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DATA FIRST – TAX NEXT:
HOW FIJI’S TECHNOLOGY CAN IMPROVE NEW ZEALAND’S “NETFLIX TAX”
(Part 2)

Richard T. Ainsworth

VAT/GST avoidance schemes involving remote sales of services have been growing in importance. The IMF reports that the services component of cross-border trade has been on the rise for fifty-years or more, making the Internet a serious threat to revenue. Technology has accelerated tax avoidance.

Statutory draftsmen in New Zealand have looked at this problem directly with what has been called the *Netflix Tax*. Technologist in Fiji have been struggling with similar problems and have developed technology-based security systems that would seem to address remote sales of services more effectively than traditional approaches. Fighting technology with technology has some distinct advantages over a traditional statute and regulation approach. In a very real sense, computer code can be law, and can function as a tax regulation.¹

Three additional aspects of the New Zealand *Netflix* will be considered in this part: (a) threshold rules; (b) remote enforcement; and (c) double taxation of remote services. In each case the New Zealand rules will be considered, followed by an overlay of Fiji’s technological solution to show how inherent problems with traditional statutory solutions can be mitigated with technology.

A final paper will consider four remaining issues: (a) placing tax responsibility for reporting and collecting VAT/GST with an electronic marketplace; (b) how to deal with domestic agents of remote service providers; (c) how to detect and respond to false information sent to the tax administration; and (d) how to deal with dual-status taxpayers.

NEW ZEALAND THRESHOLDS

New Zealand tax policy strongly advocates level playing-fields. The *Netflix Tax* is rooted in the belief that it is fundamentally unfair to allow remote suppliers of services to avoid collection of the GST while competing with residential suppliers of the same service who must collect the tax.² Remote suppliers should be treated the same as resident suppliers. Consistent with this policy, the *Netflix Tax* requires non-resident suppliers of remote services to register

¹ Lawrence Lessig, *Code Is Law – On Liberty and Cyberspace*, HARVARD MAGAZINE (January-February 2000)

² New Zealand Inland Revenue, *Policy and Strategy, Special Report: GST on Cross-border Supplies of Remote Services* (May, 2016) at 6:

The new rules are intended to maintain the broad base of New Zealand’s GST system and from a GST perspective create a level playing field between domestic and offshore suppliers of services and intangibles. The effect will be to reduce the extent to which differences in GST treatment distort consumers’ purchasing decisions.

Available at: <https://taxpolicy.ird.govt.nz/sites/default/files/2016-sr-gst-cross-border-supplies.pdf>

under the same rules and requirements that apply to resident businesses. This includes the application of a NZ\$60,000 threshold.³

Even though this rule can be simply stated, it is not simple to implement. Problems arise when this rule is applied to a non-resident supplier of remote services when that supplier is making sales to *both* New Zealand consumers and New Zealand businesses.

Consumer sales (B2C) are deemed to be New Zealand sales by core provisions of the *Netflix Tax*.⁴ As such, these sales *will always be counted* against the NZ\$60,000 registration threshold of a remote service provider.

Sales to registered New Zealand businesses (B2B), where the purchasing business will use the services as an input for onward supplies, are deemed to be supplied *outside* New Zealand. These cross-border sales will be zero-rated, and the resident buyer will be required to perform a reverse charge. The rules that accomplish this are pre-*Netflix Tax* rules.⁵ New Zealand had never been concerned about B2B supplies. The reverse charge solved problems with these sales.⁶

However, when determining whether or not a remote supplier has exceeded the registration threshold the B2B sales (because they are deemed supplied *outside* of New Zealand) will *not be counted* against the NZ\$60,000. Consider figure 1 (below). This problem considers a non-resident Music Company that sells directly to consumers in New Zealand, but also licenses music to New Zealand businesses (perhaps to run in hotel lobbies or elevators without commercial interruptions).

