ESTIMATING THE FISCAL AND ECONOMIC IMPACTS OF HEALTH TAXES ON FOOD, ALCOHOL, AND TOBACCO

Background paper 3

4–5 December 2017
Geneva, Switzerland
INTRODUCTION

This third background paper for the Strategy meeting on the use of fiscal policies for health (4-5 December 2017, Geneva, Switzerland) focuses on the economic and fiscal impact of taxes on unhealthy food, alcohol and tobacco products. This paper summarizes our initial review of the following sources:

- Official WHO publications (HQ and regions) from 2010 to 2017; A draft for implementing SSB taxes was also included;
- Reports from government agencies and NGOs;
- Publications from other international organizations (World Bank, IMF, OECD) from 2013-2017;
- Journal articles and news articles from 2016-2017 which were obtained via searches in PubMed, Google, and recommended articles from WHO colleagues.

This paper also puts economic considerations of health taxes in a health policy perspective, and makes remarks about the special requirements for effective health taxes and other fiscal policies.

Finally, the paper summarizes the relevant conclusions and recommendations about earmarking for health from the recently published paper *Earmarking for health: from theory to practice* (Cashin C., Sparkes S., Bloom D. Earmarking for health: from theory to practice. Geneva: World Health Organization; 2017.), as well as information from the session on earmarking at the 2017 WHO Symposium on Health Financing for UHC - Public Financing for UHC: Towards Implementation.

HEALTH TAXES AS HEALTH MEASURES WITH REVENUE AND ECONOMIC IMPLICATIONS

The policy rationale for a health tax is to change the behaviour of consumers (or producers), in other words, to discourage through taxation (or other price policies, such as minimum pricing) the consumption (or, in the case of producers, the production) of goods with negative health impacts, or on the other hand to encourage (for example, through subsidies, or negative taxation) the consumption (or production) of goods with positive health impacts. The principal aim of health taxes is therefore to produce health outcomes.

Nevertheless, by its nature taxation is related to a variety of consequential economic outcomes, such as changing the income of producers, consumers and tax authorities, as well as potentially changing the productivity of the economy as a whole, including through trade-related impacts. Economic impacts are not the principal objective of health taxes, but they are nevertheless socially important outcomes that policy makers need to take into account. Indeed, the majority of arguments advanced against health taxes do not attempt to rebut their positive health impacts but rather to convince policy makers that the negative *economic* impacts of health taxes outweigh their health benefits.
To advise countries and policy makers, we need, therefore, to understand the basis of the economic arguments about health taxes. We also need, moreover, to be able to employ coherent economic arguments as a part of a comprehensive approach to discussing health taxes and related price policies with policy makers. Usually, public health professionals rely on economic experts to develop and evaluate economic arguments. That said, it is highly desirable for public health professionals to be intelligent consumers of economic expertise and, conversely, not to be silenced by the rhetoric of economic sophistry.

ECONOMIC AND FISCAL ASPECTS OF TAXATION

Of all the economic impacts of taxation, one of the most relevant, the understanding of which moreover provides a framework for analysing other economic impacts of taxation, is the fiscal impact of taxation (i.e. the tax revenues).

Taxes were originally conceived of as revenue-generating public policies. It is valid, therefore, to start our discussion on the economic and fiscal implications of health taxes from the perspective of tax revenues. In general, the revenues resulting from a tax are equal to the tax rate (%) multiplied by the tax base ($):

\[ \text{Revenues (\$)} = \text{Tax Rate} \% \times \text{Tax Base (\$)}. \]

Consider an indirect tax, such as a sales tax on a commodity, that changes the price of a market-traded commodity at the point of purchase. The tax base is equal to the value of the quantity of the commodity sold following imposition of the tax.

The quantity of the commodity sold after the tax will be less than the quantity sold prior to the imposition of the tax. This is the defining objective of a health tax. What is not obvious is that the (pre-tax) price of the commodity following the imposition of the tax is less than the (non-tax equilibrium) price of the commodity, i.e. the commodity price prior to establishment of the tax. This is an economic outcome, and while it is not the principal objective of a health tax it is nevertheless an important consequence of one.

