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Data First – Tax Next: How Fiji's Technology Can Improve New Zealand's 'Netflix Tax' (Electronic Marketplaces) Part 3

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DATA FIRST – TAX NEXT:
HOW FIJI'S TECHNOLOGY CAN IMPROVE NEW ZEALAND'S "NETFLIX TAX"
(Electronic Marketplaces)

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This is the third paper examining the recent amendments to the New Zealand Goods and Services Tax (GST) that are commonly known as the *Netflix Tax.* A fourth paper has become necessary. The importance and complexity of dealing with electronic marketplaces has made this necessary. Taken together these papers assess the effectiveness of the *Netflix* provisions, and how they can be enhanced by adopting the technology and vision of Fiji's VAT Monitoring System (VMS). The *Netflix* provisions were effective, July 1, 2017.

This paper considers rules that allocate the responsibility for collecting, reporting and remitting GST between (a) the digital platforms in one instance, and (b) the remote (third-party) service providers that use digital intermediaries to sell into New Zealand in the other instance.[1]

The fourth paper will consider the three remaining issues: (a) the treatment of domestic agents when they are used by remote service providers to facilitate sales to New Zealand customers;[2] (b) how New Zealand responds to resident consumers who supply false information to remote service providers so that the service provider will zero-rate a transaction, thereby defeating the GST;[3] and (c) the treatment of dual status taxpayers, New Zealand residents whose status allows them to enter into contracts with remote service providers either as individual consumers or as business taxpayers.[4]

As before, the primary contrast in all of these papers is the difference between New Zealand's traditional (statute and regulation) approach to VAT reform, and the technology-intensive approach of Fiji. Both jurisdictions are struggling to deal with the modern economy, but they approach this challenge very differently. These papers come down on the side of Fiji and technology. In the end it observes that what Fiji understands is that code, computer code, is very effective and cost-efficient regulation. There is something important to learn about the way that Fiji utilizes "code" (computer code) in its tax reform.[5]

[1] ELECTRONIC MARKETPLACES

[1] NZ GSTA §§60C; 60D; 60D(3); & 60(1C). The problems with third-party sales through online marketplaces are probably the most serious of all the issues considered when the *Netflix* Tax was adopted. In the common press it is the example repeatedly emphasized. Consider NZ Herald's article on the Netflix Tax on the date it went into effect, which was 30 years to the day when the GST was first implemented. Holly Ryan, *'Netflix tax' to take effect from tomorrow*, NZ HERALD (September 30, 2016) *available at*:
https://www.nzherald.co.nz/business/news/article.cfm?c_id=3&objectid=11720057
[2] NZ GSTA §§60(1A) & 60(1AB)
[3] NZ GSTA §§5(27) & 51B(7).
[4] NZ GSTA §§8(4B); 20(4D); 20(3JC) & 25AA.
[5] Lawrence Lessig, *Code Is Law – On Liberty and Cyberspace*, HARVARD MAGAZINE (January-February 2000)

Electronic marketplaces have become the poster child for tax compliance problems both with remotely supplied low value goods and remotely supplied services. While the compliance issues closely replicate one another, enforcement has moved faster under *Amazon Taxes* (tax imposed on remotely supplied low value goods) than it has under *Netflix Taxes* (tax imposed on remotely supplied services). Things are not expected to remain this way for long, largely because of the global trend toward increased cross-border trade in services which was identified by the IMF.[6] The stakes are high when it comes to tax compliance and electronic marketplaces.

For example, the states of Louisiana and South Carolina have very recently levied significant assessments against Wal-Mart ($1,896,882.15),[7] and Amazon ($12,490,502.15), for sales made on their electronic marketplaces by third-parties.[8] In both cases, it is not Wal-Mart products sold by Wal-Mart.com, nor is it the Amazon products sold by Amazon Services that are the problem. The taxes on those sales are not questioned.

Audit problems are apparent when the focus shifts to the taxes that should be collected and remitted on third party sales. Both the Wal-Mart and the Amazon cases lack the kind of supporting analysis one would expect to find in deficiencies of this magnitude. In neither case is the assessment based on a careful, detailed, transactional audit. It's not that the data to do a thorough audit is not available. In fact, it's very likely that there is too much data, spread over too many locations. The government's auditors are likely overwhelmed.

In the Wal-Mart case the government did not *know* the total volume of third-party sales made on the Wal-Mart.com platform, even though the tax on this amount was the assessment. The third-party sales volume was an *estimate*. The government assumed that third-party sales over the six-year audit period were approximately 25% of Wal-Mart's direct sales over the same period. The government did not explain how it came up with the 25% figure.[9]

The Amazon case is similar. It too is based on *estimates*, not data analytics. South Carolina stipulated to *Amazon's estimate of the taxes it collected for third parties selling on its platform.* The estimates were provided to the Department of Revenue (DOR) on a "simple spreadsheet" that responded to a Summons to Produce Records. Without doing any data analysis the DOR simply took Amazon's *estimates* and deemed those amounts to be taxes due and unpaid. The DOR did not reduce the assessment by any taxes actually paid by a third-party supplier. It was not sure if there were any. The DOR conceded that it would probably be

[6] See Richard T. Ainsworth, *Data First – Tax Next: How Fiji's Technology Can Improve New Zealand's "Netflix Tax," (Part 1),* 94 TAX NOTES INTERNATIONAL 159, 161 - 162 (April 8, 2019).

[7] *Newell Normand, Sheriff v. Wal-Mart.com USA,* LLC, Fifth Circuit Court of Appeal, State of Louisiana (December 27, 2018) (reporting an assessment for the six-year period from January 1, 2009 through December 31, 2015 in Jefferson Parish alone).

[8] *Amazon Services LLC v. SC DOR*, SC Administrative Law Court, Doc. No. 17-ALJ-17-0238-CC (January 29, 2019) reporting an assessment for the three-month period from January 1, 2016 through March 31, 2016 on sales throughout the State of South Carolina).

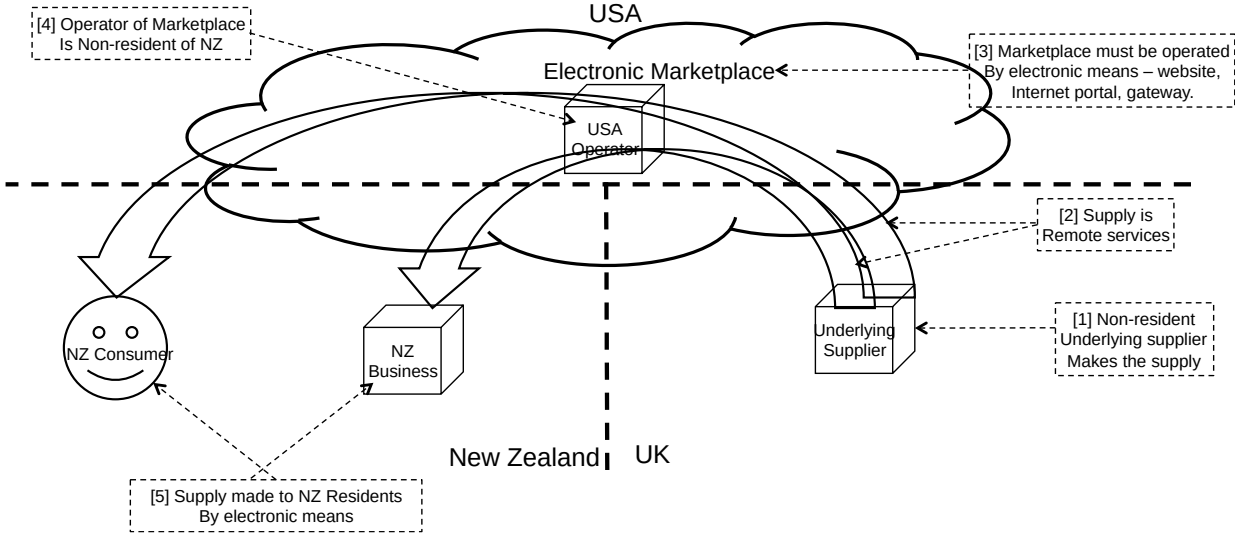
[9] Personal e-mail correspondence: February 12, 2019 with Attorney Martin Landrieu (on file with author) indicating that the original audit attributed approximately $39 million third-party sales to the Parish, which was reduced to $1.5 million through negotiations, equating to a revised potential tax liability of $75,000.

required to reduce the assessment if it could be shown that amounts were paid, but it had no idea if this had occurred.[10]

New Zealand, South Carolina, and Jefferson Parish, Louisiana all have something in common; each would like to make the electronic marketplaces, rather than the third-party suppliers using those marketplaces, the taxable party for remote sales. The reason is clear. It is far easier to pursue one large electronic marketplace for all taxes due on all sales on a platform than it is to pursue each individual seller. New Zealand's *Netflix Tax* tackles this problem directly.

New Zealand defines an *electronic marketplace* in NZ GSTA §2. Figure 1 (below) illustrates the five elements in this definition: (1) a non-resident underlying supplier, (2) makes a supply of remote services through a marketplace to New Zealand customers, (3) the marketplace must be operated by electronic means (website, internet portal, gateway, store, or distribution platform), (4) the operator of the marketplace must be a New Zealand non-resident, and (5) the supply that is being made to New Zealand residents must be by electronic means. The fifth prong of the definition identifies this statutory change as a services-based *Netflix Tax*, and excludes the goods-based Amazon Tax. From a policy perspective this is a technical-distinction without a policy-difference. This paper will blend the differences, and consider the electronic marketplace issue as a whole.

Figure 1:
Electronic Marketplace NZ GSTA (1985) § 2



[10] *Amazon Services LLC v. SC DOR*, SC Administrative Law Court, Doc. No. 17-ALJ-17-0238-CC, Respondent's Prehearing Statement at (5)(R), (S), (T), & (U) indicating that Amazon responded to the Summons by providing a spreadsheet with "summary data" including "tax collected by the Petitioner on behalf of third parties and then remitted to those third parties...[and] the parties agreed the Department would issue the proposed assessment based on estimated figures."

Thus, in Figure 1 the underlying supplier of the remote service is a UK resident. This UK business does not directly supply New Zealand residents. If it did then NZ GSTA (1985) §8(3)(c) would apply, and the UK supplier would be required to collect GST.[11] §8(3)(c) is the "main rule" of the *Netflix Tax.* Non-resident suppliers of remote services are required to collect and remit GST when directly making sales to New Zealand consumers (business customers are subject to a reverse charge).[12]

Given the importance of §8(3)(c), electronic marketplaces were seen as a potential "loop hole," a way to get around the "main rule" if it were not plugged. By selling through an electronic marketplace an underlying supplier could absolve itself from tax compliance responsibilities under §8(3)(c), and shift those duties to the electronic marketplace. Whether or not the marketplace took up this responsibility, was not its concern. For New Zealand however, it was very important to make sure that *either* the electronic market place, *or* the underlying supplier using the marketplace was clearly responsible for collecting and remitting taxes due. NZ GST (1985) §60C accomplishes this.

Under §60C the UK supplier is not allowed to utilize an electronic marketplace (like Amazon Service LLC, eBay.com, or Wal-Mart.com LLC) to reach consumers and businesses in New Zealand without the GST being collected by the marketplace operator. Subject to opt-out rules, and a NZ$60,000 threshold requirement,[13] the US operator (in Figure 1 above) is considered to have made the supply in furtherance of *its* taxable activity (the taxable activity of the marketplace) and the marketplace will be required to register and return GST.

In a related provision, §60(1C), the *Netflix Tax* considers the possibility that the underlying service provider is not remote, but a resident. What happens if a *residential underlying supplier* uses a *non-resident electronic marketplace* to sell into the New Zealand and other global markets?[14]

This is a companion question, to the avoidance scheme which was considered at Figure 2, part "B" in the first paper.[15] In that instance we were concerned with an avoidance scheme where a resident business would set up a remote service subsidiary to sell back into New Zealand at a zero-rate. In this instance we are concerned with a normal commercial process that would

[11] This situation was considered in the first paper in this series. See part "A" of Figure 2.
[12] NZ GSTA §8(3)(c) reverses the older rule of NZ GSTA §8(2) which had made this transaction non-taxable.
[13] NZ GSTA §51. The threshold requirement alone has spawned extensive fraud opportunities when jurisdictions allow multiple listings of essentially the same entity selling the same products on the same platform to be treated as separate entities, when the owner of the accounts/entities keep each selling entity under the registration threshold. An entity that is not required to register is not required to file a return, collect, or remit a tax to the jurisdiction where a sale occurs. See the study of multiple listings on *eBay Case Study: eBay Duplicate Accounts and Listings* (February 26, 2019) Document prepared for House of Lords presentation available from author (listing for example two Chinese companies among many similar companies: (a) SU ZHOU AOLUOLA CO LTD which operated 32 duplicate accounts on eBay, and (b) EKEY TECHNOLOGY LIMITED which operated 23 duplicate accounts).
[14] New Zealand Inland Revenue, *Policy and Strategy, Special Report: GST on Cross-border Supplies of Remote Services* (May, 2016) at 20-21, *available at*: https://taxpolicy.ird.govt.nz/sites/default/files/2016-sr-gst-cross-border-supplies.pdf
[15] See Figure 2 and the discussion of the §11A(1)(j) exception to the zero-rating provision of §11A(1) in Richard T. Ainsworth, *Data First – Tax Next: How Fiji's Technology Can Improve New Zealand's "Netflix Tax," (Part 1),* 94 TAX NOTES INTERNATIONAL 159, 169 - 171 (April 8, 2019).

run afoul of *Netflix Tax* rules to the disadvantage of New Zealand businesses. A modification was needed.

For example, consider a New Zealand Gaming Company that has an app development business. One app being developed will be used on iPhones and will be distributed globally through Apple's App Store, an electronic marketplace.[16] In this instance the underlying supplier (the Gaming Company) is registered for GST under the standard rules. However, its supplies are not being made directly to New Zealand residents, but are being made to New Zealand residents (and non-residents) through a non-resident electronic marketplace. These sales (through the marketplace) would *not be taxable* to the Gaming Company (in the normal case) under §§ 60C and §60D. It is the operator of the electronic marketplace (Apple Inc.) who would be deemed to be the taxpayer. This creates a problem for the New Zealand Gaming Company, because without taxable output sales it will not be able to deduct GST paid on related inputs.