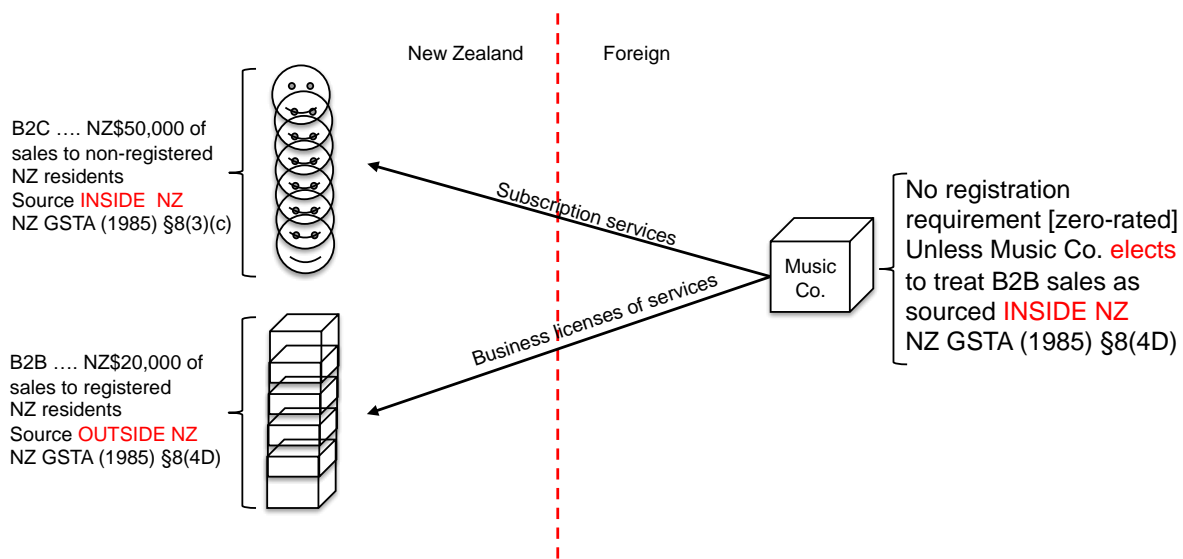
³ Under NZ GSTA (1985) §§51(1)(a) & (1C) there is a one-year threshold where an enterprise has “carried on ... taxable activities” in excess of NZ\$60,000 that is applicable to both residents and non-resident suppliers, subject to a provision in §51(1C) that allows non-resident suppliers of remote services subject to §8(3)(c) to use a “fair and reasonable method of converting foreign currency” to New Zealand dollars. The New Zealand GST is available online at: <http://www.legislation.govt.nz/act/public/1985/0141/143.0/DLM83012.html>

⁴ NZ GSTA (1985) §8(3)(c).

⁵ NZ GSTA (1985) §§8(2) & 8(4D)(main clause).

⁶ NZ GSTA (1985) §8(4B).

Figure 1: Registration Thresholds & A Level Playing-field



In this example, Music Co. is making NZ\$70,000 in sales to New Zealand residents, but none of the B2B sales are counted against the registration threshold of NZ\$60,000. As a consequence, Music Co. is not required to register, is not required to collect GST on any of its New Zealand sales (B2C or B2B), and has no return filing requirements in New Zealand. If, for some reason Music Company incurs GST for some activities in New Zealand, and would like a deduction, then an election is possible where it could treat *all* of its B2B sales as sales made *inside* New Zealand.⁷ In this instance, it would now exceed the NZ\$60,000 threshold, be required to register, file returns, and collect GST on all B2C sales. It would now be allowed to deduct the New Zealand GST it had incurred.

However, a different strategic decision is also likely. What if Music Company had no GST to deduct. What if it saw a commercial advantage in remaining an unregistered remote supplier of services to New Zealand. If so, it then would seek to expand its B2B sales as much as possible, and set digital controls on its Internet sales so that B2C sales never exceed the NZ\$60,000 threshold. If there was more consumer demand for its music, then it might set up Music Company #2 to handle the overflow and seamlessly (invisibly) forward New Zealand consumers to Music Company #2.⁸ If this manipulation is not an intended result of the *Netflix Tax*, then the Inland Revenue Department needs to supervise, or develop an audit program that would oversee foreign remote suppliers.

