of stamp fixing equipment, the fixing process, the cost of the stamps themselves (which are charged for on top of excise duty), machine downtimes associated with the system, system management, and meetings with officials. The costs are borne by the industry with no help from the government, but in practice they are passed on to the final consumer.

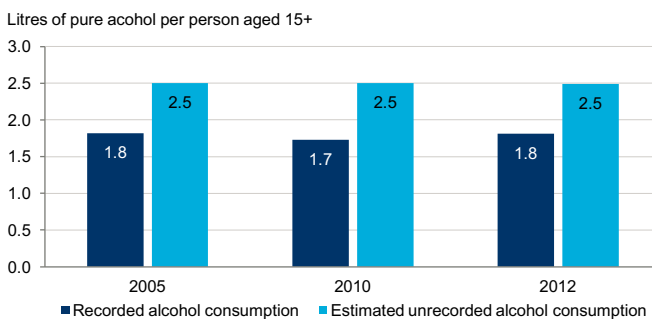
The industry's concerns about costs were compounded by the extension of the scheme to beer. In the six months following this move, the cost to a key industry player is put at one billion shillings (USD10 million). This includes the cost of stamps for drinks of all types, and losses associated with significant machine downtimes, but it mostly relates to beer. Beer production in Kenya is currently running at around one billion bottles per year (400 million litres, mostly in 0.5 and 0.3 litre containers). With each stamp charged at 1.5 shillings, the annual cost of the stamps alone, for Kenyan beer manufacturing operations, will amount to 1.5 billion shillings (USD15 million). Consequent price rises are then magnified by the impact of VAT.

3.5.3 Effectiveness in curbing illicit trade

According to the WHO, untaxed consumption accounted for the majority of alcohol use in 2005, with the picture remaining similar in 2010 and 2012.⁸ Continued illicit use at that time involved undeclared production, inward smuggling, 'flow back exports', and counterfeiting. The fact that the original tax stamps were 'mute' made them less effective, while counterfeiting of stamps, and the fixing of genuine stamps to counterfeit products, are believed to have exacerbated the problem. This illicit activity is believed to have centred on spirits rather than beer.

The system introduced in 2013 will have made it easier to identify and deter illicit activity. The new stamps have enhanced security features and electronic function. A track and trace system is now in place enabling licenced manufacturers and importers to order, pay for and activate the stamps, and the Kenya Revenue Authority (KRA) to approve orders and analyse activity. The KRA also set up the Market Surveillance Unit, with 100 officers recruited in 2014, on the way to a target of 300. New devices enable these officers, as well as manufacturers, distributors and retailers, to validate stamps, and tens of millions of shillings-worth of illicit products, including spirits, have since been seized and destroyed. Advertising campaigns are run, and consumers can validate stamps using smartphones, and report suspicious products via a hotline.

Recorded and unrecorded alcohol consumption in Kenya



Source: World Health Organization

Even so, the practical impact on illicit trade is as yet unclear, and disputed. No WHO data on untaxed use is available post-2012, and while the KRA points to a sharp rise in revenue collection, industry insiders do not believe that the system has been effective in curbing illicit trade. Illegal and potentially dangerous home-brewed alcohol, consumed on site in 'secret dens', is believed to have remained common. Illegal imports of spirits may continue to be encouraged by the existence of lower-priced products elsewhere in the East African customs union. And there is also a view that it is only a matter of time before the new stamps are counterfeited. Industry officials believe that, while there is an unregulated supply of

traditional or artisanal beer, illicit trade in genuine or counterfeit products was never a problem for beer, and that extending stamps to these products has simply pushed up costs and prices for no good reason.

3.5.4 Impact on legal alcohol sales and on government revenues

According to the WHO dataset, taxed consumption remained steady, at close to 1.8 litres of pure alcohol per head, throughout 2005-2013. That is consistent with tax stamps doing little to encourage switching from illicit and informal consumption to formal use at that time. More recent ISWR data is consistent with legal use of spirits picking up on a per capita basis between 2013 and 2015, and with beer and spirits sales holding up at historically high levels in 2016.⁹

However, the industry does not believe that the stamp system has contributed to recent buoyancy—indeed, it is thought that sales would have been higher still had it not been for stamp—and excise-driven price increases, especially for beer. Instead, it is put down to wider economic growth, investment in the market by international stakeholders, and a review of tax on alternative alcoholic drinks made from sorghum. To the extent that some spirits consumption may have switched from the illicit to the legal market in 2015 and 2016, this is put down to increased anti-illicit activity, rather than the use of the new tax stamps.

