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VAT FRAUD AS A POLICY STIMULUS – IS THE US WATCHING?
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Richard T. Ainsworth

The EU VAT, like most mature tax regimes, is resistant to change. Fraudsters are testing this resilience today, and this may not be such a bad thing for policy-makers. Significant challenges produce significant reforms proposals. If the US is seriously considering a VAT it would do well to observe this dynamic, avoid the known pitfalls, and work to advance the policy debate before it inherits a problem.

The most serious EU VAT frauds include missing trader intra-community fraud (MTIC), its extra-community companion in tradable services (MTEC), and sales suppression (the fraud of manipulating cash register records with Zappers and phantomware). The EU Commission’s Green Paper COM(2010) 695/4 makes it clear that the fundamentals of VAT policy are on the table. It also makes it clear that technology solutions are being pushed to the forefront.

Pricewaterhouse Coopers conducted a study for the Commission on alternative methods for improving the VAT, and it indicates that between 41% and 64% of the EU VAT gap can be attributed to these three technology-driven frauds. But the way forward the Commission hopes to find is expected to do more than just solve MTIC, MTEC and sales suppression; it is expected to broadly simplify the EU VAT and significantly increase efficiencies in its operation.

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1 European Commission, Green paper – On the future of VAT: Towards a simpler, more robust and efficient VAT system (COM(2010) 695/4 indicating at 3-4:
After some 40 years, the time has come to have a critical look at the VAT system with a view to strengthening its coherence with the single market, its capacity as a revenue raiser by improving its economic efficiency and robustness, and its contribution to other policies whilst reducing the cost of compliance and of collection. … Any such improvements require a comprehensive VAT system that can adapt to changes in the economic and technological environment and is solid enough to resist attacks of fraud of the kind experienced in recent years.

2 Pricewaterhouse Coopers, Study of the feasibility of alternative methods for improving and simplifying the collection of VAT through means of modern technologies and/or intermediaries 129 (Final Report – September 20, 2010) TAXUD/2009/AO-05 (estimating MTIC fraud contributes between 17% to 26% of the 118.8 billion euro VAT gap in the 27 Member States of the EU which is roughly 19.8 billion to 30.8 billion euro in 2009).


4 Richard T. Ainsworth, Zappers – Retail VAT Fraud, INT. VAT MONITOR 175 (May/June 2010); Pricewaterhouse Coopers, Study supra note 2, at 129 (estimating non-compliance fraud, a category that includes suppression fraud contributes between 24% to 38% of the 118.8 billion euro VAT gap in the 27 Member States of the EU which is roughly 28 billion to 44.8 billion euro in 2009).

5 European Commission, Green paper, supra note 1.

6 Pricewaterhouse Coopers, Study supra note 2, at 129 (estimating that threshold fraud contributes between 4% to 5% of the VAT gap in the 27 Member States which is roughly 4.4 billion to 5.6 billion euro, and a general category that includes repayment frauds and insolvencies contributes between 3% to 32% of the VAT gap, which is roughly 3.9 billion to 38.4 billion euro in 2009).
Fraud does seem to bring out the best efforts in reform proposals. This paper highlights three examples of this fraud/reform dynamic. The examples are drawn from the payment side. They can be seen in a continuum (even though that is not how they were developed).

The first example presents the Ecuadorian VAT withholding regime. In EU terms VAT withholding is the reverse charge mechanism, with an added requirement that the withheld VAT must be directly remitted to the treasury. This example explains how Ecuador responded to VAT fraud in small and medium sized businesses by extending VAT withholding to third-party credit/debit card companies. In Ecuador financial intermediaries are required to split out the VAT from a buyer’s payments and directly deposit these funds with the Treasury.

The RTvat presents a similar VAT withholding proposal for the EU. However, under the RTvat the third-party withholding application is dramatically expanded. The RTvat requires all business-to-business (B2B) payments to be withheld, and to flow through intermediaries where the VAT element is split off and directly deposited with the Treasury. But the RTvat goes even further. It applies the same third-party withholding

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7 The ECJ once called this “the transfer mechanism of the tax obligation,” Reemtsma Cigarettenfabriken Gmbh. (Case C-35/05) at ¶ 32. The reverse charge is relatively common in the EU. VAT Directive, Art. 193 allows Member States to apply the reverse charge mechanism. Even though the Commission has expressed concerns about the proliferation of exceptions to the fractioned payment principle there seems to be no stop to it. For example, Article 196 applies the reverse charge mechanism to all services supplied to taxable persons referred to under Article 44. It is compulsory in some triangulations [Art. 197(1)], intra-Community transport of goods [Art. 50], intermediary services [Art. 53], investment gold [Art. 198(1)], and most importantly in an effort to counter tax evasion Art. 199a allows a temporary reverse charge to counter fraud in emission certificates, mobile telephone, integrated circuits, perfume and precious metals.

8 In other words, where a reverse charge is an accounting provision that allows netting on the VAT return, VAT withholding is a cash-basis or payment provision that mandates immediate remission of the VAT withheld.

9 Admittedly, in a paper focused on the EU VAT it would have been preferable to take an example of VAT withholding from a EU Member State. However, no Member State has done what Ecuador has done and extended the VAT withholding mechanism to third party credit/debit cards. For example, Spain has VAT withholding in the following nine areas: (a) purchases of goods, collectables, art objects and antiques made by a reseller from individuals who are not entrepreneurs, or professionals registered for VAT purposes – withholding at 100% [VATA, Art. 135-39]; (b) travel agents and tour operators working as commissionaires – withholding at 100% [VATA, Art. 141-47]; (c) purchases made by small retailers for resale (applicable if the small retailer is an individual, or a corporation that pays income tax under the small business regime) – withholding at 4% for goods subject to the full VAT rate, 1% for goods subject to the reduced 8% rate, or 0.5% for goods subject to the super-reduced rate of 4% [VATA Arts. 120, 148, 149]; (d) sales of recycling materials – withholding at 100% [VATA Art. 84]; (e) purchases of gas and electricity by local entities – withholding at 100% [VATA Art. 84]; (f) sales made by fishermen, farmers or cattlemen – (optional) withholding at 100% [VATA 124 – 134]; (g) purchases of taxable services by Spanish residents when the service is deemed to be provided in Spain, but the service provider is not a Spanish resident – withholding at 100% [VATA 84]; (h) purchases of gold as an investment – withholding at 100% [VATA Art. 120, 140]; (i) services provided electronically top permanent residents of Spain by non-residents of the EU – withholding at 100% VATA arts. 70, 120, and 163]. In none of these cases are the withholdings performed automatically by a credit/debit card intermediary.
mechanism to: (a) all business-to-consumer (B2C) transactions, and then applies the
third-party, intermediary payment principle to (b) VAT refunds.