One final aspect of New Zealand's registration rule needs to be considered in the context of the *Netflix Tax*. The drafters understood that especially for remote sellers of services over the internet the NZ\$60,000 registration threshold is only workable if the residency of a buyer can be

⁷ NZ GSTA (1985) §8(4B)(final clause).

⁸ It might be advisable to take down the consumer side of the Music Company #1 web site, or it might be appropriate to indicate that Music Company #1 sells only to business accounts after a limited number of consumer sales. Then again, Music Company #1 could do nothing publicly and simply forward consumers to the new Internet location of Music Company #2 without notifying the consumer that anything had happened.

determined *quickly*. A cumbersome, human-judgement-intensive rule would be a barrier to trade. Online purchases need to be consummated quickly, or the customer will go someplace else.

The *Netflix Tax* has a mechanism for determining residency that is custom made for automation.⁹ The *Netflix Tax* requires that non-resident suppliers of remote services to determine New Zealand residency on the basis of two non-conflicting pieces of evidence from a specified list of indicators.¹⁰ The Commissioner has the authority to prescribe the use of another method.¹¹ The indicators are:

- (a) the person's billing address;
- (b) the internet protocol (IP) address of the device used by the person or another geolocation method;
- (c) the person's bank details, including the account the person uses for payment or the billing address held by the bank;
- (d) the mobile country code (MCC) of the international mobile subscriber identity (IMSI) stored on the subscriber identity module (SIM) card used by the person;
- (e) the location of the person's fixed landline through which the service is supplied to them;
or
- (f) other commercially relevant information.

The most striking aspect of each of these indicators is that they are all inherently digital. Any system that is able to pull this data from transactions can easily determine New Zealand residency with an algorithm. This appears to be intentional, and it appears to be a concession to the expectation that most remote sales of services will occur through a digital medium and most likely over the Internet.

Figure 2 is an example of a difficult residency determination. Without clear rules the customer in this example could be considered an American or a New Zealand resident. Thankfully, the rules are reasonably clear and detailed. The supplier will get the right result if its algorithm is working properly.

Thus, Figure 2 begins with a "known" New Zealand resident as the customer, but at the time of the purchase he is on vacation in the USA. The seller is an App Company, which is located in a third country. The example assumes that two non-conflicting pieces of evidence indicate residency in New Zealand (credit card data & billing address), but two other non-conflicting pieces of evidence indicate residency in the USA (SIM card data and the IP address).

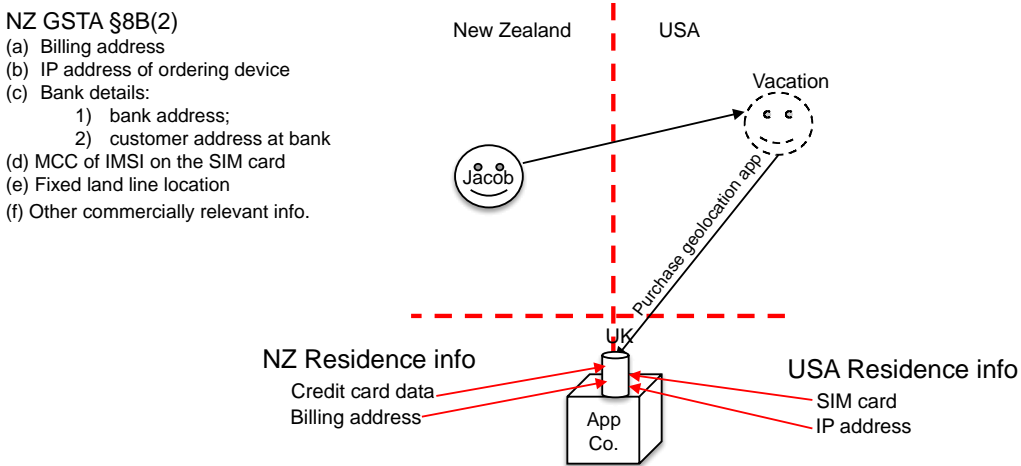
This is difficult. The App Company needs to determine which of these two sets of data is the most reliable. If it hopes to make this determination quickly, the algorithm will need to be reasonably sophisticated, but it is nothing that cannot be handled.

