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WHAT DO (DISLOYAL) TAX PAYERS DO: A TAXONOMY OF THE MECHANISMS OF VAT EVASION IN ITALY AND PROPOSED REMEDIES

VINCENZO VISCO

Vincenzo Visco

Istituto di Economia e Finanza

DIGEF-Sapienza Università di Roma

P.le A. Moro, 5

00185 ROMA

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mechanisms of VAT evasion in Italy and proposed remedies

1. <u>VAT and evasion</u>

High tax evasion is a key and much debated issue within the Italian fiscal system: some €120 billion are illegally evaded, a sum, amounting to 8 percentage points of GDP, that is among the highest in Europe.

Out of these 8 p.p. – which most likely represents a prudent estimate – 3 p.p. can be directly ascribed to *IVA*, or Value Added Tax. According to Agenzia delle Entrate[1], the revenue agency, VAT evasion amounts in recent years to approximately 33%, with a highest peak recorded in 1991 and a lowest in 2000[2], representing over 10% of total tax revenue. Anyway, barring the last few years, most studies have shown a decline in VAT evasion trends in Italy since its introduction in 1972, with a significant improvement with respect to the 1980s when VAT non-compliance amounted to an estimated 40% of potential tax revenue[3]. On the contrary, VAT evasion has been increasing in recent years in countries like Britain and Germany, leading to a renewed focus on the issue of fiscal non-compliance in Europe[4]

A 2009 report entrusted by the European Commission to Reckon[5], a British economics consultancy firm, analysed data relating to the estimated VAT tax gap in European countries calculated according to a uniform method. The report found that VAT evasion in Italy was significantly higher than the European average. In fact, taking into account Europe's four largest countries (Germany, France, Britain, Italy), the survey showed that while Italy represented 20% of potential VAT

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[1] Marigliani e Pisani (2007).
[2] The authors ascribe the decline in VAT evasion to the reforms implemented by the centre-left coalition governments in the period between 1996-2000.
[3] Pedone (1981); see also Gebauer and Parsche (2003).
[4] Keen (2007).
[5] Reckon (2009).

revenue (considering no tax evasion), therefore a share corresponding to the country's GDP, its tax gap amounted to 35%, i.e. 66% higher.[6] Similar results have also emerged in a more recent EU Commission report[7]: Italy's tax gap continues to be one of the highest among the 26 (out of 28) member countries, two or more times higher than tax revenue losses recorded in the principal countries, and lower only to those in countries such as Greece, Hungary, Latvia, Lithuania, Romania, Slovakia and Czech Republic. But the most important result is that tax evasion in recent years has been rising in all member states.

The Commission's alarm mainly stems from the fact that intra-Community transactions between EU Member States do not attract VAT as they are zero-rated thereby creating massive opportunity for fraud. In this light, the so-called *carousel fraud* has affected all countries, especially Britain and Italy.

In Italy, one must also add, VAT evasion, even without taking into account such frauds, continues in fact to be so prominent as to be considered structural. Consequently, any change in the way VAT is applied and levied that can help reduce non-compliance, in addition to regular enforcement activities, should be viewed positively and strongly supported also because, taxpayers base their entire income reporting on the VAT accounts. In other words, VAT evasion has a cascade impact on the entire system.

2. A simple accounting model

We will use in this work a fairly straightforward value added tax model that will facilitate the examination of the most common evasion practices and allow us to outline ways to combat them.

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[6] See Convenevole (2009).
[7] Taxud (2013).

Let us assume just three vertically integrated productive sectors, each with their own turnovers: F_1, F_2 and F_3.

The added value of each sector will be as follows

$A_1 = F_1$

$A_2 = F_2 - F_1$

$A_3 = F_3 - F_2$

The total taxable added value (the economy's total consumptions) will result from the sum of added values of the single sectors and will be equal to the value of sales pertaining to the last sector (retail):

$A_1 + A_2 + A_3 = F_3$

In essence, the first sector does not record purchases consequently its added value and turnover match; the second sector purchases only from the first; while the third only from the second. The tax rate is t, the tax due from the various sectors, i.e. the total revenue, is therefore:

$T = T_1 + T_2 + T_3$

If the tax is conceived as a consumption tax, investment expenses (acquisition of capital goods) are excluded from the taxable base (deductible expenses). For the purpose of our analysis, however, this circumstance is irrelevant as are other specific features of the real tax and will be consequently ignored.

From a logical point of view since the taxable base of the tax is the added value, the most coherent taxation should be the base-to-base method, inasmuch as the added value (with the exception, by assumption, of the first sector) is

determined by subtracting from sales turnover total purchases. Therefore tax revenue in each sector would be:

$$T^B_1 = tF_1 = tA_1$$

$$T^B_2 = t(F_2 - F_1) = tA_2$$

$$T^B_3 = t(F_3 - F_2) = tA_3$$

Total revenue would therefore be:

$$T^B = tA_1 + tA_2 + tA_3 = t(A_1 + A_2 + A_3) = tF_3$$

In practical terms, however, all countries apply the "tax-to-tax" method. In this case, the taxable base is no longer the added value but the sales turnover on which the tax rate is directly applied and from which the tax paid on total purchases is successively deducted. As a consequence, the tax due from the first sector would be:

$$T^I_1 = tF_1$$

The second would pay:

$$T^I_2 = tF_2 - tF_1$$

The third:

$$T^I_3 = tF_3 - tF_2$$

The aggregate tax revenue T^I would be:

$$T^I = tF_1 + tF_2 - tF_1 + tF_3 - tF_2 = tF_3$$

which is the same result, without considering cash flows or accruals, that was obtained with the "base-to-base" method. In addition, the "tax-to-tax" method, unlike the "base-to-base" method, may occur with the sale (invoices) of all goods, making it easier to

apply. The two systems are therefore equivalent. This result, which is, for that matter, well known, should be kept in mind in the course of this paper.