The third example is the Mittler Model. This EU proposal takes the next logical
transactions remain as they are. Simply stated, the Mittler Model replaces the money (the
payment of the VAT) with encrypted exemption certificates. Under the Mittler Model
the VAT devolves into a retail sales tax.

ECUADOR’S VAT WITHHOLDING REGIME

In 1997 Ecuador adopted a VAT withholding scheme. The Ecuadorian
withholding regime is not the oldest, nor is it unique, but it is among the few that has
included among the list of designated withholding agents all credit/debit card
intermediaries. When taxable purchases are made by credit/debit card the Ecuadorian
regime requires these intermediaries to split-off (all or some of) the VAT from the
payment and immediately deposit it with the Treasury. Thus, the buyer withholds VAT
through the agency of its credit/debit card company. The buyer can be a business or a
final consumer.

The Ecuadorian regime addresses a common policy concern. The problem is
small sellers. These sellers frequently make supplies, charge VAT, and do not report the
transaction. They are domestic “missing traders.” VAT withholding is an attempt to
limit evasion in the small business sector. It is normally adopted when the fraud is
perceived to be severe. By adding third-party credit/debit card intermediaries to the list
of withholding agents Ecuador is expanding the withholding net, and seems to have
succeeded in holding VAT evasion down (21%) relative to evasion levels in income tax
(45%).

VAT withholding in Ecuador is an exception to general rule that VAT is paid to
the supplier on taxable supplies. The main rule (which applies to purchases made by a

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10 Use of VAT withholding was most likely conceived in 1983 as part of the Brazilian ICMS (Impostos
Sobre Circulacao de Mercadorias e Prestacao de Servicos) [only dealing with goods originally and called
ICM, before services were added and the tax was re-named ICMS] at ¶ 3º, Art. 6º of the Law-Decree nº
406/68 establishing the general regulations of the financial law applicable to the ICMS/ST, and within this
system a withholding regime was contemplated. In Brazil this withholding process is called “substitution.”

11 Ronald Evans, Focus on Venezuela’s VAT Withholding Regime, VAT MONITOR 110 (March/April 2003)
(indicating that estimates of VAT evasion in Venezuela were between 50% and 60% before the adoption of
the withholding regime, and the largest portion of that was attributed to unregistered small businesses –
especially domestic missing traders).

12 The tax commissioner, Carlos Marx Carrasco [director of the Servicio de Rentas Internas de Ecuador
(SRI)] concedes that in 2010 income tax evasion was close to 45%. VAT evasion was much lower at 21%.
http://www.diario-expreso.com/ediciones/2010/04/26/nacional/actualidad/evasion-tributaria-en-ecuador-
bordea-el-45-por-ciento-segun-servicio-de-rentas/. Using just this measure, VAT evasion in Ecuador is at
the high end, but within the range of VAT evasion in the EU. The PwC study estimates EU VAT evasion
rates to fall between 2% (Spain) and 30% (Greece). The EU average is 12%. Supra note 2, at 122.
small business) creates cash flow problems for compliant firms that do not receive the VAT on their sales to large firms. This is the standard problem plaguing all VAT withholding regimes. The cash flow difficulties this system creates have been severe enough in some jurisdictions to force VAT withholding to be removed. VAT withholding is not the “perfect” solution to under-reporting by small businesses, but it is a creative use of the modern payment system to minimize it.

There are five classes of withholding agents under the Ecuador VAT: public entities, taxpayers designated by tax administration ruling, credit and debit card companies, insurance companies, and other taxpayers specified by statute. Withholding is rare between two large businesses.

Ecuador has three levels of withholding, 30%, 70% and 100%. The tax commissioner has recently been given the authority to adjust these rates (but has not done so). Withholding agents must report and remit this amount to the Treasury on behalf of the seller where it constitutes an advance payment of the seller’s VAT.

VAT withholding regimes are common in Latin America, but they also can be found, for example, in Turkey and Russia. A VAT withholding regime in Austria

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13 For example, assume firm A purchases goods for $1,000, plus 12% VAT of $120, for resale to withholding agents (mostly large taxpayers). Assume that the resale is to firm B for $1,500, plus 12% VAT of $180. In the normal situation firm A would pay the government $60 [output VAT of $180 less input VAT of $120]. However, if the resale is subject to VAT withholding at 70%, then firm A will only collect $54, and will have a “withholding VAT credit” of $126. If these kinds of transactions were the only business that firm A does month after month then the amount could well be significant, and only way to get the VAT back would be to file for a refund that could take six months to a year to process.

14 Roberto M. Silva Legarda, Ecuador Enacts Tax Fairness Bill, 49 TAX NOTES INT’L. 132 (January 14, 2008) (indicating that the “… hoped [is] that the commissioner will reduce these percentages in order to relieve the tax burden on small businesses.”).

15 For example, VAT withholding in Cameroon was abolished effective January 1, 2010 largely because of these cash flow problems. [The Finance Law for 2010, Law No. 2009/018 (December 15, 2009); VAT News, INT. VAT MONITOR 136-37 (March/April 2010)].