To deal with this problem §60(1C) allows the New Zealand Gaming Company to bifurcate its supply into (a) a supply of services from the Game Company to the App Store, followed by (b) a re-supply of those services from the operator of the marketplace (Apple Inc.) to the New Zealand consumer. Figure 2 (below) diagrams this fact pattern.

Figure 2:
New Zealand app developer using an Electronic Marketplace (with a non-resident operator)
to sell into New Zealand and Globally

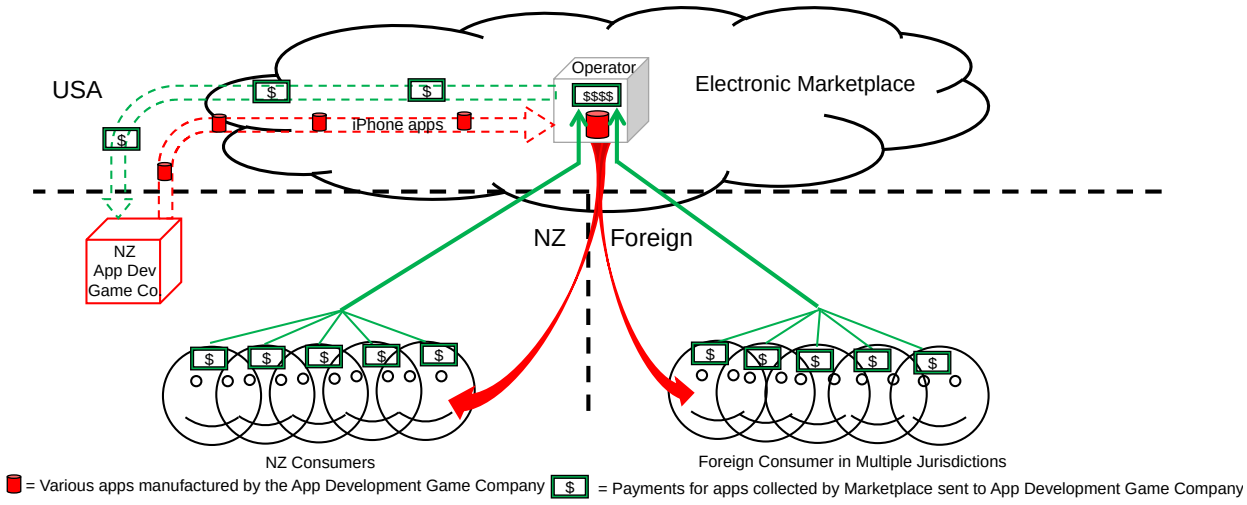


Figure 2 assumes that the operator of the electronic marketplace (Apple Inc.) has entered into an agreement with the underlying supplier (Game Company) to treat sales of the app on the marketplace as two separate transactions [Game Company to App Store] and then [App Store to final customer]. The operator (Apple Inc.) will (a) collect payments from New Zealand and

[16] The App Store is a digital distribution platform, developed and maintained by Apple Inc. for mobile apps on its iOS operating system.

foreign customers for the Game Company's app, (b) authorize the distribution of Game Company's apps globally, and (c) remit the proceeds less both marketplace service fees and applicable New Zealand GST collected from New Zealand residents. The electronic marketplace will be responsible for GST under §60C.

Figure 2 assumes that Apple Inc. has not "opted out" of its basic responsibility under §60C(2)(a), (b), & (c), and also assumes that the App Store exceeds the NZ$60,000 registration threshold. Even though the App Store is treated as the supplier of the app under §60C, Game Company is allowed under §60(1C) to treat its supply to the App Store as a separate supply, file a return that includes these supplies, and take related input tax deductions. This would be a zero-rated sale.

Figure 2 indicates that sales are being made through the marketplace both to New Zealand consumers and to individuals in foreign jurisdictions. Nothing in the *Netflix Tax* considers what should be done with the VAT/GST or Retail Sales Tax (RST) that might be collected by the App Store on these foreign sales.

[2] DESIGN PROBLEMS WITH ELECTRONIC MARKETPLACE RULES

In spite of the importance of the electronic marketplace rules to the overall effectiveness of the *Netflix Tax*, the provisions dealing with them have structural problems that need to be addressed. From the perspective of the operator, these issues can be classified as downstream or upstream. The following two sections outline the design problems, first in downstream areas, then in upstream areas.

This will be followed by two solution discussions equally split into downstream and upstream solutions. In each case the solutions will derive from applications and extensions of the Fiji VMS to the New Zealand *Netflix Tax*. Significant statutory revisions are not proposed or anticipated to the core *Netflix Tax* rules. Instead, technology is added to the design.

[a] *Downstream: Functionally Un-auditable Transactions*

New Zealand's effort to bring remote services, sold through electronic marketplaces, into the GST tax net is clearly the centerpiece of the *Netflix Tax*. Statutory changes at §§2, 60D, 60C, and 60(1C) give this reform its distinctive "Netflix" moniker. Netflix is the classic example of a remote service being sold through an electronic marketplace.

If we step back from simple examples like Figure 1, or even Figure 2 (above), and think about a full-blown audit of an electronic marketplace by a *customer's jurisdiction*, it soon becomes apparent that many of the critical activities impacting taxability occur downstream from the electronic marketplace and are functionally un-auditable by the resident jurisdiction. Consider Figure 3 (below), which will be used (with modifications) for both downstream and upstream analysis.

Facts of Figure 3. Assume a US based electronic marketplace, with a US operator. Further assume that sales are made into four jurisdictions: Fiji with a 9% VAT; New Zealand with a 15% GST; the UK with a 20% VAT; and Bahrain with no VAT.[17] Assume also that there are three underlying suppliers, all based in China, making supplies through the marketplace. These suppliers provide software, music, or movie videos to businesses and consumers around the globe. [NOTE: This example places the remote sellers in China in part for simplicity, but in larger part to reflect reality. Chinese companies dominate upstream commerce. UK statistics bear this out. UK VAT registrations originating outside the EU are, far and away, from China.[18] HMRC puts the percentage in excess of 61%.[19] Design problems involving these companies are considered in the next section.]

The example also assumes that Fiji and the UK have adopted statutory provisions modeled on New Zealand's *Netflix Tax.* Each requires (as the main rule) that the electronic marketplace must register, collect, and remit VAT/GST on sales made by remote, third-party suppliers. But also, similar to the New Zealand rules, both Fiji and the UK have "opt-out" provisions. These rules allow the marketplace to avoid the main rule under certain conditions.

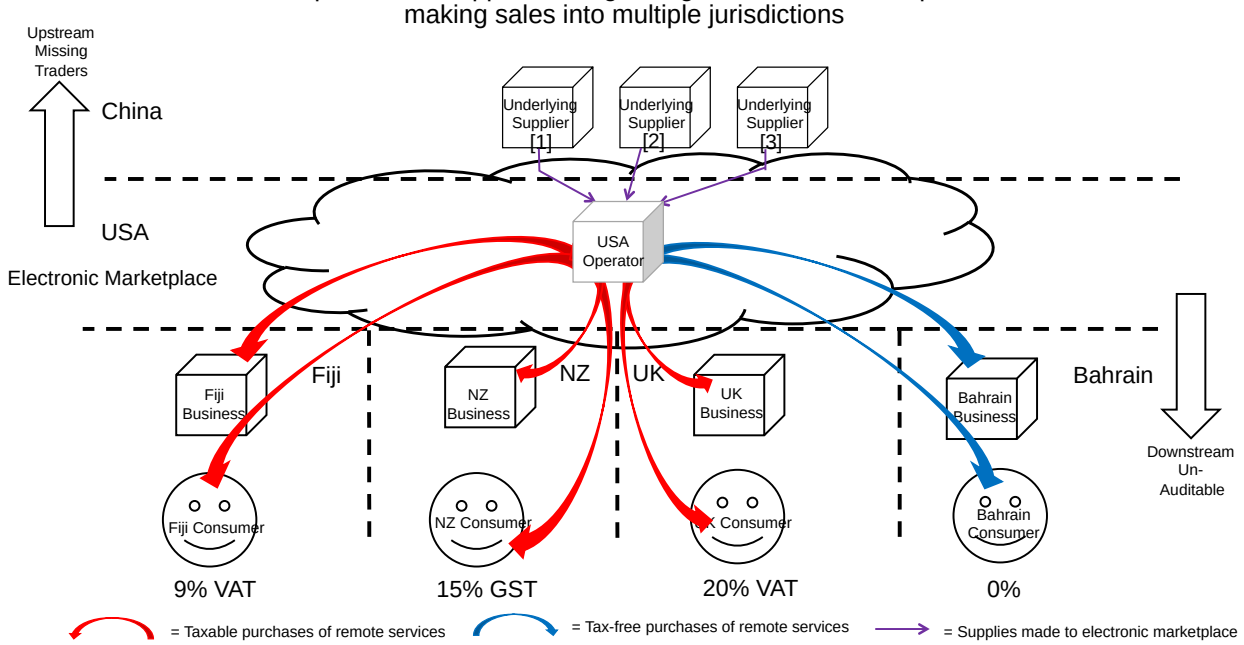
In Figure 3 (below) the marketplace does not "opt-out" in any jurisdiction. It also exceeds the registration threshold in each jurisdiction. The taxpayer is always the marketplace in this permutation of the basic example. The taxpayer is never the underlying supplier. [NOTE: This example would be far more complex if the electronic marketplace had a different tax status in each jurisdiction – for example if it was a taxpayer in Fiji and New Zealand, but not in the UK. That kind of factual permutation will not be considered in this paper.]

[17] It is understood that Bahrain may adopt a VAT as part of the GCC VAT Agreement which requires adoption within one year of third Member State to adopt the tax. Currently, both Saudi Arabia and the UAE have VATs in place, with Qatar planning a VAT for January 1, 2020.

[18] J&P Certified Chartered Accountants, located at: https://www.jpaccountant.com reportedly handle thousands of Chinese registrants. Hundreds of these companies are registered to UK Post Office boxes, a few hundred more are registered to a farmhouse. Personal e-mail and spreadsheet from investigations conducted by RAVAS (Retailers Against VAT Abuse Schemes) received from Nevin Juretic (April 1, 2019).

[19] HMRC Report by the Comptroller and Auditor General, Investigation into Overseas Sellers Failing to Charge VAT on Online Sales (April 19, 2017) at 36, available at: https://www.nao.org.uk/report/investigation-into-overseas-sellers-failing-to-charge-vat-on-online-sales/

Figure 3:
Multiple remote suppliers using a single electronic marketplace
making sales into multiple jurisdictions



The audit. With this constellation of countries (Fiji, New Zealand, the UK, and Bahrain) there would be heightened interest in audit results in the UK, because UK consumers pay the highest tax in this example.

Therefore, if the downstream part of this system can be manipulated by consumers, we would expect to see UK residents doing it (and we would expect to find the HMRC concerned about it). UK residents would represent themselves to the US operator in a manner that would "trick" the operator's algorithm so that it would appear that they were residents of a low-tax/no-tax jurisdiction, or be deemed to be a business. The goal would be to deceive the marketplace's tax algorithm so that it would (improperly) determine that no tax or a lower tax would be due.

Checking the taxability determinations of a remote electronic marketplace (especially a large one, like Amazon or Netflix or the iTunes Store) is a difficult task. How should HMRC proceed (not to mention, how open and anxious would Amazon or the others be to providing access for foreign, external technology experts to conduct an examination of its proprietary software systems)?

HMRC would need to know if the electronic marketplace had properly identified all UK residents, and collected the correct tax from each. Should HMRC ask Amazon to produce for audit all transactions (from all underlying suppliers, to all jurisdictions) throughout the entire audit period? Should HMRC demand, and should it review each specific taxability determination? Every determination is potentially different from the one before it.

Among global VAT/GST systems there are commonly five multi-factor criteria with additional wild-card criteria applied to determine residency. The norm is that two non-contradictory pieces of evidence are needed to prove residency (although in certain

circumstances the UK requires only one). The evidence must be determined to be better than alternate evidence from any other jurisdiction.[20] HMRC would need to test both the evidence gathering capacity of the marketplace, and the evaluation of it, as well as the judgement matrix used for situations where there is competing evidence.

A comprehensive audit by HMRC would eventually need to access the programming that is making jurisdictional determinations within the electronic marketplace. This is a daunting task. A global marketplace may be making millions (Amazon in 2012) if not billions (Salseforce in 2013) of determinations per day.

This study previously considered differences between the residency rules in New Zealand and the UK.[21] They were minor.[22] But if we had gone further, we would have seen that the residency rules in other places (like Fiji) are entirely different. Fiji determines residency for VAT by applying its Income Tax law, and essentially looks *only* to an individual's domicile to determine VAT residency.[23]

But there is more. In cases where there is a jurisdictional "tie," the New Zealand rules indicate that "... the supplier must choose the evidence that is more reliable to determine a recipient's residence."[24] While this is not exactly the most objective, or the most easily programmable rule, it is better than Fiji which has no tie-breaker rules, or the UK which expects that the marketplace will make direct contact with the consumer (who will explain his residency).[25] None of this is easily programmable. Decisions are made in milliseconds.

[20] Jay Yarow, *Amazon was Selling 306 Items Every Second At Its Peak This Year*, BUSINESS INSIDER (December 27, 2012) available at: https://www.businessinsider.com/amazon-holiday-facts-2012-12 (this amount is 26.5 million transactions per day, and comparable statistics have never been released again by Amazon). Kamal Ahluwalia, *What's Under the Hood Supporting 1.3B Transactions a Day? Salesforce by the Numbers*, APTTUS (October 31, 2013) available at: https://apttus.com/blog/salesforce-by-the-numbers/

[21] Importantly, the New Zealand residency rules are the same for all individuals, requiring two non-conflicting pieces of evidence from a specified list. The UK adopts essentially the same list of residency indicators, except if sales into the UK are under €10,000 only one piece of evidence from the list is needed, not two. See: Richard T. Ainsworth, *Data First – Tax Next: How Fiji's Technology Can Improve New Zealand's "Netflix Tax*" (Part 2) text between notes 10 and 25.