The two systems, however, are equivalent only in the presence of a single tax rate. Should tax rates differ, as is generally the case practically everywhere following the mere application of a tax incentive, this condition would no longer occur. Consider for example the application of lower tax rate $t^* < t$ in the second sector, according to the "base-to-base" method, the following would occur:

$$T^B = t_1 F_1 + t^*(F_2 - F_1) + t(F_3 - F_2)$$

which, in terms of added value, would become:

$$T^B = tA_1 + t^*(A_1 + A_2) - t^*A_1 + t(A_1 + A_2) + tA_3 - t(A_1 + A_2) =$$

$$= tA_1 - t^*A_1 + t^*A_1 + t^*A_2 + tA_3 = t(A_1 + A_3) + t^*A_2$$

it thus ensues that

$$t(A_1 + A_3) + t^*A_2 < t(A_1 + A_2 + A_3),$$

consequently the tax break has led to a lower tax revenue, consolidating the benefit in the second sector for which it had been intended in the first place. Had the "tax credit" method been applied instead, the result would change and the following would in fact occur:

$$T^I = tF_1 + t^*F_2 - tF_1 + tF_3 - t^*F_2 = tF_3 = t(A_1 + A_2 + A_3)$$

Total tax revenue would not change because the lower tax rate would be recovered from the third sector through lower tax credits. For the same reason, though, the result would be reversed if the lower tax rate had applied to the third sector (the retail).

In fact, had the "base-to-base" sector been applied, the following would occur:

$$T^B = tF_1 + t(F_2 - F_1) + t^*(F_3 - F_2) = tF_1 + tF_2 - tF_1 + t^*F_3 - t^*F_2 =$$

$$= t(A_1 + A_2) + t^*(A_1 + A_2) + t^*A_3 - t^*(A_1 + A_2) = tF_2 + t^*A_3$$

In this case as well, the tax incentive applies only to the sector for which it was introduced, and the revenue similarly declines. In fact:

$$tF_2 + t^*A_3 < tF_3, \text{ cioè } T^B < T^I,$$

where T^I is calculated by applying t to the third sector.

But if the tax credit method were to be applied, the following would result:

$$T^I = tF_1 + tF_2 - tF_1 + t^*F_3 - tF_2 = t^*F_3 = t^*(A_1 + A_2) + t^*A_3 = t^*F_2 + t^*A_3 < tF_2 + t^*A_3$$

i.e. $T^B > T^I$, with T^I calculated by applying t^* to the third sector.

As a consequence of the tax credit mechanism, the incentive also affects the added value produced in the sectors up the line and therefore revenue loss is higher[8].

In the concrete application of value added taxes there are VAT-exempt operations, which shouldn't be mistaken with non-taxable operations such as those connected with export-related business. Exempted operations make up a significant quota of domestic added value. These are operations carried out in a number of sectors including the credit and insurance, postal services, urban transport and building renting/leasing. In these cases, if the exempted sector is not the end-sector, total revenue remains unvaried inasmuch as exemption implies no invoicing upstream and no tax credit downstream. In fact, assuming

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[8] The fact that total revenue, in the presence of tax incentives (and in the absence of evasion), is always positive, is not in contrast with the possibility that, due to lower tax rates down the line with respect to those upline, one of the sectors that make up the productive chain may be entitled to claim a tax credit. This takes place (in case tax incentives occur in the third sector) when $t^*/t < F_2/F_3$.

operations in the second sector were tax exempted, F_2, and the related taxation would be left out of the total revenue equation, the following would occur:

$T= tF_1 - tF_1 + tF_3 = tF_3$

On the contrary, if it were the third sector to be exempted, we would have the following:

$T=tF_1+tF_2-tF_1+tF_2=0$

As is obvious, the revenue would be nil.

And finally there are a number of purchases that for essentially anti-evasion reasons are non-deductible (cars, luxury goods…). In such cases, total revenue form the productive chain is higher than the theoretical amount. Given a total revenue in the absence of evasion equal to:

$T= tF_1 + tF_2 - tF_1 + tF_3 - tF_2 = tF_3$

If F_2 is non-deductible, we would have the following

$T^D= tF_1 + tF_2 - tF_1 + tF_3 = tF_2+tF_3 > tF_3$

3. Evasion

The simple model outlined above allows us to also examine the application of the tax in the presence of evasion.

VAT evasion, as is well known, occurs in three ways: failure to declare income from sales (and at times failure to report purchases); failure to issue invoices (or the failure to issue receipts or sales checks); false invoicing. It should additionally be observed that deliberate non-compliance is not always decided beforehand. An invoice, for example, may be issued but the proceeds from the sale may not be reported or be recorded but not reported. Given the characteristic

possibility to recover down the production or sales chain the VAT that may have been evaded upstream, total revenue may still be preserved notwithstanding the presence of such evasion in one of the productive sectors. Therefore "evasion" is intended in this study as the government's partial loss of revenue. A number of examples may be cited:

a) <u>Unreported (with or without invoicing) sales</u> is widespread in the end-client sector. The following occurs in this case

$$T_1 = tF_1$$

$$T_2 = tF_2 - tF_1$$

$$T_3 = 0 - tF_2$$

and therefore:

$$T^E = T_1 + T_2 + T_3 = 0,$$

e

$$E = T - T^E = tF_3$$

where T^E is total revenue in the presence of evasion and E is the amount of evasion.

Dishonest tax reporting in the last sector produces evasion, affecting the revenue theoretically due from the entire production line. A similar outcome arises when sales take place without the issue of proper invoices (failure to issue invoice), which, unlike the failure to report sales, may allow for the sale or supply of goods at lower prices.

Failure to report sales, or to issue invoices, allows operators in the third sector to claim expenses up to an amount equal to tF_2 to which the revenue loss tA_3 relating to the tax charged on the added value produced in the third sector is added.

It therefore becomes clear that the possibility of claiming expenses (or compensations) is strategic in the evasion of taxes[9].

b)   This, on the other hand, does not occur when <u>an invoice not issued further up</u> in the productive chain does not generate evasion, unless (c) <u>income also goes unreported in the sector further down</u>. This is indeed the most likely occurrence as the operator in the sector further down in the production chain would have no convenience in not demanding a (deductible) invoice. In this case, taxpayers along the entire productive chain have essentially come to an agreement and tax evasion takes place along the entire supply line. Let us assume that invoices have not been issued in the second sector. The following will occur:

$$T_1 = tF_1$$

$$T_2 = 0 - tF_1$$

$$F_3 = tF_3 - 0,$$

$$T = tF_3$$

As no invoice has been issued, the second sector doesn't collect tF_2 and claims (compensation) tF_1, therefore it doesn't gain and it doesn't lose. But as the third sector cannot deduct tF_2, the tax gap is recovered and there is no evasion.

