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Modernizing the European VAT

Abstract

The harmonized European value-added tax (VAT) is anything but a modern consumption tax that taxes all goods and services at a uniform rate. As exemplified by an analysis of the Dutch version, some 60% of the base is exempted, that is, not taxed on output but on inputs. This has serious consequences.
The VAT exemptions distort input choices, stimulate uneconomical self-supply, and complicate administration and compliance. The welfare costs of the exemptions can be estimated at one half of one percent of gross domestic product (GDP).
Research shows that under an equal yield assumption, the elimination of the exemptions and the introduction of a single rate in conjunction with a reduction in the standard rate should foster economic growth.
The Member States of the European Union (EU) should be allowed to replace their defective VATs with a modern version. This would strengthen competitive conditions.

JEL-Codes: H250, H700.

Keywords: VAT, European Union, exemptions, tax reform, C-efficiency.

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1 Introduction

The EU's single market is founded on the principles of free trade and free competition between and, by extension, within Member States. These principles require that taxes on goods and services should be fully and accurately rebated at export, equivalently imposed at import, and washed out between taxable businesses within Member States. To achieve this, the cumulative turnover taxes levied in the1960s and 1970s were replaced by the value-added tax (VAT), whose basic features were harmonized in 1977 and subsequently consolidated in what is now known as the Common VAT Directive (2006). However, while the EU-VAT permits the application of border tax adjustments and the set-off of prior-stage tax, multiple exemptions and exclusions still distort trade and complicate administration. The exemptions are not found under the modern VAT – a concept coined by Ebrill, et al. (2001) – introduced in other countries, which applies a uniform rate to the broadest possible base. Accordingly, the EU-VAT tends to become an anachronism (Cnossen, 2003). Institutionalizing the exemptions and exclusions as the EU has done does not lessen the VAT's shortcomings.

This paper examines the exemptions and exclusions[1] prescribed under the Common VAT Directive (2006) and proposes revisions that move the base closer to the base of a modern VAT. This is done on the widely agreed notion that the primary role of the VAT in an overall tax system is to raise revenue, predictably and efficiently. The VAT differs from excises in hat it is not intended to internalize external costs or to change people's behavior. It differs from the import duties in that it should not be used to support trade policy. And it also differs from income tax in that it is not the instrument of first choice to influence the tax burden distribution or to stimulate industry through investment incentives. The expenditure system (financed by the VAT, among other sources of revenue) is a much better instrument to mitigate the plight of lower-income groups, while investment incentives, if considered desirable, should be incorporated in taxes on profits, because they purport to raise the net return on investment.

The major design principle that follows from this view is that all goods and services used or consumed in a given country should be taxed equally at a uniform rate. This distorts the efficient allocation of resources brought about by the market as little as possible, as relative prices do not change. With reference to the production-efficiency theorem of Diamond and Mirrlees (1971), Crawford, et al. (2010) argue that optimality considerations regarding base and rate differentiation do not fundamentally alter this guiding principle for VAT design.[2] It follows that exemptions should be limited to those strictly necessary on administrative grounds. In this respect, the EU-VAT leaves much to be desired. The issue is important because it has been shown that base-broadening and rate unification offset by a reduction in

[1] The main difference between exemptions and exclusions is that entities engaging in excluded (that is, nontaxable) activities, unlike exempt entities, cannot opt for registration and taxation enabling them to recover their input VAT. Below, exemptions include exclusions, unless the context implies otherwise.

[2] Further, Keen (2013) points out that "[u]ltimately, the use of uniform taxation as a reference point in evaluating VAT systems reflects the pragmatic judgment that the practical case for a single rate [and a broad base] is so strong as to make this an important benchmark. …. The case is especially persuasive in higherincome countries, a central lesson of the literature being that uniform taxation is more likely to be optimal the more sophisticated the range of other instruments by which equity objectives can be pursued."

the standard rate fosters economic growth (Acosta-Ormaechea and Morozumi (2019) – more than would an increase in the standard rate in combination with a reduction in the income taxes.

With these considerations in mind, Section 2 lists the exemptions under the EU-VAT and notes the distortions and complications that these bring about. Next, Section 3 provides a quantitative analysis of the Dutch VAT base, which, in view of the EU-wide harmonized base, should be fairly representative of the base in other Member States. The gap between the actual Dutch VAT (or any other VAT, for that matter) and a modern VAT can be captured by the ratio of actual to potential revenue found by applying the standard rate to the aggregated consumption expenditures of households, governments and non-profits organizations. This ratio is called the VAT's collection efficiency (C-efficiency, for short). Section 4 shows that the C-efficiency differs greatly from unity and that the gap indicates substantial welfare costs. Subsequently, Sections 5 through 9 review the most important exemptions in greater detail and suggest how the underlying activities can be integrated into the VAT base. Section 10 presents arguments against rate differentiation – another aspect that distinguishes the EU VAT from a modern VAT. Section 11 summarizes and concludes. Throughout the paper, it is assumed that taxes on consumption reduce the disposable income of consumers proportionate to their expenditures on taxable goods and services (Institute of Fiscal Studies, 2011).