16 Jean-Paul Bodin & Vincent Koukpaizan, Taxation of Small Enterprises: Recent Developments, INT. VAT MONITOR 121 (March/April 2008) (considering the advantages and disadvantages of VAT withholding regimes as a mechanism for taxing small businesses and coming to the conclusion that it is frequently more harmful to the small business than it is beneficial for revenue generation.)

17 As defined by the Constitution of Ecuador, Art. 118 providing that the following are considered as public entities: agencies that are part of the judicial, executive, and the legislative branch of the state, the autonomous public entities, official electoral commissions, as well any other entity created by the state for the provision of public services.

18 In some instances a designated special taxpayer could be a private individual or a private company.


20 Personal e-mail communication, Attorney Roberto M. Silva Legarda (February 11, 2011) (on file with author) (indicating that in 99% of the large-business-to-large-business transactions the withholding regime does not apply).


22 VAT withholding is used in Argentina, Brazil, Peru, Chile, Uruguay, and Mexico.
targets non-resident suppliers. Spain is a typical example of an EU jurisdiction that has adopted an extensive set of reverse charging provisions. But a reverse charge is not exactly the same as VAT withholding. A reverse charge changes the party obligated to remit the VAT, but it does not contain a cash withholding and direct payment aspect. No country outside of Latin America extends VAT withholding to debit/credit card intermediaries. The countries that have provisions dealing with intermediary withholding are: Colombia, Guatemala, El Salvador, Dominican Republic, and Costa Rica.

THE REAL-TIME VAT PROPOSAL

The real-time VAT (RTvat) is a recent proposal. It is aimed broadly at resolving VAT fraud in the EU, and is a reasonably effective solution for three of the five

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23 VAT withholding in Turkey was effective on November 1, 2003 for public institutions and banks at either 50% or 33% for certain categories of services (not goods) [VAT News, INT. VAT MONITOR 63 (January/February 2004)].

24 Paul Quigley, Focus on Some Pitfalls of Russian VAT, INT. VAT MONITOR 270 (July/August 2006) (indicating that, “[a]nother difference between the Russian system and the European system is the way in which VAT is accounted for in respect of cross-border transactions. In Russia, in respect of supplies made by non-resident suppliers, there is no reverse charge mechanism but, instead, a VAT withholding regime.”)

25 Isabelle Desmeytere, VAT Registration in the EU, INT. VAT MONITOR 198, n. 7 (May/June 2003) (indicating that, “… foreign taxable persons must charge Austrian VAT to their customers. However, the customer must pay that VAT directly to the tax authorities and only pays the net amount of the invoice to the supplier. In non-EU jurisdictions, for example, in Latin American countries, this is called a ‘VAT withholding regime.’”).

26 Supra note 9.

27 In 1995 a tax reform in Colombia (Law 233) adopted a VAT withholding regime that includes credit/debit card companies among the list of withholding agents [VAT Act Art. 437-1]. VAT regulations require all businesses accepting payments through credit and debit cards to disaggregate from the price of the good or the service sold the amount of the VAT applicable to it, when the sale is reported to the credit card company. Art. 437-1 of the VAT Act sets withholding at 75% but allows the government to apply a lower rate, which it has at 50%.

28 VAT News - Guatemala: Anti-tax Evasion Measures, INT. VAT MONITOR 379 (September/October 2006) (indicating that as of August 1, 2006 Decree No. 20-2006 became effective establishing a VAT withholding regime extending to payments made through credit/debit card operators and requiring a direct deposit of the tax due on goods and services with the Treasury).

29 El Salvador adopted a VAT withholding regime effective January 1, 2010 [Maria Munoz, El Salvador, TNS Online (January 12, 2010)].

30 VAT withholding in the Dominican Republic is regulated by two General Regulations (02-05, and 08-05) Decree 140-98 and the Tax Code Art. 11-92. Regulation 02-05 establishes a VAT withholding system for the purchase of taxable services: 30% withholding applies to purchases of professional services by registered taxpayers, and business to business supplies of rental services. In the case of travel and lodging companies that acquire services from travel agents 100% withholding applies. Regulation 08-02 establishes a withholding regime applied to credit/debit card companies. The requirement is to withhold 30% of the VAT disclosed on invoices, and if VAT is not disclosed the withholding is 60%.

31 Alan Saborio, Costa Rica: VAT rules for supplies made by Credit Cards, INT. VAT MONITOR 408 (September/October 2003) (indicating that Decree No. 31137-H effective May 6, 2003 requires credit/debit card firms that process payments for public and private entities for supplies of goods or services must collect VAT of 6% of the purchase price and remit it to the Treasury one working day after the withholding occurs).

32 RTvat is both the name of a not-for-profit organization that split off from the International E-commerce Association (Intercard) and the name of the proposal that promotes a specific solution to EU VAT fraud.
components in the EU VAT gap. Threshold frauds, comprising 4% to 5% of the VAT gap,\textsuperscript{34} and avoidance schemes, comprising 24% to 28% of the VAT gap,\textsuperscript{35} would not be affected as much. RTvat would be most effective against MTIC/MTEC fraud,\textsuperscript{36} non-compliance schemes (but less on suppression fraud),\textsuperscript{37} and repayment/insolvency frauds.\textsuperscript{38}

There are three critical aspects to the RTvat proposal: (1) a 100% VAT withholding mechanism that functions similar to the Latin American regimes that are extended to credit/debit cards, (2) a computer network of 27 linked central computers, and (3) rules for the treatment of intra-community supplies (origin/destination rules).

(1) VAT withholding via banking intermediaries.

