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Transfer Pricing under an Origin-based VAT System

by

Bernd Genser and Günther G. Schulze*

1. Introduction

It is well known that a destination-based and an origin-based VAT regime are equivalent in a free trade environment, when each country levies a single VAT rate and flexible exchange rates accommodate price level changes (Europäische Gemeinschaft für Kohle und Stahl, 1953; Lockwood, de Meza and Myles, 1994). After the abolition of border controls within the European Union cross-border shopping undermines the traditional destination principle and the EU Commission has therefore proposed a new VAT regime: Under this "common market principle" a registered business is entitled to VAT credits for purchases in any EU country and is taxed according to the destination principle, whereas a consumer or a non-registered business bears the VAT paid in the country of purchase and is taxed according to the origin principle. Because this mixed system shifts tax revenue, allows for tax arbitrage, and distorts trade flows, the Commission aims at harmonizing VAT rates across EU countries and at supplementing the common market regime by a clearing mechanism. As an alternative, the switch to an origin-based system in the EU has received support again (Siebert, 1990; Krause-Junk, 1992; Lockwood, de Meza and Myles, 1995; Genser 1996)¹. This allows EU member states to maintain the different VAT rates and to meet country-specific revenue targets without distortions. On the other hand, the allocational neutrality of the origin principle has come under attack from two positions. First, an origin-based VAT matters if factors and firms become mobile (Genser, Haufler and Sørensen, 1995; Bovenberg, 1994; Genser and Haufler, 1997; Richter, 1996). Second, an origin-based VAT is vulnerable

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¹ The European Commission as well as the German government have created considerable confusion by referring to the international credit system as origin principle. We use the notions of origin- and destination-based systems in the consistent economic tradition.

through strategic transfer pricing (Cnossen and Shoup, 1987; Lockwood, de Meza and Myles, 1995).

In this paper we address the second objection, which so far has not been analyzed thoroughly. While it is true that an origin-based VAT provides an incentive for colluding firms, e.g. subsidiaries of a multinational firm, to shift value added to low tax countries in order to reduce the total VAT burden on final goods, we argue that the transfer pricing issue can only be tackled consistently in a framework that accounts for VAT and income taxes since shifting value added also changes taxable profits. The tax evasion gain consists of a VAT and a profit tax component, which might be additive or subtractive, depending on the tax rate differentials among the countries involved. Given the tax rate pattern of EU member states, we find that the tax evasion incentive of an origin-based VAT is likely to be small and dampens the incentive for corporate income tax evasion.

The paper is organized as follows. In section 2 we show that the recouping effect of a destination-based VAT prohibits any interference of VAT rate differentials with transfer pricing incentives established by income tax differentials. In section 3 we demonstrate that the transfer pricing incentive jointly depends on commodity and profit tax rate differentials. In section 4 we present some empirical evidence on EU tax rate patterns and argue that – contrary to the going conjecture – a switch to an origin-based VAT tends to reduce the incentive for transfer pricing. Section 5 concludes.

2. Transfer Pricing under the Destination Principle

To analyze the incentive for transfer pricing under the destination principle we consider a multinational firm (MNF) operating in country A with a subsidiary in country B ². The firm's objective is to maximize consolidated after-tax profits Π , regardless in which country they are reported. The two countries tax profits at rates τ^A and τ^B , respectively, and they levy a destination-based VAT at the rates t^A and t^B . The MNF operates in perfectly competitive markets and takes the net-of-tax commodity price p_X as given. The parent company produces the final output X in country A by means of domestic primary inputs (k_X) and an intermediate input I which is imported from its subsidiary in B at a price p_I . The subsidiary produces only the intermediate input good³. Both firms are subject to income and value

² The results in this section mirror the standard transfer pricing results (e.g. Horst, 1971; Bond, 1980, and the contributions in Rugman and Eden, 1985), therefore the exposition is limited to the necessary minimum.

³ This assumption is made only in order to keep the exposition simple; its removal would leave our results unaltered.

added taxation on the basis of their tax returns to the tax authorities in A and B . Whenever firms collude in tax evasion by means of transfer pricing they use consistent invoices and declare the same transfer price for the sale and the purchase of the intermediate input in their tax returns in A and B .