It is widely accepted that the original ‘mute’ tax stamp system did little to curb illicit activity. Indeed, total excise duty revenues declined from a peak of 3.2 per cent of GDP in 2005-06 to 2.0 per cent in 2011-2012.¹⁰ The position since the introduction of the track and trace system is unclear. The KRA state that revenues relating to tobacco, spirits and wine jumped by 40 percent after the system’s introduction. But while total excise duties rose from 79 billion shillings in 2011-12 to 140 billion in 2015-16, as a share of GDP they have only risen to 2.1 percent. Most recently, increased rates of duty for beer and soft drinks are expected by the authorities to bring in 17 billion shillings per year, with a further 30 per cent boost to revenues from these items due to the extension of tax stamps to them. But whether these revenues are realised, or sustained, remains to be seen, given the potential for higher prices to suppress beer sales.

3.6 Colombia

3.6.1 Background

Colombia has a longstanding system of tax stamps. All imported and domestically-produced spirits, spirits-based ready-to-drink products (RTDs), and wines, require a tax stamp specific to the department (regional authority area) in which the drink is to be sold. Despite this, the illicit share of total alcohol use has remained stubbornly high, with growth in the legal market subdued in recent years and associated tax revenues depressed as a consequence. The federal authorities have announced an intention to introduce a national ‘track and trace’ system in response, but the timeline for implementation, and other key details, have yet to be confirmed.

3.6.2 Cost impact for the industry

While the stamps themselves do not have to be paid for, over and above the excise duty payment that they signify, the wider system nevertheless involves significant costs. The stamps must be affixed over the closure of each bottle, with one international company running 20 warehouses across the country where manual fixing takes place. Payments must be made for legal documents allowing the transportation of imported alcoholic products, and the company pays a logistics partner to undertake the significant amount of paperwork associated with the payment of excise duty. No financial help is given by the authorities. Taking other costs into account too, Colombia is regarded by the industry as one of the most expensive

countries in the world in which to operate. And while the cost of complying with the legal framework is not significant on a per bottle basis for large scale operations, it can be for smaller legitimate firms.

3.6.3 Effectiveness in curbing illicit trade

Despite the tax stamp system, illicit trade is fairly widespread. This is encouraged by the poor affordability of legal products, taking local earnings into account, and the availability of lower-priced alcohol in neighbouring countries. High rates of excise duty, the system of departmental-run monopoly alcohol retailers (“licoreras”), and the associated restricted availability of legally-imported products, are all blamed for contributing to this picture. Total alcohol use is estimated by WHO to have been close to the global average, at just over six litres of pure alcohol per head, in 2010 and 2012. But the proportion accounted for by unrecorded use was around 30 per cent, which was little changed on 2005 and clearly above the global average of 24 per cent. Euromonitor International (2015) also finds the illicit share of the total to be fairly high by global standards.

Illicit alcohol trade is reported to mostly involve spirits rather than beer or wine, and to include smuggled imports (such as from Venezuela, Panama and Aruba), counterfeiting, and the manufacture of illegal and potentially dangerous adulterated spirits. Smuggled products are often channelled through the La Guajira special customs zone, while some counterfeiting involves adulterated spirits being bottled in recycled, originally-genuine containers. Organised criminal gangs are reported to be heavily involved in all of these activities. Euromonitor suggests that counterfeit alcohol accounted in 2014 for 46 per cent of the illegal market by volume, and contraband (i.e. illegal imports) for 36 per cent, with drink not intended for human consumption (10 per cent), illegal artisanal products (5 per cent), and evasion of duty by otherwise legal products (3 per cent) making up the remainder.