RTvat shares an inspirational nexus with the Latin American VAT withholding regimes that designate credit/ debit card intermediaries as withholding agents. RTvat requires payment intermediaries to split the VAT component from a buyer’s payment and remit it directly to the Treasury. The amount withheld is always 100% of the VAT. The seller may have some responsibility (joint and several liability) for the VAT, but the seller never holds, remits or otherwise comes into possession of the buyer’s VAT (with the exception of a B2C transaction where the payment has been received in cash or check).\textsuperscript{39}

RTvat differs from the Latin American VAT withholding regimes by making the intermediary payment mechanism the norm, not the exception. Unlike the Latin American jurisdictions that use credit/ debit card intermediaries as withholding agents only if the buyer selects this payment method, the RTvat mandates that all B2B and B2C payments must follow this model.

The key change in moving to real-time collection of VAT is that the tax is collected and remitted on each individual transaction at the time the customer settles payment of the transaction with the supplier. For B2B transactions settled by electronic funds transfer between customer and

\textsuperscript{33} The RTvat was conceived in March 2006. Personal email communication, Chris Williams (Chairman, RTvat Executive Committee, (Feb. 22, 2011) (on file with author).

\textsuperscript{34} Threshold fraud occurs when a genuine business with a turnover above the VAT threshold deliberately does not register for VAT. Threshold fraud is estimated to be between 4.4 million and 5.6 million euro.

\textsuperscript{35} Avoidance schemes are legal transactions that are not considered an acceptable business practice because they are artificial and have no other business purpose than to save VAT. Avoidance schemes are estimated to be between 28.0 million and 33.6 million euro.

\textsuperscript{36} MTIC/MTEC fraud is estimated to be between 17% and 26% of the VAT gap (19.8 million and 30.8 million euro).

\textsuperscript{37} Non-compliance (including suppression) fraud involves traders who pay the right amount of VAT at the right time, but who either by mistake or deliberate error either understate sales or overstate purchases to reduce their VAT liability. Non-compliance fraud is estimated to be between 24% and 38% of the VAT gap (20.0 million and 44.8 million euro).

\textsuperscript{38} Repayment frauds involve traders who register for VAT, make false claims for refunds and then disappear. Insolvency fraud is similar but the trader formally becomes insolvent. Repayment, insolvency and other frauds are estimated to be between 3% and 32% of the VAT gap (3.9 million and 38.4 million euro).

\textsuperscript{39} This element eliminates the possibility of MTIC/MTEC fraud. No seller can ever go “missing” with the buyer’s VAT in hand.
supplier, the tax element contained in the payment would be separated by
the payment service provider and remitted directly to the tax authorities.40

RTvat does not mandate the use of credit/debit cards, although it does advocate
establishing a dedicated B2B debit card.41 RTvat focuses on the banking/funds transfer
process. The basic principle of the RTvat is that VAT payments (both collection and
reclaim) should occur in real time through the banking system.
The basis of the proposal is a move to real-time collection of VAT
including the settlement of allowable reclaims based on the time of actual
payment by the buyer to the seller of goods and services.42

In other words, the problem that RTvat focuses on is misalignment. The VAT is
not aligned with modern financial systems. Even though commercial transactions are
completed in minutes, collection and recovery of VAT does not occur at the same speed,
within the same time frame, or with the same efficiency. The EU VAT operates a batch
system with periodic filings. Built-in time lags (frequently lags of several months or
more) mean that governments operate at a considerable distance from the events that
determine the tax. It also means that businesses wait a considerable period before they
receive a refund.

It is important to see both sides of the real time principle that is the foundation
stone of the RTvat. Unlike the Latin American withholding regimes RTvat applies real
time evenly to both input and output VAT.

In output VAT terms, the RTvat “… collects the VAT due on each transaction at
the point of deposit [in the seller’s bank]. The VAT payable will not be deposited into
the merchant’s [seller’s] own bank account but will be immediately transferred to the
relevant tax authority.”43 In input VAT terms, the RTvat provides rapid refunds:
Payment of the tax normally triggers a claim for input tax recovery for the
customer which, subject to national restrictions, would be expedited through an automated system,
incorporating fraud analysis technology similar to that used in credit card transactions (where, unlike the VAT
system, fraud-related losses have reached an historical low). The aim
should be to ensure that valid refunds are paid rapidly with minimal cash
flow consequences. Indeed, the VAT on any transaction that is conducted

40 Charles Jennings, The EU VAT System – Time for a New Approach? INT. VAT MONITOR 257 (July/
August 2010).
41 Chris Williams, RTvat: Outline of proposed real-time VAT collection system to increase efficiency of
collection, maximize revenue, minimize fraud and reduce administrative burden on business 4 (December
5, 2009) (unpublished manuscript, on file with author); RTvat Information brochure RTvat: An Introduction
to a Real-time Solution for Improving the EU VAT System 9 (March 2009) (powerpoint slides, on file with
author) (suggesting that a card with 23 million merchant users would be one of the largest user groups in
the world and would be able to offer highly competitive rates and services).
RTvat believes that the introduction of a new dedicated B2B debit card linked to both the
buyer’s VAT identity and business bank account should be encouraged.
42 Chris Williams, RTvat: Outline, supra note 41, at 2.
43 RTvat Information brochure RTvat: An Introduction to a Real-time Solution for Improving the EU VAT
System 4 (March 2009) (powerpoint slides, on file with author)
electronically can be refunded on the same day if the fraud analysis tool clears it.\textsuperscript{44}

In the case of B2C transactions the RTvat adjusts for the fact that not all consumers will use banking intermediaries to make purchases. Credit/debit card B2C transactions will be handled just like B2B transactions. However, when consumers make payments with cash or check it is the seller’s obligation to initiate the VAT payment process. This occurs when the seller deposits the buyer’s cash or check.\textsuperscript{45} The payment will then be split into the VAT component (which will be directly deposited with the Treasury), and the commodity component which will be deposited in the seller’s account. A B2C example is presented in the \textit{RTvat Outline}. It states:

(3) Where [a B2C] payment is by electronic means, customer's bank is contacted with details of the proposed transaction, gives approval (blocking funds if necessary) and informs the seller by generating an authorization flag. …

(8) Where [B2C] buyer makes payment by cash or cheque, this [payment] will have to be lodged by seller who, in these instances only, bears the responsibility to ensure correct payment of tax at time of lodgement.\textsuperscript{46}

At item (3) there is no difference between the RTvat and the Ecuadorian VAT withholding regime as applied to credit/debit cards. At item (8) things are different. This is an effort to extend the third-party withholding mechanism in B2C transactions by compelling the seller (who is in possession of the customer’s VAT) to place the funds into a system that will automatically make the withholding.