Under the destination principle, exports of the intermediate good are fully exempted from the value added tax in the country of origin B ; they are taxed in the country of destination A at the rate t^A ⁴. The final good is sold at $(1 + t^A) p_X$ to the consumer in A , of which the parent company pays $t^A p_X$ to the treasury in A ⁵. The MNF's total VAT tax bill T amounts to

$$(1) \quad T = t^A (p_X X - p_I I) + t^A p_I I = t^A p_X X.$$

VAT liability is determined by the final good's market price and does not depend on the price for the intermediate input p_I . A destination-based VAT therefore does not create any incentive for transfer pricing to save VAT. There exists, however, an incentive for transfer pricing as long as the corporate income tax rates are different.

After-tax profit of the parent company, Π^A , is given by

$$(2) \quad \Pi^A = [p_X X - k_X X - p_I I] (1 - \tau^A);$$

the subsidiary's after-tax profit Π^B amounts to

$$(3) \quad \Pi^B = (p_I - k_I) I (1 - \tau^B).$$

Hence, from (2) and (3) total after-tax profits of the MNF sum up to

$$(4) \quad \Pi = \Pi^A + \Pi^B = \underbrace{(p_X - k_X) X (1 - \tau^A) - k_I I (1 - \tau^B)}_{const.} + p_I I (\tau^A - \tau^B),$$

which depend on the price of the intermediate input, p_I . Unless $\tau^A = \tau^B$, there will always be an incentive for transfer pricing. Obviously, it pays to overstate the transfer price (compared to arm's length pricing) if $\tau^A > \tau^B$ in order to shift profits from the high-tax country A to the low-tax country B . If $\tau^A < \tau^B$, it pays to shift profits through underinvoicing.

Transfer price manipulations entail the risk of being caught and fined as the governments monitor transfer prices. We assume that misdeclaration is

⁴ An alternative to VAT exemption by the country of origin is the international credit/invoice method proposed by the European Commission: the subsidiary charges the tax-inclusive price $p_I(1 + t^B)$ and transfers the tax $t^B p_I$ to its national fisc in B ; the importing parent company receives a full tax credit on the VAT paid on the import against its own VAT bill. The subsequent clearing ensures that the fisc in the country of final destination receives the total VAT.

⁵ If the firm exported the final commodity to B , it would earn $p_X^B(1 + t^B)$ and transfer $t^B p_X^B$ to the fisc in B per unit of export. Arbitrage implies that $p_X^A = p_X^B$, so that we can ignore the superscript.

detected more likely, the more the stated transfer price p_I deviates from the true price p_I^t . This assumption is intuitive and standard in newer models of transfer pricing such as Kant (1988) and Gordon and MacKie-Mason (1995), misdeclared prices will arouse suspicion more likely and an investigation will be considered more rewarding as stated prices become more unrealistic. Schulze (1994) explicitly derives the probability of detection as a convex function of the amount of misdeclaration from an optimizing behavior of the government⁶. Once caught, the firm is fined in proportion to the evaded amount⁷ so that the expected fine F is a function of the extent of misdeclaration. We adopt his results here. Disregarding the irrelevant case in which the firm increases its own tax liabilities by misinvoicing, we can write

$$(5) \quad F = d(|p_I - p_I^t|) s(|p_I - p_I^t|) I = f(|p_I - p_I^t|) I \quad \text{with } f' > 0, f'' < 0,$$

where $d(|p_I - p_I^t|)$ denotes the probability of detection, s the surcharge levied in case of detection, and f' (f'') the first (second) derivation of $f := (|p_I - p_I^t|) d(|p_I - p_I^t|) s$ with respect to p_I . Because the probability of detection $d(|p_I - p_I^t|)$ is convex and the fine is linear in the extent of misdeclaration (see Schulze, 1994), $f(|p_I - p_I^t|)$ is convex in its argument as well. (We use absolute values to allow for over- and underinvoicing.)

A risk neutral firm maximizes its expected after-tax profit. We amend the profit equation (4) by subtracting the expected fine from the after tax profit and obtain the FOC for the optimal transfer price ($\partial \Pi / \partial p_I = 0$):

$$(6) \quad \tau^A - \tau^B = f'(|p_I - p_I^t|).$$

The extent of misdeclaration decreases with increasing probability of detection and increasing punishment; it increases with the tax differential.