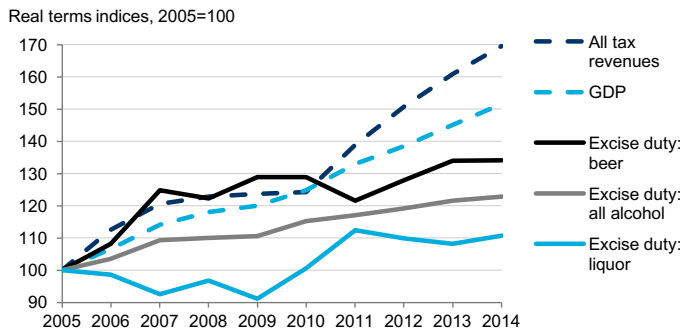
The tax stamps are regarded by the industry as easy to counterfeit. In addition, the industry concurs with journalists’ reports suggesting that a black market exists allowing smugglers and counterfeiters to get hold of genuine stamps, and that genuine original bottles, bearing genuine stamps, have been found to have been refilled. So, while consumers can check the validity of stamps by visiting a website, this is not sufficient to guarantee the legitimacy of a product. The legitimate industry believes that government enforcement activities could and should be stepped up, with the penalties for illicit activities strengthened. Implementation of the proposed federal tracking system would be welcomed as part of wider enforcement efforts.

3.6.4 Impact on legal alcohol sales and on government revenues

Recorded alcohol sales are reported by the WHO to have been fairly steady on a per capita basis, at around 4.5 litres of pure alcohol per head, throughout the period 2000-2014. The market mainly comprises beer and spirits, with legal beer consumption rising over that time but legal use of spirits—the subject of the tax stamps regime—declining. The Euromonitor report suggests that legal sales volumes grew more slowly than illicit volumes between 2012 and 2014, while ISWR-based estimates point to subdued growth in legal sales between 2012 and 2015, with legal spirits consumption dropping in the latest year.

The Colombian authorities suffer significant tax losses as a result of contraband and counterfeit alcohol, with the same Euromonitor study for example putting fiscal losses at USD423 million in 2014. As alcohol-related excise duties collected in that year amounted to just over USD1,500 million, this loss is clearly significant in proportionate terms.

Trends in tax revenues relative to GDP



Source: OECD/Haver Analytics/Oxford Economics

With growth in the legal market constrained, alcohol-related taxes have fallen as a share of total tax revenues and GDP. Between 2005 and 2014, OECD data show the total of all tax revenues in Colombia increasing by a cumulative 70 per cent in inflation-adjusted terms, ahead of the rise in real GDP of 50 per cent. But alcohol-related excise duties grew by a comparatively modest 23 per cent on that basis, only just ahead of the 19 per cent rise in the adult population. Beer-related duty revenues rose by 34 per cent in real terms in that time, while liquor-related revenues were up by just 11 per cent, with no growth at all after 2011. Alcohol duties fell from 2.7 per cent of all tax revenues in 2005 to 2.0 per cent in 2014, having accounted for 4.0 per cent as recently as 1999. For departments owning and running “licoreras”, high levels of illicit spirits use, at the expense of legal spirits purchases, will also depress non-tax state revenues.

3.7 Morocco

3.7.1 Background

Morocco introduced a new sophisticated tracking system in 2012, aimed at countering illicit trade in excisable goods of all kinds and shoring up associated tax revenues. Alcoholic drinks are covered amongst a much wider range of products.

While the country has a comparatively low level of alcohol consumption, WHO estimates point to the share of illicit use in that total still being comparatively high in 2012, despite a clear drop compared with 2005. Since 2012, the new tracking system is credited by some experts with reducing illicit trade, and associated tax avoidance, for excisable products in general. But for alcohol specifically, the formal industry nevertheless remains concerned about both smuggling and artisanal production. Tracking system-related costs, as well as tax rises, are blamed for pushing up the price of taxed and regulated drinks, relative to their informal counterparts, resulting in a fall in the consumption of formal products and alcohol-related tax revenues.

3.7.2 Cost impact for the industry

Industry sources suggest that the combined cost of recent tax rises and implementation of the secure tagging system forced local beer manufacturers to raise selling prices by between 12 and 25 per cent. Taking into account information on recent tax rises and selling prices, the tax element appears to account for around half of this extra cost, suggesting that the cost of implementing the tagging system alone has added some 6-12 per cent to the prices charged.