But if, in addition to non-compliance with invoicing regulations in the second sector, <u>earnings were also to go unreported in the third sector</u>, the following would occur:

$$T_1 = tF_1$$

$$T_2 = 0 - tF_1$$

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[9] This issue has been the subject of an in-depth analysis by Convenevole (2009) op. cit., who has highlighted how in the past 10 (and more) years, VAT refunds, and especially automatic compensations, have progressively increased reaching 23% of total 2008 gross revenue, equal to over €27bn, the outcome for the most part of evasion.

$T_3=0-0$

Therefore $T^E=0,$

$E=T-T^E=tF_3,$

In other words, taxes would be entirely evaded.

A peculiar case, on the other hand, is the following:

(d)   the third sector <u>does not report invoiced sales and purchases</u> because it may need to present to tax authorities an added value level that is adequate to filed turnover. The situation may be described as follows:

$T_1=tF_1$

$T_2=tF_2-tF_1$

$T_3=0$

$T^E=tF_2$

$E = T- T^E = tF_3- tF_2 = t(A_1+A_2+A_3)- t(A_1+A_2)= tA_3$

Tax evasion is therefore partials and only concerns the added value of the third sector.

While continuing to be partial, evasion will nonetheless increase when:

e)   <u>the failure to report sales or purchases on the part of the third sector</u> takes place within the framework of a chain of supply where fiscal incentive measures are in place in the intermediate sectors. In such a case, in fact:

$$T_1 = tF_1$$

$$T_2 = t*F_2 - tF_1$$

$$T_3 = 0$$

$$T^E = tF_1 + t*F_2 - tF_1 + 0 = t*F_2$$

$$E = T - T^E = tF_3 - t*F_2 = t(A_1 + A_2 + A_3) - t*(A_1 + A_2) =$$

$$tA_3 + (t - t*)(A_1 + A_2)$$

which is greater than tA_3 although lesser than tF_3.

As we have observed, failure to comply with invoicing regulations in connection with intermediate operations does not produce VAT evasion because it implies the absence of VAT credits in the upper sectors of the supply chain and the recovery of the revenue that may come missing. Taxes may thus be evaded exclusively by those who operate in the end-client sector. The only exception being the supply of intermediate non-refundable goods (f). In this case, in fact:

$$T_1 = tF_1$$

$$T_2 = 0 - tF_1$$

$$T_3 = tF_3 - 0$$

$$T^E = tF_3$$

$$E = T - T^E = tF_2 + tF_3 - tF_3 = tF_2 < tF_2 + tF_3{}^{10}$$

The increased revenue arising from non-refundability would thus be affected. Nevertheless what often occurs is that evasion takes place along the entire supply chain and that after the taxpayers have come to an agreement. This depends on the fact that evasion on the part of operators in the end client sector allows for the evasion of the added value produced by each sector for direct taxation purposes (IRAP tax in Italy). If the entire supply chain fails to invoice the tax and the final sectors files no report, the following occurs:

$$T_1 = tF_1 = 0$$

$$T_2 = tF_2 - tF_1 = 0 - 0$$

$$T_3 = tF_3 - tF_2 = 0 - 0$$

$$T = 0.$$

For income tax purposes this would mean that a taxable base equal to the added value of each sector would be missing. In fact, the various sectors will be in a position to not report:

$$F_1 = A_1$$

$$F_2 - F_1 = A_2$$

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[10] In fact, in case of non-refundable goods total revenue is greater in the measure of the non-refundable tax (in the tF_2 example)

$F_3 - F_2 = A_3.$

VAT evasion in the intermediate sectors may occur invoiced operations are not reported (i.e. when false invoicing is relied upon as we shall see later).

g)   Failure to report invoiced operations on the part of the intermediate sectors:

$T_1 = tF_1$

$T_2 = tF_2 - tF_1$

$T_3 = tF_3 - tF_2$

$T^E = tF_1 - tF_1 + tF_3 - tF_2$

$E = T - T^E = tF_3 - tF_3 + tF_2 = tF_2$

In this case, the tax due from operators in the second sector is not paid and consequently continues to be at their disposal allowing them to claim credits for tF_1.

h)   Failure on the part of the first sector to issue invoices and of the second sector to report gains:

$T_1 = tF_1 = 0$

$T_2 = 0 - 0$

$$T_3 = tF_3 - tF_2$$

$$T^E = tF_3 - tF_2$$

$$E = T - T^E = tF_3 - tF_3 + tF_2 = tF_2$$

In this case as well, evasion depends exclusively from the failure on the part of the second sector to file tax reports while the failure on the part of the first sector to issue invoices is irrelevant.

A further possibility is one where the second sector decides not to report both the taxes relating to sales and those paid in relation to purchases[11]:

i) <u>Failure to report purchases and sales in the second sector</u>

$$T_1 = tF_1$$

$$T_2 = tF_2 - tF_1$$

$$T_3 = tF_3 - tF_2$$

$$T^E = tF_1 + 0 + tF_3 - tF_2$$

$$E = T - T^E = tF_3 - tF_1 - tF_3 + tF_2 = tF_2 - tF_1 = tA_2$$

Evasion is therefore lower with respect to the previous two cases and is limited to the taxes levied on added value.

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[11] It should be well borne in mind that for inspection purposes margins that are too low are a cause of suspicion for the financial administration.

As operations in the last three cases, namely cases g), h) and i), are invoiced[12], accounting is in order , although there remains the possibility that tax authorities may still carry out controls – a risk that becomes quite unlikely when invoices and payments match. Should electronic (telematic) invoicing, with concomitant bank transfer by the party that receives the invoice draft, be enforced more extensively, this type of evasion could be eliminated or be significantly less practicable.

Evasion, though, can become quite consistent – higher even that 100% - above all in other cases. For example in the case when:

(l)   failure to report (not failure to issue invoices) takes place both up and down the entire supply chain. In this case, the following would occur:

$T_1 = tF_1$

$T_2 = 0 - tF_1$

$T_3 = 0 - tF_2$

$T^E = tF_1 - tF_1 - tF_2 = -tF_2$

$E = T - T^E = tF_3 + tF_2$

In other words, thanks to the refunds and compensations mechanisms, evasion and government tax revenue loss result being higher than 100% (i.e. tF_3). In fact, the second sector invoices tF_2 to the third sector, but files no report and therefore claims refunds (compensation) for tF_1, withholding tF_2. Similarly, the third sector will claim refunds tF_2 and will not report or pay tF_3.