2 Exemptions and distortions

Box 1 provides a summary of the exemptions under the EU-VAT. The exemptions are mandatorily prescribed under the Common VAT Directive (2006), namely in Article 13 (public bodies excluded from VAT), in Article 132 (exemptions for specified activities in the public interest), and in Article 135 (exemptions for other activities). In addition, EU Member States can provide a threshold below which small entities, which might have difficulties in complying with the VAT's obligations, are exempted from VAT. For similar reasons, the agricultural sector can be left out of the VAT base.

[here about Box 1]

The mandatory exemptions have not been introduced for overriding administrative reasons, but because the designers the EU-VAT did not understand the manner in which exempt activities could be included in the VAT base. The need for abolishing the exemptions, however, is quite evident from the distortions and complications that they cause. As discussed in the literature (e.g. Ebrill, et al. (2001), exemptions –

- distort input choices, because exempt entities will buy products that bear a lower VAT, which they would not do if the VAT were creditable;
- disincentivize investments, which are postponed or acquired second-hand in order to save on non-creditable input VAT;
- hamper outsourcing (self-supply bias) to avoid the VAT on the labor element in the cost of, say, laundry, cleaning, food, administrative and protection services, which would otherwise be bought from taxable suppliers;

- distort competition, because taxable entities cannot provide similar goods or services at the same (lower) price as they would have to apply the full VAT;
- favor imports, because they enter the country presumptively free of tax, while similar domestically produced goods and services bear input VAT on purchases from exempt businesses;
- discriminate against exports, because it is not possible to relieve them of tax on purchases from exempt businesses;
- cause delineation issues (taxable or exempt?) and complicate input VAT allocation over exempt (non-creditable) and taxable (creditable) supplies if the inputs are used for both forms of supply;
- induce 'exemption creep,' because exempt entities and their suppliers will lobby for an extension of the exemption.

3 Analysis of the VAT base

To get an idea of the quantitative importance of the exemptions (and the lower rate), Table 1 shows details of the composition of the Dutch VAT-base in 2015, subdivided into predominantly taxable transactions and predominantly exempt or input-taxed transactions, subject to VAT on fixed assets and intermediate purchases.

[here about Table 1]

The first and second columns of Table 1 identify the component parts of the base of a modern VAT, which consists of the consumption expenditures of households and the value of the services rendered by public bodies and non-profit entities. Government salaries on health care, education, cultural services and government itself are assumed to represent the consumption expenditures on these items. This should be a reasonable approximation since value added comprises wages and business cash flow, i.e. above-normal returns that may be disregarded in the case of services rendered by public bodies.

Columns 3 and 4 show goods and services that are taxed as they should be, that is, subject to VAT on turnover (output) with credit (deduction) for the VAT on purchases (inputs). Interestingly, only 22% of the potential base is subject to the standard rate and 16% to the lower rate. Columns 5-7 show the goods and services that are exempt or rather taxed on inputs. The total amount of exempt goods and services that are input-taxed comprises 60% of a modern VAT base. This is indicative of the shortcomings of the VAT. After all, the VAT on the inputs for these goods and services, which cannot be invoiced to customers, constitutes an indeterminate and capricious element in sales prices, which distorts producer and consumer decisions and complicates the application of the VAT.

The capricious taxation of most goods and services is also apparent from the effective tax rates (column 8), that is, actual VAT receipts as a percentage of the modern VAT base. The standard rate of 21% is only applicable to alcoholic beverages, tobacco, energy, motor fuel, durable consumer goods and communication services. Further, the Table shows that the effective tax rate on foodstuffs, restaurants and hotels equals the nominal rate of 6%. As expected, exempt services are taxed at lower effective rates, ranging from 2.6%% on medical

and social care to 12.7% on financial and business services. The overall effective tax rate is close to 10% compared to the standard rate of 21% and a lower rate of 6% (currently 9%).[3] The most important message of the Table is that the exemptions and lower rate result in a crazy quilt of effective tax rates – a situation that is difficult to justify in a country capable of levying a modern VAT and having an advanced social benefit system to compensate lower-income groups for the regressive impact of the VAT.

4 Collection-efficiency and welfare costs

The conclusion is inescapable: the EU-VAT is not the efficient revenue-raising instrument that it can be. The defect is encapsulated by the VAT's C-efficiency, which is 1 (one) for a uniform rate VAT on all consumption expenditures. The difference between unity and the actual C-efficiency comprises the VAT that is not levied on account of the exemptions, lower rates and the threshold (called the policy gap), and shortcomings due to laps in the compliance and implementation of the VAT (called the compliance gap).