There is indeed a strong incentive for transfer pricing under the destination principle in the EU since corporate tax rates as well as income tax rates differ considerably between member countries (see appendix, table 1). Obviously, eqs. (2) to (4) apply directly to the case in which the subsidiary retains its profits. But (2) to (4) also describe most of the cases in which profits are

⁶ A revenue-maximizing fiscal authority optimizes its investigative behavior on the basis of a density function over the true, but unknown arm's length price, the cost of investigation, the probability that detection leads to conviction, and the additional revenue (including the penalty) in case of conviction. The misinvoicing firm in turn – knowing the detection probability function and the penalty scheme – chooses an optimal transfer price in the interior of $[0, p_I^{max}]$. (This maximum price p_I^{max} could reasonably be given by $p_I^{max} = p_X X/I$, i.e. the costs for the imported input would equal the firm's total revenue.)

⁷ This portrays at least the practice in the US, Germany, and Israel; see Schulze (1994) on this.

transferred to the parent company: Following the parent/subsidiary Directive 1990, profits earned in the host country are subject to the national corporate income tax, but no withholding tax on dividends to the foreign parent company must be levied in case of repatriation. In order to avoid double taxation the parent's country of residence must either exempt income from foreign-based subsidiaries from taxation or it has to grant a tax credit for foreign corporate tax paid against the parent company's tax liabilities. Most EU countries have opted for the exemption method known as the "international affiliation privilege", so that the source principle of profit taxation is effective⁸.

To summarize: because the source principle is dominating and profit tax rates differ between countries, there will generally be an incentive for transfer pricing in the EU. The destination principle does not affect this incentive. Our concern is to determine whether a switch to the origin principle strengthens or weakens the incentive for transfer pricing.

3. Transfer Pricing under the Origin Principle

Although the origin principle has been shown to be equivalent to the destination principle and in particular to be non-distortive to international trade it has come under attack because of its incentives to transfer pricing (e.g., Cnossen and Shoup, 1987, p. 73; Lockwood, de Meza and Myles, 1995, p. 13). Since the origin principle implies that final commodities carry a VAT burden according to the share of value added in different countries of processing, it is evident that a transfer pricing strategy which shifts a higher share of value added to the low-VAT country reduces the final VAT burden.

To analyze the incentive for transfer pricing under an origin-based VAT we start out from the standard equivalence property between single rate VAT regimes following either the destination or the origin principle (Lockwood, de Meza and Myles, 1994). The familiar implementation technique for the origin principle is the subtraction method which implies that by deducting the value of imported intermediate goods from the value of sales

⁸ The second alternative describes the residence principle. Under this principle the country of residence grants a tax credit for taxes paid in the host country up to the domestic tax liabilities; therefore, the effective tax rate is the higher of the two tax rates (τ^A, τ^B). In other words, if the source country levies taxes at a higher rate than the residence country, (2)–(4) equally apply. If not, the residence country's tax rate becomes relevant. However, since income from foreign-based subsidiaries is taxed only upon repatriation, this tax deferral reduces the effective tax on foreign source income (cf. Hartman, 1985). In this case, $\tau^B (< \tau^A)$ would have to be interpreted as the effective present value tax rate on foreign source income.

the value added in different countries is taxed by the VAT rate of that country⁹. Opposite to the credit/invoice method there is no recouping effect which neutralizes the VAT burden on prior stages of processing; the aggregate VAT rate is a weighted average of the VAT rates of the countries involved, with the shares of value added being the weights. Thus, favorable VAT rates during any stage of processing reduce the final VAT burden and create an incentive to shift value added to low VAT countries. This objection against an origin-based VAT is stressed by Cnossen and Shoup (1987) and Lockwood, de Meza and Myles (1995) regard it as one major stumbling block against their proposal for an origin-based VAT in the EU. To capture the transfer pricing incentives through the origin principle we assume as before that the firm needs I units of intermediate inputs to produce X units of output. Under the international subtraction method the VAT burden on intermediate inputs imported from country B ,

$$(7) \quad T^B = t^B p_I I$$

remains part of the total VAT burden on the final good. The VAT burden levied in country A is calculated by subtracting the net of tax value of the intermediate input from the net of tax value of output¹⁰

$$(9) \quad T^A = t^A (p_X X - p_I I).$$

The total VAT burden on the firm's output under the origin principle therefore is

$$(10) \quad T = T^A + T^B = t^A (p_X X - p_I I) + t^B p_I I = t^A p_X X + (t^B - t^A) p_I I.$$

⁹ The origin principle has come under attack by stating that it requires the simultaneous application of the traditional credit/invoice method for domestic sales and the subtraction method for cross-border sales. But this objection does not hit since the subtraction method can be shown to be equivalent to the "notional credit method" (Cnossen and Shoup, 1987; Krause-Junk, 1992). The notional credit method coincides with the traditional credit method for domestic transactions; therefore the introduction of the origin principle does not incur higher administrative complexities compared to the Commissions' proposal of international VAT crediting under the common market principle.