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[12] Barring the case when failure to issue invoices on the part of the first sector is irrelevant for the purpose of determining total evasion levels.

The most common method to perpetrate significant evasion and frauds consists in relying on false invoicing. Several cases may be singled out:

m) <u>False invoicing downstream</u>

$T_1 = tF_1$

$T_2 = tF_2 - tF_1 - tFF$

$T_3 = tF_3 - tF_2$

$T^E = tF_1 + tF_2 - tF_1 - tFF + tF_3 - tF_2 = tF_3 - tFF$

Total revenue tF_3 declines in relation with the entity of false invoices (TFF), therefore evasion $E = T - T^E = tF_3 - tF_3 + tFF = tFF$ depends exclusively on the amount of false invoices and can be $> = <$ than tF_3 (total revenue without evasion) depending on whether $tFF > = <$ than tF_3.

On the other hand, evasion is higher than 100% arises in case when

n) <u>false invoicing upstream combines with the failure to report earnings downstream</u>. The following is thus obtained:

$T_1 = tF_1$

$T_2 = tF_2 - tF_1 - tFF$

$T_3 = 0 - tF_2$

$T^E = tF_1 + tF_2 - tF_1 - tFF - tF_2 = -tFF$

The evasion $E = T - T^E$ will thus be: $tF_3 + tFF > 100\%$

o) <u>False invoicing downstream:</u>

If false invoicing takes place in the third sector, the following will occur:

$$T_1 = tF_1$$

$$T_2 = tF_2 - tF_1$$

$$T_3 = tF_3 - tF_2 - tFF$$

$$T^E = tF_1 + tF_2 - tF_1 + tF_3 - tF_2 - tFF = tF_3 - tFF$$

And the evasion will be $E = T - T^E = tF_3 - tF_3 + tFF = tFF$

In other words, the same result is obtained as in case (m) where false invoicing occurs in the sector higher up in the supply chain. In essence, false invoicing is alien and external to the tax's ordinary functioning.

p)   False invoicing up- and downstream:

$$T_1 = tF_1$$

$$T_2 = tF_2 - tF_1 - tFF$$

$$T_3 = tF_3 - tF_2 - tFF*$$

$$T^E = tF_1 + tF_2 - tF_1 - tFF + tF_3 - tF_2 - tFF* = tF_3 - tFF - tFF*$$

$$E = T - T^E = tF_3 - tF_3 + tFF + tFF* = tFF + tFF*$$

Evasion, in this case, is the outcome of the sum of false invoices, which can be $> = <$ than tF_3.

q)   Carousel frauds

The so-called "carousel" frauds have spread rapidly in the EU member countries, driven by the fact that imports from the other countries are VAT exempt. Carousel frauds rely on a "missing trader" that does not pay the tax due and is then replaced by another that plays the same role so that the fraudulent mechanism can be replicated for an indefinite time.

Several carousel fraud schemes have been identified. While some are extremely sophisticated, the aim is always the same: to create false tax credits at zero cost. How the scam works in its basic lines is explained below.

In the case of an import operation from abroad where there is no evasion, we have the following:

$T_1=0$ (foreign company)

$T_2= tF_2-0$

$T_3= tF_3- tF_2$

$T = 0+ tF_2+ tF_3- tF_2= tF_3$

Consequently, there will be no evasion nor will there be a revenue loss inasmuch as that revenue loss from the purchases made in the sector would be recovered downstream.

What occurs with carousel frauds is that income (tF_2) goes missing, collected by the missing trader[13] that does not pay and disappears. The following will thus occur:

$T_1=0$ (foreign company)

$T_2=tF_2 -0=0$ (buffer?)

$T_3=tF_3- tF_2$

$T^E=0+0+ tF_3- tF_2= tA_3$

$T-T^E=tF_3- tA_3= t(A_1+A_2)+ tA_3 -tA_3= t(A_1+A_2)= tF_2$

Revenue relating to the second sector goes missing and the revenue from imports is not recovered. At the same time the third sector – the true beneficiary of the fraudulent operation – either because it had promoted or organised the scam or because it makes a profit by purchasing the goods at a lower price thanks to the missing trader's VAT evasion,

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[13] The buffer companies may either be independent with respect to the buyer or be an expression of it.

now appears to be and is formally compliant with VAT regulations. Often operators in the third sector resells the goods and services to the same foreign exporting company and no VAT is charged because this is, once again, an export operation. This can be repeated indefinitely as the carousel is passed around with the involvement of often different <u>missing traders</u>. In some cases the entire series of transactions foresee non exchange whatsoever with the same good being used again and again.

To conclude, the cases outlined above, which are not only the most recurrent but also the most feasible, prove that, in view of the current VAT mechanisms, there are indeed numerous possibilities to evade the tax along the entire supply chain, seriously undermining tax revenue levels.

4. <u>Counter measures I</u>

As outlined above, VAT evasion, intended as a government revenue loss, can occur also when the end client sector fails to report not only sales but also part of its purchases so as to not disclose commercial margins that are to narrow. In this case evasion is partial, equal to the added value of the third sector (tA_3). It has also been observed that when a reduced rate incentive applies in the chain of sales, evasion results higher: $tA_3 + (t-t^*)(A_1 + A_2)$.

On the other, given the structural features of the tax hand, we do know that the neutrality of VAT with regard to the intermediate sectors is always ensured regardless of the rates charged: VAT in fact impacts exclusively the end sales. In

the absence of evasion, the application of tax incentives further up in the sales chain thus bears no impact on total revenue but only on the revenue quotas along the chain itself: lower tax rates reduce revenue from the intermediate sectors, which is, however, shifted downstream.

Given this situation, should the decision be taken to apply ordinary rates to transactions involving VAT-registered operators, there would be no change in the revenue nor in its incidence in the absence of evasion. There would be in any case a decline in evasion in case of a failure to report sales or purchases on the part of the end seller. In fact, taking into consideration case e) of paragraph 3 that highlighted an evasion equal to $tA_3 + (t-t^*)(A_1+A_2)$ when $t=t^*$, evasion would be equal to:

$$tA_3 < tA_3 + (t-t^*)(A_1+A_2)$$

And considering the enormous amount of intermediate transactions besides the instrumental utilisation of invoicing of goods and reduced rates, recovered revenue may be indeed very consistent[14].

