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Digital VAT Carousel Fraud: A New Boundary for Criminality

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Digital VAT carousel frauds: a new boundary for criminality?[#]

Abstract

The paper analyses the first Value Added Tax (VAT) fraud on Voice over Internet Protocol, the *Phuncards-Broker operation*, which took place in Italy in 2005-2007. The scheme consists of a chain of frauds on e-services that represents an important evolution of the "classic" models of carousel fraud, showing the increasing vulnerabilities of the VAT systems. The authors explore the policy implications for tax authorities, looking at how changes in their strategies may tackle the incentives to participate in the fraud. We argue that, in the short term, information technology (IT) solutions might offer some of the best answers when effectively combined with reverse-charge, while, in the longer-term, an extension of the One-Stop-Shop system may represent a new hypothesis of VAT reform in an anti-fraud perspective.

Keywords: EU Value added tax, VAT fraud, reverse-charge, One-Stop-Shop system,

JEL Codes: H20, H21, H22, H26, K34, K42

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[#] This article has exclusive purposes of scientific research. The description of the fraud case-study here contained is based on information publicly available and resulting from the trials that took place in the Italian jurisdiction and the acts therein deposited. In resuming such information the authors do not intend in any circumstance either to express personal opinions about events hereinafter referred or to comment on the possible future evolution of the same proceedings. Any reference made to corporations and legal entities involved in the case-study is only intended to report the facts as presently known, being understood that the same facts and circumstances are liable to be reconsidered in the light of appellate courts judgments or further developments in all appropriate forums. The authors invite the reader to consider this case-study as a mere example of dynamics, features and developments of VAT fraud schemes, and the involvement of some of the companies hereinafter mentioned as completely unwitting, as described in sections 1 and 2. The views expressed in the study are those of the authors and do not involve the responsibility of the institutions to which they belong. The authors thank Francesco Forte and Salvatore Chiri for useful comments. The usual disclaimer applies.

1. Introduction

A free market area fostering competition may increase consumers' welfare. However, in the free trade area consisting of European Union (EU) countries distortions and inequities also result from intra-community tax frauds, which exploit the existing rules on the value added tax (VAT) as a consumption tax based on the destination principle. These frauds may take the form of a “carousel” that spurs a flow of repeated illicit rebates for goods/services moving across EU and non-EU countries, thus generating illegal state subsidies and hence resulting in sizable gains for fraudsters and black economy. These carousels are becoming a new boundary line for criminal organizations, which exploit the exchanges of intangible services - emission certificates, telecommunication (TLC) services - and find a rich opportunity for huge financial flows, money laundering, and illegal profits. This trend is all the more worrisome, given the links between fraudsters, criminal organizations and international terrorism: recent Italian investigations have found a connection between one billion euros VAT fraud on carbon credits and the financing of Islamic terrorism in Pakistan (*Corriere della Sera*, 24/09/2014).

This paper explores the issue of digital tax fraud due to a specific carousel disclosed in 2010 as a massive form of VAT fraud and money laundering involving the unaware Italian TLC providers, Fastweb S.p.a. and Telecom Italia Sparkle S.p.a. (T.I.S.).¹ As recently stated by the first instance Italian court, Fastweb and T.I.S. were captured by the fraudsters as buffer companies. The companies, as well as that of their top managers, were completely unaware of the fraud. After 147 hearings, the trial ended in October 2013 with 18 convictions and the complete discharge of all the top managers of Fastweb S.p.a. and Telecom Italia Sparkle S.p.a. The same companies, after the discovery of the fraud, suffered a loss of reputation. Actually, fraudsters exploited these two companies in order to make the fraud technically possible; all gains and other non-financial advantages stemming from the criminal scheme can be traced back to missing traders, corrupted employees, managers and business advisors operating in the same chain of transactions. In what follows, references to Fastweb S.p.a. and Telecom Italia Sparkle S.p.a. have purely illustrative goals and aim at reconstructing and outlining the transaction chain and the dynamics of the fraud for the benefit of the reader.

The case is an example of a complex structure of frauds on intangibles, the capture of big companies by criminal organizations, and the threats that the latter set to national tax authorities. According to Italian prosecutors, the financial flows employed in the fraud amounted to about 2.2 billion euros and granted the criminal organization about 95 million euros profits. The loss for the Italian State due to unduly rebated or unremitted VAT amounted to more than 365 million euros. The financial carousel benefitted by a web of

¹ Fastweb S.p.a., a broadband provider, was founded in 1999. It expanded the fiber optic network in Italy and soon became the second-largest fixed-line phone operator in the country. The company was purchased by Swisscom in 2007. T.I.S. was founded in 2003 and it is 100 per cent owned by Telecom Italia S.p.a. Its mission is the development of Telecom's international services business.

fictitious companies created by foreign fiduciaries and by the protection of a corruption network acting at several stages.

We study the policy implications of this type of fraud, looking at how changes in the strategies adopted by the tax authorities may affect the fraudsters' gains and hence their incentive to participate in the fraud. We argue that, in contexts similar to that analysed, the adoption of new technologies to review the way VAT is collected and monitored can represent an effective anti-carousel measure, which can be implemented quickly and uniformly. Together with these measures, a wider adoption of reverse charge can help to instantaneously dry the fraud channels and cash-flows within specific areas of the economy. However, in the longer term, the extension of the One-Stop-Shop system may represent a new far-reaching measure to reform the VAT system in an anti-fraud perspective.

The introduction in Europe of a value added tax, as a consumption-type tax based on the destination principle, was required by the need, for a European single market, of a neutral tax for intra-community trade: the VAT system allows the exemption of VAT on exports and its application at the domestic border on the full value of imports by "self-assessment" (i.e., without border controls within EU Member States). Moreover, it can accommodate multiple tax rates, which may differ among Member States. Finally, the self-enforcing property of the VAT system² can reduce the scope for tax evasion.³ In this respect, however, with the abolition of custom duties among EU countries, the application of VAT became less certain, with criminals able to abuse the system in sophisticated and organized ways. The incentive for tax fraud has greatly increased after the enlargement of the EU, which has also broadened the scope for contraband. Finally high direct taxation and high social security contributions associated with the high costs of official labour contracts and other regulations provide a powerful incentive to evade VAT in the most developed EU Member States (Fedeli and Forte, 2011b).

As depicted in Fedeli and Forte (2011b, 2012a, 2012b), the frauds might occur according to different modalities: in a "single operation" of fictitious export-import, and/or through a "carousel". The "simplest fraud" happens when an importer buys a tax free good from a trader who may also belong to a non-EU country. The importer then sells the good to another national subject with VAT added, he does not remit the VAT to the tax authority and then disappears as a "missing trader". The tax authority of the destination country loses the VAT revenue even if the fraud is discovered, because the exporter is lawfully entitled to the

² In principle, the VAT system gives each trader the incentive to ensure that his suppliers have properly paid VAT for the trader to be able to claim the relevant credits (see Cnossen, 1990, 1994, 1998, 2001). However, since the 1980s Hemming and Kay (1981) have stressed the illusory nature of the notion of VAT self enforcement, and more recently Keen (2007) and Fedeli and Forte (2011a) give an overall description of the main types of VAT fraud, evasion and elusion, which appear to be an important and increasing phenomenon.

³ For these reasons, with few exceptions (see Fedeli and Forte, 1999 and Fedeli, 2003) the behaviour of firms as tax evaders has been mostly studied outside the VAT system. Surveying the formal models on tax evasion, Sandmo (2005) noticed that most of them (such as Marrelli, 1984, and Marrelli and Martina, 1988) are built upon Allingham and Sandmo (1972) and focus on tax evasion by individual taxpayers, whereas firms are left in the background, despite their important role.

VAT rebate, unless it can be proved that he was or should have been aware of the fraud. The sophisticated variant of VAT cross-border fraud -the“carousel” - continues the forgery into another EU country. The scam can be repeated several times, with the goods being exported and imported through a complex criminal network up to the final sale. A carousel fraud may involve EU (Missing Trader Intra-Community, MTIC, fraud) and non-EU countries (Missing Trader Extra-Community, MTEC, fraud) and all kinds of goods and services. By some estimates, over 40 markets are now “infected” with these frauds.⁴ When the fraud involves imports from outside the EU, under-invoicing and fake documentations at borders enable goods (usually clothing, textiles, footwear, food) to be imported into the EU at a declared customs value substantially below their actual value, causing a drastic reduction in the amount of taxes and duties and, since VAT due on imports is reduced to practically nil, becoming the beginning of an acquisition fraud.⁵

The case analyzed here represents an important evolution of the "classic" models of carousel fraud depicted in the literature noted above. The innovation consists of the number of benefits that the modified model allows:

- the improved market performances of the “buffer companies”, Fastweb and T.I.S.;⁶
- the VAT credits in favour of the two companies, which neutralized the effect of the VAT disbursements for their regular activities; and
- the targets, in term of planned budget, reached by managers involved in the fraud with positive effects in terms of their personal income, career and prestige.

These benefits were possible because the VAT evaded was distributed amongst the members of the organization itself, with a relevant share of it from the two biggest TLC companies as a form of margin/profit from their activities. The gains were about 25 per cent of the VAT loss of the Italian State (about 95 millions euros). According to the prosecutors, the increase of fake sales, revenues, profits, and fake VAT credits of both Fastweb and T.I.S. were the following (Table 1).

⁴ Goods exchanged within a carousel fraud are typically available in large quantities and have high value, low weight, rapid technical obsolescence, black market diffusion. The sectors commonly affected are those of computers, mobile phones, construction works, automobiles and car accessories, soft drinks, cosmetics, scrap metals, silver and gold, consumer electronic goods, gas and electricity markets (Borselli, 2008). The food and drink sector (including meat, coffee, wholesale trade in oil and grain, sugar) is also greatly affected by carousel fraud in a number of EU countries (in particular from South-East Europe); the risk of fraud is pervasive in the trade of cereals, oilseeds, vegetable oils and sugar and is triggered by high VAT rates, which can be as much as 27% for agricultural products.

⁵ In most cases, excise frauds and VAT fraud are linked and constitute some of the EU’s biggest annual losses of revenue from unpaid duties. The illicit tobacco trade alone would cost 10 billion euros in terms of lost revenue each year (Eurojust, 2014).