¹⁰ Under the notional credit method the importer is not entitled to a VAT credit equal to the VAT paid in the country of origin, eq. (7), but to a fictitious credit which would have been due if the import goods had been purchased domestically at the same net of tax price p_I

$$(8) \quad NTC = t^A p_I I = (t^A/t^B) t^B p_I I = (t^A/t^B) T^B.$$

The VAT liability of the firm after deducting the NTC is the same as under the subtraction method, eq. (9). The calculation of the notional tax credit requires information on the net of VAT prices of imported goods, but this information is included in the VAT payment T^B shown on the invoice and the NTC can be derived by rescaling of T^B by the tax rate factor t^A/t^B .

Equation (10) reveals the transfer price incentive, since firms reduce the final VAT burden by overinvoicing intermediate goods imported from low-VAT countries ($t^B < t^A$) or by underinvoicing those from high-VAT countries ($t^B > t^A$).

This result, however, is flawed because it does not take into account the interdependence between direct and indirect taxes. We have to check how, and to what extent, the two incentives for transfer pricing interact. It may turn out that for the reduction of corporate tax liabilities transfer prices have to be overstated whereas the reduction of VAT liabilities calls for an understatement of p_I . We develop the argument analogously to eqs. (2) and (3). Consolidating the parent company's after-tax profit

$$(11) \quad \Pi^A = [(p_X - k_X) X - p_I(1 + t^B) I + t^A p_I I] (1 - \tau^A)$$

and the subsidiary's net profit

$$(12) \quad \Pi^B = (p_I - k_I) I (1 - \tau^B)$$

and taking the expected fine into consideration gives us the relevant objective function for strategic transfer pricing

$$(13) \quad \Pi = \underbrace{(p_X - k_X) X (1 - \tau^A) - k_I I (1 - \tau^B)}_{const.} + p_I I [(\tau^A - \tau^B) + (1 - \tau^A) (t^A - t^B)] - f I.$$

From (13) we derive the FOC for the optimal transfer price p_I :

$$(14) \quad f' (p_I - p_I^i) = (\tau^A - \tau^B) + (1 - \tau^A) (t^A - t^B).$$

It is immediately seen that for $t^A = t^B$ the transfer pricing criterion reduces to eq. (6) – only income tax evasion matters as under the destination principle. Otherwise, the VAT differential can moderate or reinforce the existing transfer price incentive; it may even reverse the direction of misdeclaration. The sign of the RHS of (14), or the term in square brackets in eq. (13), determines the direction of misinvoicing. Under the origin system tax evasion may be weaker or stronger than under the destination approach, depending on the two tax differentials. If country A is a high-tax country compared to country B , i.e. $\tau^A > \tau^B$ and $t^A > t^B$, the origin principle will aggravate the transfer pricing problem. If, however, countries have similar financial needs, but levy their revenue with a different tax structure (regarding the direct-indirect tax mix), then gains from transfer pricing are smaller under the origin principle than under the destination principle. Say, country A relies more heavily on direct taxation ($\tau^A > \tau^B$) whereas country B has higher indirect tax rates, then an overstatement of the imported value to save corporate taxes by transferring profits to country B will result in a

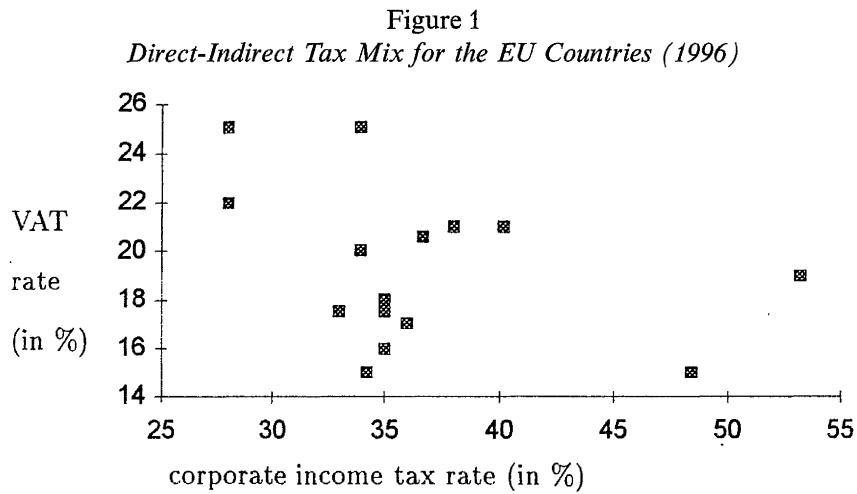
higher VAT bill – the overall effect will be moderated vis-à-vis the transfer pricing effects under a destination-based VAT system. If the VAT differential is large enough such that $(1 - \tau^A)(t^B - t^A) > (\tau^A - \tau^B)$, then a switch to the origin principle with the same tax rates will reverse the direction of misdeclaration – underdeclaration becomes optimal. Which case applies is of course an empirical question. For this reason we turn now to the empirical evidence for the European Union member states.