5.   Counter measures II

The increase of intra-community frauds has generated much concern among EU countries, which have recorded a considerable rise in VAT evasion. A number of counter measures have consequently been envisaged starting, for example, with the possibility to apply more extensively the so-called reverse-charge mechanism already enforced by some countries in a number of specific sectors. The reverse-charge is a procedure whereby the buyer, rather than the seller, is liable to pay the VAT on a sale or a service by putting in place a self-billing arrangement. The tax due is therefore calculated and paid by the buyer

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[14] See Nens (2014).

rather than the seller. The buyer is always entitled to reclaim the input tax. Consequently, tax dues and credits are of equal amount, and the tax, zeroed out along the sales chain, is charged entirely on the end seller.

The reverse-charge system was initially conceived and enforced as a measure against evasion that had become endemic especially in those sectors where it was difficult to monitor sellers, often inadequately structured and organised and therefore unreliable. A case in point, was scrap metal collection for the steel industry. In such situations, the transfer of accounting obligations and compliance to a more reliable player contributed to reducing VAT evasion and to safeguarding government revenue levels. In the proposal outlined here, the mechanism could be applied to all VAT-registered operators and can be described as follows:

$$T_1 = 0$$

$$T_2 = tF_1 - tF_1 = 0$$

$$T_3 = tF_2 - tF_2 + tF_3 = tF_3$$

$$T = T_3 = tF_3$$

Revenue quotas are not shared along the sales chain, as is normally expected in the VAT traditional scheme, but is concentrated in the final sector, without affecting total government revenue.

It has been objected that this situation is tantamount to abolishing VAT and to the reintroduction of a single-phase retail tax levied at the final stage. In both cases, in fact, the revenue should be ensured in the final stage of the transaction. In reality, the situation is quite different because the paper or electronic trail connected to sales and purchases along the productive chain would still be traceable without, therefore, weakening control. In addition, end sellers who are targeting to evade

VAT on sales would also be required to not report related expenses which they must do with a view to determine income tax.

It would be interesting, at this point, to examine the impact of the <u>reverse-charge</u> system on the VAT evasion cases outlined earlier. The first (a) consists in the failure to file a report (or issue invoices) on the part of operators in the end client sector. It is clear that under the <u>reverse-charge</u> system, which relies on the payment of the entire tax by the end sector, the same result would be obtained in the normal case, i.e. total evasion. In fact:

$T_1=0$

$T_2= 0$

$T_3= tF_3= 0$

And therefore: $T = T_3 = tF_3$

$T^E = 0$

$E = T - T^E = tF_3$

In case b) as well, failure to issue invoices further up in the sales chain would produce the same result (absence of evasion), the difference being that under <u>reverse-charge</u> tax reimbursement that would occur in the second sector would be avoided[15]. In fact:

$T_1=0$

$T_2= tF_1 - tF_1=0$

$T_3= tF_2 - tF_2 + tF_3 = tF_3$

Case c) assumes, besides the failure to issue invoices further up the sales chain (b), also failure to report earnings further down. The result (total evasion) does not change under <u>reverse-charge</u>. In fact

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[15] See previous paragraph.

$T_1=0$

$T_2= tF_1- tF_1= 0$

$T_3= tF_2- tF_2+ 0=0$

$T^E =0$

$E= T - T^E = tF_3 - 0 = tF_3$

The situation changes in case d) (<u>failure on the part of operators in the third sector to report both sales and purchases</u>) where the <u>reverse-charge</u> system intensifies the risk and the actual entity of the evasion. Evasion here would be total and no longer partial, as would occur under the ordinary VAT regime. The following would in fact occur:

$T_1=0$

$T_2= tF_1 -tF_1=0$

$T_3= tF_2- tF_2+ 0=0$

$T^E=0$

$E = T- T^E = tF_3- 0= tF_3 > tA_3 (= tF_3- tF_2)$

which is the evasion that would occur under normal VAT conditions.

The efficacy of <u>reverse-charge</u>, on the other hand, is quite clear in all the other cases of fraud or evasion outlined previously.

Consider, for example, case f), the <u>sale of non-deductible goods in the</u>

<u>intermediate sectors</u>, the following would take place:

$$T_1 = 0$$

$$T_2 = tF_1 - tF_1 = 0$$

$$T_3 = tF_2 - 0 + tF_3 = tF_2 + tF_3$$

$$T = tF_2 + tF_3$$

in other words there would be an absence of evasion.

Similarly, cases g), h) and i) where evasion in the intermediate sectors occurs through the non-payment of taxes in connection with invoices that have been regularly issued. As payments are not due for intermediate sales under <u>reverse-charge</u>, the issue of non-payment does not apply nor can evasion occur. In fact, this is what happens in all three cases:

$$T_1 = 0$$

$$T_2 = tF_1 - tF_1 = 0$$

$$T_3 = tF_2 - tF_2 + tF_3 = tF_3$$

$$T = tF_3$$

And therefore E= 0

Case l) <u>failure to report gains both up- and downstream.</u>

In this case, as we have already observed, evasion would be higher than 100%. But with <u>reverse-charge</u> the following would occur:

$T_1=0$

$T_2= tF_1 - tF_1.$

Contrary to what occurs under an ordinary VAT regime, the possibility to claim a refund   does not apply.

$T_3=0$

$T^E =0$

$E = T- T^E = tF_3 < tF_2 + tF_3$

<u>Reverse-charge</u> thus allows to recover the tax gap downstream by eliminating undue refunds.

The <u>reverse-charge</u> mechanism is equally effective in all those cases where false invoicing is a lever to reduce VAT base.

  m)   <u>False invoicing upstream</u>:

$T_1=0$

$T_2=tF_1- tF_1+ tFF- tFF$

$T_3=tF_2 -tF_2+ tF_3= tF_3$

The impact of false invoicing is nil: E=0

Case n) involves <u>false invoicing somewhere along the sales chain (upstream) as</u> <u>well as the failure on the part of operators in the third sector to report</u> so that the following occurs:

$T_1=0$

$T_2= tF_1- tF_3+ tFF - tFF=0$

$T_3= tF_2- tF_2+ 0=0$

$T^E=0$

$E = T - T^E= tF_3 < tF_3+ tFF$ as previously observed.