We noted above that tax revenues are equal to the product of the tax rate and the tax base, but in practice this amounts to a truism. Although the tax rate is generally known (by definition) or can be estimated, estimation of the tax base is not straightforward. The tax base, which is the value of the commodity sold following imposition of the tax, depends both on the quantity of the commodity sold and on the (pre-tax) price of the commodity sold following imposition of the tax, and both of these variables, price and quantity, will almost always be simultaneously changed by the tax (this is an example of what is sometimes called “the endogeneity problem” in econometric estimation).
For illustration, let’s think of the tax in unit terms, i.e. as the product of the tax rate and the (pre-tax) value of the commodity sold. In visual terms (Figure 1), the imposition of a tax ($t$, expressed in dollars ($\$$)), drives a wedge between the price paid by consumers for the commodity (the consumer price, $P_C$) and the price that producers receive (supply price, $P_S$). In the figure, tax revenues, which constitute the income of the tax authorities, are shown by the light-green shaded rectangle. The tax $t$ is the height of the rectangle in dollars. The tax $t$ is equal by definition to the consumer price ($P_C$) minus the supply price ($P_S$).

In the terms of the figure, the tax rate is equal to the tax $t$ divided by the supplier price, $P_S$, and is expressed in percentage terms (%). Tax revenues are therefore equal to the tax $t$ ($\$$) multiplied by the quantity of the commodity sold following imposition of the tax, $Q(t)$, which latter is the width of the light-green rectangle.

So to estimate tax revenues ex ante it is important to know both the quantity sold and either the pre-tax price (i.e. the supply price, $P_S$) or the final price (i.e. the consumer price, $P_C$) subsequent to imposition of the tax. However, to estimate the variables price and quantity ex ante we need to know either all the characteristics of the demand curve or all the characteristics of the supply curve. If all we know is the elasticity of demand or supply (i.e. from the slopes of the curves in Figure 1), as well possibly as the price $P(0)$ and the quantity $Q(0)$ of the commodity sold prior to imposition of the tax, then it is impossible estimate with confidence either the tax base or the tax revenues, at least ex ante. Let’s illustrate this in terms of Figure 1.

To estimate the quantity sold following imposition of the tax, we might use the slope of the demand curve (expressed in elasticity terms), which equals %run divided by %rise (Figure 1). We might solve the elasticity equation for %run, then multiply %run by the quantity sold prior to imposition of the tax. Then we could add the (negative) change in the quantity sold following the tax to the original amount of the commodity sold. That is, we might try to calculate the following equation (Figure 1):

$$Q(t) = Q(0) + [Q(0) \cdot (% \text{ rise} \cdot t \cdot \text{elasticity})]$$

However, the variable $t$ ($\$$), which is required in this equation, is equal to the product of the tax rate (%) and the supply price ($\$$), and we cannot in general know ex ante the supply price following imposition of the tax unless we know all the characteristics of the supply (or demand) curve.
This is an important point: either we know all the supply (demand) curve characteristics, or we cannot estimate *ex ante* the tax base (or the tax revenues). It is important, therefore, on the one hand, to be modest in making *ex ante* claims about the tax base, and, on the other, to insist on modesty when others make *ex ante* claims about the tax base or the tax revenues (unless, that is, we know – or can estimate – all the characteristics of the supply or demand curves).

If we know only the elasticities (slopes) of the supply and demand curves, we can nevertheless estimate the proportion of the tax rate that is subtracted from the producers’ supply price ($P_s$), as well as the proportion of the tax rate that is added to the consumers’ price ($P_c$). These proportions are useful for knowing the relative impact of a tax on the incomes of producers and consumers, since the steeper the slope of the demand curve, the more consumers lose income from a tax, and the steeper the slope of the supply curve, the more producers lose income from a tax, other things being equal. But if all we know are the elasticities (slopes), then we cannot know either the tax base or the tax revenues, nor the amount by which we have decreased demand with a given tax rate. See Figure 2.
From a pure revenue perspective, commodity taxation finds stronger justification when the demand for a taxed commodity is inelastic (i.e. when there is a steep slope to the demand curve, see Figure 1), which is arguably the case for many health-related commodities. From a health perspective, however, which is the principal perspective of fiscal policies in health, including health taxes, when demand curves have a steeper slope, then the tax needs to constitute a higher proportion of the consumer price in order to achieve a given health impact. For cigarettes, for example, it is recommended that the tax should constitute at least 70% of consumer price, and for sugar-sweetened beverages it is recommended that the tax should constitute at least 20% of consumer price. These kinds of claims depend on knowing the price elasticity of demand, but as we have said – in order to ensure that demand for these products falls enough to result in a policy relevant health impact – these claims also depend on knowing all the characteristics of the demand (supply) curve, and not just its elasticity (slope).
RECENT EXPERIENCE WITH THE REVENUE IMPACT OF HEALTH TAXES

Taxes on tobacco and alcohol products have been significant sources of government revenues for centuries in many countries. Even in recent years this remains the case.