The Organization for Economic Co-operation and Development (OECD, 2018, p. 90) computed the C-efficiency of the Dutch VAT (excluding governments) at 0.51 in 2016. This was slightly higher than the OECD's unweighted average of 0.50, but somewhat lower than the average of the other EU Member States (i.e. 0.52). In sharp contrast, the C-efficiency of the modern New Zealand VAT, which taxes nearly all goods and services at a uniform rate of 12.5% was 0.95 in the same year. The policy gap dominates the compliance gap in the EU. Bettendorf and Cnossen (2015), for example, calculated the policy gap of the Dutch VAT at 44% of potential receipts and the compliance gap at 2%. Obviously, closing the policy gap is not meant to increase VAT revenues per se. Rather, under an equal yield assumption, the 'extra' revenue from a broader base and a single rate can be used to lower the standard rate or other taxes that are more distortionary than the VAT.

Copenhagen Economics (2013) calculated the efficiency gain that could be reaped if various exempt supplies were taxed (with credit for the VAT on intermediate goods and fixed assets). It analyzed the effects of six core services, i.e. cultural activities, education, health care, garbage collection, postal services, and radio and television broadcasts, which, jointly, contributed 14.2% of GDP in the EU-27 (excluding Croatia) in 2010. The efficiency gain of fully taxing these services, which is what New Zealand does, would be 0.34% of GDP. If governments would be included, the gain might well approach 0.5% of GDP. Copenhagen Economics notes further that in the absence of the self-supply bias, full taxation should have a significant positive effect particularly on medium-sized and small businesses, which account for 60% of business services in the affected sectors.

While the efficiency gain may not seem exceptionally large, it is the sort of gain that highly developed countries should be looking for if they want to increase their welfare. Not surprisingly, Copenhagen Economics (2013, p. 12) concludes: 'we recommend to look

[3] On the basis of the Table, the VAT's yield can be calculated at €44,548 mln, which is close to the actual yield of €44,589 mln. (see Table 2.3.1 of *Miljoenennota* 2016, available online at https://www.rijksoverheid.nl/documenten/begrotingen/2015/09/15/miljoenennota-2016).
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towards a full taxation solution.' With this in mind, the following sections examine the EU exemptions in greater detail.

5 Governments

Governments – central, regional and local – and other public bodies are considered out-of scope of the EU-VAT, subject to some highly contentious conditions (as evidenced by a vast body of jurisprudence reviewed by Henkow (2013)), that they should be governed by public law, that they should be operated under public authority, and that their activities should not involve significant distortions of competition. 'Out-of-scope' means that governments do not enter the VAT's ambit. This expresses the view that governments should be viewed as final consumers, i.e. not be subject to tax and therefore not entitled to credit for the tax on inputs. Incidence theory, however, holds that only people, not institutions, bear taxes; their disposable income is reduced. Accordingly, services provided by governments to their citizens/consumers should be taxed in full, if feasible, just like goods and services produced by the private sector. Exceptions should only be made for pure public goods (defense, public administration, law and order) for which it is not possible to set a 'price,' and for the redistribution of income and wealth which does not constitute consumption (see the influential paper by Aujean, et al.,1999).

Although in terms of revenue, the taxation of many goods and services provided by public bodies would largely be in the nature of a pay-out and claw-back arrangement, the VAT on the inputs of exempt bodies causes the same non-neutralities and complexities as other exemptions: distortion of input choice, self-supply bias, unfair competition, and tax avoidance. Summing up the situation, Aujean (2010, p. 514), an astute observer and longtime participant in the debate on EU-VAT, has labeled the VAT treatment of public bodies 'complex, inefficient, costly, and legally uncertain'. In the same vein, another able tax lawyer, De la Feria (2009), has documented the highly complex web of conditions, derogations, movements into and out of scope of VAT, and transitions between 'exempt' situations, 'taxable' situations, and 'non-taxable because out-of-scope situations'. She has attempted to lay this down in a flow chart, which shows that it is almost impossible to establish and apply a single consistent VAT treatment to all public sector bodies. De la Feria opines that the Common VAT Directive is becoming more out of step with economic realities as time passes. The EU treatment, moreover, entails very significant compliance and administrative costs, as well as frequent and costly litigation.

The taxation of as many supplies by public bodies as possible would promote simplicity, accountability, transparency, and the workings of the VAT. Apart from eliminating most distortions, delineation issues regarding taxable versus non-taxable activities would become redundant. In short, the VAT chain would remain intact through to the consumer level. Although public bodies do not pursue profit maximization per se, cost minimization should be their aim and this goal is promoted by applying the VAT as widely as possible.

The main issue that arises in taxing public goods and services is that many tend to be made for nil, nominal, or break-even consideration and that they are usually financed through a variety of means which include charges, user fees, taxes, subsidies, grants, budgetary allocations and funds from borrowing, often without a direct link to the supplies. Under

modern VATs, all of these means of financing, regardless of their form, are included in the VAT base. Full inclusion prevents tax avoidance. As an example, Copenhagen Economics (2013) notes that, if taxed, public bodies can avoid the VAT under present arrangements by transforming product subsidies (taxable under the Common VAT Directive) into budget subsidies (not taxable). Budget subsidies, therefore, should also be included in the taxable base, which is what modern VATs do. The full taxation of public bodies, as is done in New Zealand and Australia, would, of course, require adjustments on the expenditure side of the budget.