<u>Reverse-charge</u> is also effective <u>when it is the third sector that relies on false</u> <u>invoicing (o)</u>:

$T_1=0$

$T_2= tF_1- tF_1$

$T_3= tF_2 - tF_2+ tFF - tFF + tF_3= tF_3$

$T = tF_3$

$E=0$ (rather than tFF)

The result is unchanged even when false invoicing occurs both up- and downstream (p). While under an ordinary VAT regime evasion was the outcome of the sum of false invoices, with <u>reverse-charge</u> false invoices become irrelevant and evasion is not possible.

$T_1=0$

$T_2= tF_1- tF_1+ tFF - tFF =0$

$T_3=tF_2- tF_2+ tFF^*- tFF^*+ tF_3= tF_3$

$T=tF_3$

E=0

Reverse-charge is an effective measure against the possibility of organising carousel frauds (q) because the mechanism avoids that one of the sectors along the sales chain may be entitled to collect VAT that is not immediately compensated.

$T_1 = 0$

$T_2 = tF_1 - tF_1 = 0$

$T_3 = tF_2 - tF_2 + tF_3 = tF_3$

$T = tF_3$

$E=0$ (rather than tF_2)

To conclude, a wider application of the reverse-charge system to all VAT-registered players (barring, of course, end-consumers) could indeed eliminate fraud and evasion occurring along the productive chain before the end client sector and also get rid of undue refunds, without engendering (except in a single case: case d) the risks of higher levels of evasion with respect to the current situation. Out of the fifteen cases of evasion considered, reverse-charge produces no change with respect to the ordinary VAT regime in three cases, while the situation worsens in one case and evasion declines in 11 cases. And considering that we are dealing with frauds – i.e. tax evasion – of consistent entity, it is quite surprising to observe the European Commission's persisting hesitation in enforcing, albeit at an experimental level, a mechanism that has proven its effectiveness at a sectoral level.

It should nevertheless be noted that the mechanism is ineffective in contrasting evasion in the end-client sector (barring when evasion involves false invoicing) as emerging in case d) which could spread more widely should the reverse-charge mechanism be universally applied. In fact as evasion is no longer

possible along the sales chain, the incentive to evade would be concentrated entirely in the last phase. Consequently, it is at this stage that compliance enforcement activity should be focused, also through specific action[16]. Equally important would be the electronic reporting of the sums due from end-client operators. Other measures may include the compilation of a client-suppliers roll or, even better, the obligation to issue telematic invoices which would significantly curtail the incentive to not report purchases on the part of operators of the final sector. Other possible counter measures are described in the following paragraph.

It should also be observed that the reverse-charge mechanism would lead to an astonishing simplification of VAT enforcement and management thereby saving resources for inspections or other more useful activities in the areas of deterrence and control. Should the system be applied, there would no longer be any need to carry out intermediate payments and related controls. The burden of such activities would be greatly reduced for VAT-registered companies that carry out transactions in the end-client sector, amount to just 50% of the total. Applications for refunds and compensations would be greatly reduced thereby impacting abuses and evasions at the source. Even if it will not be possible to fully apply the reverse charge mechanism more extensively, its implementation in those sectors where evasion risks are greater, namely construction and commerce, is strongly recommended.

6. Counter-measures III

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[16] It should be observed that the incentive to report lower purchases upstream would be at least partially compensated by the impossibility to deduct those same purchases as expenses for the purpose of filing income and IRAP taxes.

As observed in paragraph 2, in the absence of evasion and in the presence of a flat rate, a tax on added value calculated according to the substraction method produces results in terms of revenue identical to those obtained by using the tax-to-tax method, so that it is possible to affirm at first glance that it is irrelevant which method is used.

But from a tax evasion point of viewpoint, the tax-to-tax method would allow, should end-sector operators fail to report sales, to reclaim the tax paid upstream along the entire sales chain as deductible costs resulting in the entire VAT revenue loss (see case a) par. 3). This phenomenon could be avoided if the base-to-base method were applied in the end-client sector, incorporating the VAT paid on the final price, making it non-deductible and applying the tax directly to the final sector's added value. To illustrate this case, we will recall the ordinary tax-to-tax method that had been examined earlier.

$$T_1 = tF_1$$

$$T_2 = tF_2 - tF_1$$

$$T_3 = tF_3 - tF_2$$

$$T = T_1 + T_2 + T_3 = tF_3$$

If operators in the third sector fail to report sales, the entire tF_3 revenue would be lost. In fact T^E would be equal to:

$$tF_1 + tF_2 - tF_1 - tF_2 = 0$$

But if the base-to-base method were to be applied to the last transaction the result would change. The following would in fact occur:

$$T_1 = tF_1$$

$$T_2 = tF_2 - tF_1$$

$$T^B{}_3 = t(F_3 - F_2) = tA_3$$

In the absence of evasion, obviously, $T = T_1 + T_2 + T^B{}_3 = tF_3$, but in case operators in the third sector failed to report sales, only the added value of the last sector, with relating tax (tA_3), would be missing, inasmuch as

$$T^{EB} = T_1 + T_2 + T^{EB}{}_3 = tF_1 + tF_2 - tF_1 + 0 = tF_2 = t(A_1 + A_2)$$

$$E = T - T^{EB} = tF_3 - tF_2 = tA_3$$

In essence, by recurring on the base-to-base method for the last sector, at least the entire VAT revenue of the previous sectors would be recovered. The entity of the revenue recovered from evasion will essentially depend from the distribution of added value along the sales chain and especially on the relevance of the added value in the third sector. For example, should three passages take place in the presence of a uniform distribution among the various sectors, evasion would decline by 2/3!

As a considerable portion of VAT evasion arises from the failure to report sales by operators who deal directly with the end-customer, the measure envisaged may indeed be extremely efficacious. This is all the more true in the retail business involving items that require no processing prior to sale. In fact, for these products there exists an exact correspondence between the product that is bought and the one that is sold and therefore between costs and related earnings, and the same tax rate would apply so that the use of the base-to-base method would in any case ensure a positive result. In addition, this system appears to be complementary and integrative with respect to the application of reverse-charge, or the ordinary rate applicable in intermediate transactions.

It could also be applied not only to business involving end-customers but also to transactions between wholesalers and retailers and relating to the sale of consumer goods between VAT-registered companies.[17]

The issue gets more complicated when it is not possible to identify with any certainty the added value quota ascribable to each item that has been sold, namely services. Although at a first glance it may also be useful to rely, in this case as well, on the base-to-base calculation method, its efficacy cannot be upheld in all cases, depending essentially on the relationship between the reported earnings from sales to end-clients and the deductible expenses.