4. Transfer Pricing Incentives under the Two VAT Systems: Empirical Evidence for the EU

In this section we shed light on the – empirical – question, whether the introduction of an origin-based VAT would ease or aggravate the transfer pricing problem. From the comparison of eqs. (6) and (14) it is seen that the origin principle moderates (aggravates) the transfer pricing incentive if the two tax differentials (CIT and VAT) carry the opposite (same) sign.

As indirect tax rate we have used the standard rate of the value added taxes. Reduced rates are by far less important (in terms of coverage and volume of transactions); this is all the more so for intra-firm trade in intermediate inputs. For direct taxes the situation is much more diverse because the effective marginal tax burden depends on the legal status of the firm and a variety of special tax provisions, such as depreciation and accounting rules, loss carry forward provisions, etc., which may differ across industries and even firms. This variety of provisions should be captured in a firm-specific effective marginal tax rate. Since we want to address the incentives for transfer pricing on an aggregate level we have selected the top rate of the corporate income tax which is justified for the following reasons: Most of the multinationally operating firms are incorporated, and therefore subject to corporate income tax (CIT). Since there is little progression in the corporate tax schedules, the bulk of enterprises is taxed at the top rate. Moreover, because transfer pricing is undertaken by managers, who are interested in after-corporate-tax profits as a measure for their success (and hence their pay) the integration of stockholders' personal income taxes with the corporate income tax is irrelevant to our problem. Moreover, we do not use effective marginal tax rates which measure the effective tax burden on a marginal investment, whereas we consider accounting manipulations apart from investment activities. The respective tax rates of the EU member countries are provided in table 1 in the appendix.

From (14) we conclude that the moderating effect of the origin principle is the higher, the more negatively correlated direct and indirect tax rates are. That is, for the origin-based VAT system to moderate tax evasion, a country

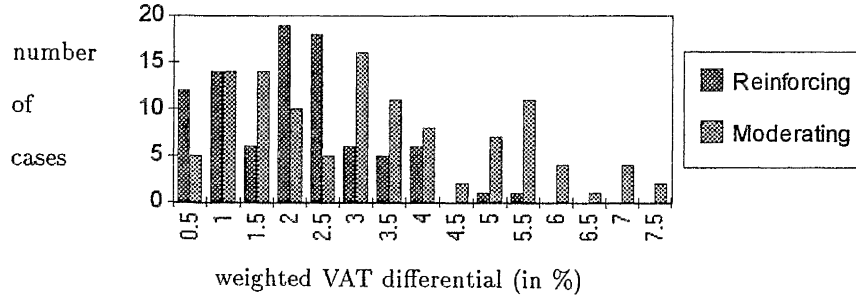


with a high CIT should have a low VAT and vice versa¹¹. A first indication is provided by figure 1 which plots the VAT and CIT rates for the 15 countries of the European Union as of 1996. These tax rates are weakly negatively correlated, the correlation coefficient amounts to -0.364 .

In 57 cases out of 105 bilateral trade relations the VAT differential exhibits the opposite sign to the corporate tax differential and hence the transfer pricing incentive is reduced. In 44 cases the VAT differential reinforces the transfer pricing incentive of the corporate tax differential. These include 5 cases of zero CIT differentials, where the VAT differential is the only transfer pricing incentive. Tables 2 and 3 in the appendix plot, respectively, the CIT differential and the differential effect of switching to the origin principle, $[(1 - \tau^A)(t^A - t^B)]$, for all EU countries and both directions of trade. Figure 2 shows the quantitative importance of the reinforcing versus the moderating effect for transfer pricing incentives of the origin-based VAT system as opposed to the destination-based system. The abscissa depicts the absolute value of the differential effect [i.e., $|(1 - \tau^A)(t^A - t^B)|$] in percentage points and the ordinate gives the number of cases, in which the moderating or reinforcing effect, respectively, fall within a certain range. (For example, the first dark bar denotes 12 cases, in which the moderating effect is positive, but not greater than 0.5 percentage points.) Two observations are straightforward: The number of moderating cases

¹¹ Of course, the transfer pricing problem within the economic union would be resolved if all tax rates were harmonized. At least for the EU this seems politically unfeasible.