[22] Richard T. Ainsworth, *Data First – Tax Next: How Fiji's Technology Can Improve New Zealand's "Netflix Tax," (Part 2)*, 94 TAX NOTES INTERNATIONAL 319, 321 - 323 (April 22, 2019).

[23] Fiji VATA Decree 1991, §2:

> Resident means resident as defined in Section 2 of the Income Tax Act 1974;

Laws of Fiji, Chapter 201, Income Tax Act, §2:

> Resident" means-
>
> (a) a person, other than a company, who resides in Fiji, and includes a person-
>
> (i) whose *domicile* is in Fiji, unless the Commissioner is satisfied that his permanent place of abode is outside Fiji;
>
> (ii) who has *actually been in Fiji*, continuously or intermittently, during *more than one-half of the income year*, unless the Commissioner is satisfied that his usual place of abode is outside Fiji and that he does not intend to take up residence in Fiji. (emphasis added)

[24] NZ GSTA §8B(3)(a).

[25] HMRC, *Guidance: VAT Rules for Supplies of Digital Services to Consumers in the EU* (November 19, 2018) indicates:

> If the information does not match, you must contact the consumer and ask them to resolve the discrepancy between the 2 pieces of information.

This fact pattern quickly becomes un-auditable. Because of the size of the data field, and the complexity of the determination, the marketplace's residency determination is nearly unverifiable. At a minimum, an audit by HMRC would need to secure the algorithm applied in each instance where the customer's UK residency was considered (especially if it was rejected by the electronic marketplace). A deeper audit would search for wholesale misrepresentations by the customer. This would require matching external data sources with the residency indicators used by the electronic marketplace.

Clearly, this audit is not going to be productive unless the revenue authority has access to real-time transactional data, and has the ability to place an artificial intelligence (AI) program on the data stream to risk analyze jurisdictional determinations. This oversight needs to happen on demand, and be able to be performed remotely.

[b] *Upstream:*
Automation-Facilitated Missing Traders (AFMT)

Upstream frauds arise under the *Netflix Tax* when an electronic marketplace "opts out" of the "main rule" in §60(1). The remote underlying supplier now has the responsibility to collect and remit tax. The incentive is very strong for these suppliers to ask the marketplace (as a service provider) to collect the tax, return it to them, but then *not* remit it to the government. Or, if volume sales are the supplier's goal an alternate incentive could be to tell the marketplace to *not collect* the tax, and allow the sale to be "tax free."

The Amazon (South Carolina) and Wal-Mart (Louisiana) cases turn on whether or not the electronic marketplace can "opt-out" of responsibility to remit taxes that were (should have been, or could have been) collected on third-party sales. The only real difference between New Zealand's "opt-out" and the American attempts to do so, is that New Zealand's rules are statutory at §60(2)(a) through (c). "Opting-out" in the US is an exercise in legal argument, based in common law and statutory interpretation.

Under either regime, if "opting-out" is permitted, then an operator of an electronic marketplace is *not* considered to be making third-party supplies in furtherance of its own taxable activity. The operator is a *service provider*. The electronic marketplace will neither register for VAT/GST (or RST) for these transactions nor will it return VAT/GST (or RST) to the treasury on them. That's the responsibility of the third-party.

New Zealand sets out three requirements for an electric marketplace to "opt-out." There must be: (a) *notice* to the customer that the supplier (not the operator) is making the sale; (b) an *agreement* between supplier and operator that the supplier is the taxpayer, and (c) *abstinence* by the marketplace from significant elements of the sales process. Each of these are very auditable requirements. Details are set out below.

available at: https://www.gov.uk/guidance/the-vat-rules-if-you-supply-digital-services-to-private-consumers#how-to-determine-the-location-of-the-consumer

When considering the New Zealand rules, what is extremely interesting is that both Amazon and Wal-Mart have not only designed their electronic marketplaces to satisfy New Zealand's opt-out provisions, they are using the same posture to argue against the imposition of remittance obligations in South Carolina and Louisiana where there is no *Netflix Tax*.[26] In other words, the strategic positioning of the major online platforms is global, not local. Amazon and Wal-Mart rarely want to be held responsible for third-party tax.

Footnotes below capture the way that Amazon and Wal-Mart align their US positions with New Zealand's "opt-out" provisions. The New Zealand statute requires that each of the following be met. Amazon and Wal-Mart meet these requirements, *within and without* the US. To opt-out:

> (a) *documentation must be provided to the recipient* that identifies the supply as made by the underlying supplier and not the marketplace; and[27]
>
> (b) the *underlying supplier and the operator of the marketplace must have an agreement* that states that the supplier is liable for the payment of tax; and[28]

[26] *Amazon Services LLC v. SC DOR,* Deposition of Christopher M. Poad (November 6, 2018) executive in charge of global recruitment of third-party sellers for business customers outside the US discussed the global positioning of inventory (page 89), also explaining how the marketplace remittance agreement is designed to "cover multiple countries" as well as third-party sellers into South Carolina and whether or not parties could request remittances of aggregate receipts (product price, plus taxes, less Amazon fees) on an expedited basis (pages 108-110).

[27] This requirement is not clearly met by Wal-Mart, but it is by Amazon. It appears that the only time the customer is clearly told that they are purchasing from a third-party (Marketplace Retailer) and not Wal-Mart is when the customer contacts Wal-Mart directly. This might occur in the context of a service complaint. Thus,

> If a Marketplace Retailer's customers contact Wal-Mart.com with issues, Wal-Mart.com tells the customer to contact the Marketplace Retailer.

Jefferson Parish v. Wal-Mart.com USA No. 769-149 N 24th Judicial District Court for the Parish of Jefferson, State of Louisiana (February 5, 2018) at 3.

However, Amazon provides much clearer notice.

> When customers shop on the Marketplace, they see the name of the seller. As users view the product detail page, each seller's identity is shown directly below the product's price and shipping information. If the users want to consider buying from a different seller, they can click on "Other Sellers on Amazon," which will show all of the sellers offering that product, the sellers' various prices, the sellers' delivery speeds, and other information unique to each seller. ... The third-party sellers are identified again on the order confirmation page, on the customers' invoices, and in the customers' order history.

Amazon Services LLC v South Carolina Department of Revenue, State of South Carolina Administrative Law Court, No. 17-ALJ-17-0238-CC, Amazon Services LLC's Motion for Summary Judgement (December 7, 2018) at 7.

[28] Wal-Mart requires third-parties that sell on their site to enter into a Marketplace Retailer Agreement.

> The Agreement sets the terms and conditions for selling on the Marketplace and identifies each party's role and obligations. The Agreement states the parties are independent contractors and not partners, and identifies the Marketplace Retailers as the "seller," "vendor," "retailer," and "taxpayer."

Jefferson Parish v. Wal-Mart.com USA No. 769-149 N 24th Judicial District Court for the Parish of Jefferson, State of Louisiana (February 5, 2018) at 2.

Amazon has a similar agreement with their third-party sellers:

> Third-party sellers who wish to sell on Amazon.com simply create an Amazon Services account and agree to the terms of the Business Solutions Agreement ("BSA"), which memorializes the service arrangement and the parties' rights and responsibilities. For example, the BSA provides that Amazon Services and third-party sellers are "independent contractors" with no "partnership, joint venture, agency, franchise, sales representative, or employment relationship between" them, and requires that third-party sellers "ensure that [they are] the seller of each of [their] Products." Because the third parties are the sellers of their own products, the third parties agree that they are

(c) the marketplace must not—

(i) authorize the charge to the recipient; nor

(ii) authorize the delivery of the supply to the recipient; nor

(iii) set the terms and conditions under which the supply is made.[29]

If these conditions are met the electronic marketplace is effectively out of the tax compliance loop. Tax reporting and collection responsibilities are passed to the remote third-party suppliers.

Third-party suppliers inclined to cheat will hide behind their remoteness. Some use "phoenix accounts" to further cloak their activity. As the name suggests, a "phoenix account" is one where an active trader on a platform sets up a new trading account on the same platform and transfers (hides) the old business in the new account. The name of the business will change as will the company's physical address, the VAT ID, and all contact information (telephone and email), but the commercial workings will remain the same. In a sense, a "new" business rises from the ashes of an older, discontinued business (one which may have had VAT compliance problems).

Once you "know the ropes," setting up a phoenix account is easy, and lucrative.[30] It is an industry-wide problem. Consider Amazon's phoenix accounts (similar processes occur elsewhere, as Amazon sets an industry standard for others to follow as "best practices"). Every seller account on Amazon is given a unique identification number. The number is used to

> "responsible for the collection, reporting and payment of any and all of [their] [t]axes," and that they may charge their customers appropriate taxes, which, once paid by customers, are then transferred to third-party sellers for remittance to taxing jurisdictions.

Amazon Services LLC v South Carolina Department of Revenue, State of South Carolina Administrative Law Court, No. 17-ALJ-17-0238-CC, Amazon Services LLC's Motion for Summary Judgement (December 7, 2018) at 4-5.

[29] Each of these conditions are specified and met by Wal-Mart.

> Marketplace Retailers operate their own websites. Marketplace Retailers decide what to sell and set the price. Marketplace Retailers describe and provide photos of the items they sell. Marketplace Retailers ship the items directly to their customers. Marketplace Retailers set their customer service and shipping policies. And Marketplace Retailers handle refunds, cancellations, product recalls, and customer service issues.

Jefferson Parish v. Wal-Mart.com USA No. 769-149 N 24th Judicial District Court for the Parish of Jefferson, State of Louisiana (February 5, 2018) at 2.

Amazon similarly meets each of these conditions:

> Amazon Services does not control, direct, or manage third-party sellers' pricing or discounting decisions. Third-party sellers set and adjust the prices at which they offer their products for sale, including offering discounts. ... The third-party sellers, and not Amazon Services, are "responsible for any non-conformity or defect in ... any of [their] [p]roducts" and they offer warranties of their choosing. ... Third-party sellers, and not Amazon Services, choose how to fulfill orders. Some third-party sellers decide to ship their products directly to customers. Others opt to use Fulfillment by Amazon ("FBA"), a service in which an Amazon affiliate (not Amazon Services) stores, packages, and ships third-party products.

Amazon Services LLC v South Carolina Department of Revenue, State of South Carolina Administrative Law Court, No. 17-ALJ-17-0238-CC, Amazon Services LLC's Motion for Summary Judgement (December 7, 2018) at 6.

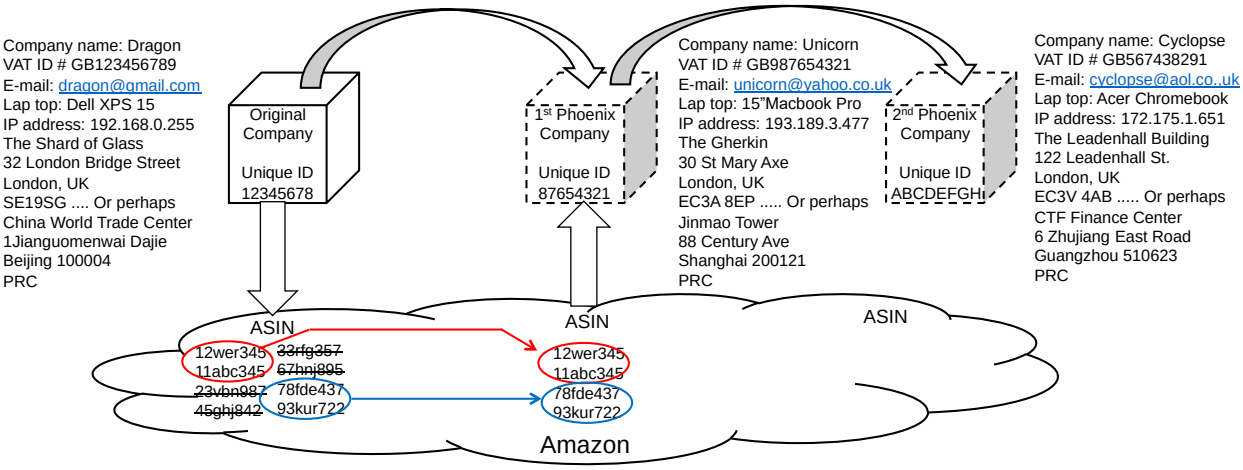
[30] See: *Case Study: eBay Duplicate Accounts and Listings* (February 26, 2019) at 4. (indicating that in 2017, for example, a Chinese company, Ekey Technology Ltd., was allowed by eBay to operate 24 duplicate accounts, and defrauded the Treasury of £6,423,728.80) available at: www.ukora.org.

identify the seller on the Amazon website, view their storefront, company details and trading history. In addition, every product listed on Amazon is given a unique code called an *Amazon Standard Identification Number* (ASIN). These ASIN's are used to identity products on the Amazon website.

When a product is added to Amazon the ASIN and product become a *permanent* part of Amazon's website catalogue, along with all its sales history, reviews and ranking. The *permanence* of the ASIN is important, because the seller's account itself, is not permanent. When a seller is removed from Amazon, only the seller account is removed. All products are left on Amazon and can be found by searching for the ASIN. All a seller needs to do to "rise from the ashes" and begin business again is to find their original ASINs and link them to the new account.