An alternative, found in Canada, would be to refund the input tax of municipalities, zero rate supplies to exempt provincial governments, and zero rate the central government without further ado (Gendron, 2013). This would also eliminate most distortions and complexities, except for the competitive advantage governments would have if goods and services can also be provided by the private sector which would be subject to the full VAT. Input VAT refunds are also provided under the VAT compensation schemes in various EU Member States, but Wassenaar and Gradus (2004) conclude that their haphazard application hardly solves the self-supply bias and the investment disincentive. Copenhagen Economics (2013) estimates that the zero-rating of the services included in its study, as opposed to full taxation, would only increase welfare by 0.02% of GDP. Clearly, the situation calls for deeper reforms, preferably full taxation or close to comprehensive refund schemes, as in Canada.

6 Healthcare, education, social and cultural services

Healthcare, education, and various social services – called activities in the public interest – are often considered 'merit goods' whose consumption should not be constrained by the imposition of VAT. But even if the merit-good argument would be acknowledged, full taxation of the output (including subsidies, if any) of hospitals, schools, universities and various forms of social assistance in combination with increased subsidies could leave the total net amount of the (VAT-inclusive) charge for the services unaffected without distorting the exempt entities' input choices and outsourcing activities and without discriminating against similar taxable services provided by the private sector (which should then also be subsidized).

Accordingly, under New Zealand's Goods and Services Tax (GST, in short; basically, another name for VAT) supplies by health organizations, educational institutions (except elementary schools), cultural organizations, social assistance agencies, child welfare groups, postal services, and public broadcasting companies, all exempt in the EU (see Box 1), are taxable.[4] According to Aujean, et al. (1999), this has 'permitted there [i.e., in New Zealand] a dramatic simplification of VAT rules as they apply to public bodies'. The effect on revenue, moreover, would be nil to the extent that the charge for the activities as well as their financing are determined by public bodies. Much the same effect is attained in Canada, which refunds the GST on the inputs of the MUSH sector: Municipalities (up to 100%), Universities (67%), Schools (68%) and Hospitals (83%),percentages that have increased over time and

[4] Of course, social services in the form of benefit payouts should not be taxed as they are not consumption, but their administrative cost does add value to the economy and should be included in the VAT base.

that are moving towards full refunds (Gendron, 2013). Note, however, that the refunds may be aggravating the competitive distortion with regards to the private sector.

7 Property and casualty insurance

Insurance services are exempted from VAT in the EU, because at the level of the policyholder the taxable intermediation charge cannot be separated from the non-taxable capital transfer to the common pool from which indemnity and contingency payments are made. Instead, most Member States subject insurance premiums to anachronistic, cascading insurance taxes or stamp duties, which should have no place in a modern tax system based on notions of equal treatment and neutrality. Further, no sensible argument can be made for why the VAT on insurance services should depend on the ratio between taxable inputs and exempt sales.

By contrast, modern VATs avoid the problem of determining taxable value added on the basis of individual policies by shifting it to the level of the insurance company, where value added is the difference between premium receipts, on the one hand, and indemnity payouts and taxable purchases, on the other. This difference is taxed by collecting VAT on insurance premiums (and permitting a credit for the VAT on the taxed inputs of insurance companies), and imputing a tax credit to indemnity payments (to be offset against the VAT on premiums).[5] The VAT on insurance premiums would be creditable by clients liable to VAT, who should be obliged to include the imputed tax credit received along with indemnity payments in their VAT return. However, a non-taxable recipient of the amount of the tax credit included in the indemnity payment would not have to file a return for it (not being taxable, the recipient would not have been able to offset the VAT on the insurance premium either). Instead, he or she would pay VAT on the replacing asset or keep their capital intact. As is currently the case, VAT would continue to be imposed on warranties embedded in product prices.

While property and casualty insurance can thus be taxed, health and life insurance should probably remain exempt. Both forms of insurance are mostly taken out by individuals; hence, cascading effects are unlikely to occur (and thus, taxation on the basis of the sum of payroll and business cash flow could be considered an alternative). For VAT purposes, health insurance would then be treated in the same way as other health services if these were to remain exempt, while life insurance – a long-term savings vehicle akin to pensions – would be exempted along with other financial business-to-consumer (B2C) margin-based services. A complication, too, is that the intermediation charge is not a constant portion of the gross premium, but increases with the duration of the insurance. Furthermore, health insurance premiums are often universal, compulsory and sometimes progressive against income.