TABLE 1 - Fictitious increase in financial flows, fake VAT credits and margins from Phuncards-Broker Operation - (2003-2007)

Year	Company	Financial outflows (a)	Financial inflows (b)	Net financial outflows (c)	VAT credit (d)	Margin (e)	(f) = (d) - (e)
2003	Fastweb spa	€203.603.112,83	€182.404.249,08	€21.198.863,75	€33.933.762,00	€12.770.721,93	€21.163.040,07
	Telecom Italia Sparkle spa	€0,00	€0,00	€0,00	€0,00	€0,00	€0,00
2005	Fastweb spa	€78.642.473,64	€69.712.312,84	€8.930.160,80	€13.107.078,94	€4.273.164,45	€8.833.914,49
	Telecom Italia Sparkle spa	€300.899.219,29	€262.275.600,00	€38.623.619,29	€50.149.869,88	€12.170.808,03	€37.979.061,85
2006	Fastweb spa	€150.520.504,02	€131.919.497,55	€18.601.006,47	€25.086.464,67	€5.997.103,38	€19.089.361,29
	Telecom Italia Sparkle spa	€1.148.893.896,64	€1.004.643.173,25	€144.250.723,39	€194.099.766,10	€46.851.560,69	€147.248.205,41
2007	Fastweb spa	€2.409.510,12	€2.102.248,24	€307.261,88	€401.559,02	€495.622,21	-€94.063,19
	Telecom Italia Sparkle spa	€337.552.299,06	€294.775.999,84	€42.776.299,22	€53.641.266,50	€13.211.634,63	€40.429.631,87
	Fastweb spa	€435.175.600,61	€386.138.307,71	€49.037.292,90	€72.528.864,63	€23.536.611,97	€48.992.252,66
	Telecom Italia Sparkle spa	€1.787.345.414,99	€1.561.694.773,09	€225.650.641,90	€297.890.902,48	€72.234.003,35	€225.656.899,13
	TOTAL	€2.222.521.015,60	€1.947.833.080,80	€274.687.934,80	€370.419.767,11	€95.770.615,32	€274.649.151,79

Source: Tribunale di Roma (2010) p. 227-228.

The prosecutors observed that the cash outflows (column c) of the companies are equal to the difference between the revenues from sales to foreign companies and the payments to Italian companies supplying the services. Notice that the net cash outflows (column c) exactly correspond to the difference (column f) between the VAT credit accrued by T.I.S. and Fastweb and their own margin/profits coming from the same operation. Substantially the two companies had to bear a cost to finance the cash outflows, which were fully compensated by the margin. The fraud gains for the other members of the criminal organization are equal to the amount of the unremitted tax less the margin for the entire operation kept by the TLC companies, and the costs afforded by the criminal organization for the accomplishment of the fake business transactions.

The main technical innovation of the organized carousel consists of a closed financial/commercial circle which never reaches the final consumers. The never ending circle is indeed the most interesting feature of this carousel because it avoids VAT disbursements and broadens the system so as to reach the figures shown in Table 1. In other words, by bringing into this mechanism a relatively small amount of illegal money (few millions euros) and by turning it around many times, the money increased at each round by an amount equal to the undisbursed VAT, until it reached a total financial flow of about 2.2 billions euros.

Further technical innovations of this carousel were the following.

- The criminal organization provided a lawfulness appearance to the operation. It conceived and executed commercial activities related to non-existent goods/services, but only instrumental to the pursuit of the illicit object. As seen below, in the *Phuncard* case, the plastic phone cards were never produced and the rights of access to copyright protected digital contents did not exist. In the *Broker operation* the signal of the telephone calls coming from abroad and redirected to international telephone numbers was related to a nonexistent service, in the absence of any final consumers.
- The criminal organization issued false invoices in order to exploit the VAT technicalities to support/justify the financial transfers abroad. Moreover it drew up national and international contracts to justify the big financial flows.
- The organization captured the big TLC companies to better hide the fraudulent transactions and to justify the large financial flows. The TLC companies were, to some extent, “attracted” by the competitive prices for termination services offered by the fraudsters and were deceived by the fact that the fraudsters were well-known clients.
- The tax related to previous fake activities of bogus and buffer companies was never paid to the Italian tax authorities. Still the VAT system generated a fake VAT credit for the companies involved.
- The fraud gave rise to huge financial flows, which allowed money laundering with subsequent investments in various countries (London, Dubai, Hong Kong, Switzerland, and Panama).
- The criminal organization involved a relatively small number of people and lasted for years. According to the official allegations, it captured the unwitting companies through a corruption network. The web of fictitious companies was often created by Swiss fiduciaries with expertise

in financial/international markets, including foreign countries' commercial and fiscal regulations.

- Bogus and buffer companies were established along the circuit to launder money and invest the illicit gains in various activities. In most cases these companies, when set up in Italy, were transferred abroad to make it difficult for the Italian tax authorities to find their fiscal documentation.

The criminal organization began its activities in 2003 with already consolidated methods. With those same methods other EU countries were also involved in the carousel and suffered VAT loss. The organization exported the criminal methods to other countries.

In section 2, we describe VAT fraud called *Phuncards-Broker VAT fraud operation* in details. The policy implications are illustrated in section 3. Conclusions follow in section 4.

2. The Phuncards-Broker Operation

In 2010 a massive VAT-fraud unwittingly involving the Italian TLC providers Fastweb S.p.a. and T.I.S. was uncovered. The Italian authorities issued arrest warrants for fifty-six people charging them with money laundering and tax evasion for the years 2003 and 2005-2007 even though it is highly likely that the fraud had begun earlier than 2003. The fraud involved other Italian-based enterprises, companies based in the US, in a number of European countries (UK, Spain) and in some fiscal heavens (Dominican Republic, Panama, the British Virgin Islands and the Netherland Antilles).

The *Phuncards-Broker Operation* was the one of largest VAT fraud ever discovered but it was also the first fraud in Voice over Internet Protocol (VoIP)⁷ traffic. The fraud showed the increasing problems and vulnerabilities that plague VAT systems. Ainsworth, who had earlier investigated the areas of MTIC fraud expansion, stated: "After the Italian Job, this belief [to have a handle on MTIC] must surely be questioned. All peace of mind should have vanished on February 23, 2010. [...] VoIP MTIC is no longer a topic for academic speculation. It is real. It poses a very serious threat to the workability of the VAT" (Ainsworth, 2010b, p.2, see also 2010a).

The two investigation lines that led to the above allegations concerned phonecards (*Phuncards operation*), and VoIP termination services with digital content (*Broker operation*). The whole investigation was thus called *Phuncards-Broker Operation*.

In both cases, Fastweb S.p.a. and T.I.S.. were involved as carriers of TLC services that were not actually provided. They bought at a VAT inclusive price and then sold to other EU companies, which entitled them to input VAT rebates. The VAT-inclusive payments allowed the missing-traders operating up the transaction chain to gain huge illegal funds.

⁷ VoIP is a technology that allows telephone calls to be made over computer networks like the Internet instead of traditional analog systems. It allows long-distance conversations at reduced cost converting analog voice signals into digital data packets.

2.1 The Phuncards Operation

The *Phuncards Operation* involved only Fastweb S.p.A., exploiting the fact that phonecards are material carriers of services subject to VAT. The operation developed along the steps summarized in Figure 1.

1. *The Missing Trader Fraud.* The complex fraud began with US-based companies Worldwilde Telecommunication Services Llc (WST) and Global Telephone Service Llc⁸ selling rights to copyright protected digital contents to Italian Telefox s.r.l.. The commercial brand of these rights (and of the cards that would subsequently incorporate them) was *Phuncards*. However, these rights (and the phone cards) never existed and the whole operation was fraudulent. Because of the VAT reverse charge procedure in international purchases of services from a third country, Telefox, a missing trader that soon disappeared to Panama, bought these services with no need to disburse VAT (with the reverse charge mechanism the acquisition simultaneously represents a VAT credit and VAT debit position, and no VAT is due). It then sold the *Phuncards* to the Italian companies of the CMC Group (CMC Italia s.r.l and Web Wizard s.r.l.),⁹ with which it had a distribution agreement: no mark-up was charged and the Italian VAT applied to the transaction. However, Telefox did not remit the VAT to the tax authorities, instead channelling it to a Spanish-based company, Suade Management Ltd., which laundered it.

2. *The generation of undue VAT rebates and the accumulation of illicit funds.* In the CMC Group, CMC Italia was indeed a bogus company, which later moved to a non-existent address in the UK and then probably to the Dominican Republic. Together with Telefox, fraudsters in CMC were the devisers of the financial aspects of the fraud (Tribunale di Roma, 2010, p. 241). The CMC Group fictitiously entrusted the cards production and the code printing to two Italian companies (Plastic Division Graf 3 s.r.l. and Print Media s.r.l.): Italian VAT applied on the purchase.

CMC Group companies intended to sell the cards to EU-based companies, with which they had previous agreements, and they decided to ask Fastweb S.p.a. to intermediate the exchange. Therefore, before the cards were materially produced, CMC sold them and their incorporated rights to Fastweb at a VAT-inclusive price (with no mark-up). The fraudsters justified Fastweb's intermediation as a means for the CMC companies to avoid delays in rebates for paid input VAT.¹⁰ They also alleged that Fastweb would have provided a more financially reliable interlocutor for the foreign companies involved in the subsequent steps

⁸ Tribunale di Roma (2010) remarks that WST was registered in Delaware in 2004, months after the contracts had been subscribed and the Phuncards payments had been made. Global Telephone Service was not operative at all (p. 256).

⁹ Web Wizard s.r.l. was controlled by CMC Italia, which, in turn, was controlled by a Dutch company, Sworiba B.V..

¹⁰ To justify Fastweb's involvement in the business, CMC's fraudsters alleged that, as trading was the core business of the CMC Group, it was inefficient for it to immobilize 20 per cent of its turnover, which is what happens to exporters. Fastweb thus acted as "VAT cash desk" for CMC/Web Wizard, which received VAT-inclusive payments [for domestic exchanges] and could more quickly claim back the input VAT paid (Tribunale di Roma, 2010, p. 254).

of the fraud (Tribunale di Roma, 2010, p. 247). Indeed, Fastweb was caught in the fraud as a "buffer enterprise", a fully compliant trader, with regular business outside the fraud, but unaware of being part of a chain of fraudulent transactions (Borselli, 2011).