This is of course the heart of the matter for sales suppression frauds. Zappers and phantom-ware applications have made most electronic cash registers very efficient skimmers of sales,\textsuperscript{47} leaving the VAT (and the gross proceeds of the skim) in the hands of

\textsuperscript{44} Jennings, \textit{supra} note 40, at 258 (emphasis added).
\textsuperscript{45} RTvat Information brochure \textit{RTvat: An Introduction to a Real-time Solution for Improving the EU VAT System} 7 (March 2009) (powerpoint slides, on file with author) (emphasizing that the RTvat splits the buyer’s payment at the time of deposit).
\textsuperscript{46} Chris Williams, \textit{RTvat: Outline, supra} note 41, at 13 (items 3 & 8) in TABLE 4 - TRANSACTION FLOW FOR DOMESTIC B2C TRANSACTIONS WHERE BUYER PAYS IN FULL FOR GOODS OR SERVICES AT THE PLACE AND TIME WHERE DELIVERED (emphasis added).
\textsuperscript{47} Studies in Sweden (70%), Germany (50%), and Quebec (50%) have documented the extent of the infection of modern ECRs with Zappers and phantom-ware applications. Richard T. Ainsworth, \textit{Zappers – Retail VAT Fraud} \textit{Int. VAT Monitor} 175 (May/June 2010); \textit{Working Group on Cash Registers: Interim Report} 5 (Mar. 16, 2005) (Ger.) (on file with author); German Federal Audit Office (BHR) to the German Parliament in 2003 indicated:

The Federal Audit Office (BRH) has complained that later models of electronic cash registers and cash management systems now fail to meet the principles of correct accounting practice when it comes to recording transactions … The risk of tax fraud running into many billions should not be underestimated in cash transactions.

BHR comments 2003, No 54, Federal Parliament circular 15/2020 \textit{cited in Id.} at 5 (emphasis added). Revenue Quebec conducted two studies, the first conducted through a books and records audit showing a 58.5% infection rate, and the second (conducted by the Quebec Ministry of Statistics using a random statistical sampling of businesses) confirming a 50% infection rate. Personal e-mail communication, Dave
the seller. These skimmed amounts are never deposited in the banking system. As a result, the RTvat would have little impact on suppression frauds.

(2) Computer network - 27 linked, central computers

The second critical element in the RTvat is the linked server network. RTvat establishes a network of twenty-seven identical servers (one in each Member State). The servers act as communications and fund transfer centers. Any bank that wants to be involved with tax settlements for businesses will establish a secure link with the server network. The servers will handle both domestic and cross-border transactions.

The server network, hardware and software combined, makes three important contributions to the RTvat’s effort to close the VAT gap: (a) it provides real-time information sharing among the Member States, (b) it contains a state-of-art fraud analysis program, and (c) it performs the critical split that separates the VAT component from the commodity component in the buyer’s aggregate payment.

(a) Information sharing. No document considers the full extent of information sharing under RTvat. The RTvat Outline indicates that, “[m]erchants’ (taxable persons’) tax profiles are established and stored securely on the national server.” Eight data points are listed for this “tax profile.” More data will be needed to run normal fraud tests if the OECD’s Standard Audit File for Taxation (SAT-F) is a good measure of what is needed. The OECD lists 340 distinct data elements, and indicates further that a “…determination of tax liability of direct and indirect taxes may require more information…”

(b) Fraud analysis. Embedded within the software functionality of the server network is the Tax Authority Settlement System (TASS). TASS does more than settle VAT liability – it provides tax authorities with state of the art fraud analysis tools. The RTvat Introduction indicates:

Tax authorities will be provided with a sophisticated Fraud Analysis and Security Tool (FAST), similar to those used by card association member banks, to identify unusual transactions. Those trades which are identified


48 Id., at 10, TABLE 1 PROFILE OF TAXABLE PERSONS, WHICH UNDERWRITES THE FRAUD SCRUBBING FUNCTION, SHOULD INCLUDE THE FOLLOWING FIELDS (listing VAT identification number, fixed establishments linked to this VAT number, name and address(es) of taxable person, main business activities (descriptive or code based), monthly pattern of sales for last 5 years, broken down as follows [turnover of goods and services within own MS, and other Member States, and third countries], monthly patterns of purchases for last 5 years, bank account details, links to data from statutory accounts).

49 OECD, Guidance Note for the Standard Audit File – Tax (May 2005) available at: http://www.oecd.org/LongAbstract/0,3425,en_2649_33749_34910278_1_1_1_1,00.html

50 Id., at 5.
by the system as “suspicious” can be flagged for further investigation and the refund of input VAT suspended until queries are resolved.\textsuperscript{51}

(c) Splitting out the VAT element. Like the Latin American VAT withholding regimes that require the credit/debit card company to split the VAT element from the buyer’s payment and directly deposit it with the tax authorities, the RTvat performs this function within the server network.\textsuperscript{52} The banking system transmits the funds as directed by the server network.\textsuperscript{53}

There are important differences between the Ecuadorian and EU VATs that makes this split more difficult for the RTvat. Under the Ecuadorian VAT the seller is required to separately state VAT on all invoices, including all credit/debit card transactions. Prices are VAT-exclusive. Not to do so would prevent the seller from deducting related input VAT.\textsuperscript{54} As a result, the credit/debit card firms can be relatively passive in this process, simply following the split set out by the seller and the deposit instruction set out in statute.