8 Financial services

The Common VAT Directive (2006) exempts financial services entirely, whether fee- or margin-based. This implies that B2C services tend to be undertaxed and business-to-business

[5] Correct treatment would also imply that insurers' investment returns, which are eligible for a reverse credit, if paid out, should be taxed, although this is not done anywhere. For a review and evaluation of the EU situation and a detailed reform proposal along the lines sketched here, see Cnossen (2013).

(B2B) services overtaxed. Margin-based services are difficult to tax under the tax credit method VAT, because the value of the intermediation charge (which should be taxed) is embedded in interest rates, returns, or rewards (which, along with the principal) should not be taxed, because they are not consumption but income. Because the value of the intermediation charge is not known, VAT cannot be charged on it and passed on to clients on a transaction-by-transaction basis, necessary if VAT-liable customers are to credit the tax against their VAT on output (see the leading paper by Poddar, 2003).

By contrast, fee-based services can be taxed without further ado, as is done in countries with a modern VAT. Taxing fee-based services would raise the tax on B2C services and enable business users of financial services to credit the tax on fee-based services in full. It is surprising that EU Member States do not yet tax explicit financial fees and commissions. Admittedly, some fee-based services might be substituted by margin-based services, but disintermediation has made this less likely (Poddar, 2003). Moreover, financial services performed against a fee can be listed and hence taxed, as is done in South Africa, for instance. Because higher-income people tend to consume more financial services than lower-income people, the distribution of the tax increase associated with taxing fee-based services would tend to be progressive with respect to income.

This leaves the distortionary effect of the exemption of margin-based services rendered to taxable businesses, which are not entitled to a credit for the VAT included therein. To remedy this effect, consideration should be given to allowing partial formula-based recovery of the input VAT incurred in rendering B2B margin services by financial institutions**.** Australia, New Zealand and Singapore have instituted rules to that effect. New Zealand, for instance, zero-rates supplies of financial services to non-financial businesses, whose turnover, measured over a 12-month period, consists of at least three-quarters of taxable supplies (Pallot, 2011). The rebatable GST of the financial services provider is determined on the basis of common apportionment rules, notably the turnover method. A look-through provision ensures that the input GST of a financial services provider is also zero-rated if the services are rendered to another financial services provider, which, in turn, makes supplies to registered businesses that are eligible to purchase zero-rated financial services.

Alternatively, financial services could be taxed under an addition-method VAT on the sum of payroll and business cash flow.[6] Denmark and Israel do so, although Denmark does not include business cash flow in the base and Israel taxes profits instead. Although these approaches result in a fuller taxation of B2C services, they do not permit the passing on of input-VAT on a transaction-by-transaction basis and, hence, they increase the distortion of the VAT with respect to B2B financial services.

9 Lotteries and gambling

EU practice is to exempt games of chance from VAT. In contrast, countries with a modern VAT tax most games of chance. Lotteries can be taxed on ticket sales (output), while a reverse charge can be imputed to payouts (inputs), similar to the best-practice VAT treatment of property and casualty insurance. The value added of the lottery industry would thus be

[6] For a discussion of how value added can be measured and taxed, see Cnossen (2019).

taxed after providing a credit for the VAT on inputs against the gross tax liability (net of the VAT imputed to payouts). Casinos can be included in the VAT base under the margin method, where the margin is the difference between the sales of tokens and chips, on the one hand, and payouts, on the other. Again, a credit for VAT on other inputs should be allowed against the tax liability (for a fuller treatment, see Schenk, 2010). Both approaches yield the same result. VAT should be applied to transactions involving games of chance, regardless of whether or not lotteries and gambling are subject to externality-correcting excises.

10 Immovable property

Obviously, it would be very difficult, administratively and politically, to tax the rental value of owner-occupied dwellings and, by extension, rental payments, as should be done under a full-fledged VAT. For this reason, the Common VAT Directive (2006) exempts residential as well as non-residential immovable property, but taxes new buildings (and the land on which they stand). Since the purchase price of a new building may be taken to represent the present discounted value of its future rents or rental values, the VAT on the purchase price may be considered a good proxy for the discounted value of the VAT that should have been levied on the future flow of building services. Further, to avoid potential discrimination and cascading of tax, the EU's exemption approach provides for an option to include non-residential buildings in the VAT base, obviously with a credit for the tax on new buildings and other inputs. Note that the exemption method needs a definition of specified non-residential use, such as hotel accommodation, boarding houses, camping facilities, and parking space that should all be taxable on the rates charged to customers.

By contrast, modern VATs tax the sale and leasing of *all* non-residential buildings, which provides for a fuller inclusion of immovable property in the VAT base, because future increases in value will also be taxed. Accordingly, this tax approach should be preferred.[7] Ideally, the tax approach should be complemented by the taxation of the increase in the value of residential buildings realized at the time of their sale (while refunds should be made if the value has declined), similar to the VAT margin scheme for second-hand goods. If value increases were taxed, transfer or registration duties, which exhibit the same capricious effects as a cascading turnover tax, should be abolished. Also, an input tax credit should be provided for the VAT paid in respect of major renovations. Admittedly, the VAT on increases in value causes lock-in effects, which discourage residential mobility, but this effect also occurs under the transfer or registration duty. Taxing immovable property more comprehensively under the VAT would most likely mitigate the regressive impact of the VAT, as housing tends to be an income-elastic item of consumption.