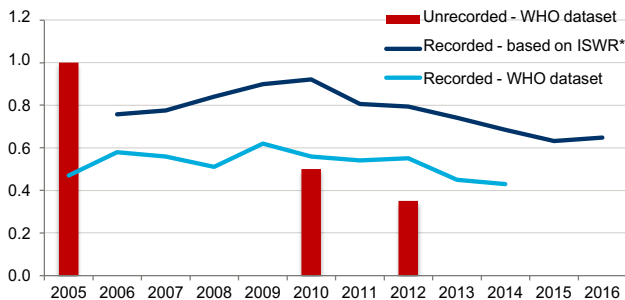
3.7.3 Effectiveness in curbing illicit trade

WHO estimates show that unrecorded use fell significantly between 2005 and 2010, but that the share of the total market still remained high by global standards in that year, and in 2012.¹¹ The tracking system introduced since is well regarded by experts in the revenue protection field, and credited with pushing illicit trade down and holding revenues up, at least for excisable goods in total.¹² But despite this, the formal alcohol industry remains concerned about both smuggling and artisanal production. Smuggling is reported by industry sources to be rife in Northern Morocco, with reports of 70,000-100,000 smugglers travelling daily to and from the Spanish enclaves of Ceuta and Melilla. Illicit imports are also reportedly sourced from Gibraltar and the Canary Islands. Smuggled product is estimated by the industry to be in the region of 4-5 million litres per annum—equivalent to as much as 4 per cent of legal market volumes.

Artisanal production meanwhile is reported to be a substantial 50 million litres per annum, which could be as high as 40 per cent of total legal alcohol sales volumes. These products are very attractive in terms of price, with a typical 70cl bottle of spirits-strength alcohol costing around 4 dirhams or less, compared with over 70 dirhams for an equivalent bottle produced by the taxed and regulated sector. As well as avoiding tax, suppliers of these products also avoid the cost of complying with regulated production and bottling standards, and the labelling is often misleading. Artisanal products sold in the more remote regions typically bear counterfeit tax stamps, but those sold in shopping malls tend to bear genuine stamps.

Estimates of recorded and unrecorded alcohol use in Morocco

Litres of pure alcohol per person aged 15+



Source: Oxford Economics

* OE interpolation of ISWR volume data

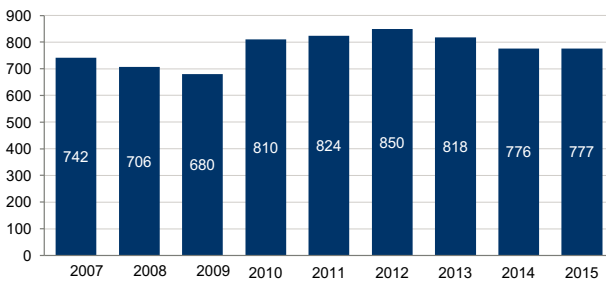
3.7.4 Impact on legal alcohol sales and on government revenues

While the impact of the new tracking system on illicit trade may be open to debate, it has not prevented a decline in legal alcohol consumption, of more than 20 per cent between 2010 and 2016—or around 30 per cent on a per capita basis. During that time, tracking system-related costs, as well as tax rises in 2010 and 2013, will have exacerbated the cost differential between stamped products on the one hand and artisanal and smuggled products on the other.

Industry sources suggest that the amount of domestic consumption tax paid in relation to beer increased by 14 per cent in real terms between 2007 and 2012, but that these revenues fell by 9 per cent on the same basis over the following three years, as sales volumes for taxed products declined. Partial data also point to a steep drop in tax revenues from wine sales between 2014 and 2015. These sources also suggest that beer – and wine-related tax revenues lost as a result of artisanal and smuggled products may be in the region of 100-200 million dirhams (USD10-20 million), equivalent to 10-20 per cent of beer and wine-related tax receipts.

Inflation-adjusted consumption tax revenues from beer

Millions of dirhams at 2015 prices



Source: Industry sources; Oxford Economics

4. Are tax stamps effective?

The case studies suggest that tax stamps play only a limited role in revenue protection and illicit trade containment. They also show that their efficacy depends on a wider system of regulatory oversight, enforcement and deterrence, and on the tax and regulatory system not being so onerous as to stifle legitimate trade. At worst, tax stamps can lead to unintended consequences by acting as a cover for illicit trade (e.g. through counterfeited stamps or refilled stamped bottles), and/or by exacerbating the price differentials between taxed and informal products.

Of the limited advantages of tax stamps, the case studies highlighted the following:

- As shown in the Turkish example, tax stamps were, briefly, effective in reducing illicit activity, by deterring retailers and consumers from purchasing unstamped products.
- As demonstrated in South Korea, more sophisticated implementation has made it more challenging, if not impossible, to counterfeit products. However, this is an expensive option that is unlikely to be suitable for high volume or low cost alcohol products.
- Modern tax stamp systems can aid consumer awareness and engagement about quality standards and provenance, as seen in the studies of South Korea and Turkey, particularly when integrated with mobile application use.