⁹ NZ GSTA (1985) §8B(2).

¹⁰ NZ GSTA (1985) §8B(1) and (2).

¹¹ NZ GSTA (1985) §8B(3)(b).

Figure 2: Residence Determination



App Company algorithm should quickly pull all the required data, determine the most reliable information and make a quick assessment of residency which will be displayed to purchaser in a manner that will allow customer's correction.

MCC = Mobile country code

IMSI = International Mobile Subscriber Identity

MCC = Mobile country code

Both Music Company selling to New Zealand consumer and New Zealand businesses in Figure 1 and the App Company trying to determine the residency of the consumer in Figure 2 are remote suppliers performing nearly un-auditable functions. The Music Company is not required to register, or send any documentation to Inland Revenue. How would an auditor gather the data necessary to conduct an audit, other than making an international exchange of information request? If a request was made, how would the foreign tax authority secure the necessary documents short of conducting their own audit of the New Zealand sales records of the Music Company?

The same is true of the App Company. If the App Company's algorithm made the wrong residence determination, and considered Jacob to be an American resident, not a New Zealand resident based on its assessment that the SIM card and IP address was the most reliable indicator of residence, how would a New Zealand auditor know? How would he get the data he needed to perform this audit? An information exchange would be necessary. How easy would it be to get permission to make this inter-governmental information request?

PUTTING NEW ZEALAND THRESHOLDS AND RESIDENCY TESTS INTO FIJI'S VAT MONITORING SYSTEM

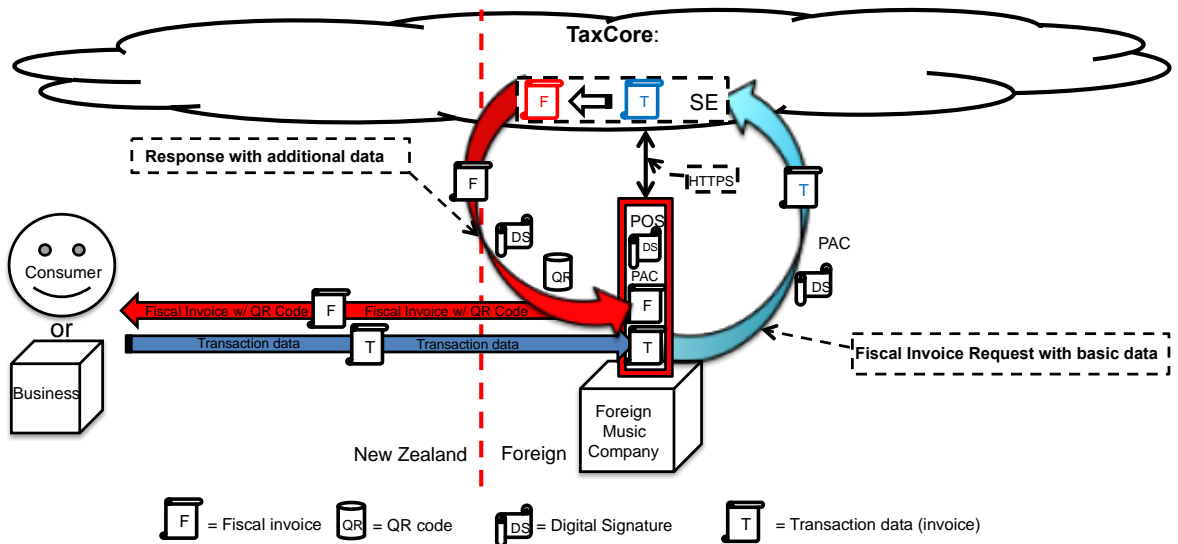
Fiji would approach the threshold and residency questions very differently. A simple extension of Fiji's VAT Monitoring System (VMS) to include remote suppliers of services would transform the *Netflix Tax*. Under this approach New Zealand would simply require all non-resident suppliers of services to issue a *fiscal invoice* when engaged in transactions with

New Zealand residents. A tax policy that emphasized a level playing field would include a mandate that *fiscal invoices* be used in all domestic transactions, as is the case in Fiji.