Figure 4 below shows an original company that has two Phoenix accounts set up and ready to be activated. Assume that this snapshot is taken just before the original company is terminated. The only thing we see (active) on Amazon is the original company. The others are just "completed paperwork." Because Amazon will not allow two listings of the same company, separate corporations are used. Within minutes of the original company leaving the Amazon platform, the first Phoenix is activated with a mouse click. It accesses the original company's inventory by ASIN number. In this example to further disguise the switch some of the products are discontinued, or may have been seized by the authorities (their ASIN numbers are crossed out.) Two physical addresses for each entity are available, one in the UK and the other in China. Either address could be used. The UK will issue VAT IDs to companies regardless of their address, however a UK address does help to disguise a Phoenix, but this comes with a risk as auditors may want to visit. However, an online marketplace does not have to validate "UK Seller's" businesses, only "Overseas Sellers" need to be validated, so there is less oversight.[31]

Figure 4
Setting up Phoenix Accounts on Amazon



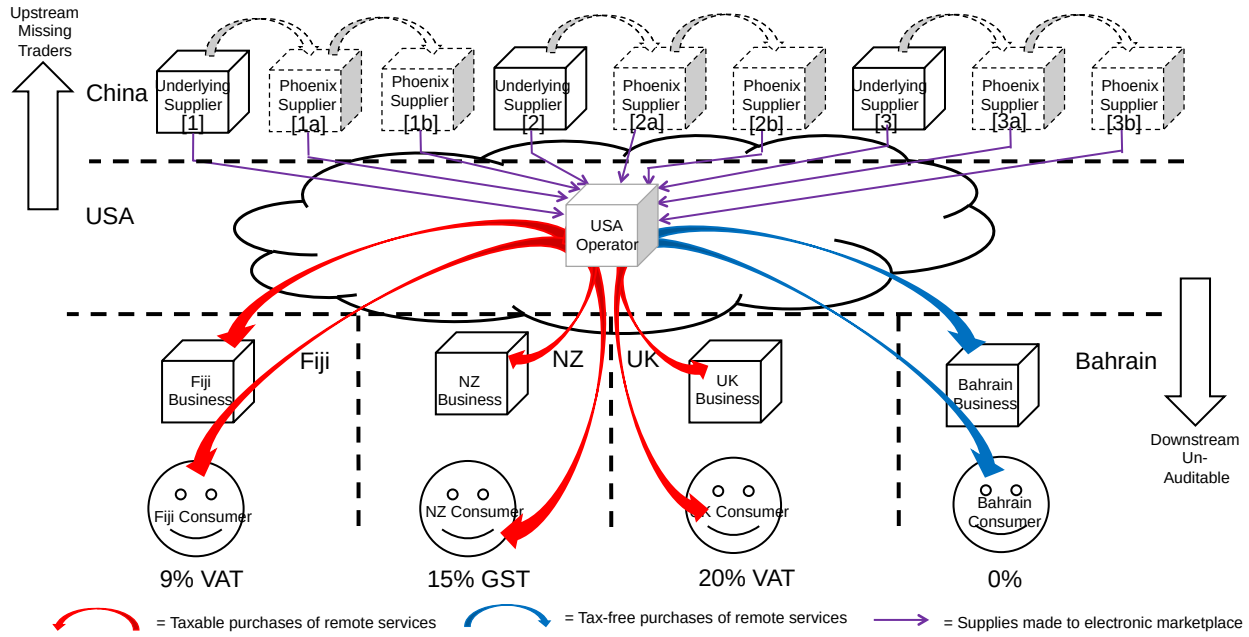
[31] Retailers against VAT Abuse Schemes (RAVAS), *Case Study Online Marketplace Seller Checks* (February 16, 2019) at 2.

A seller will switch to a Phoenix account:

- If they receive a notice from Amazon that their account will be closed, or
- If they owe so much in unpaid VAT that activating a Phoenix account is much easier than undergoing an audit, receiving a demand notice, or experiencing a seizure of inventory.

Because of the way the export business community in China interacts with electronic marketplaces Figure 3 needs to be re-drawn in Figure 5 (below) to reflect the presence of Phoenix Accounts sitting right behind the original company.

Figure 5:
Multiple remote suppliers (and their Phoenix suppliers) using a single electronic marketplace making sales into multiple jurisdictions



As Figure 5 illustrates, what appeared to be three independent underlying suppliers (in Figure 3) was in fact a cascade of original companies and Phoenix Accounts. Suppose the HMRC suspected that Underlying Supplier [1] was a delinquent VAT taxpayer, and endeavored to collect. Collection would involve seizing inventory, freezing funds held by the electronic marketplace, or in overseas banks. This is a daunting task, particularly if [1] shuts down just ahead of enforcement.[32] These collection difficulties are compounded when domestic

[32] For example, the *Campaign Against VAT Fraud on eBay and Amazon in the UK* at http://www.vatfraud.org, at the Stop Duplicate Accounts & Listings on eBay page at: http://www.vatfraud.org/blog/ebay-taking-no-action-against-bad-actors/ lists a number of companies trading under multiple identities. For example:

WUIHANGWAN TRADE CO., LIMITED – GB 276887924

This seller used to trade under several identities, including

- LL TRADER LTD,
- LILUOWANG TRADING LIMITED,
- YOTOOL LTD and
- Jiaci Liu

professionals step forward with advice for third-party suppliers that appears to chart a pathway around enforcement.

For example, TB Accountants is a UK VAT Agent and member of the Association of Chartered Certified Accountants, specializing in VAT registration of Chinese overseas retailers is active online. On its web site it provides detailed advice for remote Chinese clients who run into VAT compliance problems, and who might need to set up a Phoenix Account quickly. Their online post (in Chinese) indicates:

> If the amount of [accrued] tax payments cannot be afforded, the only thing you can do is to close the [Amazon] account. [You should take the following steps as soon as possible:]
>
> 1. Calculate your inventory: How much of the inventory is currently with transportation companies [on trucks/ships, or otherwise in the hands of a transporter], stop the transportation, and retrieve as much of it as possible;
> 2. Calculate how much money [remains] unwithdrawn in the Amazon account and withdraw the funds from those accounts [with Amazon] as soon as possible, so as to avoid the funds being frozen;
> 3. Initiate price cuts, and fast clearance sales, to prevent inventory stocks from being seized or sealed;
> 4. [Secure a new VAT ID for a new trading account]. Register a new account [with Amazon], and make sure the new account is registered with the VAT authorities immediately;
> 5. The new account must first use the self-delivery method (not Fulfillment By Amazon - FBA) and [the new account must] sell the inventory from the old account [this is the Phoenix rising up], because by this time the [new] VAT registration has not been approved. If the new account is set up as [FBA at this time, then the new account will also have VAT tax problems [because the VAT registration is not completed yet.]
> 6. After the VAT registration of the new account is approved, use FBA to sell the inventory of the previous listing [this is the Phoenix continuing to sell];
> 7. When the old account history problem is solved [because the old inventory has been sold and the money in the old Amazon account is fully withdrawn], I will take the initiative to stop operating the old account![33]

[3] APPLYING FIJI'S VAT MONITORING SYSTEM (VMS)

> Their old accounts have closed, but they have reopened new accounts on eBay & Amazon. They have been evading about £1,000,000 in VAT a year since we first reported them to HMRC in 2014.

The posting goes on to list 12 eBay accounts and three Amazon accounts for this trader. Duplicate accounts are more common on eBay than Amazon because Amazon is a payment services provider and needs to abide by money laundering regulations that do not apply to eBay. On Amazon a second account can be established only if it is set it up with a completely different legal entity. Richard Allen (Retailers against VAT Abuse Schemes (RAVAS) and VATFRAUD.ORG), personal e-mail communication April 1, 2019.

[33] Translated from the Chinese text posted on the Chinese version of the TB Accountants web page at: https://web.archive.org/web/20181001090609/http:/www.tbvat.com/newsinfo/89749.html, as reported by the *Campaign Against VAT Fraud on eBay and Amazon in the UK* at http://www.vatfraud.org, with further translation assistance from Chang Che.

TO ELECTRONIC MARKETPLACES

The upstream frauds are the familiar missing trader (MT) frauds we see in all VAT jurisdictions. These are simply "automation facilitated," and appear to be organized by criminal gangs. They arise because of the way electronic marketplaces work, and because of the ability of the marketplaces to avoid tax compliance obligations (as service providers) even while they are engaged in almost every aspect of the underlying trade.

The downstream frauds are different, and simpler to prevent. They appear to be individual frauds, premised in a manipulation of the data reported to the electronic marketplace, and the consequent manipulation of the residency determination algorithm within the marketplace. This fraud is facilitated by the complexity of global electronic marketplaces.

Fiji would approach remote third-party sales to Fiji residents (the upstream frauds) the same way it approaches all other transactions involving Fiji residents. It would extend Fiji's business-government digital partnership to electronic marketplaces and demand the production of fiscal invoices. If coupled with a dedicated cryptotaxcurrency, upstream frauds would be resolved.

Solving downstream frauds is much easier. Extending the mandate to produce a fiscal invoice to electronic marketplaces is sufficient to prevent them, provided a robust AI risk analysis program is applied to the data streams. If a transaction from an electronic marketplace is audited in conjunction with other tax authorities, a series of "secret shoppers" could help to probe the residence algorithm and verify its accuracy.

At the heart of this analysis is Fiji's digital partnership with business. It is "… an electronic system [designed to] transmit[s], receive[s], record[s], analyze[s], format[s], store[s], and monitor[s] fiscal data."[34] The partnership is comprised of (a) the "*Authority's system*," the TaxCore, and (b) the mandatory *electronic fiscal device* (EFD), which is the system "… used by taxpayers in operating their business."[35] Fiji would mandate the use of an EFD by the electronic marketplace. The mandate would never be extended the underlying supplier. New Zealand, and any other jurisdiction adopting a similar regime, would do the same.

From the taxpayer's perspective, the central element of this partnership is the EFD, which is a *system* comprised of the two parts listed below. The application is software based. We need:

(a) an Accredited Invoice System (AIS)[36] and
(b) a Sales Data Controller (SDC) with a Secure Element (SE).

[34] GOVERNMENT OF FIJI GAZETTE Vol. 18, No. 62 (July 3, 2017) publishing regulation 28 of the TAX ADMINISTRATION (ELECTRONIC FISCAL DEVICE) REGULATIONS 2017 at 77. (hereinafter EFD REGULATION) *available at*: http://www.fiji.gov.fj/getattachment/8f570d67-471a-4a3b-80a9-2cd105492ffe/LN-37---Tax-Administration-(Electronic-Fiscal-Devi.aspx.

[35] EFD REGULATION, at 78.

[36] An Accredited Invoice System (AIS) is an umbrella term covering devices and systems capable of producing receipts (normally issued in B2C transactions) and invoices (normally issued in B2B transactions. A point-of-sale (POS) system is one specific application on an AIS. POS and AIS are used interchangeably in this text.

The AIS[37] in the EFD must be *accredited*.[38] Fiji's EFD regulation provides accreditation guidelines.[39] The entire system is built on Public Key Infrastructure (PKI) using a certificate authority.

The VMS creates fully compliant *fiscal invoices*.[40] The invoices are digital and sent to the tax authority (securely encrypted) in real-time. They contain a QR code which can be scanned by anyone to confirm the accuracy of the invoice, and confirm that the data has been sent to the tax authority. The QR code also contains proof of audit data. This allows each sequenced invoice to be linked in a mini-blockchain preserved on government, marketplace, buyer and seller's computers.

Downstream Frauds & VMS

Fiji's VMS can be applied to an Electronic Marketplace on a single country or multi-country basis (compare the single country application in Figures 2 and 3 of the first paper, with Figure 4 in the second paper).[41] A single country approach however, is not optimal when an electronic marketplace is involved.

Aside from keeping track of jurisdictional sales volumes, the most critical downstream issue for a tax authority is the determination of a buyer's residence. Residence data (along with many other audit-sensitive attributes) is something that VMS's "proof of audit" collects and makes available for remote oversight. The text below focuses on residency verification through proof of audit. Alternate examples are possible.

Residence status can be deliberately manipulated by the buyer, or erroneously determined by an electronic marketplace's residence algorithm. The UK looks to the billing address, the IP address, bank or credit card details, country code of the SIM card used by the consumer, fixed landline location and other commercially relevant information, like jurisdictional product coding

[37] The EFD REGULATION, at §2(1) at 76 define a POS as follows:

> "POS" means a point of sale invoicing device or software which is an electronic device or software application that is—
>
> (a) used by a business for management control in the areas of sales analysis and stock control; and
>
> (b) a component of the business's EFD—
>
> (i) into which a cashier enters the transaction data for each transaction made by the business; and
>
> (ii) from which a fiscal invoice for the transaction is issued;

[38] While all POS systems perform the same basic functions of a traditional cash register (issuing receipts) modern POS systems are much more complicated than a basic electronic cash register (ECR). It will include a computer, monitor, cash drawer, receipt printer, customer display and a bar code scanner along with a debit/credit card reader.

[39] EFD REGULATION, at §20(a) & provided in *Schedule 1* at 90-96.

[40] A "fiscal invoice" is a digital receipt or invoice that is issued and preserved in accordance with *fiscal law*. Beginning in 1983, Italy and then Greece drafted laws governing fiscal devices (cash registers, printers, and POS systems) that specified data that was to be collected and retained on each commercial transaction. Hardware fiscalization has given way to software fiscalization. The laws are designed for fraud prevention and detection.

[41] Richard T. Ainsworth, *Data First – Tax Next: How Fiji's Technology Can Improve New Zealand's "Netflix Tax," (Part 1)*, 94 TAX NOTES INTERNATIONAL 159, 170 & 173 (April 8, 2019); Richard T. Ainsworth, *Data First – Tax Next: How Fiji's Technology Can Improve New Zealand's "Netflix Tax," (Part 2)*, 94 TAX NOTES INTERNATIONAL 319, 325 (April 22, 2019).

to determine residence.[42] Most of these factors can be manipulated. Some consumers have developed considerable expertise in this kind of manipulation to avoid geo-blocking.

An electronic marketplace algorithm must make residence determinations in less than three seconds. Amazon has made 26.5 million determinations in a day. Salesforce reports 1.3 billion.[43] How does any tax authority check the volume of these taxability determinations?

To do it, the first thing that would be needed is the transactional data, digitized, and supplied in real-time. That data is available from the QR code on a fiscal invoice through the VMS. Figure 6 (below) details the steps needed to secure a fiscal invoice. It is drafted from the perspective of the UK. Among the jurisdictions considered in Figures 1, 3, and 5 (above) the UK has the highest tax rate. This is where manipulation of residence would be most expected. A digitally supplied service attributed to a resident of Bahrain (who was actually a resident of the UK) would not be taxed at all, saving the buyer a full 20%.