Figure 2
Moderating vs. Reinforcing Effect for Transfer Pricing



(114 out of 210) exceeds the number of reinforcing cases (88)¹². In addition, the moderating effect is stronger than the reinforcing effect. Especially for the cases in which a switch to an origin-based VAT system has a *significant* impact on the transfer pricing incentive (3 percentage points or more) the moderating effect is by far dominating.

These preliminary results suffer from treating all trade directions alike regardless the actual volume traded. In order to gain more insight into the actual importance of this differential transfer pricing incentive through origin-VAT we weighted the differential effect $(1 - \tau^A)(t^A - t^B)$ by the relative bilateral trade shares. That is, we normalized the weight by dividing the bilateral trade through the average bilateral trade. The weights s^{ij} are thus calculated as

$$s^{ij} = \frac{n(n-1)M^{ij}}{\sum_i \sum_j M^{ij}} \quad \forall i \neq j$$

with M^{ij} denoting the import of country i from country j and n being the number of countries in the union. Bilateral trade data are taken from *Direction of Trade Statistics 1995*, published by the International Monetary Fund (see appendix, table 4)¹³. It turns out that the average trade weighted reinforcing effect amounts to 0.71 percentage points whereas the moderating

¹² The quantitative alteration of the transfer pricing incentive is not symmetric with respect to the direction of the bilateral trade flows as the “scaling factor” of the VAT differential depends on the CIT rate of the importing country (A) only: $(1 - \tau^A)(t^A - t^B)$. (The direction of the change (moderating or reinforcing effect) is of course independent of the direction of the trade flow.) Consequently, there are 210 bilateral trade directions between the 15 EU member states, for which we calculate the differential effect of the origin-based VAT system.

¹³ Data for Belgium and Luxembourg are compiled jointly. Due to the smallish trade volume of Luxembourg we used the Belgium tax rates.

effect is double as large (1.41 percentage points). This leaves an average moderating net effect of 0.70 percentage points¹⁴. Certainly, this *additional* effect is small in comparison to the existing transfer pricing incentive established through CIT differentials. The trade weighted average CIT differential yields 10.22 percentage points, or 15 times the average additional effect created through a switch to the origin principle. It is thus fair to say that this differential effect is of second order and tends to moderate rather than reinforce the existing transfer price incentive.

5. Conclusion

In this paper we have addressed an objection against origin taxation that has not been dealt with hitherto, namely that this system will lead to new and substantial transfer price manipulations induced by VAT differentials. We have shown that this objection does not hold in the case of Europe, since VAT induced transfer pricing incentives in the EU would be small and tend to mitigate rather than intensify the incentives induced by today's corporate income tax differentials. If at all, this alleged objection becomes the contrary: Given the present pattern of CIT and VAT rates, incentives for transfer pricing in the EU are stronger under the destination than under the origin based VAT.

As such, our findings do not imply that a switch to the origin-based VAT in the EU is desirable; our message is rather the other way round: In the ongoing discussion on the final European VAT system the origin principle should not be refused on account of its vulnerability to transfer pricing. This view can neither be supported on theoretical grounds, nor by empirical evidence if the interactions of transfer pricing incentives are correctly accounted for.

¹⁴ These figures are small in part because they are averaged over all 182 measurable trade directions (see fn. 13). For the 88 cases in which the origin VAT reinforces the existing transfer pricing incentive, the average effect is 1.48 percentage points, whereas the figure for the 114 moderating cases amounts to 2.25 percentage points.

Appendix

Table 1
Tax Rates in the European Union 1996

Country	Corporate Income Tax top rate ^a	Value Added Tax regular rate
Austria	34	20
Belgium ^b	40.2	21
Denmark	34	25
Finland	28	22
France ^c	36.7	20.6
Germany ^d	48.4	15
Greece	35	18
Ireland	38	21
Italy	53.2	19
Luxembourg ^e	34.2	15
Netherlands	35	17.5
Portugal	36	17
Spain	35	16
Sweden	28	25
United Kingdom	33	17.5

^a Regular rate for retained profits, including surtax for local authorities.