11 Registration threshold and agriculture

The Common VAT Directive (2006) prescribes a registration threshold of €5,000, but derogations show a wide range of thresholds across EU Member States. Currently, the Dutch VAT, for instance, does not have a registration threshold, although VAT liabilities of small

[7] Incidentally, the EU's exemption approach is equivalent to the modern tax approach, if, under the former, all owners of non-residential buildings would opt for registration and payment of VAT, but this is not likely to happen. For a full treatment of the exemption and tax approaches, reference is made to Cnossen (2011).

businesses of €1345 or less do not have to be paid. From 2020, the small-business exemption has been simplified enlarged by introducing a general threshold of €20.000, still one of the lowest in the EU.

This begs the question of what the best-practice level of a threshold should be. Obviously, at least two competing considerations enter the equation: revenue and operational (administration and compliance) costs. The revenue loss (gain) of increasing (reducing) the threshold must be balanced against the lower (higher) administrative cost of applying the VAT to a smaller (larger) number of registrants. Further, it should be considered that compliance costs (as a percentage of sales) tend to be much higher for small businesses than for large businesses. In the UK, for instance, the compliance costs of small businesses, as a percentage of turnover, have been estimated to be on average 20 times the compliance costs of large businesses (see Sandford, Godwin, and Hardwick (1989)).

Because compliance costs tend to be fixed costs, their incidence is likely to be regressive with respect to income, though this is an aspect that should be balanced against the competitive advantage that small exempt businesses may enjoy with respect to their larger taxable competitors. In addition, the cost of the economic distortions that can be associated with behavioral changes of businesses just below or above the threshold should be taken into account. Presumably, these costs increase as the threshold increases. Liu and Lockwood (2015) show that there is bunching around the threshold, and the amount of bunching is negatively related to the intensity of input use and positively related to the share of B2C transactions, consistent with the conceptual framework that they develop.

Apart from the cost of the economic distortions, the trade-off between revenue and operational costs is optimized, loosely speaking, at the point where the additional revenue from lowering the threshold equals the additional operational costs incurred. Keen and Mintz (2004) have formalized this trade-off in the following simple rule:

$$z^* = \frac{\delta A + \Gamma}{(\delta - 1)\tau v(z)}$$

in which z* is the threshold that maximizes revenue, A denotes the administrative costs (assumed to be fixed), Γ the compliance costs (also fixed), δ the (constant) marginal cost of public funds, τ the VAT rate, and v the ratio of value added to sales. Based on estimates of operational costs for developed countries – US$100 for administrative costs and US$500 for compliance costs – given by Cnossen (1994), a VAT rate of 15%, a ratio of value added to sales of 35%, and a marginal cost of public funds of 1.3, Keen and Mintz compute an optimal threshold for developed countries of US$40,000 (€36.000), nearly twice the size of the proposed threshold in the Netherlands.

Obviously, the Keen-Mintz formula – in contrast to the Liu-Lockwood framework – does not take account of the economic distortions noted above. If it did, the recommended threshold might be lower. However, a higher threshold than the current Dutch version would appear to

save on administrative and compliance costs. A relatively generous threshold without further ado would also seem to be the most appropriate approach to exempt small farmers from VAT. Before 2018, farmers were not obliged to register for VAT (although they can opt to do so), while their VAT on inputs is presumptively washed out through a flat-rate compensation scheme providing purchasers of agricultural products a tax credit for the estimated input VAT incurred by farmers. As pointed out by Cnossen (2018), this is an arbitrary form of input relief, which is out of date and in conflict with a modern VAT.

12 Differentiated rates

In contrast to a modern VAT, the VATs in most Member States have differentiated rate schedules (Denmark is a notable exception). The reduced rates are supposed to mitigate the VAT burden on lower-income households, although Bettendorf and Cnossen (2015), on which this section draws, show that in the Netherlands higher-income groups benefit nearly twice as much from the lower rate on foodstuffs (and cultural activities) than lower-income groups – an odd way of trying to help the poor. The income tax and the social benefit system, moreover, are much more effective alternatives for influencing the income distribution.

The economic argument in favor of a uniform rate is that it does not distort consumer and producer choices. Eliminating the reduced rate, therefore, involves a welfare gain, which has been quantified by the Institute for Fiscal Studies et al. (2011) for the UK and Belgium (regrettably, no analysis has been done for the Netherlands). An increase in the reduced rates (including the zero rate on food and dwellings in the UK) to the level of the standard rate implies a welfare gain of 3.5% of total VAT receipts in the UK and 4.6% for Belgium. In an alternative scenario, the elimination of the reduced rate is combined with a reduction of the standard rate by 5%-points, so that VAT yields stay the same. This results in a welfare gain per household of €1.07 per week in the UK and €0.74 per week in Belgium. Plausibly, a similar welfare gain would be realized for the Netherlands, because the differentiated rate involves roughly the same revenue loss as in Belgium.