Figure 6: Request for Fiscal Invoice & Response from a Shared Tax Core

Modified & Merged Figures 3 & 4 (from part 1) Request for Fiscal Invoice & the Response

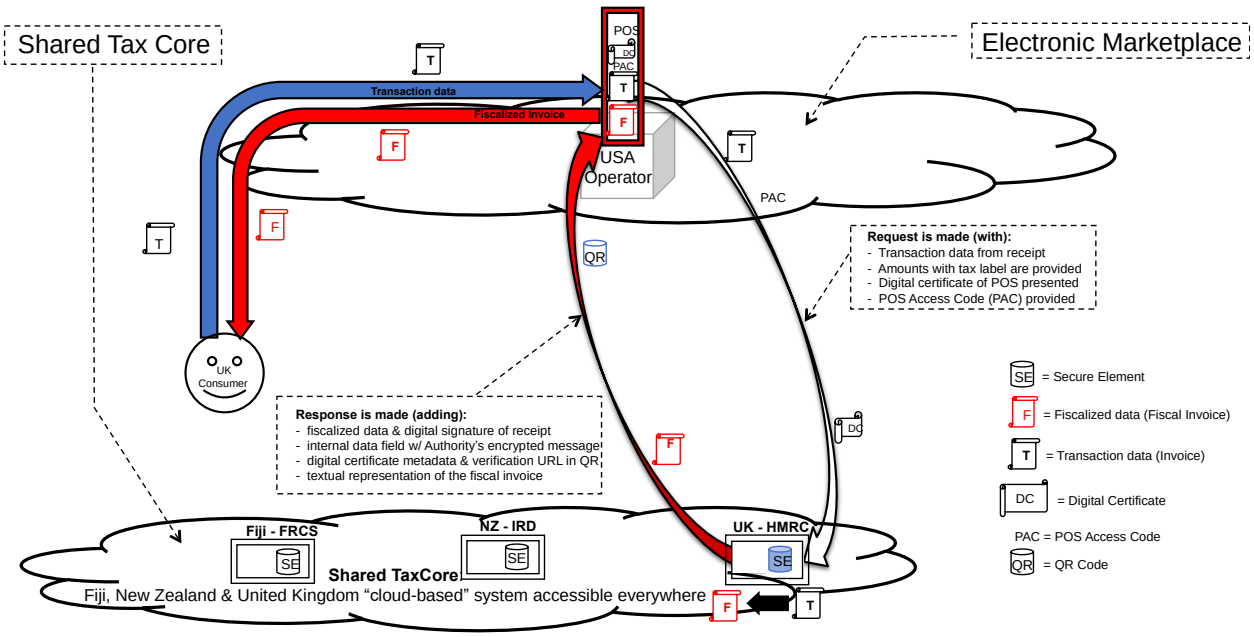


Figure 6 assumes that the UK has adopted a VMS and extended it to all electronic marketplaces making sales (directly or facilitating third-party sales) into the UK. Under the "main rule" the electronic marketplace is the taxpayer for all sales of its own supplies as well as for sales made by third-parties through its marketplace to UK residents. It is further assumed that the UK shares the Tax Core with New Zealand and Fiji. That is, they operate parallel systems in tandem, with co-operative oversight efforts.

[42] *Supra* note 53.
[43] *Supra* note 20.

One purchase is illustrated. Because the marketplace is the taxpayer (i.e., it has not "opted out" of compliance obligations) it does not matter if the Operator is making supplies on its own, or if a third-party is making supplies as an underlying supplier. The treatment will be the same.

Transaction data (including all relevant residence data) will be sent through the online web site to the operator's POS. The POS will immediately request fiscalization. In this case the request will go to HMRC, based on a determination by the electronic marketplace that the customer is a UK resident. Immediately on receipt of the data HMRC will activate an audit protocol which will (a) check the determination of residence made by the electronic marketplace, (b) make an initial determination that fiscalization is appropriate (all the correct data elements have been recorded), and then (c) will commence a longer-term audit oversight of the transaction covering not only the residency determination but other risk factors associated with the transaction derived from data matches with external sources. Processing will be through an AI application over multiple government data streams.

The Tax Core at HMRC will now provide a fiscalization response. This will allow the Operator to issue a fiscal receipt to the purchaser, complete with QR code. The code can be scanned for verification by anyone. It will indicate that all data is accurately recorded on the invoice and recorded with HMRC.

Figure 7 expands Figure 6 from one to twenty-eight transactions, roughly the sales occurring on Amazon in a tenth of a second,[44] and further extends the sales to all four jurisdictions (Fiji, New Zealand, the United Kingdom, and Bahrain). This diagram both isolates the residency determination and the *blockchain* attribute of the Tax Core as it links each invoice to the one before it (and preserves this data in the electronic marketplace, the databases of the tax authorities, as well as embedding it in the QR code of every fiscal invoice). [For diagram-simplicity, Figure 7 does not replicate the "request" and "response" exchanges of each customer with the electronic marketplace that is set out in Figure 6.]

[44] When Amazon completes 26.5 million transactions in a day, or 307 per second, it takes about a tenth of a second for Amazon to process 28 transactions.

Figure 7
Fiscal Counters supporting Proof of Audit structure in an Electronic Marketplace context

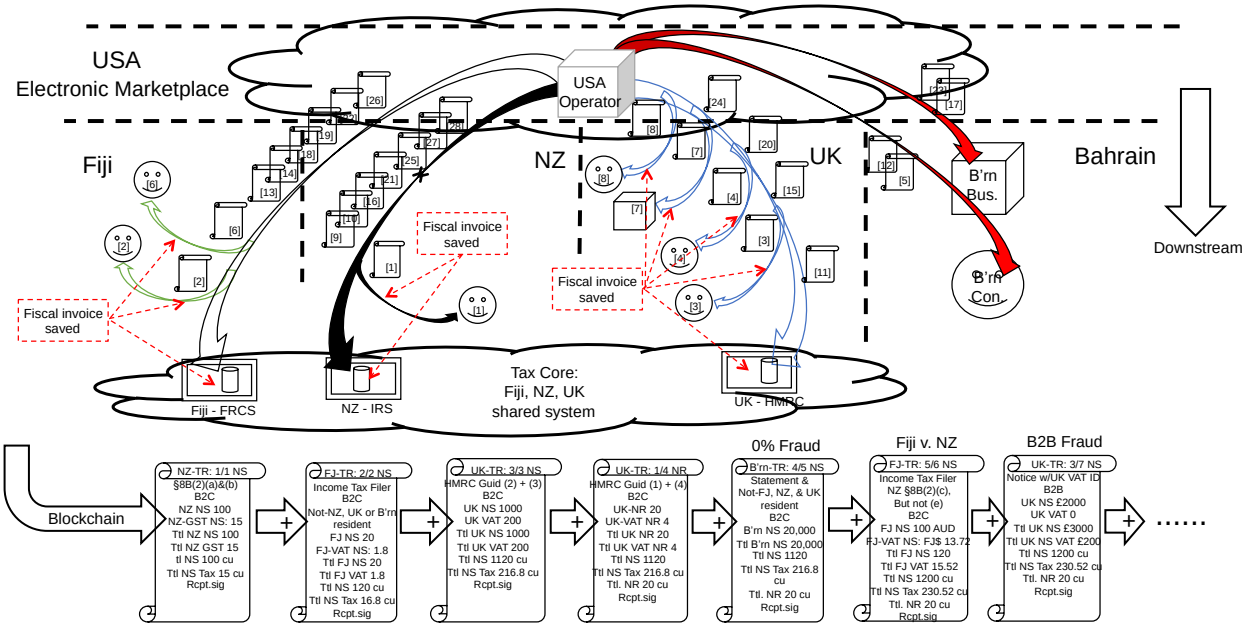


Figure 7 also explores several downstream residency-based compliance problems: (a) fraudulent representations by a consumer to the electronic marketplace that they are a resident of a no-tax jurisdiction (see invoice 5 with Bahrain), (b) a miss-match in jurisdictional residency rules which cannot easily be solved with a basic algorithm, and which requires either the external data-matching capabilities of an AI risk analysis program to resolve, or human intervention (see invoice 6 which illustrates conflicts in the Fiji and New Zealand rules), and (c) possible manipulation of the electronic marketplace algorithm by an individual represented as a business (see invoice 7 where an individual declares himself to be a UK business).

Figure 7 assumes that Fiji and the UK have adopted New Zealand's *Netflix Tax*, and that Fiji, New Zealand and the UK have each extended the VMS to electronic marketplaces. Remote services are being supplied to residents of Fiji, New Zealand, the UK, and Bahrain through the same marketplace, which is operated by a US Operator (resident) who has no residency links to any of these countries.

Figure 7 considers the first seven electronic marketplace transactions. The operator (and marketplace) are located in New York, and operates 24 hours a day, 7 days a week. The system considers 12:00 (midnight) to be the beginning of the day. Invoices re-set to number 1 each midnight.

Non-resident suppliers (underlying suppliers) utilizing the electronic marketplace to reach resident customers cannot do so without VAT/GST being collected and remitted by the marketplace operator.[45] The invoice/ receipt issued must be fiscalized. All sales data is placed

[45] NZ-GSTA §60C.

with the residence jurisdiction in real-time, and the returns and remittances are made by the marketplace. Each jurisdiction has a direct and compelling need to audit the electronic marketplace (as a whole) and to monitor sales transactions. Transaction data is shared in real-time through the Tax Core.

Seven sequential invoices are considered in Figure 7. Each sale is in local currency units. A digital signature follows the fiscal counter codes verifying the accuracy of the data appearing above. The signature is designated as "Recpt.sig." Each invoice can be called up on command from the Tax Core, and checked as need-be by any government participating in the Tax Core.

The first invoice is a normal (New Zealand) sale invoice (designated in the system as: NZ-TR: 1/1 NS). This expression means that it was the first invoice issued and the first normal sale transaction from the USA POS system (which was described in Figure 6). This was the first Normal Sale of the sequence.[46] This remote sale of services was determined to be a New Zealand sale, because two of the NZ statutory indicators[47] were found to be non-contradictory, and these indicators were deemed by the marketplace's algorithm to be the most reliable indicators of residence.[48] This determination is embedded in the QR code, and is part of the blockchain data base. The purchaser is a consumer (B2C). As a consequence, New Zealand GST of NZ$15 is collected on this NZ$100 sale (indicated by the notation NZ-GST NS: 15).[49] Finally, the Total New Zealand normal sales (at the time of this invoice) is recorded as NZ 100, as is the total New Zealand GST collected.[50]

The next invoice is also a B2C normal (Fiji) sale (FJ-TR: 2/2 NS). It is the second invoice, and the second normal sale (2/2). The transaction amount is for FJ$20. The determination that this sale is made to a Fiji resident relies on a representation that the purchaser files a Fiji personal income tax return. The algorithm considered this representation to be a reliable indicator of residence. In so doing, the algorithm also considered (and rejected) other residence possibilities based on a match/non-match analysis with other jurisdictions (noted as: Not-NZ, UK, or B'rn resident). The sale is treated as a B2C sale, because the seller has not been notified that the buyer was registered. The FJ-VAT on this normal sale is FJ$1.80. The counters (and the QR code) will indicate that total NZ-GST collected from all normal sales remains 15,[51] and total FJ-VAT collected from all normal sales is 1.80. Total tax collected from all sales is 16.8 cu. Total sales are 120 cu.

The third invoice is from a UK transaction. It is another B2C normal sale (UK-TR: 3/3 NS). Like the first two invoices, this one is for a remotely supplied service. The residence indicators show that the Internet Protocol address of the device used by the consumer making the

[46] NZ-TR = "New Zealand transaction;" 1/1 = "1st transaction of this sequence & 1st Normal Sale of the sequence;" NS = "Normal Sale."
[47] NZ GSTA (1985) §8B(2)(a) and (b) are the buyer's billing address, and the IP address of the device used to make the purchase.
[48] NZ GSTA (1985) §8B(3)(a).
[49] NZ GSTA (1985) §8(3)(c).
[50] "Ttl NZ NS sales 100 cu" = Total New Zealand sales in the normal sales category is 100. "Ttl NZ NS Tax 15" = Total New Zealand sales GST in the normal sales category is 15.
[51] Figure 7 does not have room to replicate all the counters embedded in the QR codes, but all data is cumulative.

purchase pointed to the UK as did the banking details of the credit card used for the purchase.[52] The purchase is for £1,000, with a VAT of £200. The aggregating multi-jurisdictional counters follow in currency units. A record is made of total UK normal sales (£1,000) and total normal sales overall (1,120 cu); also listed is the total UK tax amounts (£200) and total tax overall (216.8 cu).

The fourth invoice is another UK B2C transaction. The billing address of the buyer and the country code of the SIM card used by the buyer both indicate a UK residence, per items (2) and (3) of the HMRC *Guidance*. The transaction however, is a normal refund (NR). It is identified as [UK-TR: 1/4 NR], that is, a UK transaction, which is the first normal refund, and the fourth invoice in this sequence.