^b 1996: 39% plus 3% 'crisis surtax'.

^c 1996: 33.3% plus 10% surtax.

^d 1996: 45% plus 7.5% 'solidarity surtax'.

^e 1996: 33% plus 4% surtax.

Source: Bundesministerium der Finanzen (1996).

Table 2
CIT-Differentials: $(\tau^A - \tau^B)$ in Percentage Points

	A	B	DK	FIN	F	D	GR	IRE	I	LUX	NL	P	E	S	UK
A	0	-6.2	0	6	-2.7	-14.4	-1	-4	-19.2	-0.2	-1	-2	-1	6	1
B	6.2	0	6.2	12.2	3.5	-8.2	5.2	2.2	-13	6	5.2	4.2	5.2	12.2	7.2
DK	0	-6.2	0	6	-2.7	-14.4	-1	-4	-19.2	-0.2	-1	-2	-1	6	1
FIN	-6	-12.2	-6	0	-8.7	-20.4	-7	-10	-25.2	-6.2	-7	-8	-7	0	-5
F	2.7	-3.5	2.7	8.7	0	-11.7	1.7	-1.3	-16.5	2.5	1.7	0.7	1.7	8.7	3.7
D	14.4	8.2	14.4	20.4	11.7	0	13.4	10.4	-4.8	14.2	13.4	12.4	13.4	20.4	15.4
GR	1	-5.2	1	7	-1.7	-13.4	0	-3	-18.2	0.8	0	-1	0	7	2
IRE	4	-2.2	4	10	1.3	-10.4	3	0	-15.2	3.8	3	2	3	10	5
I	19.2	13	19.2	25.2	16.5	4.8	18.2	15.2	0	19	18.2	17.2	18.2	25.2	20.2
LUX	0.2	-6	0.2	6.2	-2.5	-14.2	-0.8	-3.8	-19	0	-0.8	-1.8	-0.8	6.2	1.2
NL	1	-5.2	1	7	-1.7	-13.4	0	-3	-18.2	0.8	0	-1	0	7	2
P	2	-4.2	2	8	-0.7	-12.4	1	-2	-17.2	1.8	1	0	1	8	3
E	1	-5.2	1	7	-1.7	-13.4	0	-3	-18.2	0.8	0	-1	0	7	2
S	-6	-12.2	-6	0	-8.7	-20.4	-7	-10	-25.2	-6.2	-7	-8	-7	0	-5
UK	-1	-7.2	-1	5	-3.7	-15.4	-2	-5	-20.2	-1.2	-2	-3	-2	5	0

Source: Table 1.

Table 3
 Weighted VAT-Differentials: $(1 - \tau^A)(\tau^A - \tau^B)$ in Percentage Points

	A	B	DK	FIN	F	D	GR	IRE	I	LUX	NL	P	E	S	UK
A	0	-0.66	-3.3	-1.32	-0.396	3.3	1.32	-0.66	0.66	3.3	1.65	1.98	2.64	-3.3	1.65
B	0.598	0	-2.392	-0.598	0.2392	3.588	1.794	0	1.196	3.588	2.093	2.392	2.99	-2.392	2.093
DK	3.3	2.64	0	1.98	2.904	6.6	4.62	2.64	3.96	6.6	4.95	5.28	5.94	0	4.95
FIN	1.44	0.72	-2.16	0	1.008	5.04	2.88	0.72	2.16	5.04	3.24	3.6	4.32	-2.16	3.24
F	0.3798	-0.2532	-2.7852	-0.8862	0	3.5448	1.6458	-0.2532	1.0128	3.5448	1.9623	2.2788	2.9118	-2.7852	1.9623
D	-2.58	-3.096	-5.16	-3.612	-2.8896	0	-1.548	-3.096	-2.064	0	-1.29	-1.032	-0.516	-5.16	-1.29
GR	-1.3	-1.95	-4.55	-2.6	-1.69	1.95	0	-1.95	-0.65	1.95	-0.325	0.65	1.3	-4.55	0.325
IRE	0.62	0	-2.48	-0.62	0.248	3.72	1.86	0	1.24	3.72	2.17	2.48	3.1	-2.48	2.17
I	-0.468	-0.936	-2.808	-1.404	-0.7488	1.872	0.468	-0.936	0	1.872	0.702	0.936	1.404	-2.808	0.702
LUX	-3.29	-3.948	-6.58	-4.606	-3.6848	0	-1.974	-3.948	-2.632	0	-1.645	-1.316	-0.658	-6.58	-1.645
NL	-1.625	-2.275	-4.875	-2.925	-2.015	1.625	-0.325	-2.275	-0.975	1.625	0	0.325	0.975	-4.875	0
P	-1.92	-2.56	-5.12	-3.2	-2.304	1.28	-0.64	-2.56	-1.28	1.28	-0.32	0	0.64	-5.12	-0.32
E	-2.6	-3.25	-5.85	-3.9	-2.99	0.65	-1.3	-3.25	-1.95	0.65	-0.975	-0.65	0	-5.85	-0.975
S	3.6	2.88	0	2.16	3.168	7.2	5.04	2.88	4.32	7.2	5.4	5.76	6.48	0	5.4
UK	-1.675	-2.345	-5.025	-3.015	-2.077	1.675	-0.335	-2.345	-1.005	1.675	0	0.335	1.005	-5.025	0