A 2014 study by Sassi and Belloni⁴ found that:

- in 2011, tobacco and alcohol excise taxes contributed to around 1.2% of total tax revenues in Denmark and Belgium and to around 3.6% in the UK and Hungary.
- Excise taxes on food and beverages are currently applied in few countries, but figures from Denmark, where an excise duty on saturated fat was applied in 2011, and repealed at the end of 2012, show that revenues collected in 2012 accounted for 0.14% of total tax revenues for the same year.
- With 1223 million DKK in 2012, revenues from the fat tax were higher than revenues collected from excise duties on beer (1037 million DKK) or spirits (1072 million DKK), but lower than revenues from excise taxes on wine (1513 million DKK).
- In addition to excise taxes, almost all OECD countries apply value-added taxes (VAT) on health-related commodities, which also account for a significant share of overall tax revenues.
- Further fiscal gains may derive from savings in health-care expenditures generated by healthier behaviours encouraged by health taxes. For instance, an OECD/WHO analysis found that a combination of taxes and subsidies would lead to potential savings of up to 8 USD per capita in Brazil, after 20 years.²

SUMMARY OF RECENT POLICY EXPERIENCE WITH HEALTH TAXES

**Excise taxes** are duties on manufactured goods which is levied at the moment of manufacture, rather than at sale. These are considered *indirect taxes*, since the manufacturer will shift the burden of the tax by raising the selling price.

**Value added taxes (VAT)** may likewise be imposed. In addition to excise taxes, VAT is a consumption tax placed on a product whenever value is added at each stage of the supply chain, from production to the point of sale.

an excise is distinguished from a VAT in three ways:

- VAT typically applies to a wider range of products compared to an excise tax;
- Excise taxes generally account for a higher fraction of the retail price of the targeted products; and
- VAT is proportional to the price of a good while an excise tax is typically a per unit tax.

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SSB tax
Currently, many examples of soft drink taxes abound at levels too low (for example, 5%) to significantly influence consumer purchasing and therefore only serve as a revenue-raising mechanism.  

Alcohol tax
Governments employ alcohol excise taxation (as with excise tax on other goods, such as tobacco, petroleum, firearms and motor vehicles) for revenue-generation purposes. Excise tax is typically easier to administer than other forms of taxation. Alcoholic beverages are easily identifiable products with a high sales volume, few producers and few substitutes. Consequently, the consumption of alcohol is consistently high despite excise-induced price increases. While alcoholic beverages may be taxed to account for externalities, tax may also be imposed on alcoholic beverages because there is a level of complementarity between the demand for leisure and the consumption of alcohol. This is more so the case for heavy drinkers than for light or moderate drinkers where alcohol consumption may be complementary to work. Such taxes are justified on the basis of the disincentive effects created by income taxation on labour supply by effectively reducing income taxation and thereby decreasing the demand for leisure. Because leisure cannot be taxed directly, commodities such as alcoholic beverages that are consumed as a complement of leisure, can be taxed at a relatively high rate to discourage reductions in labour supply that result from alcohol consumption.  

Tobacco tax
The impact of tobacco tax increases on tax revenues is seen in many countries. In Turkey, tobacco taxes increased steadily over the past decade; as the tax rate rose from 58% to 65% of retail price, cigarette prices more than tripled and cigarette tax revenues more than doubled between 2005 and 2011. These tax increases and other tobacco control efforts have been successful; between 2008 and 2012, tobacco sales declined by 12% in Turkey and tobacco smoking prevalence fell from 31.2% to 27.1%. In South Africa, total taxes on cigarettes rose from 32% to 52% of retail price between 1993 and 2009, contributing both to sizable reductions in tobacco use and to a nine-fold increase in government tobacco tax revenues.  