Thresholds. Figure 3 (below) is a New Zealand modification of Figure 4 from part 1. It illustrates the creation of a *fiscal invoice* from the transaction data entered into the POS of the Foreign Music Company. All the transaction data will be collected through the Internet web site. The POS will identify itself and transmit the data to the Tax Core, a cloud-based system in the New Zealand Inland Revenue Department where the secure element will fiscalize and produce a QR code which will be imprinted on the receipt/ invoice produced for the New Zealand consumer (B2C) or the New Zealand business (B2B).

At this point, the New Zealand Tax Core, the Foreign Music Company's POS system, and the New Zealand consumer/ New Zealand business that purchased the remote service have full and verifiable access to all the transaction data. The New Zealand customer would have to scan the QR code to see the data, but both New Zealand Inland Revenue Department and the Foreign Music Company will have the data directly available within their systems.

Figure 3: Response completing the Fiscal Invoice [w/ QR verification]
Data stored in Tax Core [cloud] and embedded in QR code
[Modified Figure 4 from Part 1]



Because *every business* making remote sales to New Zealand will be required to issue a compliant fiscal invoice the New Zealand Inland Revenue Department will be able to monitor compliance. A simple artificial intelligence (AI) algorithm should be able to scan the data base monitoring the registration requirement. Systems could be programmed to send a notice to non-resident suppliers when they passed the NZ\$60,000 threshold and tell them that registration and a GST return is expected.

AI should also be adequate to detect the *alternate supplier frauds* whereby a remote supplier approaching the registration threshold switches off B2C sales and shuffles all new B2C

orders to an alter-ego site which is able to continue making “GST-free” sales, because it is starting with a new threshold countdown from zero.

For example, assume the Foreign Music Company has been selling a modest number of downloads of Queen’s music over the years, but after the movie release of *Bohemian Rhapsody* demand for Queen’s music spikes. If the Foreign Music Company responds to all the B2C download requests from New Zealand consumers it recognizes that it will exceed the threshold of NS\$60,000. The Foreign Music Company may then decide to set up an alter-ego company and web site to supply the spike in demand for Queen music downloads. An AI program should not only be able to identify the spike in demand, but also the nature of the demand, and should be able to ferret out any alter-ego sites being used by the Foreign Music Company to supply Queen’s music in New Zealand without registering for the GST.

The important point is that fiscal invoices would give the Inland Revenue Department the data base with which it could conduct remote audits. Inland Revenue could, for example, go online and order music downloads of Queen’s songs from the Foreign Music Company, and follow the transaction through the commercial chain. It would see if the order was filled by the Foreign Music Company or by some alter-ego company. It would know immediately whether or not GST was charged, and could respond in real time to this GST avoidance schemes.

Residency. Determining New Zealand residency/ non-residency is the linchpin that holds the entire *Netflix Tax* together. As currently designed, there is no effective and efficient way to audit or monitor residency determinations made by remote suppliers of services. Because an erroneous non-residency determination turns a GST taxable sale into a “GST-free” sale, flipping a resident into a non-resident category will provide the seller with a 15% competitive advantage in the marketplace. Fraudsters will undoubtedly attack the *Netflix Tax* at this point.

The *Netflix Tax* is designed in a way that may facilitate (or cover up) erroneous residency determinations. The residency “indicators” at NZ GSTA §8B(2)(a)-(f) favor digital criteria for proving residency, and favor quick algorithmic determinations of status within the servers of the remote supplier. This process is inherently difficult to monitor, and without monitoring there is no commercial incentive to be honest.

Stated more concretely, how can New Zealand’s Inland Revenue remotely audit foreign programming, on foreign servers? Could such an audit be conducted in real-time (or near real-time)? Could a temporary “modification” in the residency determining program that would turn taxable transactions into non-taxable transactions be identified? Can *residency status fraud* be detected?