Despite these benefits, the case studies and wider literature highlight a number of difficulties:

- Before introducing a tax stamp system, the authorities should undertake a robust analysis of the size and shape of the illicit market, and assess whether tax stamps will have any impact on the problem.
- Post-implementation assessment should be part of a tax stamp regime, both to correctly assess the impact, and to identify whether the scheme is operating as envisaged.
- Stamps will only be effective in combination with robust enforcement mechanisms to identify missing or false stamps, or where consumer awareness is sufficient.
- Enforcement can also be costly; for some schemes the authorities need to be equipped with special handheld readers to enable them to detect illegal products. These extra costs are usually passed to consumers in higher prices, fuelling demand for illegal products.

- Technological advance means that tax stamps are quickly susceptible to counterfeiting, so regular and sophisticated updates may be needed to secure long-term benefits.
- Initial implementation and updates can be costly. Affected businesses may have to redesign bottling lines, manage the receipt and use of stamps, and pre-pay taxes when buying the stamps. This may deter new firms from entering the legal market.
- Typically, tax stamp schemes will be subject to a tender process and supplied by an external contractor. This takes time and government resources to administer, and officials may or may not have the necessary skills, experience or understanding of the technology. Likewise, the rigidity of tender processes can mean that, once a supplier has been accepted and a contract is in place, that particular type of stamp is used for several years even if it becomes out-dated or subject to significant counterfeiting. And even if delivery is outsourced, revenue authorities will usually be responsible for controlling both products and stamps, using up human and fiscal resources.
- Tax stamps can only ever be part of a broader solution to illicit activity. Their effectiveness can be undermined either by the particular design or technology, or by wider considerations or policies that affect demand. The robustness of the wider anti-illicit strategy will be significant, as will the relative affordability of taxed and stamped products, which will be affected by the tax regime as well as tax stamp-related costs.

5. Alternative or complementary measures to combat tax evasion

In many jurisdictions, tax stamps have been introduced as a mechanism of revenue control, intended to reduce illicit activity and tax evasion. But as the review also demonstrated, tax stamps will not work in isolation. In particular, their effectiveness relies on two things: a carefully considered and well-structured wider tax policy; and the existence of a credible and well-resourced information and enforcement regime. Indeed, if the tax is well-designed and enforcement is sufficiently robust, then potentially costly tax stamp schemes could easily be avoided altogether, with little revenue impact. It follows that governments considering introducing a new stamp scheme should examine whether alternative policies could achieve the same aims at a lower cost. Here, we explore the various alternative or complementary measures that could be used instead of or alongside tax stamps.

In terms of wider tax policy, it is possible to establish a set of guiding principles or structural requirements that will help create an environment that encourages tax compliance. Effective responses to tax evasion and illegal trade rely on the establishment of comprehensive cross-cutting strategies to reduce both the supply of and demand for illegal products, and must recognise certain basic determinants of success. For example, it is critical that policy makers implement alcohol tax regimes that are simple to administer, non-discriminatory and impose reasonable tax rates to reduce incentives for illicit trade, protect revenue and encourage responsible drinking decisions for those that choose to drink.

Any system of effective revenue control will also rely on good licensing practice, high quality and timely information capture and well-resourced authorities. An excise operator's licence should be a privilege not a right and it is essential that 'rogue' operators are not allowed to enter the trade. This requires a system of strict controls on licensing and the maintenance of a national electronic database of all excise operators that contains risk and compliance data and can be analysed to identify trends across trade segments—for instance, by volume of production or region—and enable resources to be deployed according to compliance risk.

Where possible, integration of excise databases with import and export data should be sought, to obtain a full picture of the trading activities. Effective controls also require robust supply chain controls and policy makers should consider licensing of wholesalers, retailers, and transporters of alcohol tax-free

under bond, as the most effective system. However, although ‘Know Your Supplier’ and ‘Know Your Customer’ are good business practices, the licensing of wholesalers and retailers will only be successful if there are sufficient resources to administer and enforce controls on such a large number of traders.