In this case, Fastweb's top management ignored the fraudulent nature of the *Phuncards operation*, which the fraudsters disguised as the prosecution of a previous business concerning pre-paid cards of access to value-added services (Premium Services), granting the company a margin (7%) and a VAT credit to use against other VAT liabilities: Fastweb's intermediation made the fraud more complex and investigations more difficult, since the legitimate business covered the fraudulent transactions.

3. *The carousel.* On its turn, Fastweb exported the cards at zero rate¹¹ to the UK companies, LBB Trading Ltd, Premier Global Telecom Ltd¹² and Fulcrum Trading UK, and to a US company, Fulcrum Trading US Inc.. The UK companies then applied the reverse charge to the intra-EU acquisition and exported the *Phuncards* at zero rate outside the EU, to Novellist International Ltd., a company based on the British Virgin Island, and to Fulcrum Trading US Inc..

The *Phuncards* purchase was financed by the CMC Group, which transferred funds to the UK companies. Debt and credit compensations then occurred between Fulcrum Trading and CMC's Web Wizard to refund the initial financing. Suade Management Ltd, the bogus Spanish company, also provided financing to Novellist International Ltd., LBB Trading, Comitex, and many other fraudsters, both individuals and companies. The companies then transferred the money back to the individual fraudsters. For example, Suade Management transferred money to Comitex, to Mr B of Telefox and to Mr A, an individual fraudster having access to Suade's current accounts; Comitex then transferred the money to that same Mr. A, while Suade Management received reimbursements back from Telefox srl. There was no final consumer of the *Phuncards* and the whole carousel was fueled by several rounds, each one increasing the amount of money involved and the undue VAT rebates.

In July 2003, Fastweb's Internal Control Committee launched a due diligence inquiry¹³ and the commercial relationships with the British companies were abruptly interrupted (Tribunale di Roma, 2010, p. 252). The internal inquiry did not find evidence of any fraudulent transactions and the top management of Fastweb continued to ignore the illegal nature of the operations. Indeed, the fraud was resumed from September to November 2003 and the cards were exported directly to Fulcrum Trading US Inc.. This shows that i) the criminal structure was sufficiently flexible to duck controls and, when needed, to re-direct the

¹¹ In 2003 the origin principle applied to business to business (B2B) exchanges of services, except for TLC services. Fastweb and CMC initially debated whether they could zero-rate the cards export or not, and they sought legal advice.

¹² LBB Trading and Premier Global Trading were both managed by the same administrators, while Fulcrum Trading UK was controlled by Fulcrum Trading US and their managers were the same.

¹³ The 2003 reform of the Italian corporate law created an internal control body to assess the nature and quality of revenue.

cards export and the related financial flows to safer destinations; ii) the carousel frauds could be organized and carried out even without the top management's involvement or knowledge. In the period examined by the Italian prosecutors (February - November 2003), the money laundered was more than 203 million euros and the VAT fraud was nearly 34 million euros.

2.2 The Broker Operation

The *Broker Operation* (2005-2007) concerned TLC value added services with entertainment or information content. It unwittingly involved both Fastweb and T.I.S., as carriers of TLC services demanded by fictitious end-users and provided by termination companies. The operation developed along the following steps, highlighted in Figure 2.

1. *The Missing Trader Fraud.* The fraud began with Coriano Capital Ltd., a company based in Panama, selling non-specified digital contents for adults only to two Italian companies, Telefox International Ltd. and Global Phone Networks s.r.l., under the same reverse-charge rule described above. These companies re-sold (applying the Italian VAT) to Italy-based companies, I-Globe s.r.l.¹⁴ and Planetarium s.r.l.. The first VAT fraud concerns Telefox International Ltd. and Global Phone Networks s.r.l., which disappeared without remitting the VAT to the tax authority and without filing their VAT returns. They acted as bogus companies in the operation and used their exchanges with Coriano Capital Ltd. to transfer to Panama the money and the VAT received from I-Globe and Planetarium.

I-Globe s.r.l. and Planetarium s.r.l., which were termination companies, received from a UK-based Crosscom Ltd. the license for value added telephone numbers, called Tuvalu and Iridium (Tribunale di Roma, 2010, p.260-261). Value added telephone numbers can be called by phone or internet and they give access to digital contents at increased price. They do not correspond to a geographical numbering and they can be active in any country.

2. *Undue VAT rebates and illicit funds.* first I-Globe s.r.l. and then Planetarium s.r.l (since September 2006) sold the digital contents to Fastweb and T.I.S. and applied the Italian VAT. The fraudsters justified Fastweb and T.I.S.'s intermediation, because it eased the financial situation of I-Globe/Planetarium (Tribunale di Roma (2010, p. 292). Actually, the VAT collected on the domestic sales to Fastweb and T.I.S. offsets the input VAT paid to Telefox International and Global Phone Networks. Had I-Globe/Planetarium sold the services directly abroad at zero rate, they would not have been able to immediately recover the VAT paid to missing-traders and the whole carousel would not have been possible.

I-Globe/Planetarium were not actually missing traders, as they complied, at least partly, with their fiscal obligation and remitted 2,6 million euros in VAT. However, both companies were only "void boxes"

¹⁴ I-Globe was set in 2004. In 2006 it moved to Moscow. The same person, who conceived the *Phunchards* fraud in the CMC Group, acted as consultant for I-Globe and for the British companies involved as aggregators in the operation.

(Tribunale di Roma, 2010, p. 324), created for the sole purpose of formally routing the telephonic traffic. They, employed the premises, the technical equipment and the staff of another Italian society, Ubique TLC Italia s.r.l., which assisted the exchanges between I-Globe/Planetarium and Fastweb/T.I.S..

A final group of companies aggregated end-users' calls and directed them to Fastweb and T.I.S. to reach the termination services of I-Globe/Planetarium. The aggregator companies, Diadem Ltd¹⁵ and Acumen Ltd, were based in the UK until March 2004. After an inspection of the UK's Organized Crime Agency, this stage of the operation was moved to Finland and the companies changed to Accrue Telemedia OY and Acumen Europe OY (December 2005).

Fastweb and T.I.S. provided intermediation services for the transport of the TLC services. In particular, Fastweb changed from VoIP to TDM¹⁶ the internet-based traffic received from the aggregators. However, Diadem Ltd and Acumen Ltd could have directly sent VoIP traffic to I-Globe and Planetarium, thus saving the intermediation margins paid to Fastweb. In 2007, the rationale for T.I.S.'s intermediation was indeed questioned by Telecom Italia Audit & Compliance Services, which were puzzled by the 71 million euros interconnection costs paid by the aggregator companies, since these had their own technical equipment for direct traffic routing (Tribunale di Roma, 2010, p. 300).

As in the *Phuncards operation*, T.I.S. and Fastweb were caught in the fraud as "buffer enterprises" whose regular business hides the fraudulent transactions and makes investigations more difficult. Fastweb and T.I.S. applied the zero-rate to their intra-Community exchanges with Diadem and Acumen and could recover the VAT previously paid on their purchases from I-Globe and Planetarium.

End-users' calls seemed to come from Tuvalu and Iridium numbers. However, the investigators found no calls and payments from end-users and there was also no evidence of the digital contents being routed to the end-users (Tribunale di Roma, 2010, p. 282, 295 and 290). Indeed, the traffic had been artificially generated (Tribunale di Roma, 2010, p.302) and this confirms that the whole operation was, in fact, void of any economic sense.

3. *The carousel*. The fraud was a carousel, as exemplified by the two cycles presented in Figure 3 and drafted on the basis of the documents in Tribunale di Roma (2010). Acumen UK starts the cycle with money transferred to Fastweb/T.I.S., which used it (after the deduction of their margin)¹⁷ for purchases (VAT

¹⁵ Diadem Ltd was the first company involved in the operation. Its first commercial partner was Fastweb, followed by T.I.S. The contract with Fastweb provided that Diadem's equipment was hosted at Fastweb's server farm in Milan, which was illegal, as Diadem had not registered according to the norms of the Italian Code of Electronic Communications (Tribunale di Roma, 2010, p 283).

¹⁶ TDM: Time Division Multiplexing is the traditional telephone traffic. Fastweb received VoIP traffic from Diadem in Milan, converted it into TDM and routed it to Rome, at Ubique TLC Italia, I-Globe's server. TDM is a more stable communication medium than VoIP, even if it is more expensive. However, the whole operation was void of economic sense as I-Globe and Planetarium could not provide termination services in TDM and had to convert TDM traffic back into VoIP again.

¹⁷ Tribunale di Roma (2010) indicates a margin of 3.18 per cent for T.I.S. on the 04/04/2005 transfer payment (p.267, note 201).

included) from I-Globe/Planetarium. After the deduction of its margin, I-Globe transferred the amount to bogus company Telefox International Ltd/Global Phone Networks s.r.l, which transferred it on a different bank account and then moved it to a Panama-based company, Coriano Capital Ltd. In turn, Coriano Capital transferred the money to another company in Panama, Broker Management S.A.¹⁸ (transfers to Broker Management were made also by I-Globe directly). In turn, Broker Management¹⁹ made money transfers to the aggregator companies, Acumen Ltd in particular, on account of "advance payment of TLC minutes": from Acumen Ltd the whole chain of money transfers started again. The carousel was made of several rounds, each one increasing the amount of money involved, the VAT credits and the correspondent amount of VAT stolen by the missing-traders. The operation shows how carousels can move huge flows of money in short time.

2.3 The design of a multiple fraud

The *Phuncards-Broker operation* consists of a chain of frauds on e-services, exploiting the interruption of the VAT-chain due to the destination principle (reverse charge) applicable to international exchanges of goods and () services. The fraud elaborates on the basic models illustrated in Fedeli and Forte (2009). Its main elements are: i) an MTIC/ MTEC fraud; ii) large and undue input VAT rebates for transactions on non-existent services which go to the benefit of large buffer companies; iii) a carousel fraud which allows large scale money laundering.