Source: Table 1.

Table 4
Bilateral Import Flows in 1994 (million US \$)

Importing Country	Exporting country.													Total import per country		
	A	B/LUX	DK	FIN	F	D	GR	IRE	I	NL	P	E	S		UK	
A	0	1 598	450	379	2 607	22 134	195	271	4 890	1 670	332	743	970	1 606	37 845	
B/LUX ^a	933	0	790	733	21 250	30 845	160	1 454	6 223	19 263	709	2 412	3 304	11 599	99 675	
DK	352	1 194	0	1 044	1 821	7 327	58	251	1 340	2 260	371	386	3 911	2 208	22 523	
FIN	260	634	705	0	944	3 428	62	172	900	838	210	303	2 409	1 935	12 800	
F	2 050	20 891	2 038	1 645	0	40 642	505	2 747	23 031	11 401	2 613	13 938	3 092	18 250	142 843	
D	18 199	22 258	6 579	4 338	40 740	0	1 869	3 979	30 844	29 572	3 324	10 257	8 693	22 781	203 433	
GR	225	744	51	191	1 782	3 723	0	187	3 726	1 489	45	741	297	1 442	14 643	
IRE	105	351	119	148	1 133	1 895	20	0	654	796	53	347	385	9 552	15 558	
I	3 761	7 955	1 659	965	22 733	32 269	1 320	1 563	0	9 573	586	6 509	2 110	10 246	101 249	
NL	1 184	13 323	1 347	1 515	8 465	26 257	195	1 305	4 293	0	616	2 243	3 171	10 296	74 210	
P	209	910	224	127	3 393	3 670	31	181	2 261	1 152	0	5 254	304	1 750	19 466	
E	972	3 080	742	812	16 092	13 465	233	847	8 246	3 594	2 562	0	1 209	7 235	59 089	
S	637	1 798	3 496	3 242	2 876	9 501	108	426	1 981	2 101	508	713	0	4 942	32 329	
UK	1 561	10 257	2 981	3 459	21 531	30 981	499	8 239	10 136	14 190	1 786	5 302	6 381	0	117 303	
Total intra-EU imports																952 966
Average bilateral imports																5 236

^a Belgium and Luxembourg are measured jointly.
Source: IMF, 1995.

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Abstract

This paper analyzes transfer pricing incentives under a destination-based and an origin-based VAT system. While a switch to the origin-based VAT may moderate or reinforce the incentive for transfer pricing induced by income tax differentials, we show that in the case of the EU this switch rather tends to reduce the transfer pricing incentive. The effect of VAT rate differentials on transfer pricing incentives, however, is of second order. The claim that an origin-based VAT system in the EU creates a transfer pricing problem is unwarranted.

Kurzfassung

Wir untersuchen den Anreiz zur Transferpreismanipulation bei einer Mehrwertsteuer nach dem Ursprungsland- und dem Bestimmungslandprinzip. Der Übergang zur Ursprungslandbesteuerung kann den bestehenden Anreiz zur Transferpreismanipulation, hervorgerufen durch Körperschaftsteuerdifferenziale, verstärken oder moderieren. Für die EU überwiegt der moderierende Effekt, ist aber relativ zum bestehenden Anreiz klein. Der Einwand, daß eine Besteuerung nach dem Ursprungslandprinzip Anreize zur Transferpreismanipulation erst hervorrufe, basiert auf isolierter Betrachtung der Mehrwertsteuer und ist ungerechtfertigt.

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