The QR code on the invoice will record all cumulative transaction data, unchanged from the third invoice, with the addition of normal refund data. Thus, [UK-NR 20], and [UK-VAT-NR 4], indicate that the purchase refund was for £20 with a VAT refund of £4. Total refund numbers are [Ttl UK-NR 20] and [Ttl. UK-NR VAT 4]. Even though this is a refund invoice the QR code links this invoice to the prior invoices through the counters for total normal sales [Ttl NS 1120] and total tax [Ttl. NS Tax 216.8]. [53]

By the fourth invoice the mini-blockchain functionality should become visible to the attentive reader. This system does more than link one invoice to the one in front and the one behind it; it traces the whole chain back to invoice one. The links are multiple and granular. Each "counter," from normal sales through total taxes are all recorded cumulatively. The entire chain is preserved not only on each invoice, but it is saved in each revenue authority participating in the Tax Core, as well as within the electronic marketplace. Anyone with an invoice can scan the QR code and begin to trace the chain. This blockchain has an embedded public/private consensus mechanism running at the speed of 307 blocks (invoices) per second compliments of (in one case) the Amazon electronic marketplace. Consensus is effectively achieved by the agreement of the systems (each tax administration examining the counters on a

[52] UK residency rules are similar to New Zealand's, but there are important differences. Depending on the total value of cross-border sales into the UK from a particular entity, either one piece of evidence is needed or two non-contradictory pieces are needed to prove customer residency. The sales volume line had been £88,183, and through a Statutory Instrument has been changes to €10,000 [see; §3A of the VATA 1994 and in Sched. 3B of VATA 1994, with the threshold introduced in Sched. 4A, ¶ 15(1) of the VATA 1994]. Below the annual threshold amount one piece of evidence is needed to prove UK residence; above this amount two pieces are needed. The acceptable evidence is:

1) the billing address of the consumer
2) the Internet Protocol address of the device used by the consumer
3) the consumer's bank details
4) the country code of the SIM card used by the consumer
5) the location of the consumer's fixed landline through which the service is supplied
6) other commercially relevant information - for example, product coding information which electronically links the sale to a particular jurisdiction

HMRC, *Guidance: VAT Rules for Supplies of Digital Services to Consumers in the EU* (November 19, 2018) *available at*: https://www.gov.uk/guidance/the-vat-rules-if-you-supply-digital-services-to-private-consumers#how-to-determine-the-location-of-the-consumer.

[53] NOTE: the counters are only positive and do not net total VAT collected of 35 with total VAT refunded of 2 to get 33. Each amount is kept separate.

receipt/ invoice, the electronic marketplace, and the online systems of the buyer and seller calculate, confirm, and preserve the chain within seconds of each other).

The fifth invoice is a B2C normal sale transaction. It is used here to illustrate a potential fraud scenario. This buyer is a resident of Bahrain [B'rn-TR: 4/5 NS]. Because Bahrain does not have a VAT there are no residency rules for transaction taxes, thus a "statement" from the buyer that he is a resident of Bahrain, plus the non-applicability of UK, New Zealand, or Fiji residency indicators confirms (for the electronic marketplace's algorithm) that this is a tax-free Bahraini sale. (A similar analytical process occurred on the second invoice where residency was determined to be in Fiji based on the representation that personal income taxes are filed there.) The sale is for 20,000 BD (Bahraini Dinar).[54]

It is possible that the residency algorithm could be applied backwards in a case like this. For example, the algorithm could test the Bahraini residence by using the UK residency matrix, finding out that each element in the UK system not only pointed away from the UK, but pointed instead at Bahrain. For example, the country code of the SIM card used by the consumer was Bahraini.

Because of the size of this transaction, the UK or New Zealand might want to review it, if either suspected that the buyer was in fact an expatriate, or a true UK or New Zealand resident masquerading as a Bahraini resident. It takes some planning and effort to manipulate the electronic marketplace's algorithm, but changing a billing address, telephone landline and banking details, while employing a Bahraini IP address and using Bahraini cell phone SIM card is not entirely impossible. Tax savings (converted to US dollars) would be equivalent to $10,600 USD on a UK sale, or $7,950 USD on a New Zealand sale.[55]

The data collected on the fiscal invoice would facilitate the audit. The invoice could be immediately recovered by UK or New Zealand auditors from the Tax Core, and the results of the electronic marketplace's algorithm-based reasoning displayed. An audit could be performed in London or Wellington from a laptop computer.

The sixth invoice records the fifth normal sale. It is made to a consumer. This transaction is used to illustrate an inherent workability problem in the global residency determination rules. The algorithm used by the electronic marketplace determined that the consumer is a resident of Fiji, [FJ-TR: 5/6 NS], although other evidence was available suggesting that New Zealand might be the consumer's residence. NZ GSTA §8B(2)(c) dealing with the customer's banking details, and NZ GSTA §8B(2)(e) concerning the location of the consumer's land line seem to apply. However, it was not clear if the consumer's land line was the device "through which" the service was supplied, or whether it was just one of many such devices which "could have been" used.

To complicate matters a bit more suppose the purchase made through the electronic marketplace was from an Australian third-party (the underlying supplier). The price charged was

[54] 1 Bahraini dinar is approximately $2.65 (USD).
[55] In this example the UK VAT avoided on 20,000 BD would be 4,000 BD, which is $10,600 USD. New Zealand GST avoided would be 3,000 BD, which is approximately $7,950 USD.

denominated in Australian dollars ($100 AUD), and the payment came through a New Zealand bank, because that was where the VISA card used in the transaction was issued. When the algorithm defaulted to Fiji it determined the VAT due ($9 AUD, or FJ$13.72). The electronic marketplace acted on this determination.[56]

What this example points to is the need for harmonized residency rules. It is expected that jurisdictions deciding to share the Tax Core (Fiji, New Zealand, and the UK in this example) would agree to common rules. A question would remain on what to do about a no-tax jurisdiction, like Bahrain. It is suggested that the agreed matrix be used in reverse.

The seventh invoice records the only B2B normal sale among the first eight invoices. It is used to illustrate another difficulty with the current system, and suggests how the VMS can assist in detecting some frauds. When this purchase is made from the electronic marketplace the buyer identified itself as a business, and provided a UK VAT ID. Nothing more is needed. Residency is no longer a problem. UK VAT at 20% is not charged, because the buyer will reverse charge. The price paid is £2,000. The VAT charged is £0. Thus, the cumulative counters indicate the total UK normal sales are £3,000, but the total UK VAT on normal sales remains at £200. Overall the total normal sales rise to 3,200 cu, but the total normal sales tax remains 230.52 cu.

Because the VMS identifies this as a B2B transaction in real-time, the UK can immediately check the representation of the electronic marketplace that it received a valid VAT ID. The marketplace makes determinations so quickly that errors are always possible, but so too is the fraud of presenting a valid VAT ID associated with another party. It would be an easy matter for HMRC to isolate this transaction, identify the taxpayer, confirm the validity of the VAT ID, and if everything "checked out," place a notation on the business's tax account that a reverse charge for £400 is due.

If everything did not "check-out," the UK could notify the electronic marketplace. Even though the transaction would be deemed completed, and the services actually delivered to the UK individual, changes are possible. An electronic marketplace, like Amazon, holds the underlying supplier's funds for 14 days after the sale is completed. There is still time to make a claim. In this case the electronic marketplace is holding £2,000 due to the underlying supplier. The UK's VAT claim is for £400. The claim would be made in the form of a corrected invoice, which would be fiscalized as normal, and placed on the blockchain.

This process will continue for each invoice sent for fiscalization. It takes less than a second to fiscalize an invoice through the VMS system. The security structure is both comprehensive and thorough. Downstream frauds will be identified, stopped, or corrected in real-time.

Upstream frauds & VMS

[56] Because the 9% Fiji VAT is lower than the New Zealand GST (15%) and UK VAT (20%), one would only expect the consumer to complain if its residence was Bahrain (0%), with no complaint if Fiji was the right result.

If an electronic marketplace *is deemed* to be the taxpayer for all sales made through its platform (whether the true seller is the operator of the marketplace or a third-party that is using the platform as a sales portal) downstream frauds can be largely eliminated by adopting Fiji's VMS and extending it to the marketplace. The few frauds that will remain can be identified in real-time by the VMS with a risk analyzing AI overlay. Enforcement would be swift and targeted.

It's not the same story for upstream frauds. This resolution is more complex. Upstream frauds arise when an electronic marketplace "opts out" of tax reporting and remittance responsibilities, that is, when it *is not deemed* to be the taxpayer for sales made by third-parties. These frauds revolve around the difficulty that a consumer's jurisdiction has in identifying (a) who the remote seller is and (b) how much has been sold by that seller to domestic consumers. Enforcement becomes difficult when the proper tax amount has not been withheld.

As currently constituted, Fiji's VMS does not resolve these problems, but it could substantially reduce them with two modifications considered further below: (a) adding a VMS invoicing requirement to the electronic marketplace opt-out rules and (b) mandating in the opt-out rules that electronic marketplaces that do opt-out must collect VAT in a jurisdiction-specific cryptotaxcurrency. In cases where tax payments are made in fiat currency, the marketplace would be required to convert these amounts into the appropriate cryptotaxcurrency before making deposits in a remote seller's account.

The dangerous scope of these upstream frauds is apparent when a few well-publicized "Amazon facts" are reviewed. First, third-party sellers on Amazon.com reside in 103 different countries, making it a somewhat daunting task for any jurisdiction to cover all potential sellers, and to audit and enforce consumption tax collections by foreign-resident-sellers in all of these jurisdictions.[57] Secondly, it is precisely this market segment (foreign-resident third-party sellers) that is Amazon's fastest growing and most profitable sector. It produced $13.9 billion in revenue in the quarter ending December 31, 2018.[58] It is unlikely to go away any time soon. And finally, Amazon is well aware of the importance of foreign-resident third-party sellers to its bottom line. These are profits from the sale of services. Service sales are so profitable that Amazon has begun to push its own supply chain (the businesses from which it has traditionally purchased its own products for resale) to stop selling to Amazon, and instead become direct marketers on the Amazon platform.[59]

If electronic marketplaces are allowed to "opt-out" of tax reporting and remittance responsibilities, upstream frauds will metastasize, unless some simple protective measures are not taken. The reason for the frauds to spread is fairly easy to see – electronic marketplaces are

[57] See the list of third-party selling jurisdictions (including the US) at AMAZON SELLER CENTRAL, available at: https://sellercentral.amazon.com/gp/help/external/200405020?language=en-US&ref=mpbc_200417280_cont_200405020

[58] Dan Gallagher, *Amazon's Third Party Needs to Keep Raging*, WALL STREET JOURNAL (October 7, 2018) available at: https://www.wsj.com/articles/amazons-third-party-needs-to-keep-raging-1538917201

[59] Spencer Soper, *Amazon Suppliers Panic Amid Purge at Boosting Profits*, BLOOMBERG (March 7, 2019) available at: https://www.bloomberg.com/news/articles/2019-03-07/amazon-purges-suppliers-in-push-to-boost-e-commerce-profits; Alison Griswold, *Amazon Abruptly Stopped Buying Goods from Third-Party Sellers*, QUARTZ (March 7, 2019) available at: https://qz.com/1567934/amazon-sellers-panic-after-the-company-reportedly-canceled-orders/

too efficient in the way they collect, hold, and deposit sales taxes. A seller merely designates the bank account for deposits. If a third-party seller can easily hide, disappear from audit review after these deposits are made, the temptation is very strong to keep the tax. Sellers will direct all deposits into secret, highly secure bank accounts.[60]

The two most common ways for a third-party supplier to hide from view when an electronic marketplace has "opted-out" of tax reporting and remittance responsibilities is to either: (a) to continually move one step ahead of the authorities by closing down one online account, while immediately opening a "phoenix account" to continue selling the same products,[61] or (b) by creating multiple identities, each of which sell the same products on the same platform.[62] In both instances the intent is to confuse government auditors by making it difficult for inventory or bank accounts to be seized in enforcement actions.

VMS invoicing added to opt-out rules

New Zealand's synthesis of the basic rules for an electronic marketplace to opt-out of tax reporting and remission obligations are reasonably standard. They require:

(a) that documentation be provided to the buyer that identifies the supply as made by the underlying supplier and not by the marketplace;[63] and

(b) that the underlying supplier and the operator of the marketplace must have an agreement that states that the supplier is liable for the payment of tax;[64] and

(c) that the marketplace must not—

(i) authorize the charge to the recipient;[65] nor

(ii) authorize the delivery of the supply to the recipient;[66] nor

(iii) set the terms and conditions under which the supply is made.[67]

[60] See the discussion of the flow of funds from global customers, through Amazon Payments, into third-party seller's designated bank accounts anywhere in the world:

> So, if you buy a product from a third-party seller ... Amazon Payments processes the payment on behalf of the seller ... specifically, what happens is the funds will flow from the customer's bank, the payment card, potentially through a payment network like Visa or Mastercard, [and then the] ... funds will be deposited into a seller's [account]. And before disbursement to the seller, Amazon deducts the fees for that transaction, ... Amazon Payments processes the payment on behalf of the seller ... [w]hether that seller is Amazon.com, LLC, or a third-party marketplace seller. And then after a period of time – no more than 14 days ... those funds ... will be deposited into the seller's nominated bank account. But the funds are the seller's funds ...

Deposition of Christopher M. Poad, an Amazon Business executive in charge of a set of services offered to third-party sellers primarily outside the United States, and the teams that recruit third-party sellers (November 6, 2018) *Amazon Services LLC v. South Carolina Department of Revenue*, SC Administrative Law Court, Case No. 17-ALJ-17-0238-CC.

[61] Retailers against VAT Abuse Schemes (RAVAS), *A Complete Guide on How Amazon Phoenix Accounts Work* CAMPAIGN AGAINST VAT FRAUD ON EBAY & AMAZON IN THE UK http://www.vatfraud.org/blog/how-phoenix-accounts-work-on-amazon/

[62] Retailers against VAT Abuse Schemes (RAVAS), *eBay Case Study: eBay Duplicate Accounts and Listings* (February 26, 2019)

[63] NZ GSTA (1985) §8(2)(a)

[64] NZ GSTA (1985) §8(2)(b)

[65] NZ GSTA (1985) §8(2)(c)(1)

[66] NZ GSTA (1985) §8(2)(c)(2)

[67] NZ GSTA (1985) §8(2)(c)(3)

What should be reasonably apparent is that these rules are crafting a four-party exchange of digital information (buyer, seller, marketplace and tax authority), but are omitting one of the parties (the tax administration). The assumption seems to be that the tax administration can always come in later and perform an audit. In addition, there is a built-in delay in getting information to the tax administration. There is no requirement that communications be verifiable by all the parties in real-time.

We need to remember that the transactions being regulated through these rules are already fully digital, and frequently involve a global technology company. There is no commercial burden on any of the parties involved if we require the global technology company to close the digital loop, and there is considerable fraud prevention opportunity in doing so. The provision missing from the New Zealand rules would be placed at NZ GSTA (1985) §60C(2)(d), and should be phrased somewhat like the following:

> (d) that the marketplace shall produce for each sale made through the marketplace, on behalf the seller and for certification of the supply by the buyer, a fully compliant fiscal invoice that is received by the Tax Core in real-time, and can be verified through a QR code attached to the invoice.