As Figure 4 shows, the fraud originates from core companies (CMC and I-Globe/Planetarium in this case) that deal with a missing trader upstream and with buffer TLC companies downstream. Their VAT position is neutral, since the VAT they pay on their purchases from the missing trader, is compensated by the VAT they collect on the sales to the buffer companies.

Upstream, the missing traders perform the classic MTEC fraud. They reverse-charge the domestic VAT on their extra-EU transactions with bogus extra-EU (or off-shore) companies and they apply the VAT at the domestic rate on their onward domestic sales. However, they do not remit the VAT collected on these onward sales and they disappear.

Downstream, the big TLC companies are caught in the fraud as "buffer" companies: the fraudsters involved T.I.S. and Fastweb with the goal of money laundering and of piling up "enormous black funds" by means of regular commercial invoices (Tribunale di Roma, 2010, p.221). The buffer companies pay the domestic VAT on their fictitious purchases and zero-rate their intra-EU sales to EU bogus traders. This generates undue VAT rebates which can be employed against the VAT collected on other transactions. The

¹⁸ The same person who had access to Coriano Capital's bank account was also the only beneficiary of Broker Management S.A.. He also had access to Suade Management's bank account, the company involved in the Phuncards operation.

¹⁹ The Finnish company Karelia Buiness S.A. acted similarly regarding Accrue Telemedia OY. A web of trust companies (Euram Finance S.A., Eurart S.A., Narilex S.A., Accord Pacific Europe) also contributed to the money laundering (Tribunale di Roma, 2010, p. 271).

false invoices allow the fraudsters to pile up large illicit funds. The TLC companies' outstanding position on the market better conceals the fraud and their server farms can provide an effective hideaway for the fraudsters' termination boxes. Ainsworth (2010b) suggests that "revenue authorities [should] undertake a more carefully survey of rental arrangements at major TLC providers. Close attention would be paid to those that leased server space to third-party providers of VoIP termination services" (p.25).

The bogus companies downstream are EU-based. They buy from the buffer TLC companies under a reverse charge procedure and the chain continues with these companies either disappearing or zero-rating their sales to extra-EU companies.

Finally, the fraud is supported by non-commercial financial flows (debt/credit compensations, advance payments, and so forth) by which off-shore and domestic companies launder money. Off-shore companies receive the funds and either employ them again in the carousel, or hold them back or pay the fraudsters. Each round of the carousel increases the amount of black funds.

A similar, although less complex, pattern has been followed in recent frauds on emission rights. Also in this case the crime committed was completely virtual, with no movement of goods, no crossing of borders, nothing physical to check or search (Eurojust, 2014). VAT fraud schemes reached the European carbon market in the spring of 2009, when cases were detected in France, UK and Netherlands: fraudsters bought quotas abroad, under a reverse charge procedure, and sold them in the country charging VAT to their customers. Fake trades in emission certificates possibly resulted in tax losses of 5 billion euros in several European countries and accounted for up to 90% of total trading in CO2 quotas in some countries (Europol press release, 9 December 2009). On 28 April 2010, the German authorities carried out a massive raid concerning 230 targets including Deutsche Bank, premises of different companies as well as private houses. Lastly, in December 2010, Italian tax police started investigations on numerous small Italian firms for VAT fraud in carbon trading resulting in 500 million euros of unpaid tax. Italian state-owned energy exchange, Gestore Mercati Energetici, closed its carbon emissions market on March 2014 and temporarily suspended trade due to what is called "presumed unlawful" activity.

In such a fraud, criminal gangs exploited a combination of factors: the opportunities offered by information technologies (ITs) in terms of speed and confidentiality of transactions, the volumes involved (potentially unlimited), the possibility to set up extensive chains of transactions without the need of complex organizations, the involvement of non-EU companies located in countries with a poor exchange of information and an advanced financial market, where it is easier to divert the proceeds of the fraud. As in our case-study, they operate in tax heavens including Panama, the Caribbean, the Far East, the Gulf region and New Zealand (Eurojust, 2014). As observed by FATF (2007), laundering the profits of carousel frauds involves sophisticated organised criminal gangs, which are attracted by the large sums of money available at a relatively low risk, and requires an in-depth knowledge of the financial markets. The proceeds of carousel frauds have become a source of financing for other criminal activities.