CORRECTION OF EXTERNALITIES

In terms of economic theory (rather than for health purposes), an underlying rationale for taxing products (such as alcohol, tobacco and certain food products) is that consumption of these products is associated with “negative externalities” that result in costs that neither the producer nor the consumer pays for in the prices they face in the market. In such cases, a government may want to correct for the tendency of the market to encourage the consumption of products with documented costs that are external to market incentives. A tax changes the price faced by consumers, thereby reducing demand and shifting population-level consumption (see Figure 1).

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3 Using price policies to promote healthier diets, 2015: Copenhagen: WHO Regional Office for Europe; 2015
If the price changes enough for the tax authority to be able to finance the other, non-price costs, then the market failure (externality) has been corrected.

**SSB tax**

The example of unhealthy diets illustrates this concept. Frequent consumption of products high in energy, saturated fat, trans fatty acids, sugar or salt is associated with increased risk of overweight, obesity and some NCDs. The increased illness and disability associated with excessive consumption of such products is likely to result in increased health and social care costs in addition to lost economic productivity. For example, evidence suggests that lifetime costs may be higher for the obese population compared to the non-obese, particularly when indirect costs such as lost work productivity, disability and quality of life are factored in alongside premature mortality and direct medical costs. As such, the costs to society of consuming these products (external costs) may be significant but not reflected in either the private costs of producing the product or the price that the consumer pays. This is an example of a “market failure”, which is an economic justification for government intervention. In such cases, governments may decide to increase the price of the product through taxation to reduce demand.

**Alcohol tax**

The imposed excise taxation for alcohol should be organized so that the reduction in the external cost of heavy and moderate drinkers is greater than any welfare (well-being) loss experienced by light drinkers who never binge. However, as alcohol consumption at the population level follows a particular distribution and all countries experience a net negative effect from alcohol consumption, all countries may benefit from increases in alcohol taxation.

Other factors support government taxation of all alcohol. First, there is no effective information on how to tax only the harmful use of alcohol. It is difficult to identify and measure the marginal costs of the harmful use of alcohol. Second, the preventive paradox implies that taxation measures should be employed either to prevent chronic problems caused by heavy drinkers or to prevent acute problems caused by binge drinkers. Eaton argues that governments should be concerned not only with heavy drinkers, who represent the minority of the drinking population. Binge drinkers should also be of concern and are among the social drinkers that represent the majority of the drinking population. Third, the taxing of all alcohol consumed prevents current heavy drinking and prevents future heavy drinkers by reducing consumption among young people (New Zealand Law Commission, 2010). Finally, taxing all alcohol consumed in the market is equitable: heavy drinkers still pay a greater amount of excise tax than do social drinkers (New Zealand Law Commission, 2010). For example, based on excise taxes in New Zealand for 2007-2008, light and moderate drinkers (50% of New Zealand drinkers) paid only NZ$ 38 per person in excise taxes per year, whereas the top 10% of heavy drinkers paid over NZ$ 1300 per person per year.

**Tobacco tax**

Tobacco taxes can be used to address market failures which include (a) imperfect information about the harms caused by tobacco use and the addictiveness of tobacco products, which is

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6 Using price policies to promote healthier diets, 2015: Copenhagen: WHO Regional Office for Europe; 2015
7 Using price policies to promote healthier diets, 2015: Copenhagen: WHO Regional Office for Europe; 2015
complicated by the uptake of tobacco use during childhood and adolescence—that is, at ages when people lack the ability to make informed choices, and (b) the physical and financial impacts (externalities) that result from tobacco use.  

Many people are either unaware of or underestimate the numerous adverse health effects of tobacco use and second-hand smoke exposure. Smokers tend to hold erroneous beliefs about smoking and health and think they will be able to quit when they want to, that low-tar cigarettes are less harmful, that they are in a lower risk group compared with other smokers, or that the health risks do not apply to them as individuals. In fact, many adult tobacco users struggle with quitting, the great majority of smokers regret having started and young people taking up tobacco use significantly underestimate the addictive potential of these products and overestimate their likelihood of quitting in the future.  