This provision would effectively require the electronic marketplace to produce a mini-blockchained record of all transactions conducted through the marketplace, one which could be accessed by each tax administration participating in the Tax Core, and one which would allow accurate records to be assembled. The added requirement, at (d) above, will effectively require the electronic marketplace to produce invoices (for its underlying suppliers) that would replicate the chain set out in Figure 7 above. It would be a small matter for a jurisdiction to then apply an AI algorithm that would isolate specific underlying suppliers selling into the jurisdiction, from which a return should be due.

This solution is not complete. It is always possible for an underlying supplier to secure the tax from the electronic marketplace, and then go missing without filing a return. The business could continue, for a time, through a phoenix account. The audit that would be possible with the data received through the VMS invoice might reduce the fraud, but might not be fast enough to recover the tax that was lost to the missing trader. Something more is needed for a complete solution. Requiring use of a VATCoin would be sufficient.

Cryptotaxcurrency (VATCoin) added to opt-out rules

VATCoin was proposed as a comprehensive solution to Missing Trader fraud in response to the EU's "far-reaching reforms"[68] communication at the end of 2017.[69] The Commission

[68] European Commission Press Release, *European Commission Proposes Far Reaching Reform of the EU VAT System* (October 4, 2017) and COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL AND THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE, On the follow-up to the Action Plan on VAT Towards a single EU VAT area - Time to act
Both available at: https://ec.europa.eu/taxation_customs/business/vat/action-plan-vat/single-vat-area_en

[69] Richard T. Ainsworth, Musaad Alwohaibi, Mike Cheetham & Camille Tirand, *A VATCoin Solution to MTIC Fraud: Past Efforts, Present Technology, and the EU's 2017 Proposal,* 89 TAX NOTES INTERNATIONAL 335

indicated that it wanted a system that would be "… simpler … robust to fraud … exploiting … digital technology [that] … enhanc[ed] greater trust …"[70] VATCoin does this, and more.

If there is a problem with the EU VATCoin proposal it's that the EU Commission's application base is the entire EU. The breadth of the required application and the "readiness" of that base to implement it makes an immediate roll-out unlikely. For example, the EU has not reached the basic plateau of digital compliance; it is not ready to require that all invoices must be digital. This is a necessary pre-condition to achieving any kind of robust, fraud preventing application of digital technology.

That is not the case with electronic marketplaces. This commercial ecosystem is not only much more manageable than the entire EU, it is a system that is already digital, and already includes many of the leading technology companies. Compliance should neither be costly nor problematical.

As described in the earlier proposal, a VATCoin is a digital asset acquired in exchange for fiat currency. It is denominated in the local currency that was used to initially acquire it. VATCoin is a VAT payment system utilizing open source software.[71] The system is peer-to-peer. Transactions take place between users directly. There is no intermediary (bank or other trusted third party).

Transactions are verified by network nodes (largely governmental and the leading technology companies participating in the marketplace). The record is a *private* distributed ledger where the VATCoin itself is the unit of account. This is a blockchain.[72] There is no central depository of VATCoins. There is no administrator. The VATCoin blockchain is designed as a tax payment, recordkeeping, and fraud prevention mechanism. It is a natural "fit" with any electronic marketplace, and should be easy to adopt by any marketplace that wants to "opt-out" of tax return and remittance obligations for third-party suppliers who are using their marketplace as a sales portal.

(January 22, 2018). Richard T. Ainsworth & Andrew Shact, *Blockchain Might solve VAT Fraud*, 83 TAX NOTES INTERNATIONAL 1165 (September 26, 2016)

[70] COMMISSION STAFF WORKING DOCUMENT – IMPACT ASSESSMENT, *accompanying the document Proposal for a Council Directive amending Directive 2006/112/EC as regards harmonizing and simplifying certain rules in the value added tax system and introducing the definitive system for the taxation of trade between Member States*, SWD(2017) 325 final (October 4, 2017) at 11, *available at*: https://ec.europa.eu/transparency/regdoc/rep/10102/2017/EN/SWD-2017-325-F1-EN-MAIN-PART-1.PDF

> The purpose of this initiative is to put in place a definitive VAT system so as to pave the way for the creation of a genuine single EU VAT area for the internal market. This means a VAT system *simpler* for businesses trading across the EU while at the same time *more robust to fraud*, to the benefit of the Member States and also of compliant businesses. The efficiency of the VAT system needs to be further improved, in particular by *exploiting* the opportunities of *digital technology* and by *enhancing greater trust* between business and tax administrations and between EU Member States' tax administrations. (emphasis added)

[71] Open source software is computer software where its source code is made available (with a license) in which the copyright holder provides the right to study, change, and distribute the software to anyone and for any purpose.

[72] The blockchain application is not diagramed in this paper but comparable diagrams can be seen in Richard T. Ainsworth, Musaad Alwohaibi, Mike Cheetham & Camille Tirand, *A VATCoin Solution to MTIC Fraud: Past Efforts, Present Technology, and the EU's 2017 Proposal,* 89 TAX NOTES INTERNATIONAL 335, 347-355 (January 22, 2018).

The blockchain is important for more than tracking a jurisdiction's VATCoins in circulation. Even though VATCoin is not a fiat currency, nor can it be used as a substitute for a fiat currency, it is likely that VATCoins will be accumulated by individuals making frequent purchases through electronic marketplaces. They may (under certain conditions) be transferred among individuals, but they are never recognized as legal tender for anything other than payment of the national VAT.[73]

The fraud detection aspect of the VATCoin blockchain involves monitoring underlying suppliers in remote jurisdictions that set up multiple entities on a platform, or try to avoid enforcement actions with Phoenix Accounts. If the "profit margin" of the fraudsters include the VAT, then these entities would be expected to attempt transfers of VATCoins among themselves or try to trade them with individuals who would promise to "cash them out" at a discount.

Transactions like this would be immediately visible on the blockchain, detected by risk analyzing AI. The VATCoin's digital code would be quickly rescind (remotely). A VATCoin that is not properly in the chain of ownership is not accepted for payment of a valid VAT debt. It is outside the chain, and can only be converted to fiat currency by a rightful owner. This is a kind and a degree of remote enforcement over upstream frauds that is simply not available in the present system.

VATCoins are acquired by purchase from the national Treasury, and are denominated in local currency units. VATCoins are legally convertible into fiat currency only by the same national Treasury that issued them. Thus, each British VATCoin (VATCoin-UK) represents one British Pound. It is issued by the UK Treasury in a 1 for 1 exchange for British currency, and is intended to be legally transferrable only in a VAT-payment transaction. Each currency transaction is recorded on the VATCoin blockchain, and can be digitally paired with the factual, commercial transaction preserved in the VMS.

Just as the VMS is all about securing a real-time exchange of verified transaction data among all the parties to a transaction (buyer, seller, marketplace, and tax authority); the VATCoin is all about securing (in real-time) all the revenue that is promised in the data, as it passes through the same parties. In specific terms, if the New Zealand *Netflix Tax* were to adopt VATCoin a provision would need to be added to the NZ GSTA (1985) at §60C(2)(e). It would require the following of any marketplace seeking to opt-out:

> (e) that the marketplace shall collect GST in only VATCoins-NZ when so offered by New Zealand customers, and shall only pay-over, pay-forward or retain collected GST in VATCoin-NZ.

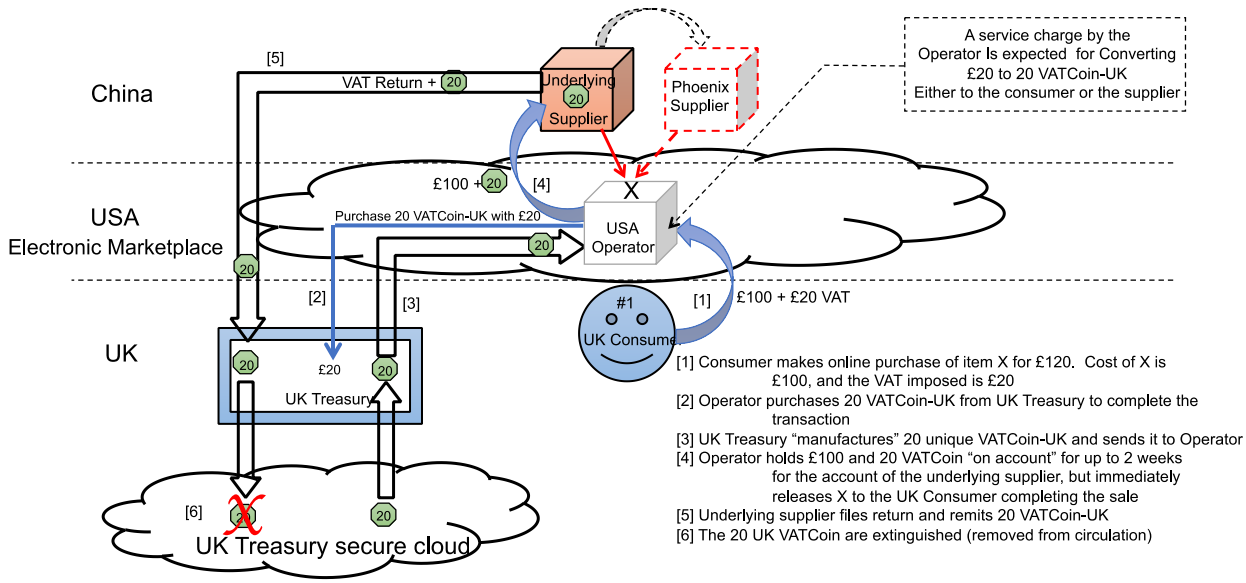
VATCoin & Electronic Marketplace Example

[73] A *de minimis* rule is anticipated whereby an individual who may have excess VATCoins in a digital wallet could arrange to transfer them to a friend who would use them to pay the VAT due on a purchase at an electronic marketplace.

Figures 8, 9, 10 and 11 (below) illustrate the use of VATCoin in an electronic marketplace fact pattern where the Operator has opted-out of tax return and tax remittance obligations with respect to any underlying supplier who is using the marketplace as a sales portal. The overall example assumes that the US-located electronic marketplace performs all the functions of a service provider, and that the buyer's jurisdiction follows rules similar to NZ GSTA (1985) at §60C(2), including additional fiscal invoice and VATCoin requirements (like those suggested for §60C(2)(d) and (e) above).

This illustration has a narrow scope. It only considers two transactions, both are purchases of "item X," and both are consummated between the same remote (Chinese) supplier, but with different UK consumers. The example further assumes that the remote (Chinese) supplier has decided that it is time to close down this company. The owner anticipates an imminent tax collection and enforcement action. He fears having his inventory seized, and his bank account frozen as a consequence of not fully paying the VAT that is due. As a consequence, he has begun the process of opening up a Phoenix Account through which he intends to continue selling item X through the same electronic marketplace. Figures 8, 9, 10 and 11 demonstrate four permutations of this example.

Figure 8:
VATCoin purchased by Electronic Marketplace Operator to complete transaction



First permutation. At [1] the UK Consumer #1 presents the Operator with £120 representing the £100 purchase price for Item X, which was advertised for sale on the Operator's electronic marketplace web site. It also pays the 20% UK VAT. Because the Operator has decided to opt-out of tax return and tax remittance obligations the electronic marketplace must convert £20 into 20 VATCoins-UK.

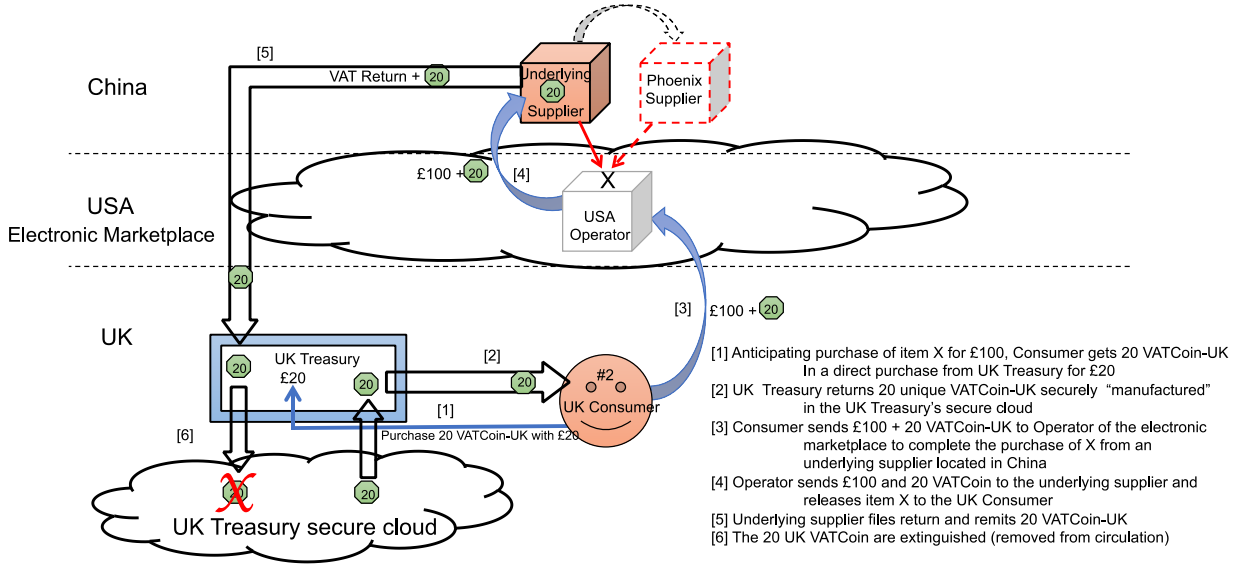
Steps [2] and [3] represent the Operator converting £20 into 20 VATCoin-UK. As soon as the operator is in possession of £100 and 20 VATCoin-UK the transaction is completed. This is the point when the electronic marketplace will draft a fiscal invoice on behalf of the

underlying supplier. It is also the point where the Operator places £100 and 20 VATCoin-UK into a holding account where it will stay for 14 days (as security for the transaction). Item X is released to the UK consumer #1 at this time (that is, it is released at the beginning of the fourteen-day holding period). If there are complaints about Item X, or a return is necessitated, the Operator is assured to have the funds necessary to accommodate the customer on behalf of the underlying supplier.