Figure 1 - The Phuncards operation

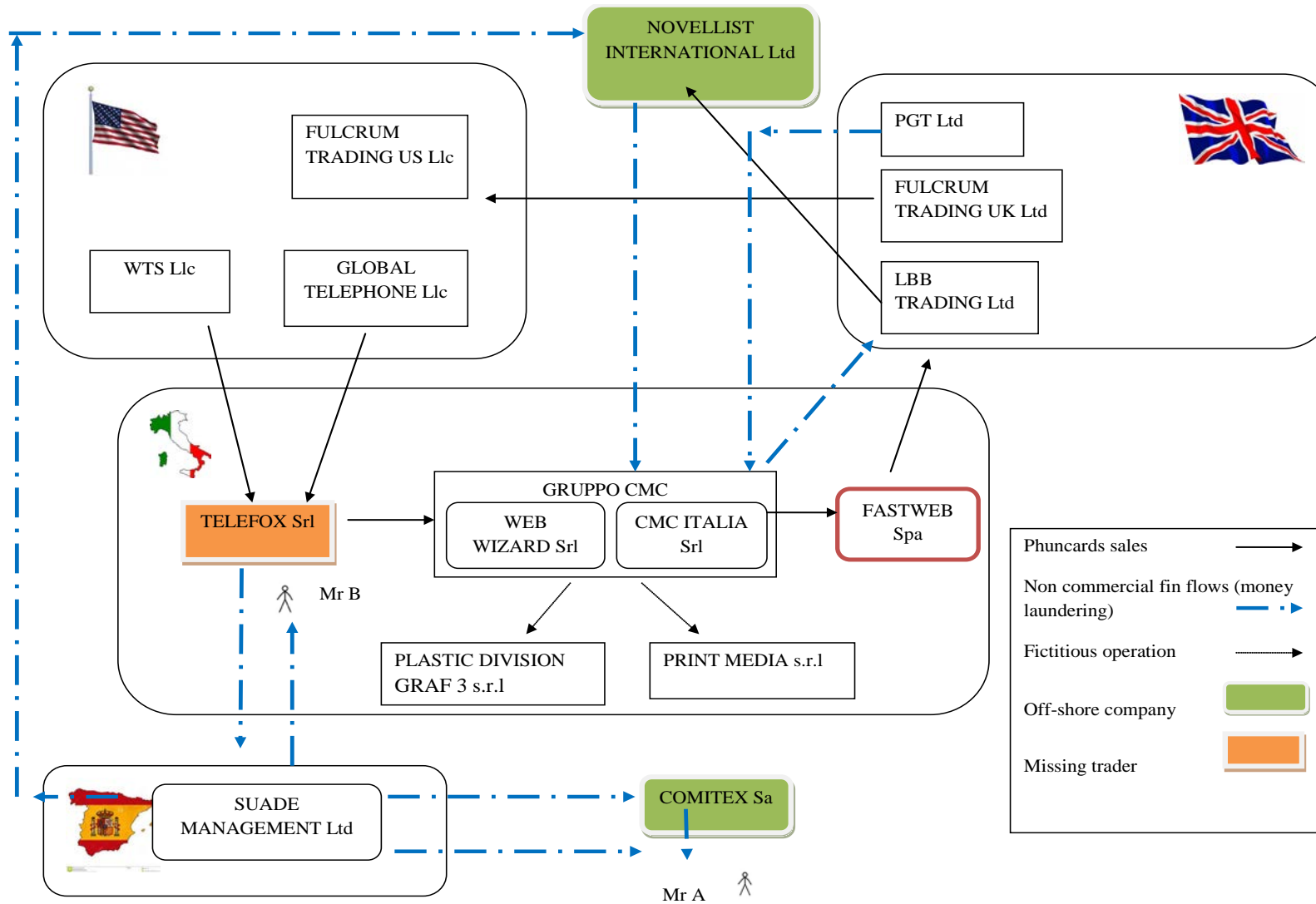


Figure 2 - The Broker operation

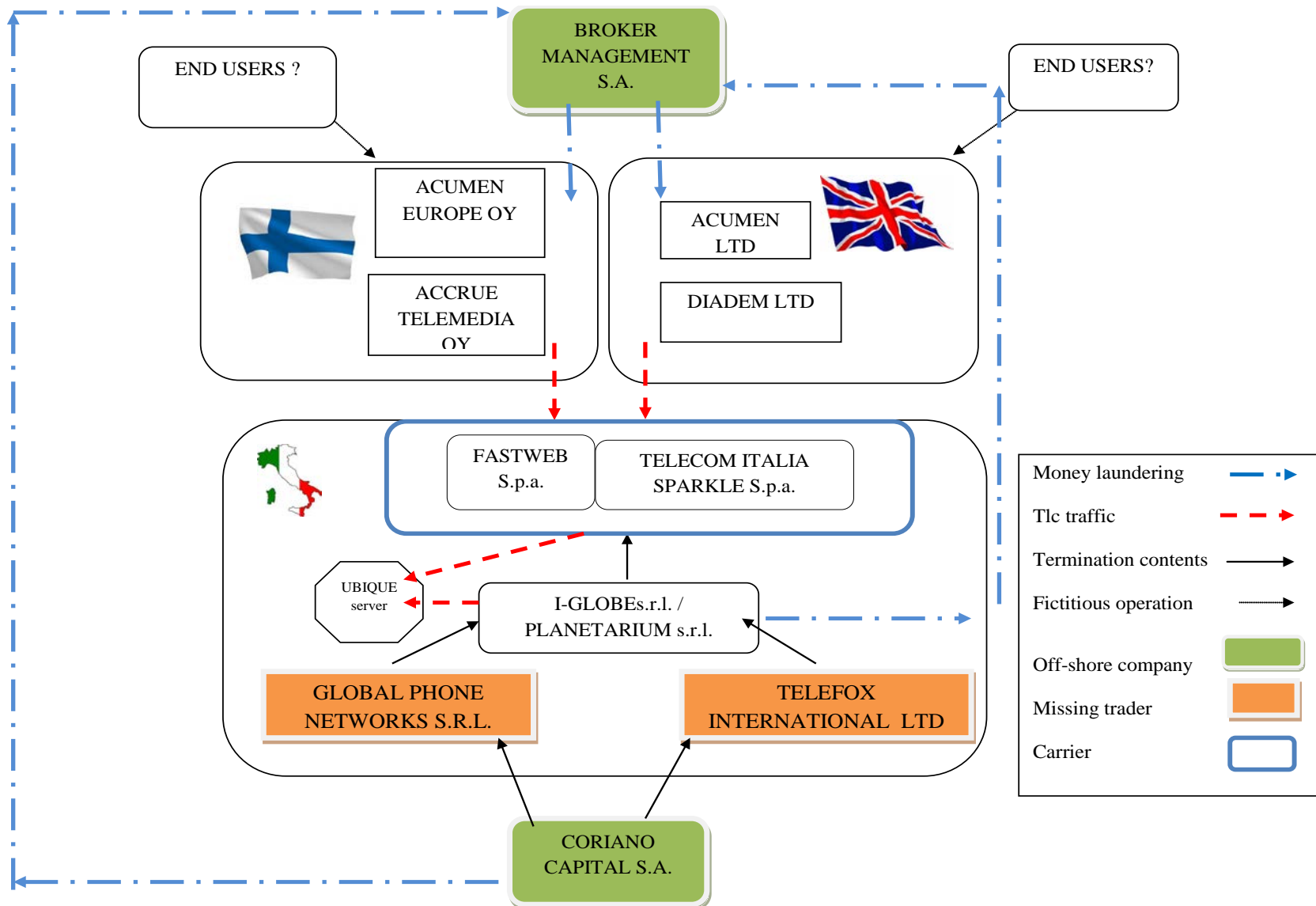
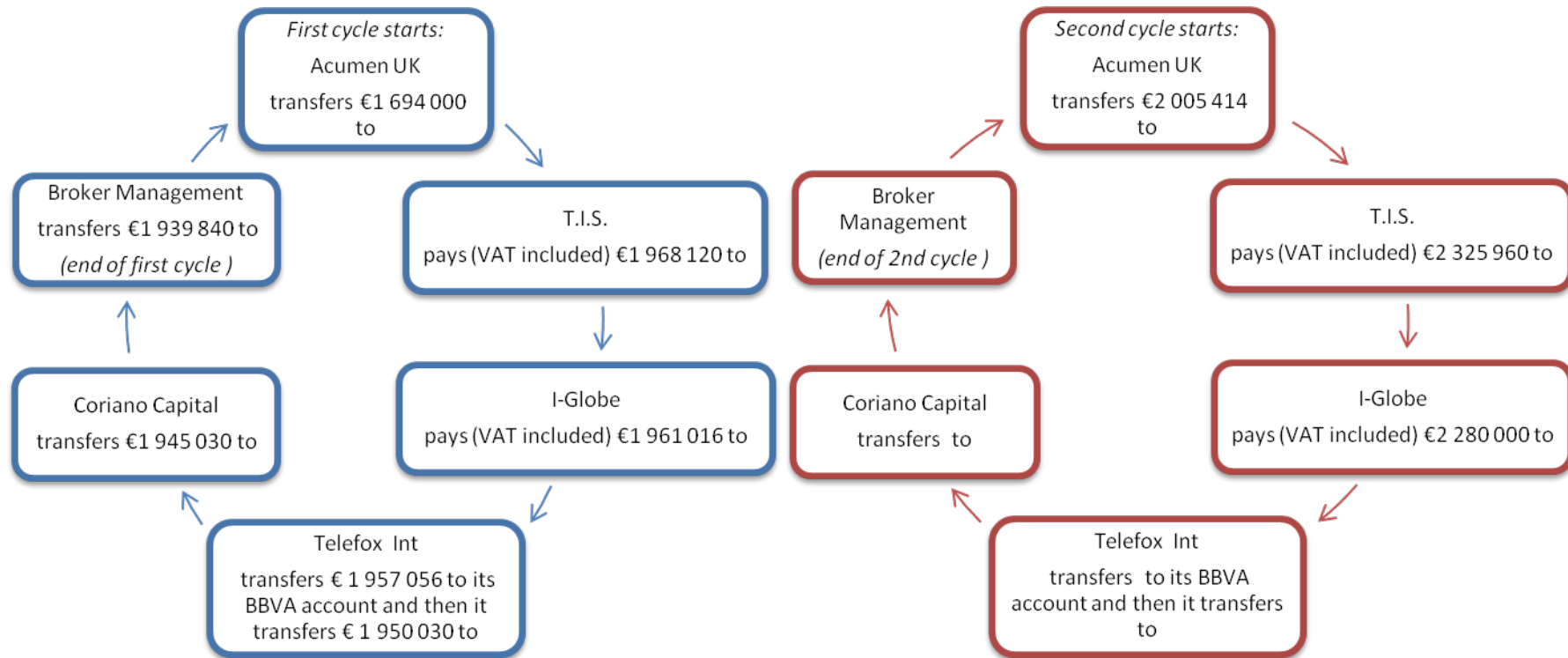


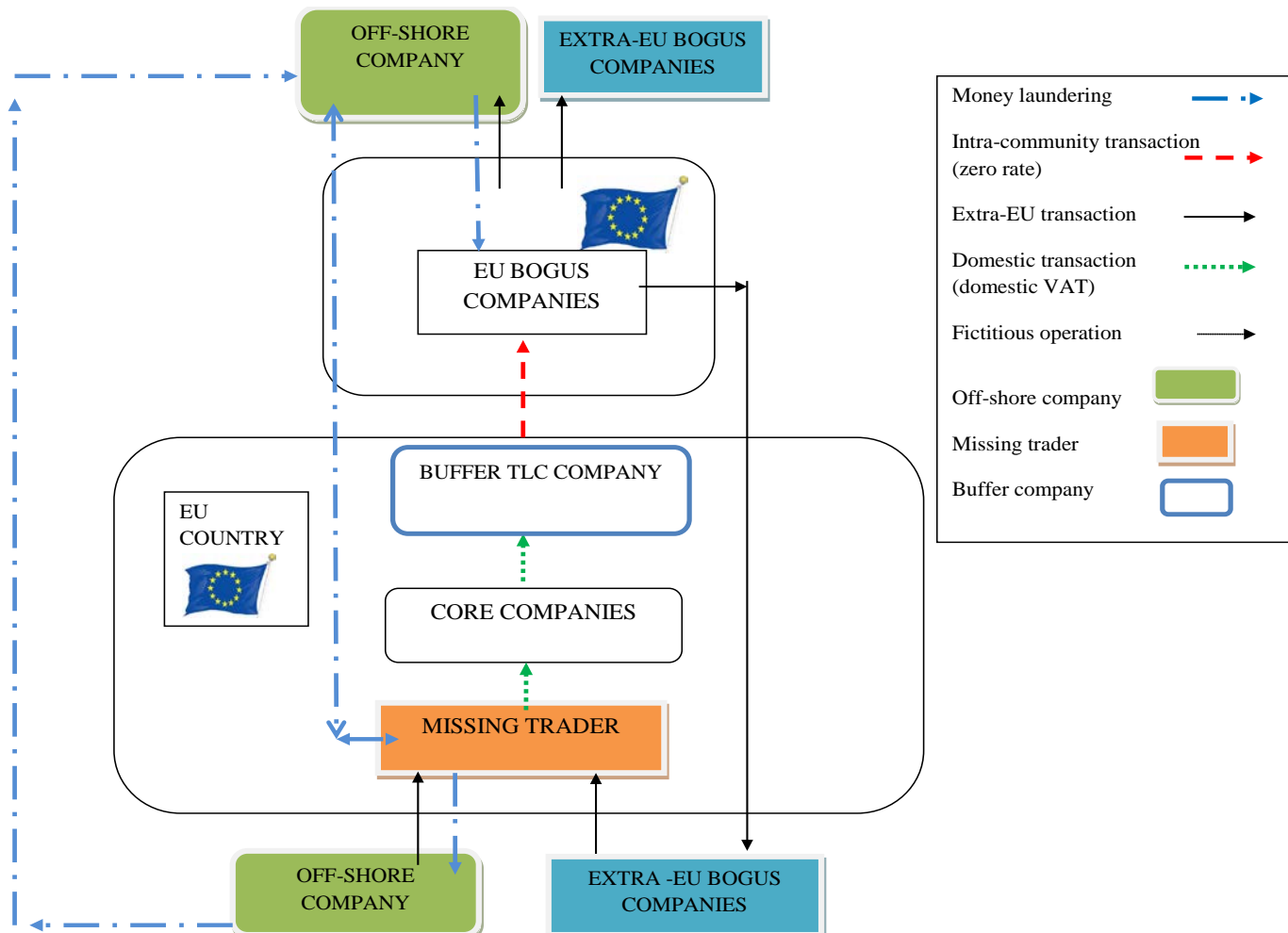
Figure 3 - The carousel involving the unaware Telecom Italia Sparkle S.p.a. (T.I.S.) in *Broker Operation* (first round beginning on 04/04/2005 and ends on 12/04/2005; second round begins on 13/04/2005 and has been followed up to 28/04/2005)



Notes - All operations (in million EUR) took place from 04/04/2005 to 13/04/2005. BBVA: Banco Bilbao Vizcaya Argentaria. Broker Management S.A., Coriano Capital S.A. Telefax Int. and Acumen UK all had bank accounts at BBVA.

Source: data from Tribunale di Roma (2010).

Figure 4 - The basic model of the frauds



3. The exchange of e-services

A progressive involvement of intangible services (carbon certificates, data traffic, digital services, TLC) within VAT fraud schemes was recently observed. A strategy to tackle “e-frauds” requires an intensified exchange of information with third countries and the development of IT tools for real-time tracking of economic and financial operations. The following paragraphs outline the policy options and evaluate the effectiveness of the measures adopted thus far. Finally, some long-term proposals to tackle digital frauds are presented below.

3.1. The fight against VAT fraud: policy options identified by the literature

As recently argued in the Mirrlees review (Crawford et al., 2011) and in Fedeli e Forte (2011a), the VAT destination principle for internationally traded goods and services remains desirable, but the mechanisms by which this is achieved need reconsideration in order to reduce the vulnerability of the VAT system to frauds and evasion. Two broad approaches may be considered: one is essentially "administrative" and does not alter the basic functioning of the VAT system for international transactions; the other – implying the adoption of far-reaching measures - removes export zero-rating altogether and adopts an origin based VAT system for intra-EU transactions. Administrative tools will be discussed in the next subsection. Here we focus on the different proposals emerging in the literature or suggested by the European Commission.