Let us picture the following situation: there are again three sectors in the sales chain, but the turnover of the third sector (sale to the end-client) F_3 is divided in two parts (goods), so that $F_3 = F^a_3 + F^b_3$, to which correspond sales equal to $F^a_2 + F^b_2 = F_2$.

Thus, with no evasion, this is what happens:

$T_1 = tF_1$

$T_2 = tF_2 - tF_1$

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[17] It should be observed that in this case a significant complication would rise. In fact if we were to apply the base-to-base system in an intermediate sector, it would be impossible to reclaim the tax paid to the sector higher up in the sales chain (in our model, the first case). The following would in fact occur

$T_1 = tF_1$

$T_2 = t(F_2 - F_1) = tA_2$

$T_3 = tF_3 - tA_2$

$T = tF_1 + tA_2 + tF_3 - tA_2$

$T = tF_1 + tA_2 + tF_3 - tA_2 = tF_1 + tF_3 > tF_3$

The total revenue would be higher than what is due in the absence of evasion. To overcome this difficulty, a further tax deduction equal to tF_1 should be granted to the third sector.

Nevertheless by applying this system. It would be possible to reduce evasion in case of non-payment (or failure to report the sale) on the part of third sector invoiced transactions examined in point g). In fact, in this case (envisaging the additional tF_1 corrective deduction), the total revenue (including evasion) would be:

$T^E = tF_1 + tF_3 - tA_2 - tF_1 = tF_3 - tA_2$

and:

$E = tF_3 - tF_3 + tA_2 = tA_2$ which is less than the evasion recorded in the above-mentioned g) and equal to tF_2.

$$T_3 = tF^a_3 - tF^a_2 + tF^b_3 - tF^b_2 = t(F^a_3 + F^b_3) - t(F^a_2 + tF^b_2) = tF_3 - tF_2$$

$$T = T_1 + T_2 + T_3 = tF_1 + tF_2 - tF_1 + tF_3 - tF_2 = tF_3$$

Let us now assume that $F_2 > F^a_3$ and $F_2 < F^b_3$, and let us first examine the failure to report earnings of F^a_3 and successively of F^b_3.

This is what happens in the first case:

$$T^E_3 = 0 - tF^a_2 + F^b_3 - tF^b_2 = tF^b_3 - tF_2 > 0 \text{ since } tF^b_3 > tF_2, e$$

$$T^E = T_1 + T_2 + T^E_3 = tF_1 + tF_2 - tF_1 - tF^a_2 + tF^b_3 - tF^b_2 = tF_2 - tF_2 + tF^b_3 = tF^b_3$$

$$E = T - T^E = tF_3 - tF^b_3 = tF^a_3$$

The tax relating to the non-reported good is evaded. If, given this situation, we wish to apply the base-to-base method, two theoretical possibilities arise: 1) to apply the analytical method that refers to the single items sold, identifies and separately managed; 2) to consider the added value generated by the final sector as a whole. Yet again the two systems, with no evasion, are equivalent (as would be the case with the tax-to-tax method), but the first system is not always technically applicable. But if it were possible to apply the analytical method, we will have the following:

$$T^{EB1}_3 = t(F^a_3 - F^a_2) + t(F^b_3 - F^b_2) = 0 + tF^b_3 - tF^b_2$$

And therefore:

$$T^E = T_1 + T_2 + T_3^{EB1} = tF_1 + tF_2 - tF_1 + tF^b_3 - tF^b_2 = tF^a_2 + tF^b_3$$

$$E = tF_3 - tF^a_2 - tF^b_3 - tF^a_2$$

which is $< tF^b_3$, that is, lower than the evasion calculated by applying the tax-to-tax method, clearly proving that the application of the analytical method reduces evasion.

If the base-to-base method were to be applied, the following would occur:

$$T^{EB2}_3 = t(F^a_3 + F^b_3 - F^a_2 - F^b_2) = t(0 + F^b_3 - F^a_2 - F^b_2) = tF^b_3 - tF^a_2 - tF^b_2 = tF^b_3 - tF_2$$

$$T^E = T_1 + T_2 + T^{EB2}_3 = tF_1 + tF_2 - tF_1 + tF^b_3 - tF_2 = tF^b_3$$

$$E = T - T^E = tF_3 - tF^b{}_3 = tF^a{}_3$$

meaning that evasion is similar to that arising if the tax-to-tax method had been applied, and proving that the overall base-to-base method is in this case ineffective. What remains to be done is to examine the case when the failure to report earnings concerns $F^b{}_3$. With the tax credit method we would have the following:

$$T^E{}_3 = tF_3{}^a - tF_2{}^a + 0 - tF_2{}^b = tF_3{}^a - tF_2 < 0$$

Operators in the third sector are thus entitled to a refund. The total revenue will be

$$T^E = tF_1 + tF_2 - tF_1 + tF_3{}^a - tF_2 = tF_3{}^a$$

$$E = T - T^E = tF_3 - tF_3{}^a = tF_3{}^b$$

which is $> tF_3{}^a$; i.e., evasion in case of the failure to report earnings arising from the second item, $F_3{}^b$, is greater (by virtue of the input tax) than the previous case.

If we applied the analytical base-to-base method, we would have

$$T_3{}^{EB1} = t(F_3{}^a - F_2{}^a) + t(F_3{}^b - F_2{}^b) = tF_3{}^a - tF_2{}^a + 0 = tF^a{}_3 - tF^a{}_2.$$

In other words, revenue provided by the third sector results being higher that that obtain through the tax credit method inasmuch as $tF_3{}^a - tF_2{}^a > tF_3{}^a - tF_2$

Besides:

$$T^E = tF_1 + tF_2 - tF_1 + tF_3{}^a - tF_2{}^a = tF_3{}^a + tF_2{}^b$$

and:

$$E = T - T^E = tF_1 + tF_2 - tF_1 + tF_3{}^a + tF_3{}^b - tF_2 - tF_3{}^a - tF_2{}^b = tF_3{}^b - tF_2{}^b$$

and, therefore, as $tF_3{}^b - tF_2{}^b < tF_3{}^b$, evasion declines.