Under the RTvat there are two complications: one dealing with mandatory VAT-inclusive pricing in B2C transactions, the other dealing with RTvat’s fraud checking analysis. The EU rule is that when invoices are issued to other taxpayers (B2B) prices must be VAT-exclusive, but when issuing receipts to retail consumers (B2C) the receipt must be VAT-inclusive.\textsuperscript{55}

This means that while RTvat can easily identify the VAT component in a B2B transaction, and will in most instances be able to adopt the invoice’s determination, this is

\textsuperscript{51} RTvat Information brochure \textit{RTvat: An Introduction to a Real-time Solution for Improving the EU VAT System 7} (March 2009) (powerpoint slides, on file with author)
\textsuperscript{52} RTvat Information brochure \textit{RTvat: An Introduction to a Real-time Solution for Improving the EU VAT System 8} (March 2009) (powerpoint slides, on file with author); Chris Williams, \textit{RTvat: A real-time solution for improving the EU VAT system, removing intra-EU Carousel fraud and reducing other VAT losses}, 11 (August 2, 2009) (powerpoint slides, on file with author).
\textsuperscript{53} There is no discussion in RTvat documents about what should be done if the split is not done correctly. One would expect that the banks would not be liable for errors made in the split, and that tax administrations would not relieve the taxpayer of liability. This suggests that taxpayers should “double check” the split performed by the RTvat system.
\textsuperscript{54} VATA, Art. 64 (Ecuador) states:
\textbf{Tax Billing.} The taxable persons are obliged to issue and deliver to the purchaser or the beneficiary of a good or a service, invoices, sales slips or notes, as appropriate, by the operations carried out in accordance with the regulations. This obligation shall apply even if the sale or services are not taxed or have a zero rate. In the invoices, sales or receipts shall show separately the value of the goods transferred or the price of services provided and the rate of tax, and VAT paid.

The failure to grant invoices, bills, notes or bills of sale constitute a special case of fraud to be punished in accordance with the Tax Code.

In the Dominican Republic if this amount is not specified on an invoice paid through a credit/ debit card, then the company is required to withhold 60% of the purchase price instead of the normal 30%. Dominican Republic General Regulation 08-02.
\textsuperscript{55} SI 1995/2518, Reg. 16; SI 2003/3220, Reg. 10. \textit{See also: HMRC, VAT basics for Consumers} (providing a summary of the UK invoicing rules and indicating that it is not permitted to provide VAT-exclusive receipts at retail) available at: \url{http://www.hmrc.gov.uk/vat/sectors/consumers/basics.htm}
not so easy in B2C transactions. The TAAS function in the server network needs to
determine the split (the receipt will not include this number). Jennings indicates
generally that:

The separation of the VAT amount from the payment to the seller of any
net amount is a straightforward task to be performed at the server on the basis of the merchants’ data input. This can be applied to all electronic
payments, whether bank or card-based.\textsuperscript{56}

Thus, for the difficult B2C transaction the merchants’ data will not specify the
VAT amount, and the TAAS function within the server network will need to calculate
the VAT.\textsuperscript{57} It is apparent that the RTvat considers the VAT-determining capabilities of
the server network to be one of the critical attributes of the network’s fraud prevention
functionality.

The fraud analysis function, which is integrated with the system, assesses
each transaction entered by the taxable person for conformity \[\text{[with applicable statutes]}.\ This assessment is made on the basis of the data held
on each taxpayer, as described above, together with details of the
transactions, which are under review, including cross matching of invoices, … \textsuperscript{58}

Essentially, the RTvat server network contains a VAT engine, similar in function
to the bolt-on software packages purchased by MNEs for use with their ERP systems.\textsuperscript{59}
This VAT engine needs to be exceptional robust. It needs functionality for all
permutations of all product and service sold throughout the EU. The VAT engine will
function both for fraud detection, and for B2C VAT determination. It will allow the
appropriate split to be made so that VAT can be deposited with the tax authority and the
net proceeds remitted to the seller.\textsuperscript{60}

(3) Rules for Intra-community supplies (Origin/ Destination)

\textsuperscript{56} Charles Jennings, \textit{The EU VAT System – time for a new approach?} 8 (unpublished manuscript on file
with author) (emphasis added); Chris Williams, \textit{RTvat: Outline, supra} note 41, at 5. This document
essentially repeats the same sentences but without the helpful expression \textit{on the basis of the merchants’
data input} which makes it clear that the data upon which the split is based comes from the merchants. But
which contains the following footnote that ties the fraud function to the VAT determination:

Fraud tools will have functionality to rapidly identify incorrect treatment or misrouting of
cash and cheque receipts.

\textsuperscript{57} RTvat expects to determine the VAT based on this data, as the following footnote suggests:

Even though no invoice is normally required for B2C retail sale, VAT details are
normally available at this point lest a customer asks for a tax invoice.

Chris Williams, \textit{RTvat: Outline, supra} note 41, at 13, n. 10.

\textsuperscript{58} \textit{Id.}, at 4 and 13, n. 11.

\textsuperscript{59} Personal email communication, Chris Williams (Chairman, RTvat Executive Committee, (Feb. 22, 2011)
(on file with author) (indicating that there is a tax engine in the RTvat and that, “… if a specific tax
requirement can be agreed, the software engine is not as complicated as it would have seemed a few years
ago.”).