In the early 1980s, Cnossen (1983) held that the destination principle could be maintained without border controls if intra-community exports would be taxed at the VAT rate of the exporting Member State, invoiced to the importer, and finally credited against his VAT liability. To restore the revenue allocation under the destination principle, the importing state would have to reclaim the importer’s credit from the exporting state, by means of a “clearing house”. The idea of this “origin tax system” was adopted by the European Commission (1985) in the “Cockfield White Paper” and advocated as the only way to ensure the creation of a true internal market (see Crawford et al, 2011). Such a system was largely discussed by EU institutions, tax administrations, academics and businesses stakeholders. Charging VAT on cross-border business-to-business (B2B) exchanges would have led to equal treatment for domestic and cross-border transactions and reinstated the principle of fractioned payment of VAT to all economic exchanges. Moreover, since under the origin principle missing traders would pay VAT on their purchases from another EU country, their potential profit would be nullified or at least drastically reduced. However, the origin principle would be ineffective against frauds involving third countries (MTEC frauds), which are likely to become a new frontier for criminality.

The central problem of the VAT origin system relates to the actual functioning of the clearing-house (Crawford et al, 2011, page 338). Under the initial proposal the clearing of revenue among Member States had to be done on the basis of individual transactions, although such a system would have undermined the incentive for Member States to check the validity of claims for VAT credits. Lee et al. (1988) criticized the clearing house proposal pointing out that importing Member States might not be inclined to root out

fraudulent claims for import VAT credits, while exporting states would have little incentive to uncover fraudulent failure to charge VAT on exports. In 1996 the European Commission proposed the home-state taxation: cross-border sales would have been taxed as domestic sales, and VAT revenues on intra-community transactions would have been allocated among Member States based on their aggregate consumption as resulting from national accounts' statistics. Such a proposal would require an extensive legislative harmonization; revenue allocation rules would undermine incentives to devote adequate resources to VAT collection and enforcement (Smith, 1997). Moreover, EU authorities should be given the power of settlement, costs of administration would increase and the acquisition of revenues by each Member State would undergo delays. Finally, greater uniformity of national VAT regimes would be required to avoid competitive distortions in favour of Member States with lower VAT rates.²⁰

To overcome some of the criticisms to the origin principle, a dual VAT model, named Viable Integrated VAT (VIVAT), was suggested by Keen and Smith (1996, 2000). VIVAT allow the taxation of all B2B transactions at the same VAT rate, while Member States would retain the power to choose the VAT rate to final consumers. The clearing of the VAT debts and credits would be eased by uniform rates of the B2B and VIVAT could be administered bilaterally by the States concerned. The disadvantages of VIVAT are the need to arrange revenue transfers between Member States and to make a distinction between B2B and business-to-consumer (B2C) transactions. Moreover, an unanswered question is the appropriate level of the intermediate rate and the issue of revenue compensation for Member States. An alternative, the Compensating VAT (CVAT), was suggested by Varsano (2000) and by McLure (1999, 2000). It is a dual VAT system with a uniform rate on B2B transactions for all Member States and different rates for B2C transactions chosen by each Member State. CVAT differs from VIVAT because the VAT applied on intra-EU exchanges would be immediately credited to the revenue authority of the country of destination. The VAT chain between the Member State of origin and destination should remain uninterrupted and no clearing system should be needed. With the help of ITs, the payment of the CVAT due to another EU tax administration would be done through real-time bank transfer.

In both VIVAT and CVAT, the fight against “digital-frauds” would take advantage of the application of VAT on intra-EU exchanges of services, reducing the margin of manoeuvre for fraudsters. Nevertheless, the solution would share the same criticism raised by the origin-based approach. The adoption of a system of “VAT accounts”, that requires all traders to open a bank account to which VAT charged to customers should be transferred, as proposed by Sinn et al. (2004) should be preferred. VAT refunds are granted only after the tax authorities have checked the payment of VAT by the supplier. Actually, depriving the missing traders from the management of VAT is a technically efficient solution and does not entail any substantial change to the VAT system. Pros and cons of this strategy will be further discussed below.

The public debate launched with the Green Paper on the future of VAT confirmed that a definitive VAT system based on the taxation in the country of origin was politically unachievable. The European

²⁰ This goal is still far to be reached: in July 2014 the standard rate ranged from 15% to 27%, averaging 21.5%. Nonetheless, the marked reduction in the coefficient of variation between the standard rates (from 0.20 to 0.11 in the period from 1993 to July 2014) shows appreciable convergence.

Parliament and other stakeholders also recognised the deadlock and considered taxation at destination a more realistic solution (European Commission, SWD(2014)338).

Notice however that the debate has also led to opposite proposals, such as the adoption of a generalised reverse charge mechanism for all B2B transactions (European Commission, 2007).²¹ As remarked, the reverse charge for specific sectors is generally considered an effective short-term solution - although it can shift the fraud to other sectors/countries - but the dynamics of fraud might create pressures to extend such a mechanism, in the end converting VAT into a sort of retail sales tax (Keen and Smith, 2007). While the generalisation of the reverse charge mechanism would tackle frauds at the intermediate stages of distribution and eliminate the risk of migration among sectors, it might generate other types of consumption fraud (based on collusive behaviours between suppliers and final consumers) with a negative impact on tax revenues. VAT would no longer be collected in a fractionated manner along the chain of exchanges and any fraud at the stage of consumption would affect the taxation of the entire added value. Compared with the US retail sales tax, the incentive to evade would be much greater in the EU because of higher VAT rates. Additional reporting obligations would be needed in order to keep fraud from shifting to the retail level.²² For this reason, Ainsworth (2006) proposed the compulsory use of a third party to guarantee VAT payments, either in general or for particular sectors. In this scheme, missing traders would be required to obtain the guarantee that their VAT payments have been made. The reverse charge mechanism shall be analysed in the next subsection.

3.2. Administrative measures

The most commonly accepted and radical anti-VAT fraud strategy is the reverse charge mechanism for domestic B2B transactions. Technically, it is an *ad-hoc* legislative measure that shifts the VAT liability from the supplier to the purchaser, depriving the missing trader of the right to debit VAT to its customers.

VAT Directive n. 112/2006/EC allows the application of the reverse charge mechanism in specific circumstances. The reverse charge is applied on a “permanent” basis (articles 198 and 199 of the VAT Directive) in the supply of construction works and immovable properties, used materials, scraps, industrial and non-industrial wastes, and gold.

Additional individual derogations – granted by the EU Council on proposal of the European Commission – have been allowed to Member States for a number of cases . The individual derogation process can take months and cannot be reasonably seen as an effective measure against fast-developing

²¹ In 2008, the European Commission proposed a flat-rate origin system, which would minimise the requirements of harmonisation and potential distortions to competition, with a quite a small impact on businesses. Under this proposal: i) the zero rate for intra-EU exchanges would be replaced by the rate of 15% and the domestic VAT rates would continue to apply by assessing the recipient of the goods for the difference; ii) a microeconomic, bilateral “clearing system”, based on recapitulative statements, would be introduced. Depending on their relative trade balance position, Member States would have either to pay to or receive a sum of money from the other Member States.

²² Similar to the origin principle, a solution combining the characteristics of opposite systems of taxation has been proposed: a “hybrid reverse charge mechanism” – i.e. limited to supplies exceeding a certain threshold value – would combine the advantages of a “cashless” and of a “classical” VAT system.

VAT frauds. Consequently, the latest EU strategy aims at increasing timeliness of measures by means of two temporary and exceptional mechanisms with an aligned timeframe (the end of 2018). In particular, Directive 2013/43/EU allows Member States to implement, on an optional basis, the reverse charge on an additional list of goods and services, in order to close-off certain types of “known” VAT carousel frauds. The temporary measure also applies to TLC services and can be applied to e-services.

Moreover, directive 2013/42/EU of 22 July 2013 aims at enabling immediate measures in case of sudden and massive VAT frauds through the use of a (so called "quick reaction mechanism", (QRM). QRM involves an accelerated procedure to authorize and adopt the reverse charge in whatever market and transaction, for a short period of time, by derogating from the provisions of the VAT directive .112/2006. The Member State wishing to introduce QRM sends a notification to the European Commission (and to the other Member States), providing it with all necessary information: sector concerned, type and features of fraud, existence of imperative grounds of urgency, sudden and massive character of the fraud and its consequences in terms of financial losses. The same Member State makes a request for derogation under Article 395(2) on the VAT Directive, in order to obtain the formal authorization. After acceptance by the Commission, the Member State adopts the special measure, pending the Council’s decision on both the approval and the potential extension of the measure.

These legislative developments brought to the adoption of the reverse charge within new markets²³ in several EU countries, so that the reverse charge is now widely used in those sectors characterised by a considerable risk of fraud. Referring to our case-study, the application of the mechanism to the supply of digital contents (phuncards) and to TLC value added services would have implied - mainly for Telefoxx, Telefoxx International Ltd. and Global Phone Networks s.r.l. – the impossibility to collect (and steal) VAT from their national counterparts, since no VAT would have been applicable.

Available evidence suggests that the adoption of the reverse charge led, to a sharp decrease of VAT frauds , in some countries and markets. VAT fraud on mobile phones and computer chips has been effectively tackled in some Member States. In the UK, trade flows were distorted in the 2005-06 by exceptional carousel frauds, estimated at several billion euros and involving a large number of Member States (Eurojust, news releases, The Hague, 13 March 2007)., thanks to an advanced risk analysis strategy and, since 2007, to the introduction of the reverse charge mechanism, the MTIC frauds sharply declined (about £ 0.5 billion – £1 billion, according to HMRC, 2014).²⁴

Regarding “digital services”, the example related to the CO₂ emission rights provides important elements of analysis.²⁵ For these markets, the anti-fraud strategy needs a rapid reaction and a coordinated

²³ Recent examples of QRM are those of Poland (for scrap metals, steel products, petrol, oil and gold) and Germany (for gas and electricity).