For example, assume that a remote supplier of app services would like to increase its sales penetration in New Zealand, and decides to do this by “tweaking” its automated system that determines the residency of buyers so that anyone (including New Zealand residents) who make purchases with United Kingdom credit cards are deemed by the program to be non-residents. To obscure this “tweaking” of the program suppose that it occurred during a one-week-only promotion for UK-citizens-visiting-New Zealand at the beginning of the school year. It might be

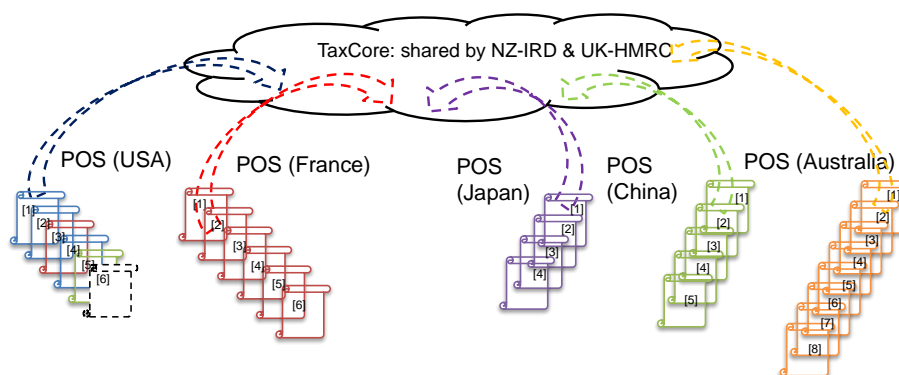
very difficult to detect this manipulation under the current *Netflix Tax*. Performing a foreign audit would be exceedingly difficult.

However, under an extension of Fiji’s VAT Monitoring System this kind of remote oversight is very possible. However, the remote service supplier environment envisioned here is more complex than has been presented so far. A single remote service supplier can easily sell into multiple VAT/GST jurisdictions producing the same collection and oversight problems in each. Consider Figure 4 (below), which is a modification of Figure 6 in *Fiji: A Digital Invoice System Fights Fraud and Enforces Real-Time VAT Compliance*.¹²

Instead of considering multiple sellers using separate POS systems within one country (as in the Fiji paper), this figure posits multiple POS systems each of which are non-resident suppliers located in a different jurisdiction, making supplies to New Zealand residents. It further supposes that each supplier sells to United Kingdom residents also, and that New Zealand and the United Kingdom both;

- (a) adopt a *Netflix Tax* (like that in New Zealand);
- (b) mandate *fiscal invoices* (like those in Fiji); and
- (c) *extend* Fiji’s VAT Monitoring System to non-resident suppliers (as proposed)

Figure 4
Fiscal Invoices from Multiple Remote Service Providers Delivered to a Shared NZ & UK Tax Core
[Modified Figure 6 from *Fiji: A Digital Invoice System Fights Fraud and Enforces Real-Time VAT Compliance*]