While other interventions may more directly address these market failures (e.g., prominent warning labels on cigarette packs and comprehensive smoke-free policies), their reach and effectiveness may be more limited, particularly when it comes to reducing tobacco use in the most vulnerable populations. Tobacco taxes have a greater impact on tobacco use among young people, those who are less educated, and the poor.

**EARMARKING**

Following Cashin et al., “earmarking involves separating all or a portion of total revenue – or revenue from a tax or group of taxes – and setting it aside for a designated purpose”. Many countries consider using some form of earmarking as a mechanism to increase fiscal space for a given purpose, to mobilize resources for the health sector, to finance progress toward universal health coverage (UHC), or to fund new health priorities.

As explained in the Cashin study, there are a number of different kinds of earmarking:

**Revenue vs expenditure**

- *Revenue earmarking*: ring-fencing, or protecting, all or a portion of a tax or other revenue source for a particular purpose. Revenue earmarking for health dictates what proportion of a specific revenue source should be allocated to the health sector in general or to a specific health programme, population or service.

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Expenditure earmarking: mandating a specific destination for a proportion of expenditure of general funds. Expenditure earmarking for health can specify the proportion of expenditure that should be allocated to the health sector in general or to a specific health programme, population or service.

These two types of earmarks can have different purposes, but their objectives often converge and overlap. Revenue earmarks are mainly used to raise additional funds through a particular source and make health a higher priority within the budget, or to protect the funds for a particular programme. Expenditure earmarks are often intended to improve accountability, help enforce priorities and make sure funds are allocated efficiently within the overall public budget and within the health budget.  

**Hard vs soft**

Hard earmarking: where the earmark is the main or only revenue source for a particular service or programme and the revenue cannot be allocated to any other purpose.

This bypasses the budget process, and is therefore subject to reduced accountability and transparency.  

Soft earmarking: tax revenues are designated for a particular service but do not determine the amount spent – there is no hard expenditure ceiling and transfers to and from general funds are possible.

These earmarks are subjected to periodic parliamentary review.  

Cashin et al found that there is vast country experience on earmarking (at least 80 countries earmark for health) (see Figure 3).

It is important to emphasize that “earmarking” is not an equivalent term for “health taxation” or “health taxes”. Most taxes are designed to contribute to general government revenues, and product-specific taxes or health taxes are no exception. Earmarking is a separate legal or administrative feature of taxation that may or may not be part of a health tax in either its conception, design or implementation. However, considerations of earmarking are not usually the logical starting point for a policy discussion around health taxes; the principal starting point for thinking about health taxes is (or should be) demonstrating health impacts in alignment with policy priorities.

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After (or in conjunction with) demonstrating health benefit, it is important to consider the fiscal (i.e. revenue) and economic implications of health taxes, as discussed above. It is usually possible and indeed preferable to do this without any specific regard to earmarking. Earmarking can and does arise as one of a set of considerations relevant to the political feasibility and acceptability of a given health tax, as relevant to the principles of good public financial management, and therefore finally also as relevant to the effective design, implementation and administration of a particular health tax.

However, earmarking per se is not a financing strategy. A financing strategy incorporates not only considerations about revenue generation (e.g. through health taxes) but also considerations, equally important, about how the funds are collected and pooled, about how services are purchased from providers, and, finally, about how the services are managed and delivered.\(^{17}\)

In any case, earmarking has become part of the global discussion on domestic resource mobilization for health, particularly as countries transition from donor support and work to achieve the Sustainable Development Goals. Earmarking tax revenues may be helpful in establishing a direct link between public revenue collection and public expenditure and therefore in enhancing voluntary compliance with tax provisions. Strengthening the link between tax revenues and public expenditures, however, can be achieved only when earmarking is implemented effectively and transparently.\(^{18}\)


\(^{18}\) Junquera-Varela, Raul Felix, Marijn Verhoeven, Gangadhar P. Shukla, Bernard Haven, Rajul Awasthi, and Blanca Moreno-Dodson. 2017. Strengthening Domestic Resource Mobilization: Moving from Theory to Practice in Low- and
Specific points on earmarking revenues from health taxes on food, alcohol and tobacco are summarized below.

**SSB tax**
Food taxes are also a potential source of additional revenue for governments that have been ring-fenced to support subsidies, health promotion policies, programmes and services or food assistance programmes targeted at vulnerable groups, thereby alleviating some of the burden on low-income groups. Indeed, it has been found that fiscal measures are cost-saving in a range of income settings and can lead to socioeconomic gains.