²⁴ HMRC (2014) data can be analysed in conjunction with statistics published by the Office for National Statistics (UK Trade monthly data, 2014), which show a break in the volume of transactions linked to MTIC frauds, the result of an adjustment to import figures ranging from £2 billion to over £20 billion in the last decade.

²⁵ The measures undertaken for CO₂ emission rights fraud have significantly cut down fraudulent transactions. In Belgium (Police judiciaire fédérale, 2010 and 2012) the escalation of frauds in 2009 has been tackled since 2010 with

effort among countries. At the level of individual Member States, the reverse charge should be complemented by a massive effort of intelligence and digital tools. The Belgium approach is considered an example of effectiveness. The strategy is based on coordinated enforcement action and the creation of a highly-specialised unit (*OCS TVA*) that rapidly transmits the findings of its investigations to tax authorities. Since the unit was established, the estimated loss of revenue due to organised VAT fraud has fallen from 1.1 billion to 18.5 million euros in 2012. In The Netherlands, a similar approach brought to a reduction of tax losses caused by MTIC fraud from nearly 131 million euros per year in 2003-2007 to less than 40 million euros in 2008-2011 (The Netherlands Court of Audit, , 2012).

It is unclear whether and to what extent a sharp decrease of frauds within a specific economic or geographic area is followed by an increase in another. For instance, in Belgium the reverse charge and the exemption generally applicable to gold led fraudsters to shift their illicit traffics to silver, whose increased price in the last years gave rise to higher profits for criminal activities (Police Judiciaire Fédérale 2010, 2012). There is no reason to believe that migration phenomena should not happen with respect to services exchanged via IT platforms. On the contrary, the characteristics of these markets suggest that a shift can happen even more rapidly. Nevertheless, available evidence is fragmented and the lack of comparable data hampers any reliable consideration on the results obtained so far by reverse charge mechanism adopted in most Member States. The adoption of reverse charge, in most of EU Member States, has been followed neither by a significant impact on the volume of intra-EU transactions in specific sectors, nor a decrease of misalignments in import-export statistics. However, the existence of MTIC frauds may impact on the national accounts reliability itself, as observed by HMRC and UK Statistical office, as well as by Ceriani (2009) and Borselli (2011)²⁶.

These considerations confirm that reverse charge should not be considered as a definitive solution and that its introduction does not allow Member States to soften their surveillance on markets at risk of fraud. If it represents the most effective, short term and targeted solution against frauds, it certainly needs to be supported by conventional measures. The next paragraph contains a brief overview of complementary measures as well as of some, potential, long-term strategies able to eradicate the illegal phenomena and to become a stable, harmonised, ultimate approach against VAT organised frauds.

the introduction of the reverse charge. Other countries rapidly adopted the same measures (e.g. UK, the Netherlands, Belgium, Luxembourg, Spain and Denmark; Eurojust, 2014). In short, the implementation of the reverse charge has been successful, although areas of risk still exist because of the lack of coordinated approach, which allows fraudsters to switch their activities among jurisdictions.

²⁶ MTIC fraud schemes influence the correct calculation of national accounts: while the raw data on imports from the EU does not include, in principle, fraudulent goods transactions, as the missing trader usually does not submit any VAT Intrastat declaration, the raw data on exports includes the fraudulent activity, as the exporting company is generally fully compliant. Then, imports are under-reported in the EU country where the fraud is committed but exports are not. The cross-checking of data between Member States should provide evidence of MTIC fraud, although other factors might contribute to asymmetries.

3.3. New strategies

The case studied has shown the importance of relying on processing units able to scan networks and databases, to link economic and financial transactions and to identify off-shore platforms in which most of the activities and resources involved are concentrated. Feedback mechanisms and best practices in fraud-sensitive sectors must be shared among all Member States. The EU Report (COM(2014)71 final) on the application of Regulation 904/2010 concerning administrative cooperation and combating fraud in the field of VAT shows several weaknesses in the mutual assistance activity. In several cases, deadlines for providing information are not respected and procedural and administrative obstacles within the Member States have a significant impact on the effectiveness of the whole process. Improving the automated access to databases, under the responsibility of Member States, is also essential. Moreover, the possibility to carry out joint audits needs to be further explored.

Setting-up the Eurofisc network²⁷ has represented a “quantum leap” forward in the quality improvement of the joint investigative strategy. The skills available in the network and its slenderness of investigation made Eurofisc an essential tool for the detection of international frauds. Multilateral controls are also valuable to deal with complex fraud involving enterprises in different Member States. In the long term and on a complementary basis with Eurofisc, the European Commission envisions an EU cross border audit team composed of experts from national tax authorities (COM(2011)851).

Concrete results against VAT fraud can be also achieved by increasing the availability of electronic data on taxable persons and transactions. In the green paper on the future of VAT (COM(2010)695) and the subsequent communication (COM(2011)851), the European Commission pointed out the need of a wider use of ITs to build a more robust and fraud-proof VAT system.²⁸ IT-based solutions may represent a pragmatic and feasible approach to a new challenge, since they increase the rapidity of tax authorities’ answers and can be adopted in several forms, width and stages of the supply-chain. Their set-up costs, however, represents a drawback. Therefore, policy initiatives might be initially limited to certain sectors, whereas wide structural measures should be implemented afterwards, taking advantage of further IT developments and progressive harmonisation of EU legal framework.

Technology-intensive solutions have been already adopted in several countries (Ainsworth, 2011). In Spain, VAT fraud has decreased significantly thanks to a plan based on digitisation of tax returns, enhancement of preventive risk analysis and early warning mechanisms (see Agencia Tributaria, 2008). UK and Belgium, as noted above d, adopted a strategy based on investigative units, pre-registration checks,

²⁷ The Eurofisc network is a newly introduced rapid cooperation mechanism for dealing with large scale fraud or new fraud patterns. all Member States participate in it. It entered officially into force in November 2010 and delivered its first report in March 2012. It acts by means of multilateral early-warning mechanism and coordination in data-exchanges. Through an electronic shared platform managed by the European Commission, it enables a real time monitoring of information flows.

²⁸ The EU VAT system has evolved slowly as compared with the economic environment, which has rapidly changed business models, intensified the use of new technologies and given a growing importance to IT and digital services. The technological transition offers a bunch of alternative ways to collect VAT, to reduce burdens on business and to tackle IT-intensive fraud.

verification of VAT claims. In Italy, recent initiatives include targeted risk analysis, rapid controls, adoption of protective measures and broadening of the quantity and quality of electronic information available for taxpayers. Since 2010, limitations provided in VAT credits off-setting²⁹ have had a significant impact on fraudulent behaviours.

Despite the encouraging legal, technological and administrative framework, there is still scope to modernise VAT administration and control activities (COM(2014)69).³⁰ Among the options to review the way VAT is collected and monitored, the “split payment model” - in which the purchasers pay VAT to their suppliers by means of a “blocked” VAT bank account – is an interesting anti-carousels strategy which might be quickly implemented. Further steps in this direction are hampered by the businesses’ concerns about the impact on cash flow, compliance costs and other commercial issues (see COM(2011)851).

A “data warehouse model” - whereby the taxable person uploads predefined transaction data structured in an agreed format into a secured VAT data warehouse maintained by the taxable person and accessible to the tax authorities - already exists in several Member States and can be further developed in the context of the current regulatory framework.³¹ Regarding Italy, measures like the “*spesometro*” (a data base containing all invoices issued by taxpayers and non-invoiced transactions over 3.600 euros) pose new limits to VAT off-settings and, with regard to financial flows, they imply the extensive use of banking inquiries.

Frauds in the field of TLCs, digital contents and e-services in general are extremely difficult to trace, being often concealed within the ordinary and perfectly legal activity of buffer companies and through the involvement of articulated chains of transaction and countries. In this specific circumstance, the adoption of models of data warehouses seems particularly appropriate. Databases can be built based on existing reports and gradually fed to encompass all economic transactions and to link databases of different origin and nature. These reforms, through pilot projects, should first involve areas particularly developed from a technological point of view, such as e-services.

²⁹ VAT credit accrued to enterprises may be off-set not only against VAT debits (“vertical off-setting”) but also against other tax liabilities and contributions (“horizontal off-setting”). Horizontal off-setting is subject to constraints concerning the compulsory use of electronic tax payment forms and, over a certain threshold, the previous presentation of the VAT return. According to the Italian Court of Audit (Resolution 10/2013/G), this measure has reduced VAT credit related off-settings, by 5.6 billion euros at the end of 2011.

³⁰ The Commission suggested that Member States develop new comprehensive registration, post-registration monitoring and fast-track deregistration processes for missing traders. Moreover, the availability in the VAT Information Exchange System (VIIES) of complete and accurate data is suitable to enhance legal certainty for legitimate business and cross-check for transactions allegedly linked to frauds. In the area of filing VAT returns and payment, the Commission finds that most Member States need to implement a systematic approach to monitor payments of VAT and to embrace automatic processes and immediate assessments in case of non-filing. Finally, the use of e-audits is recommended.

³¹ According to EU Regulation No. 904/2010, electronic storage and transmission of certain data for VAT control “allow for rapid information exchange and automated access to information, which strengthen the fight against fraud”. The possibilities offered by technology, the use of standardized flows of information, shared databases and refined risk parameters would produce a synergic effect. E-invoicing would improve efficiency, quality of controls and integrity. It would shorten payment delays, result in few errors, permit fully integrated processing and reduce the costs per invoice.

At the EU level, the debate on the possible long-term solutions for a more robust and efficient VAT system is still open. Lately, some options for improving the current taxation principles were examined (European Commission, SWD(2014)338):

- the taxation of intra-EU supplies in the Member State where the goods are delivered or where the customer is established (the supplier would charge and pay the VAT of the Member State of destination, by declaring it in its own Member State by means of a One-Stop-Shop system, see below);
- a reverse charge where the goods are delivered or the customer is established, with a slight adaptation of the rules already in place.

The ongoing debate, as well as the recent initiatives on EU legislation concerning exchanges of TLC and e-services within EU, gives us the opportunity to support a new, pragmatic, far-reaching solution against VAT fraud: the extension of the One-Stop-Shop system (OSS) for all B2B supplies. Currently, the One-Stop-Shop system is applied to:

a) non-EU subjects supplying TLC, broadcasting and electronic services to EU final consumers (“non-Union scheme”), allowing them to account for the VAT due via a web-portal in the EU Member State in which they are identified;

b) (since 2015) EU providers of the same services to EU final consumers in other Member States (so called “Union scheme” or Mini One-Stop-Shop, (MOSS)).