A further argument is that a uniform rate contributes to a simpler VAT system with lower administration and compliance costs. For 2007, the VAT compliance costs for the Dutch business community were estimated at €408 mln (excluding costs of invoicing; van Weeghel, et al., 2010). In 2008, the Ministry of Finance estimated that a uniform VAT rate would reduce these costs by some €100 mln.[8] Also, the direct administrative costs of the VAT, estimated at €138 mln, would go down. Compared with a dual rate structure, a uniform rate is also less sensitive to lobbying activities, while misclassifications, intentional or not, should not occur. A disadvantage of abolishing the reduced rate is that Dutch inhabitants of border areas might buy their foodstuffs in Belgium and Germany. However, the lower Dutch standard rate would attract Belgian and German buyers for other products. In any event, cross-border purchases are more of a problem for excisable goods than for goods and services subject to VAT (see the overview in Cnossen, 2003).

[8] See Uniform BTW-tarief: Aspecten en Overwegingen in Kort Bestek, available online at https://www.tweedekamer.nl/downloads/document?id=0e44b38d-5c91-4805-82ba-10b236a030b2&title=Uniform%20BTW-tarief%3A%20Aspecten%20en%20overwegingen%20in%20kort%20bestek.doc.

12 Summary and conclusion

This chapter has argued for modernizing the EU VAT by broadening the base and levying a uniform rate. Base broadening would eliminate the distortions and complexities associated with skewed input choices, self-supply bias, export taxation, contentious input tax allocation, and exemption creep. Following New Zealand's example:

- governments, particularly provinces and municipalities, should be made liable to VAT;
- education (except elementary schools), health care, and social and cultural establishments can be brought into the VAT base without increasing the cost for students, patients or other users;
- property and casualty insurance should be subject to VAT, and the distortionary stamp duty on insurance abolished;
- fee-based financial services should be made taxable and a scheme should be developed that would permit the recovery of the input VAT by financial institutions in supplying B2B services;
- lotteries and gambling should be brought into the VAT base;
- all non-residential property should be subject to VAT and it is suggested to impose VAT on the gain realized on the transfer of residential property, while distortionary transfer and registration duties should be abolished;
- the thresholds should be reviewed and the flat-rate compensation scheme for farmers abolished; and
- lower rates should be increased (and the standard rate reduced) in a move towards one single rate.

But for the EU's Common Directive (2006), most of these reforms can be implemented without much further ado. The taxation of governments, education and health care may be somewhat problematic as it would involve important changes on the expenditure side of the budget. The greater neutrality that would be achieved by taxing these sectors fully can also be achieved by zero rating the bodies involved in providing government, education and health care services. While this would not remove the competitive distortion with respect to the private sector, it would eliminate the input choice distortion, the self-supply bias, and various administrative complications. Also, it would permit an optical reduction in the overall tax ratio.

The Common VAT Directive is the most important obstacle to these reforms. However, if the EU cannot reach a consensus on the adoption of improvements to the Common VAT Directive, perhaps Member States themselves should be allowed to do so, subject to approval by the EU VAT Committee. Arguably, a modern VAT, which does not affect the workings of the single market, unlike the current EU-VAT, cannot be considered to infringe on the principles of free trade and free competition, that is, violate the EU Treaty.

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Box 1. Exemptions and exclusions under the EU-VAT Directive

A. Mandatory

Public bodies (Article 13)

States, regional and local government authorities and other bodies governed by public law in respect of the activities or transactions in which they engage as public authorities

Activities in the public interest (Article 132)

*public postal services other than passenger transport and telecommunications services
*hospital and medical care, ambulance and dental services
*welfare and social security work, also if supplied by old people's homes
*protection of children and young persons
*children's or young people's education, school or university education, vocational training or retraining
*private tuition by teachers, covering school or university education
*religious or philosophical institutions with a view to spiritual welfare
*subscription-based political, trade-union, religious, patriotic, philosophical, philanthropic or civic organizations
*sport or physical education by non-profit-making organizations
*cultural services
*fund-raising activities by exempt organizations
*public radio and television bodies

Other activities (Article 133)

*insurance and reinsurance, including insurance brokers and agents
*granting, negotiation and management of credit and credit guarantees
*transactions concerning deposit and current accounts, payments, transfers, debts, cheques and other negotiable instruments, but excluding debt collection
*currency, bank notes and coins used as legal tender, with the exception of collectors' items
*transactions in shares, interests in companies or associations, debentures and other securities
*special investment funds
*postage stamps, fiscal stamps and similar stamps
*betting, lotteries and other forms of gambling
*buildings or parts thereof, and of the land on which they stand
*land which has not been built on
*leasing or letting of immovable property
Note: Not exempt are hotels and similar forms of accommodation, holiday camping sites, parking facilities, permanently installed equipment and machinery, and the hire of safes

B. Optional

Small entities (Article 285)

Taxable persons whose annual turnover is no higher than EUR 5 000 or the equivalent in national currency.