**Alcohol tax**
Revenue from taxes on alcohol is typically applied to the general government accounts. Or it can contribute to police and justice budgets, offsetting costs arising from alcohol-related traffic crashes or alcohol-related crime and public disorder. There is no requirement that tax revenue will be spent on reducing or meeting the costs of alcohol-related harms. Spending will relate to alcohol only if it is a policy priority. Consideration can be given to dedicating a proportion of alcohol excise duties, or a separate levy on alcohol, to alcohol control, health promotion and harm prevention activities.

In a number of countries, governments earmark taxes on alcoholic beverages for health promotion purposes (i.e. as a dedicated tax). The earliest version of a dedicated tax was a tobacco tax implemented in Western Australia in 1983, which was followed by the implementation of a dedicated tobacco tax in the Australian state of Victoria in 1987. Since 1983, other countries have implemented dedicated tobacco taxes, and some countries have implemented dedicated alcohol taxes. In 2000, Estonia implemented a dedicated alcohol tax of 3.5%, and in 2001 Thailand implemented a surcharged alcohol and tobacco tax of 2%. The Taiwan Health Promotion Foundation was set up in 2001 and receives budgets from fixed rates per pack of tobacco excise tax, which were US$ 0.17 in 2002, US$ 0.33 in 2006 and US$ 0.67 in 2009. The Mongolian Health Promotion Foundation, established in 2007, has budgets composed of 2% from tobacco excise tax, 1% from alcohol excise tax, and 2% from drug registration. The Lao People's Democratic Republic's Tobacco Control Fund, established in 2013, obtains its budgets from 2% of profit tax from tobacco business operators and 200 Lao Kip per cigarette package from all locally manufactured and imported tobacco products. The Viet Nam Tobacco Control Fund, established in 2013, obtains budgets from 1% of the factory price of all cigarette packs consumed in Viet Nam.

**Tobacco tax**
A 2016 WHO report on tobacco tax earmarking describes the challenges, set-backs and achievements of nine countries in the six WHO regions that have introduced laws for earmarking tax revenues on tobacco (and in some instances alcohol) for spending on public health programmes:

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• Botswana
• Egypt
• Iceland
• Panama
• The Philippines
• Poland
• Romania
• Thailand
• Viet Nam

There is no single formula for establishing an earmarked fund from tobacco taxes although some strategies are more likely to result in the desired policy changes and outcomes. Although each country’s political and social context is different, common lessons can be applied in other contexts.

Political acceptance of earmarking tobacco revenues for health programmes in these countries lends support to the introduction of such measures when revenues for tobacco control programmes are minimal. Although all the factors that might be responsible have not been analysed rigorously, the consistency of results across these countries is important. Positive outcomes have also been reported when the funds have been used for other health programmes and infrastructure.

The case for earmarking tobacco (or alcohol) taxes for health programmes (particularly tobacco control) is supported by the experience of eight of the countries covered by the WHO report on tobacco tax earmarking. These countries saw benefits in having a predictable, secure source of funds for long-term interventions. The fact that the fund represented a small fraction of the total health budget, along with the efficient use of the funds and transparent reporting and accountability mechanisms, made it easy to address arguments against earmarking taxes. In other words, the small fraction of the general health budget earmarked for preventive programmes like tobacco control did not disrupt fiscal discipline or create undue rigidity in the countries considered.

While earmarking has potential benefits, it is also the cause of concern that health ministries or aid agencies which concentrate on a particular product tax or earmark can easily lose sight of the larger fiscal picture and risk offsetting declines in discretionary budgets. For example, in Ghana, earmarked revenues affected the allocation of discretionary budget to the health sector. In Kazakhstan, the introduction of a payroll tax for social health insurance led to a 1% of GDP decline in public spending for health, because local governments reprioritized their spending away from health by more than the amount that was raised by the new earmarked payroll tax.