MOSS enables EU taxable persons to account for the VAT due via a web-portal in the Member State in which they are identified. It is a simplification measure which follows the change, for the mentioned services, of the VAT territoriality rules (VAT is due in the Member State of the customer and not in Member State of the supplier). It is adopted on an optional basis and allows enterprises to avoid registering in each Member State of consumption. More specifically, a taxable person registered in a Member State electronically submits its quarterly MOSS VAT returns detailing supplies to non-taxable persons in other Member States, along with the VAT due. These returns (and the due VAT) are then transmitted by the Member State of identification to the Member States of consumption via a secure communications network.³² The MOSS has also affects taxpayers' audit and control. Up to end 2014, the Member State, where the VAT is due, is expected to have complete control of the registration of the taxable person, the VAT returns audit and collection of the VAT due on its territory. Under MOSS, Members States are thus forced to cooperate and are reciprocally dependent, in order to ensure that the correct amount of tax is declared and paid.

Potentially, a MOSS scheme is applicable to all cross-border exchanges from intra-EU and extra-EU traders. This “Extended One Stop Shop” (EXOSS) would sweep away some of the issues raised against the transition to the definitive VAT system: on the one side, similar to an origin-based VAT, the tax would be

³² See “Guide to the VAT mini One Stop Shop”, European Commission, 23 October 2013.

debited by the supplier; on the other side, VAT would continue to be collected by the country of destination, under its specific rules and rates. A clearing house would not be necessary because exporters would remit the VAT collected at the destination rate directly to the state of consumption.

In particular, EXOSS would encompass all B2B transactions between Member States (exchanges of goods, included those over the Internet, and services), as well as B2B transactions concerning tradable services supplied by non-EU traders. Imports of goods from third countries would be subject to the ordinary processes of customs controls and VAT payment at the border, while exports from the EU would remain untaxed. Its functioning would be roughly the same of MOSS: taxable traders supplying cross-border services and goods would account for the VAT due through web-portals in their Member States (or in the Member States of identification) and then would electronically submit periodical EXOSS VAT returns detailing all exchanges, together with the VAT due. These returns and the VAT due would be exchanged between Member States under standard communication network and bank tools.

Such a solution marginally affects the functioning of the VAT system, since VAT would continue to be collected within the chain of transactions, with no breaks. Being extended to all transactions originating from other EU and non-EU countries, it would cope with MTIC and MTEC VAT frauds. Any opportunity to buy goods and services abroad without paying VAT (as under the current rules) would vanish, since VAT would always be debited by the suppliers. Some simpler acquisition-frauds and national frauds based on fake invoices would still be possible, but international VAT carousel frauds likely would be prevented.

We must recognize that such a transition would not be harmless and that it impacts on tax obligations, businesses cash-flow and control activities. Cash-flow impact have been widely analysed in the literature on the origin VAT systems (Vanistendael, 1995) and do not appear to be decisive: the current system favours the purchases of goods and services from other Member States over domestic ones, but this effect is small and depends on the timing of VAT payments and recovery (see Crawford et al., 2011). We can reasonably assume that past and upcoming progresses in the area of administrative cooperation will allow a rapid alignment to the new procedures.

As for the impact on tax obligations, EXOSS would increase the complexity of VAT compliance for enterprises, since businesses should know (and be compliant with) the VAT system of each Member State in which they operate. This critical issue must be properly sized in the light of the following considerations. First, the development and progressive refinement of web-portals managed by tax authorities should slowly give rise to a unique, fully integrated, simple and all-inclusive system, accessible to all traders operating at a cross-border level and containing essential information on each country's rates and provisions. Second, EXOSS would eliminate any need to direct identification for VAT purposes and transactions included in the portal might be exempted from other existing obligations, such as recapitulative statements and invoicing. Third, the ongoing transition to e-invoicing would lead to further integrations and simplifications and it would develop links among systems, with a positive impact in terms of simplicity, manageability, efficiency and timing of the implementation.

As said, the new system would need to be adopted for all services supplied by EU and non-EU traders. As for the enforcement of the system for non-EU traders, this implies additional complexities. However, non-EU traders already apply the B2C-OSS system for telecommunication, broadcasting and e-services and it is legitimate to consider that the same system will be progressively extended to B2B transactions without major consequences, at least in the medium-term. Still, in order to avoid elusive manoeuvres or non-compliant behaviours, the new system should be combined with other anti-fraud mechanisms and it would benefit from the parallel development of IT-systems for billing, compliance and real-time tracking, as mentioned above.

Regarding our case-study, the individual measures so far examined would have impacted on the nodes of Figure 4. In particular, EXOSS would have affected both the relationship between off-shore companies/extra-EU bogus companies and missing traders (elimination/reduction of the possibility for missing traders to buy under reverse-charge procedure), and the relationship between buffer telecommunication companies and EU bogus companies (obligation for buffer companies to charge VAT, hampering the carousel development). The sectorial reverse charge would have affected the downstream relationships between missing traders and "core companies", as it would have made impossible for the former to debit VAT to counterparts. Real-time monitoring and/or VAT split payment model would have affected both the transactions between parties involved at national level (missing traders, core companies and telecommunication buffer companies), since they guarantee the collection of revenue and the tracking of transactions, and relationships between buffer TLC companies and EU bogus companies, enabling faster intervention. Finally, wider and automatic exchange of information between EU tax authorities and third countries would have allowed a quick discovery of the fraud.

4. Conclusions

To give an exact figure of the amount of VAT frauds in Europe is extremely difficult, due to lack of complete and reliable data, the nature of the frauds and their adaptability to environment and legislation. A relevant exercise to quantify the VAT gap in EU Member States was recently done by the European Commission for 2011 and updated for 2012:³³ in 2012, the overall gap was estimated at about 177 billion euros, i.e. 16 per cent of VAT on theoretical taxable base.³⁴ According to other sources (Europol, 2006), MTIC frauds in the whole EU were about 23 billion euros in 2006; more recently, "minimum direct costs" related to MTIC were estimated about 20 billion euros (European Parliament, 2013).³⁵

³³ See European Commission (2012, 2013).

³⁴ The study is doubtless a step towards a common methodology of estimating the VAT gap in the EU. Nevertheless, it assesses the VAT gap as a whole, without providing information about the volume of "VAT organised frauds".

³⁵ At a national level, several attempts have been made so far to quantify the VAT losses due to VAT fraud. National data are rarely supported by an explanation of the methods of calculation and the perimeter of estimation, so their comparative value is scant. VAT losses are estimated between 7 and 9.3 billion euros in France (Délégation Nationale à la Lutte contre la Fraude, 2013); 39 million euros in The Netherlands (The Netherlands Court of Audit, Belgium Rekenhof and German Bundesrechnungshof 2012); between GBP 0.5 and GBP 1.0 billion in the UK (HMRC, 2014);

We focused on VAT frauds within the e-services sectors, with particular reference to digital contents and TLC services: the case-study analyzed here represented one of the major large-scale frauds observed in the tradable service markets and revealed the weaknesses of Member States' control and of the VAT system itself.

Indeed, with globalization, deregulation and evolving technology, the volume of e-services has expanded. With services and intangible rights, often bought and sold over the internet, the risk of detection or intervention is greatly reduced and it is more difficult to trace both the subjects involved and their place of activity. In these contexts, the adoption of new technologies to trace the way VAT is collected and monitored can represent an effective anti-carousel fraud measure to be implemented quickly and uniformly.

A wider adoption of reverse charge can reduce the fraud channels and cash-flows within specific economic sectors. However, the reverse charge - even if supported by other tools - cannot be considered as the ultimate solution against fraud, rather a temporary targeted measure. Furthermore, evidence available is fragmented and the lack of comparable data hampers any reliable consideration on the results obtained so far by reverse charge mechanism adopted in most Member States.

In the longer term, the development of the current OSS system into the EXOSS extended system would sweep away some of the issues raised against the origin based VAT system and may represent the basis for a VAT reform in an anti-fraud perspective. An extended version of OSS to all cross-border B2B transactions would cope with intra-Community and extra-Community VAT fraud, with low complexity at political level, if compared to the shift to an origin based VAT system. A significant impact on compliance would be likely to be obtained thanks to the synergic effects with other IT based measures, the progressive convergences of rules and web-portals, the transition to e-invoicing. An experimental EXOSS accompanied with a bunch of technological interventions might also cope with the new digital carousels, and provide an answer to the breaks in the VAT chains, allowing for a real-time monitoring of transactions between enterprises. The synergies stemming from different tools would offer great prospects of success against the most aggressive fraud schemes. A phased approach, in the most fraud-sensitive sectors, might be a politically acceptable strategy since it has a minor impact on compliance and allows the monitoring of results, while broader measures might be introduced afterwards, taking advantage of experience, IT developments and further harmonization of the EU legal framework.³⁶

In our view, the proposals here drafted are cost-effective and take into account the opportunity and feasibility of individual measures. Digital carousels should no longer come as a surprise for Member States and they should rather encourage the reforms of their own domestic VAT systems, still tailored to the

18.5 million euros in Belgium (Police Judiciaire Fédérale, 2012). In Bulgaria, VAT fraud related to organized crime costs 350 million euros for 2010 (Center for the Study of Democracy, 2012). In Italy, VAT non collected on carousel fraud and other fraudulent manoeuvres in 2013 are estimated about 2 billion euro (Guardia di Finanza, 2013).

³⁶ Our proposal is one of the options for improving the current taxation principles selected for examination in European Commission (2014). Indeed, the European Commission is considering the possibility that “the supplier would charge and pay the VAT of the Member State to which the goods are delivered by declaring them in its own Member State. This option would require a One-Stop-Shop to make it easier for suppliers in their Member State of establishment to comply with their obligations in other Member States” (p.4).

Single Market. The same Member States and EU institutions should focus on anti-fraud solutions for extra-EU trade and on administrative cooperation with third countries. In short, localized and non-uniform strategies should be put aside in favour of more comprehensive, modern, and bold approaches.

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