What remains to be seen is the overall efficacy of the base-to-base method. In this case

$$T_3^{EB\ 2}= t(F_3^{\ a} + F_3^{\ b} - F_2^{\ a} - F_2^{\ b}\ )= t(F_3^{\ a} + 0 - F_2^{\ a} - F_2^{\ b}\ )= t(F_3^{\ a} - F_2) < 0,\text{ as a}$$

conjecture.

In addition:

$$T^E = T_1 + T_2 + T_3^{EB2} = tF_1 + tF_2 - tF_1 + 0 = tF_2$$

$$E = T - T^E = tF_3 - tF_2 < tF_3^{\ b}$$ which is the tax gap in case the second product

remains is not reported.

In this case as well evasion declines, meaning that base-to-base method is, as a whole, efficacious[18].

To conclude, the application of the analytical base-to-base system in connection with products that can be identified singularly – in essence, retailing – is always effective in reducing evasion arising from transactions involving the end-client. The global base-to-base method – i.e. involving all transactions – is effective when reported sales are lower than purchases made. The two methods applied together, and by distinguishing the sold product by typology, can contribute significantly in curtailing retail VAT. It should nevertheless be observed that the global base-to-base method my generate complications at a practical level. For example, it cannot distinguish products subjected to ordinary VAT from those on which special VAT rates (incentives) are granted. As we observed in paragraph 2, the application of the subtraction method may cause the de facto elimination of the incentive. Similarly, the global base-to-base system does not allow for the immediate distinction between those situations where taxpayers are in credit for legitimate reasons – start-up accumulation of stocks, etc. – and where tax credits arise from evasion.

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[18] It should be observed that $tF_3^{\ b}$ is the tax evasion when the tax-to-tax method is applied and therefore $tF_3^{\ b} - (tF_3 - tF_2)$ should be > 0; this implies: $tF_3^{\ b} > tF_3 - tF_2$, i.e.: $tF_2 > tF_3^{\ a} + tF_3^{\ b} - tF_2$ and $0 > tF_3^{\ a} - tF_2$ and is confirmed on the basis of the assumptions made previously.

In establishing a new system, these specific issues require to be accurately examined and resolved.

7. Counter-measures IV

Services supplied by the State and by local or territorial level entities are VAT-exempt, but purchases made by the State from private operators are. The State thus pays VAT to its suppliers who then pay it to the inland revenue.

In reality this VAT, which is due and is regularly invoiced, often remains unpaid: it is evaded and recovered only following inspection.

This issue can easily be resolved by establishing that when public administration entities receive a VAT invoice from a private supplier, they should enter the VAT in a specific accounting item rather than paying it to the supplier. It would be a sort of reverse-charge applied to subject (the State) that is VAT-exempt. On the other hand, this is what already occurs for import-related VAT collected and successively paid by customs directly o inland revenue. This method would combat evasion for several hundred million euros.

8. Counter-measures V

As previously mentioned, in addition to changes in the way the tax actually work, new technology could play a crucial role in reducing VAT evasion. In this light, while stronger action should be taken to apply electronic invoicing more widely, significant results could also be achieved with the utilization of new technologies in those sectors that operate and come into direct contact with the end-consumer. In the retailing sector, for example, a widespread practice consists in

issuing the *scontrino fiscale*, or till receipt, while failing to report part of the related operations given the difficulty in carrying out successive checks. If current tills were to be were to be upgraded into small terminals capable of sending to the revenue agency data concerning every single transaction, a primary source of evasion would be eliminated, allowing for the recovery of a sum estimated to be worth several billion Euros.

Professionals, too, should be encouraged to rely more on digital payment systems. And should clients wish to continue paying in cash, the possibility should be given to the professional who has provided the service to make the digital payment himself into a specific bank periodically issue to tax authorities data concerning single tax players. This, too, would avoid the non-payment of dues relating to services that have been regularly reported.

9.   Conclusions

In the fight against tax evasion, constant monitoring and timely corrections of the legislation in place is – or should be – a key feature in the activity of the financial administration as economic systems continue to evolve and taxpayers find ever more sophisticated ways to avoid paying their dues.

As economies become more global and companies and trade are increasingly international-oriented, opportunities for evasion and fraud, especially in the area of VAT, have widened.

In this paper we have outlined a number of proposals that could significantly reduce the phenomenon. None of these proposals change the way VAT would be applied in the absence of evasion. But as they would make evasion a tougher proposition if not altogether impossible, these proposals, if implemented, would contribute to recover significant

revenue besides dealing a decisive blow to the "Italian anomaly," bringing down tax evasion to levels more in line with those recorded in the principal European countries.

The key points in the envisaged reform are the application of ordinary VAT rates in transactions involving VAT-registered customers (who are in any case "neutral"); a more general application of the reverse-charge mechanism for VAT-registered operators; the passage from a tax-to-tax method to a base-to-base method for transactions involving end-clients, further distinguishing the "analytical" regime (applicable mainly for the retail sector) with the "global" regime (applicable for the other cases, namely services); the entering the VAT due from public entities directly to the Treasury; and finally the systematic use of telematic invoicing. The amount of revenue that can be theoretically (realistically?) recovered with the implementation of these measures could be over €20 billion, to which should be added the beneficial consequences of an increased taxable base and of a higher IRAP tax so that the total recovery of taxes evaded could even double.[19]

Moreover, the implementation of these proposals would bring about a substantial simplification of VAT management at the same reducing obligations significantly.

Over the past years, the possibility of applying reverse-charge on a wider scale has been the subject of an ongoing discussion at a European level. While strongly sustained by Germany, the mechanism continues to be resisted, generating diffidence among the other EU countries, including, at least for the time being, Italy. In reality, the tax's rationale and economic impact and its incidence on compliant taxpayers would remain unchanged and no unsurmountable obstacles

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[19] See: Nens (2014).

would rise between countries that ultimately decide to apply one method or the other since the objective of reducing evasion and, in particular, intra-community tax frauds, is widely shared. Not to mention, moreover, that the efficacy of the reforms outlined here are quite surprising, at least at a theoretical level. The counter-measures – especially numbers I and III – are complementary inasmuch as the third one would discourage evasion at the end-stage of the sales chain with the implementation of <u>reverse-charge</u>. And, of course, action to enforce compliance should be focused on the end-client sector and be driven by the enforcement of a more widespread electronic invoicing arrangement.

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