Successful anti-fraud strategies also depend heavily on well-designed and well-resourced surveillance, interception and deterrence activities. Enforcement systems should combine thorough audit, credibility controls and unannounced physical checks to cover all possibilities of tax evasion and avoidance. Effective national controls are also usually characterised by a partnership approach across all enforcement agencies nationally and internationally to tackle illegal trade. Development of a partnership approach with legitimate businesses and trade associations to tackle illegal trade is also an integral part of modern revenue controls. Further information is available in ‘Guidebook to the Successful Introduction of a Specific Excise Tax on Alcohol Beverages’ published by the International Tax and Investment Center in 2011.

6. Conclusion

The effectiveness of any tax stamp system will depend on both the wider anti-illicit strategy and the scheme detail. The affordability of taxed and stamped products (taking into account the impact of taxes and the cost of the stamping process) will also play a central role. Tax stamp schemes can only be effective as a means of curbing illicit consumption and protecting tax revenues if effective monitoring, control and enforcement measures are also put in place, and if tax rates and business costs are not so high as to incentivise illicit consumption at the expense of the legitimate industry.

While it is possible for tax stamps to help contain illicit trade in alcohol, and associated tax losses, this is far from guaranteed without considering a multitude of other factors including careful design, implementation and consideration of the specifics of a market and its influences. Success in curbing illicit trade and ensuring tax compliance will be assisted, and to a large extent facilitated, by:

- Ensuring that the excise duty system is well designed—simple, non-discriminatory and with rates set at levels that are not so high as to provide a significant incentive to shift into the informal market;
- Ensuring that the strategy to tackle fraud involves a robust understanding of the illicit market, credible and comprehensive data, a well-resourced monitoring and enforcement regime, and sufficient penalties to deter illicit trade;
- Ensuring that Revenue Authorities work closely with other enforcement authorities such as Customs, the Police and consumer protection agencies as well as with health authorities to impact on public awareness and on local sales of illicit products across the country; and
- Ensuring that tax stamps, if used, are difficult to counterfeit, and that procedures are in place to prevent other potential abuses of the stamp system. The system must be balanced so that unnecessary costs are minimised for legitimate industry players.

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Notes

- 1 In the WHO dataset, ‘recorded consumption’ is that known about through trade, production, and distribution records, which will have attracted tax in the country. ‘Unrecorded consumption’ will not have borne tax there. This category includes home-produced alcohol and personal imports, whether legal or illegal, as well as all forms of smuggled, bootlegged and illegally-produced drink, and any other instances in which licensed distribution channels have been avoided. WHO data and projections, and projected estimates for some recent years, can be found at: <http://apps.who.int/gho/data/node.main.A1022?lang=en>.
- 2 See Scotch Whisky Association (2011) as an example. The European Spirits Organization has since merged with another trade association to become Spirits Europe.
- 3 Nominal revenue figures can be found at: <http://www.statistikbanken.dk/Statbank5a/SelectVarVal/Define.asp?MainTable=SKAT&PLanguage=1&PXSID=0&wsid=cftree>, table 5.3.17. These are adjusted by the Danish GDP deflator to arrive at the real-terms figures quoted.
- 4 It should be stressed that while the industry accepts that the pattern shown in the WHO data is accurate, it regards the absolute level of illicit trade portrayed in that dataset to be vastly overestimated. The 2012 figures combine the WHO projected estimate for total consumption in that year with actual WHO data on recorded consumption.
- 5 Prices and volumes are based on Oxford Economics analysis of International Wine and Spirits Research (ISWR) data.
- 6 Oxford Economics analysis of International Wine and Spirits Research (ISWR) data.
- 7 See <https://www.gov.uk/government/publications/excise-notice-ds5-uk-duty-stamps-scheme> for more detail.
- 8 The 2012 figures are based on WHO’s projected estimate for total use in that year and the actual WHO data for recorded use.
- 9 Oxford Economics analysis of International Wine and Spirits Research (ISWR) data.
- 10 Including tobacco as well as spirits and beer—no breakdown is available. The fiscal year runs from July to June.
- 11 The 2012 figures are based on WHO’s projected estimate for total use in that year and the actual WHO data for recorded use.
- 12 See Norgrove (2014), for example.

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Her publications include 'The Illicit Tobacco Trade and How to Tackle It' (2011, 2013), and 'Guidebook to the Successful Introduction of a Specific Excise Tax on Alcohol Beverages' (2011)—all published by ITIC. She is a member of the OECD working party on 'Tackling Illicit Trade'.