\textsuperscript{60} RTvat does not currently possess this engine, but is confident that it can be developed or acquired if the
EU determined to adopt its proposal.
MTIC/MTEC fraud is a B2B fraud that follows from the ability of traders to secure supplies “VAT free” by securing supplies across community borders, reselling those supplies with VAT and then disappearing with VAT in hand. Supplies that cross community borders can either be taxed on destination or origin basis. The RTvat works just as well under either system.\(^{61}\)

The RTvat is proposed as an origin system.\(^{62}\) This means, for example, that a UK taxable person selling to a French taxable person would send out an invoice with UK VAT added to the sales price. Thus, if the price charged is 100 cu\(^{63}\) and the VAT rate in the UK is 20%, then the following would happen under the RTvat (origin):

1. French buyer receives from the UK seller the invoice for 120 cu
2. French buyer authorizes its bank to remit 120 cu to the UK seller
3. French bank will remit 120 cu via the RTvat server network
4. RTvat server network splits the 120 cu into two deposits
   a. 100 is sent to the seller’s bank, and
   b. 20 is sent to the UK tax authority
5. UK tax authority is soon thereafter notified that a refund is due of 20 cu
6. UK tax authority remits 20 cu to the RTvat server network
7. RTvat servers performs a fraud check (and if no problems are seen)
8. RTvat server remits 20 cu to the French tax authority.
9. French tax authority remits 20 cu to buyer’s bank.
10. Buyer’s bank deposits 20 cu in the account of the buyer.

Although this may seem like a lot of steps, the entire sequence can take place in a few moments with the largest delays occurring at the times when the payment is split (step 4) and the time when the fraud check occurs (step 7). As a destination system the sequence would be shorter. If we assume the French VAT rate is 15% the following would happen under the RTvat (destination):

1. French buyer receives from the UK seller the invoice for 115 cu
2. French buyer authorizes its bank to remit 115 cu to the UK seller
3. French bank will remit 115 cu via the RTvat server network
4. RTvat server network splits the 115 cu into two deposits
   a. 100 is sent to the seller’s bank, and
   b. 15 is sent to the French tax authority
5. French tax authority is soon thereafter notified that a refund is due of 15 cu
6. French tax authority remits 15 cu to the RTvat server network
7. RTvat servers performs a fraud check (and if no problems are seen)
8. RTvat server remits 15 to buyer’s bank.
9. Buyer’s bank deposits 15 cu in the account of the buyer.

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\(^{61}\) Personal email communication, Chris Williams (Chairman, RTvat Executive Committee, (Feb. 22, 2011) (on file with author)

\(^{62}\) Jennings, supra note 40, at 257.

\(^{63}\) All amounts listed are in currency units (cu).
Under a destination system the French buyer will only deal with his own bank and the French tax authority; under an origin system there is some additional complexity because the French buyer will need to request a refund from the UK tax administration, and funds will need to be transferred between UK and French tax administrations. The reason for RTvat selecting the origin approach appears to be that Article 402 of the VAT Directive still envisages an origin system as the “definitive system.”

The RTvat will completely eliminate MTIC/ MTEC fraud, because no B2B seller ever holds the buyer’s VAT. Sellers can never “disappear” with VAT in hand. The RTvat will also prevent losses due to insolvencies, because the shift to a direct payment model prevents businesses from accruing input credits. However, sales suppression fraud will remain a problem in an insolvency context as the RTvat is premised on the business making bank deposits for cash and check sales. Businesses close to insolvency rarely make adequate bank deposits.

MITTLER MODEL

On September 29, 2003 the German Finance Minister Gernot Mittler, proposed the Mittler Model at the Tax Policy Conference of the Ifo Institute for Economic Research at the University of Munich. This conference presented a number of new solutions to MTIC fraud including two reverse charge models and two “pay-first” models. The Mittler Model is based on an electronic exemption certificate. The American retail sales tax utilizes exemption certificates in much the same manner as proposed under the Mittler Model. Although proposals have been made to automate this core functionality in the US, no American jurisdiction has done what the Mittler Model suggests. The American exemption certificate system remains paper-based.

The Mittler Model can be seen as a proposal near the end of a continuum that begins with traditional reverse charge rules, and moves into the Latin American VAT withholding regimes. The Ecuadorian VAT goes one step further and isolates a particular type of transaction (purchases made with credit cards) and assures that the tax administration always gets the VAT from these transactions directly from the intermediary. No change is made to the way businesses receive VAT refunds. VAT returns are filed in the normal manner, input credits are netted against the output VAT collected, but there are difficulties for small businesses making significant sales to credit

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64 The reason for RTvat selecting the origin approach appears to be that Article 402 of the VAT Directive still envisages an origin system as the “definitive system.” Other than this, a destination system would most likely be preferable.


66 Richard T. Ainsworth, Tackling VAT Fraud: 13 Ways Forward, 45 Tax Notes Int’l. 1205, 1208 (March 26, 2007) (presenting each of the proposals at the Ifo Conference).
card purchasers. These businesses can be placed in net refund status when output VAT is reduced below input VAT.

RTvat is also a VAT withholding regime that works through financial intermediaries. The difference is that RTvat moves both VAT collection and VAT refunds into real-time. Funds flow through an EU-wide server network where a fraud-check function audits transactions based on applicable VAT rates, business attributes, and other legal constraints. The primary data set used for this checking function is similar to the taxability matrix that twenty-four states in the US provide under the Streamlined Sales Tax (SST) so that software providers can develop tax engines for retail sale tax compliance.67

The difference between the RTvat’s central server model and the third-party tax engines under the SST is both (a) there is an expedited real-time handling of transactional data under the RTvat s opposed to the traditional batch compliance under the US retail sales tax, and (b) the pan-European, all goods and services scope of the RTvat server functionality presents more technology issues than the tailored, single business solutions offered by third-party software systems under the US retail sales tax.

Under the RTvat the entire payment and full refund of VAT is expected to occur the same day. By compressing the time element in the collection, payment, fraud-check, refund sequence to real-time, and placing it in the context of a full withholding (reverse charge) system, the RTvat extinguishes the “fractioned payment” mechanism of the EU VAT.68 RTvat preserves a measure of security that fractioned payment provides. Any tax authority can withhold VAT refunds in cases of suspected irregularities. However, VAT is no longer collected in “slices.”

The Mittler Model also eliminates the fractioned payments mechanism. If the system of fractioned payments is not an aim in itself but only an incentive to ensure that suppliers declare the full value of their economic transactions to the authorities, then the Mittler Model seeks to assure this record through technology. It does this without involving the significant cash flows involved in the traditional system, or even the greatly reduced flow exposures under the RTvat.