Agriculture (Article 296)

Farmers in conjunction with a flat-rate scheme designed to offset the VAT charged on purchases of goods and services made by the flat-rate farmers.

Table 1. The Netherlands: Composition and Yield of the VAT Base in 2015 (mln euro)[1]

	Base modern VAT	Base actual VAT					Yield and rate		Notes
Consumption expenditures (including social benefits in kind)		Output taxed			Input taxed		Tax	Effective tax rate (%)	
		Standard rate (21%)	Reduced rate (6%)	Exempt	Fixed assets	Intermediate use			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
A. Households	**434,835**	**99,510**	**72,495**	**242,559**	**30,723**	**100,922**	**38,323**	**8.8**	
1. Predominantly taxable	***173,173***	***94,701***	***68,544***	***9,928***	***1,524***	***5,469***	***24,105***	***13.9***	
Foodstuffs	32,496	1,156	31,340				2,123	6.5	21%: animal feed
Restaurants and hotels	19,871	4,034	15,837				1,797	9.0	21%: alcoholic beverages
Water	1,080		1,080				65	6.0	
Nonalcoholic beverages	1,820		1,820				109	6.0	
Personal care products	9,342	3,463	5,879				1,080	11.6	6%: dressings, prescription-free medicines, sun cream, toothpaste
Alcoholic beverages	2,891	2,891					607	21.0	See also restaurants and hotels
Tobacco	3,956	3,956					831	21.0	
Energy	5,821	5,821					1,222	21.0	
Motor fuel	8,380	8,380					1,760	21.0	
Durable consumer goods	47,193	45,138	2,055				9,602	20.3	6%: art objects, walkers, books, medical instruments
Communication	6,538	6,113		425	70	596	1,413	21.6	Intermediate - 21%: €539 mln; 6%: €21 mln; exempt: €36 mln
Transportation	6,894	621	3,801	2,472	1,366	1,374	438	6.4	Intermediate - 21%: €936 mln; 6%: €2 mln; exempt: €436 mln
House and garden	5,683	2,916	1,343	1,424			693	12.2	6%: maintenance services
Other goods and services	21,208	10,212	5,389	5,607	88	3,499	2,465	11.6	6%: pets, preservatives, periodicals, horticultural products; intermediate - 21%: €2,473 mln; 6%: €321 mln; exempt: €705 mln
2. Predominantly exempt	***261,662***	***4,809***	***3,951***	***232,631***	***29,199***	***95,453***	***1448***	***5.4***	
Medical and social care	115,794	800		114,994	4,389	21,828	3,039	2.6	Government salaries: €45,190 mln; intermediate - 21%: €8,165 mln; 6%: €6,697 mln; exempt: €6,966 mln
Education	23,344			23,344	2,371	6,655	1,110	4.8	Government salaries: €23,344 mln; intermediate - 21%: €5,131 mln; 6%: €530 mln; exempt: €994 mln
Recreation and culture	14,729	1,098	3,874	9,757	158	1,769	757	5.1	21%: commercial radio/TV ; government salaries: €3,813 mln; intermediate - 21%: €1,141 mln; 6% €344 mln; exempt: €284 mln
Rents and rental values	63,868	332	77	63,459	19,230	35,657	6,304	9.9	Intermediate - 21%: €9,861 mln; 6%: €1,997 mln; exempt: €23,799 mln
Financial and business services	23,656	2,579		21,077	3,051	29,444	3,007	12.7	Intermediate - 21%: €8,426 mln; 6%: €920; exempt: €20,098 mln
B. Non-profit institutions	**5,444**			5,444					
C. Governments	**29,556**			29,556	11,954	26,031	6,126	20.7	Government salaries: €29,556 mln; intermediate - 21% €16,836 mln; 6%: €1,330 mln; exempt: €7,865 mln
Grand totals	**449,564**	**99,510**	**72,495**	**272,115**	**42,677**	**125,953**	**44,548**	**9.9**	

Source: Central Bureau of Statistics, Expenditure categories (excluding VAT) by VAT rates 2015. The base of the modern VAT for the exempt sectors: education, medical and social care, recreation and culture is assumed to consist of the remuneration of (government) employees found in the national accounts (Nationale Rekeningen 2017, available online at https://www.cbs.nl/nl-nl/publicatie/2018/30/nationale-rekeningen-2017) in addition to private consumption expenditures on these categories. The taxable inputs (intermediate goods and fixed assets) of exempt transactions and sectors are used to calculate the VAT on inputs. The effective tax rate is the yield as a percentage of the modern VAT base.