20 Citation needed.
In the short term, earmarking can generate additional resources for the health sector or result in a larger allocation for health in the general budget, but, as suggested by the experience in Ghana and Kazakhstan, this effect can erode over time due to fungibility of financial resources and corresponding spending offsets. Any rigidities that earmarks add to the budgeting process can also become accentuated over time, so earmarking has been seen to be more effective when the practices associated with it are harmonized with standard budget processes – usually implying softer earmarks with broader expenditure purposes and more flexible revenue–expenditure links. Lastly, earmarking is not a substitute for dialogue between the health and finance sectors, or an effective means to hijack debates about public spending priorities.\textsuperscript{21}

Earmarking remains the source of controversy. Those who support increasing health taxes based on health grounds often argue that the proceeds of health taxes should be earmarked to finance health expenditures, and the concept of linking revenue increases to expenditures is attractive and can bring governance benefits.\textsuperscript{22} Earmarking has acknowledged political value, and can occasionally be used to unlock political logjams regarding fiscal policy, or as a supplementary revenue booster.\textsuperscript{23}

However, as Cashin \textit{et al.} report:

> The findings are less clear on whether earmarking for health can bring a sustained increase in government revenues allocated to the health sector, particularly as a relative share of total government spending, because it is impossible to know the counterfactual scenario in which earmarking policies have not been pursued. Budgets are fungible, and earmarking one revenue source is likely to be offset by cuts in other sources. Furthermore, rigidity in the budget process due to earmarks might increase over time, and the inefficiencies in some cases can be severe. The narrower the expenditure purpose of the earmark (such as a narrowly defined programme within the health sector), the greater the rigidity and potential inefficiencies. \textsuperscript{24}

We refer the reader to the report by Cashin \textit{et al.} for a comprehensive discussion.

\textsuperscript{23} Closing remarks by Jeremias Paul at Earmarking session at 2017 WHO Symposium on Health Financing for UHC - Public Financing for UHC: Towards Implementation.
REQUIREMENTS FOR EFFECTIVE HEALTH TAX POLICIES

Many (if not all) of the health features of health taxes rely on in-depth knowledge about the fundamental economic features of consumer and producer behaviour. For example, for health taxes on commodities it is necessary to understand at least the following:

- The price elasticity of demand (how much the demand for a product decreases in percentage terms for a given percentage increase in price);
- The cross-price elasticity of demand of close substitutes that are not taxed (how the demand in percentage terms for close substitutes depends on a percent change in the price of the taxed product);
- The health impact associated with a decrease in the consumption (or production) of a commodity (and its close substitutes) (see Background paper 2);
- The relative cost-effectiveness of fiscal policies as a means of achieving population health improvement; and in addition, as noted above, and
- The income elasticity of demand to assess potential regressive impact
- It is often also necessary to understand all the relevant characteristics of the demand (or supply) curves in order to craft a health tax that is likely to achieve the desired health impact.

Furthermore, taxation should form part of a comprehensive sector-wide financing strategy that addresses not only raising additional funds, but also the requirements of of pooling, purchasing and service delivery:

- Disease- or programme-specific health taxes are in general to be deprecated; and
- Sound principles of public financial management should be built in to any proposed fiscal policies in health from the conception and design phase, with adequate flexibility to provide for unforeseen future developments.

Moreover, there are a number of important governance, legal and political factors that pertain to crafting effective fiscal policies for health, including:

- The strength of public governance systems and in particular that of tax administration and collection;
- The existing legal framework for taxation and implications for challenge, including with respect to trade agreements; and
- The political acceptability of taxation as a public health measure.

These requirements set the bar high for effective fiscal policies in health. It is not surprising, therefore, that most of the taxes we now know as health taxes were originally, and for many years following their introduction, used primarily as revenue-generation measures without specific regard to their health impact. Indeed excise taxes on tobacco and alcohol were the principal sources of government revenues prior to the introduction of income taxes. However, even after their importance as sources of government revenue had declined, excise taxes on tobacco and alcohol remained important features of social policy (sometimes called “sin taxes”) because, in addition to the revenue raised by them, excise taxes on tobacco and alcohol were understood to discourage socially undesirable outcomes such as smoking and drinking.
Now, however, “sin taxes” are understood to constitute merely a subset of a fast-growing and much broader family of health taxes, more properly understood. As the name suggests, health taxes are primarily intended to promote health (not to discourage sin). Health taxes are moreover increasingly understood as constituting some of the most cost-effective interventions available to the health policy maker (see Background paper 2).