At [4] the holding period is complete, and the electronic marketplace now deposits the £100 purchase price and the 20 VATCoin-UK in the account designated by underlying supplier. When the time comes for a UK VAT return to be filed by the underlying supplier, the 20 VATCoins-UK will be associated with the return [5] and transferred to the UK Treasury, where they will be destroyed [6]. The reason for the destruction of the VATCoins is to assure that there is a single clean digital chain for all the commercial transfers involving these VATCoins.

Second permutation. The second permutation is similar. It simply illustrates that the consumer has the option of purchasing VATCoin-UK on its own account and then transferring it directly to the Operator, rather than relying on the Operator to make the purchase. The illustration uses Consumer #2.

Figure 9:
VATCoin purchased directly by Consumer remitted to Operator to complete transaction



At [1] UK Consumer #2 anticipates purchasing Item X on the electronic marketplace for £100, and realizes that 20 VATCoin-UK will be needed to complete the transaction. UK Consumer #2 goes to the UK Treasury's web page and purchases 20 VATCoin-UK which it puts in its digital wallet [2].

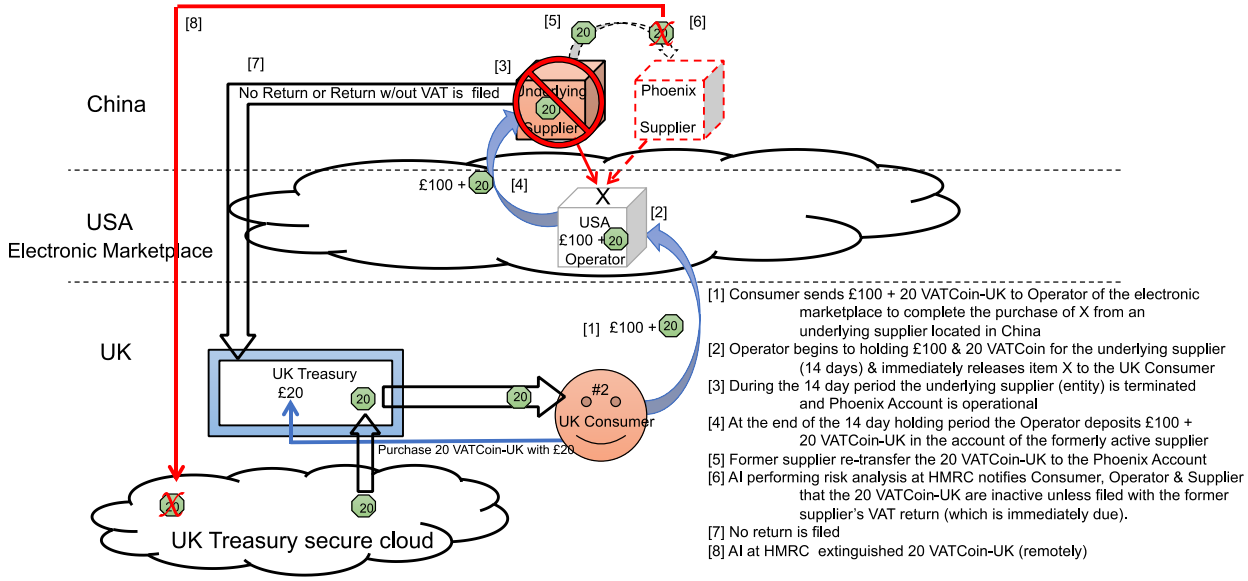
It is always possible that UK Consumer #2 already possessed more than enough VATCoin-UK from other transactions. For example, it could have returned an item previously purchased and received back the full purchase price and VATCoins. In this case it would simply access those VATCoins already in its digital wallet. A motivation for purchasing VATCoin

directly, rather than having the Operator of the electronic marketplace do it, is to avoid a service charge that was anticipated in Figure 8.

The remaining steps in Figure 9, [3], [4], [5], and [6], replicate those in Figure 8. The VATCoin-UK passes to the underlying supplier's designated account, then is associated with the VAT return, deposited in the UK Treasury, and is destroyed.

Third permutation. Both of the earlier permutations presumed that the underlying supplier properly submits the return that is due on sales made into the UK. But what if, through no fault of the electronic marketplace, the underlying supplier decides to terminate operations. He then activates a Phoenix Account that will continue selling Item X, but no UK VAT return is filed under the name of the former supplier. The 20 VATCoin-UK are not remitted.

Figure 10:
Underlying supplier terminated, and Phoenix Account activated during 14 day holding period



Following on Figure 9, UK Consumer #2 secures his own 20 VATCoin-UK, and remits them along with £100 to purchase Item X. The purchase is immediate, and Item X is transferred to UK Consumer #2. However, for up to fourteen days the Operator of the electronic marketplace holds the funds in its own account as security that the transaction is final, and that no returns or adjustments are needed.

At [3], which is during the fourteen-day period when the electronic marketplace is holding the underlying supplier's funds (£100 and 20 VATCoin-UK), the supplier shuts down. The owner removes his company from the electronic marketplace's web site and dissolves the corporation behind the listing.

At [4] the fourteen-day holding period expires and the electronic marketplace transfers the £100 and 20 VATCoin-UK -- not to the underlying supplier, because that entity is extinguished, but into the account previously designated by the underlying supplier for deposits.

While the £100 is fiat currency and can be easily withdrawn, the 20 VATCoin-UK only has value as a token to pay the UK VAT. It can be transferred, but not "cashed-in."

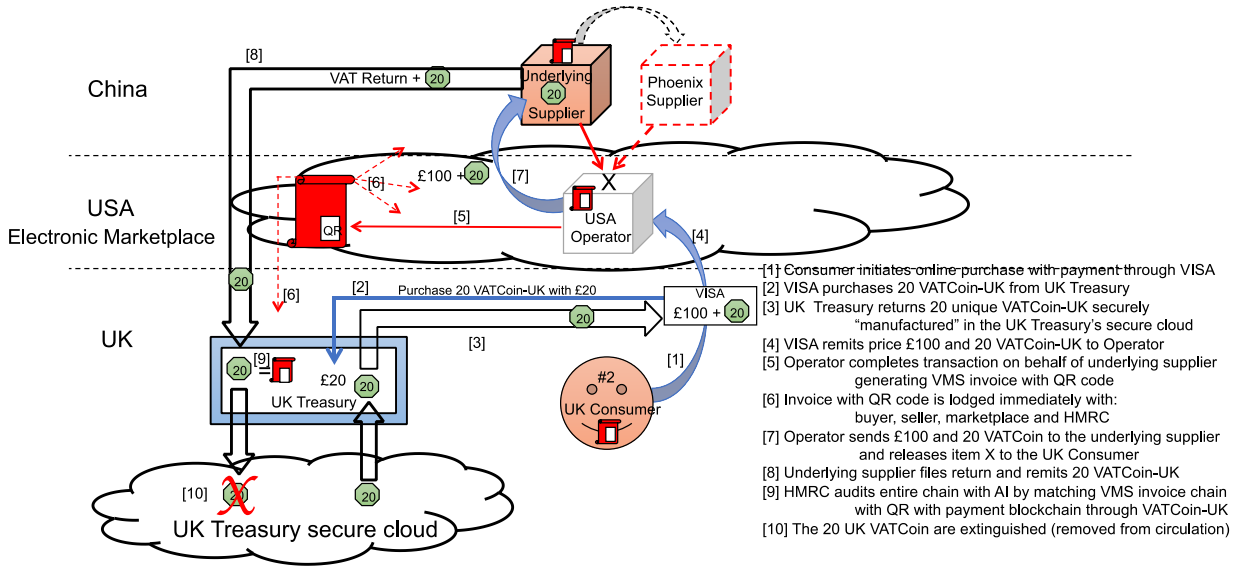
At [5] the 20 VATCoin-UK is transferred to a newly activated Phoenix Account. This transfer would raise a "red flag." The AI risk analysis program in the HMRC cloud would identify this transfer as suspicious. It would be coming from a no longer active listing on the electronic marketplace, to a newly formed entity on the same sales platform, which is also offering Item X for sale. Any cross-entity transfer of VATCoins would raise suspicions, but this particular transfer would be most problematical.

At [7] no VAT return is filed when it is due, and the AI picks this up, notifies HMRC, and a demand for the return is immediately issued. After an appropriate time HMRC will extinguish the 20 VATCoin-UK (remotely) by decertifying its code [8]. All appropriate parties are notified, and collection action is undertaken, which would include seizure of inventory belonging to the initial underlying supplier, all related entities and Phoenix Accounts, as well as any funds being held by the electronic marketplace. However, the VAT paid by UK Customer #2 has been received by the UK Treasury, and has been in the Treasury since the time UK Customer #2 first secured it.

Fourth permutation. The final permutation directly connects Fiji's VMS (as extended to cover electronic marketplaces) with the VATCoin in a manner that illustrates where the databases are developed that feed into the government's secure cloud. Data streams that reside in the Tax Core and the VATCoin's blockchain are merged in the fiscal invoice, and are overseen by algorithm and risk analyzing AI in a real-time compliance net that captures all the transactions on any (and all) the electronic marketplaces impacting the domestic economy.

Figure 11 also introduces a VISA card as a mechanism through which UK Consumer #2 secures VATCoins for the purchase of Item X.

Figure 11:
VATCoin purchased directly by Consumer through VISA, remitted to Operator to complete transaction, with VMS verification of transaction through QR code scan & VATCoin blockchain trail



At [1] the UK Consumer initiates a purchase transaction on the electronic marketplace platform for Item X with a VISA card. The card will have functionality to automatically secure the VATCoin-UK necessary to complete the purchase [2] and [3]. VISA may secure an amount of VATCoin-UK in advance to facilitate rapid access to them by its customers making marketplace purchases.

There will be commercial competition to secure this service income, and much like the "free shipping" options found on many electronic platforms, it is expected that "free VATCoin acquisition" applications will develop for individuals making significant purchases. Thus, Figure 11's VISA card option, and Figure 8's marketplace-provided option will compete at [4] to secure the VATCoins-UK needed to complete the marketplace purchase.

At [5] the transaction is completed. It will be represented on a fiscal invoice that will include a QR code allowing anyone to verify the transaction and the VAT paid. Importantly, in this more advanced VMS, the QR code will not only identify the VAT amount that was paid, but it will record the specific VATCoins-UK that were used to pay the VAT. In so doing, the two streams of transaction data will merge, and an AI program can go back and forth on both of the commercial chains in real-time. The VMS (invoice) will allow anyone to follow the supply (goods, services, intangibles); the VATCoin blockchain will allow anyone to follow the money flows.

At [6] the now integrated system is broadcast to all participants – buyer, seller, marketplace, and tax administration. Because of the transparency of the QR code and the VATCoin blockchain anyone can follow the commercial chains that produced the VAT-able transaction.

At [7], the Operator remits the £100 and 20 VATCoin-UK to the underlying supplier who then associates the VATCoins with the VAT return [8]. A critical AI review occurs at [9] where the elements of the VAT return, all related invoices, and the currency and VATCoin flows can be assessed. Data preserved on the fiscal invoice will be coordinated with the VATCoin-UK data stream for each invoice, and risk analysis AI will be used to identify patterns of activity that would be precursors to fraud. At [10] the used VATCoins are destroyed.

CONCLUSION

New Zealand's Netflix Tax rules dealing with electronic marketplaces are not adequate to the task assigned. They identify the commercial structures and allocate compliance obligations between the marketplace and the underlying suppliers, but the rules do very little to assure the IRD that it will have the data it needs to effectively audit and enforce the rules.

Upstream electronic marketplace frauds are essentially missing trader frauds operating at high speed in a digital environment. It is a world that allows sellers to quickly sell, dissolve, and then appear again selling the same product on the same platform, while avoiding the GST. Downstream frauds are smaller scale. They are commonly individuals (not institutions) that are

avoiding the GST by disguising their residence through manipulation of the residence algorithm of the marketplace to move a false identity to a low-tax/ no-tax jurisdiction.

Both of these frauds, and avoidance mechanisms can be stopped with technology, but nothing in the Netflix Tax gathers the data that the IRD needs to do this job in real-time. The artificial intelligence (AI) that will do it needs a comprehensive real-time data bases to be able to deal effectively with the fraud problems. Fiji's VMS can secure this data, but New Zealand needs to be willing to mandate fiscal invoices for all transactions within the ambit of the GST. This would mean that even non-resident, remote service providers selling into the New Zealand market would be required to issue compliant fiscal invoices.

The enforcement mechanism to assure compliance with the fiscal invoice rule would need to be comparable to the enforcement measures in the Brazilian *Sistema Publico de Escrituracao Digital* or Public System for Digital Accounting (SPED). In Brazil an early version of the full fiscal invoice used in Fiji has been in place, and used for securing internal data for cross-border supplies among the twenty-seven Brazilian states since 2006. The key to its success is that an invoice must be compliant with the fiscalization rules to be legally enforceable. Paper invoices are acceptable only as replicas or evidence of the prior digital invoice.[74] In a regime like this, no seller sells, and no buyer buys without a fiscal invoice that can be validated in real-time by scanning the embedded QR code on its face.

[74] Newton Oller de Mello, Eduardo Mario Dias, Caio Fernando Fontana & Marcelo Alves Fernandez, *The Implementation of the Electronic Tax Documents in Brazil as a Tool to Fight Tax Evasion,* PROCEEDINGS OF THE 13TH WORLD SCIENTIFIC AND ENGINEERING ACADEMY AND SOCIETY (WSEAS) INTERNATIONAL CONFERENCE ON SYSTEMS (2009) 449, 453, *available at*: http://dl.acm.org/citation.cfm?id=1627575&picked=prox