Procedurally, under the Mittler Model firms qualifying for exempt purchases receive a special identification number, called an F-number (“F” standing for “free”). Firms present their F-number to suppliers to indicate that they are entitled to make purchases “free of VAT.” The supplier then checks the F-number through an electronic registration system, and when confirmation of validity is received an invoice net of VAT is issued. The supplier does not collect VAT. The purchaser neither pays VAT nor has the right to an input tax deduction on these purchases. The supplier gives an on-line notification of the exempt transaction. Buyer and seller are required to report exempt sales and purchases on their respective VAT returns.

68 See supra note 7 and accompanying text.
Seen through American eyes the Mittler Model is a use-based exemption system that includes sales-for-resale as a category of exempt-use. The American experience suggests that two issues are raised by this system: (1) how to determine the validity of the certificate, and (2) whether to enforce a “good faith” requirement – the proposition that only sellers who accept apparently valid certificates in good faith are absolved from liability to collect the tax. The Mittler Model answers the first question, how it deals with the good faith issue is not clear, but one would expect that exemption certificates with encrypted authorization codes that would interface with a central computer facility would solve the problem.

Without fractioned payments the Mittler Model VAT and the American retail sales tax generate revenue at exactly the same point – the point where sales are made to end consumers. As a result, both systems (a) encourage buyers to avoid the tax through improper use of exemption certificates, and (b) encourage sellers to find ways to make final sales without including tax. An assessment of the Mittler Model would benefit from a consideration of the impact that these avoidance pressures have on the American retail sales tax where the rates are approximately 7% (as opposed to 20% under the EU VATs), and where many states have a significant “excess registration” problem.69

CONCLUSION

Over the years there have been a number of proposals for a US VAT, many of them styled along the line of the EU credit-invoice VAT.70 This is the standard VAT adopted throughout most of the world.71 However, the EU VAT is not a panacea. The EU VAT gap is estimated to be €118 billion, with approximately 75% of this amount attributable to technology-assisted frauds (MTIC, MTEC, insolvency, repayment, non-compliance, sales suppression, and threshold frauds are all to varying degrees technology-assisted frauds). VAT planning (legal, but inappropriate avoidance schemes) accounts for the other 25% of the VAT gap.72

It is important for the US to follow this debate. The US does not need to adopt the older designs for VAT, if the system can be improved from the start. The US does need to understand the vulnerability of the VAT to technology-based frauds, because these frauds are best pre-empted before the theft, not pursued after the funds are gone. MTIC, MTEC and sales suppression frauds are all examples of where technology has found rich opportunities to exploit weaknesses in the fabric of the EU VAT system that were not foreseen when the VAT was a paper-and-pencil, invoice-based system. This

69 JOHN F. DUE & JOHN L. MIKESSELL, SALES TAXATION: STATE AND LOCAL STRUCTURE AND ADMINISTRATION 140 & n.3 (2d ed. 1994)
70 For example, a VAT (called the Debt Reduction Sales Tax) is proposed in The Debt Reduction Task Force (Domenici/Rivlin), Restoring America’s Future (November 2010) available at: http://www.bipartisanpolicy.org/library/report/restoring-americas-future.
71 Alan Schenk, reporter, Value Added Tax – A Model Statute and Commentary 2, indicating that the credit-invoice method is the form of the VAT almost “universally adopted by foreign jurisdictions,”
72 Pricewaterhouse Coopers, Study supra note 2, at 129.
observation is important, because the weaknesses we are observing in the VAT appear to be questioning fundamental principles.

For example, this paper has been structured around the principle of fractioned payments. This principle is so central to the EU VAT that it is generally described as a leading feature of the tax, and a major reason for adopting it. This principle, that every link in the commercial chain pays an amount equal to the applicable rate times the value added at that stage, is seriously under attack. The attack is indirect, but it is very real. It is the defense against fraud (not the fraud itself) that requires the principle to be jettisoned.

Thus, it is common in Latin America, the EU and elsewhere to respond to missing trader fraud with a selective (sector specific) reverse charge. But when the fraud is more widespread, as in Ecuador, the reverse charge becomes a VAT withholding regime, and then is extended to financial intermediaries who are required to remit the VAT directly to the tax authorities. The RTvat proposal extends the Ecuadorian solution throughout the system (completely extinguishing any trace of the fractioned payment principle). All payments move through intermediaries that directly remit the VAT. The RTvat balances this with direct remission of refunds through the same intermediaries. There is no fractioned payment under the Mittler Model either. In fact, under the Mittler Model there is no need for payment intermediaries – there is no B2B VAT payment if the buyer is fully exempt (which is the case in most transactions).

Perhaps the US needs to take a good look at the RTvat, or the Mittler Model when it considers a VAT. Just because these proposals for change are meeting resistance in a mature system, like the EU VAT, does not at all mean that they would be inappropriate for the US if it decides to look seriously at a VAT. VAT fraud is a very effective VAT policy stimulus.

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73 Fractioned payments is considered a bedrock principle by the International Monetary Fund’s study of VAT. See: Liam Ebrill, Michael Keen, Jean-Paul Bodin & Victoria Summers, THE MODERN VAT 3, at Box 1.1 indicating (emphasis added):

The key features of the Value-Added Tax are that it is a broad-based tax levied at multiple stages of production, with – crucially – taxes on inputs credited against taxes on output. That is, while sellers are required to charge the tax on all their sales, they can also claim a credit for taxes that they have been charged on their inputs. The advantage of such a system is that revenue is secured by being collected throughout the process of production – unlike a retail sales tax – but without distorting production decisions, as, in particular, a turnover tax does.

The ABA description is similar. See: Alan Schenk, reporter, Value Added Tax – A Model Statute and Commentary 2:

An invoice method VAT may be viewed as comparable to a retail sales tax collected in installments because, with the same tax base and rate, a multistage VAT and a single stage retail sales tax that are shifted to consumers will raise the same of revenue.