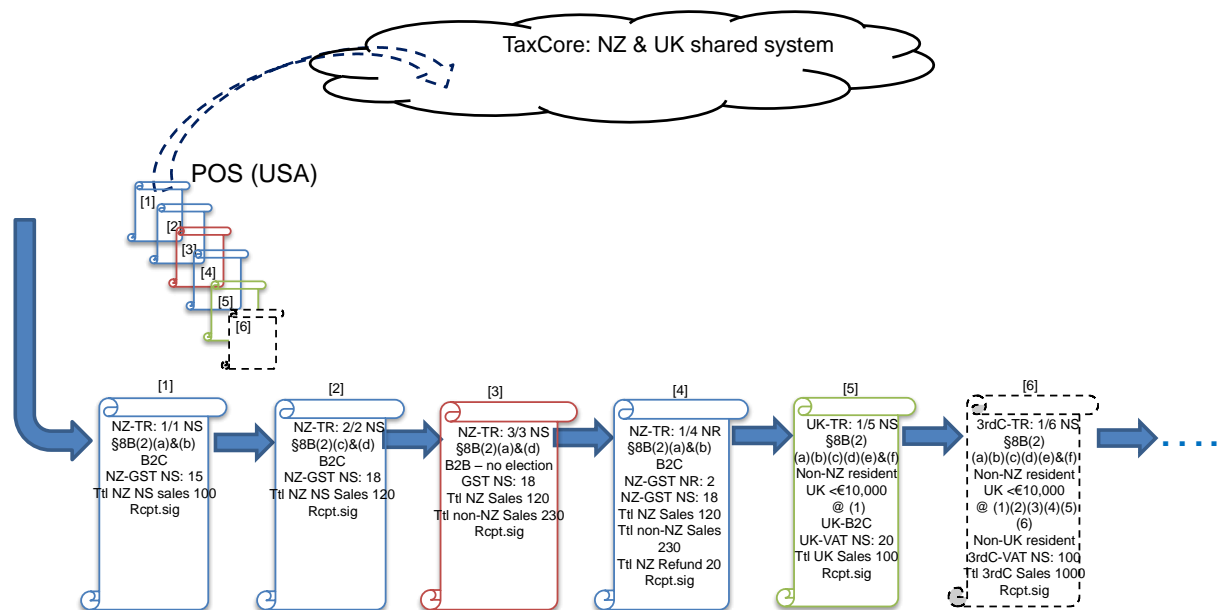


Some things are very obvious with Figure 4. There is immediate (real-time) exchange of VAT/GST information between New Zealand and the United Kingdom. All transaction data is encrypted, and in the cloud. The cloud can be immediately accessed by both the NZ-IRD and the UK-HMRC. This structure will pay immediate enforcement dividends well beyond New Zealand and the United Kingdom. If, for example, the Japanese National Tax Administration was conducting an audit of the firm that was using the Japanese POS in this figure to engage in remote services transactions, it could utilize a traditional information exchange with either New Zealand or the United Kingdom to secure access to the transactions reported through the VMS.

¹² Richard T. Ainsworth & Goran Todorov, *Fiji: A Digital Invoice System Fights Fraud and Enforces Real-Time VAT Compliance*, 92 TAX NOTES INTERNATIONAL 697 (November 12, 2018) at 709.

However, to appreciate the full benefits of this design, a more granular figure is needed. We need to examine the *fiscal invoice* at the level of raw data, and see the chain of invoices issued by a specific POS. Figure 5 (below) provides this breakdown for the tax data collected on each invoice for the business located in the USA.

Figure 5
Fiscal Counters supporting Proof of Audit structure 15% NZ GST & 20% UK VAT
 [Modified Figure 6 from *Fiji: A Digital Invoice System Fights Fraud and Enforces Real-Time VAT Compliance*]



Six sequential invoices are considered. The first thing to notice is the digital signature following the fiscal counter codes verifying the accuracy of the data appearing above. The signature is designated here as “Rcpt.sig.” Each invoice can be called up on command from the Tax Core, and checked as need-be. The *fiscal invoices* contain QR codes. An individual in possession of an invoice can scan the QR code to confirm that the invoice matches the data reported to the tax authority.

The first invoice is a normal (New Zealand) sale invoice (designated in the system as: NZ-TR: 1/1 NS). This expression means that this was the first invoice issued and the first New Zealand transaction from the USA POS. It was the first Normal Sale of the sequence.¹³ The remote sale of services reference d by this invoice was determined to be a New Zealand sale when two of the statutory indicators [NZ GSTA (1985) §8B(2)(a) and (b)]¹⁴ were found to be non-contradictory and they were deemed by the seller’s analytical algorithm to be the most reliable indicators of residence.¹⁵ The purchaser in this remote services transaction is a

¹³ NZ-TR = “New Zealand transaction;” 1/1 = “1st transaction of this sequence & 1st Normal Sale of the sequence;” NS = “Normal Sale.”

¹⁴ 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.

¹⁵ NZ GSTA (1985) §8B(3)(a).

consumer (B2C).¹⁶ As a consequence, New Zealand GST of NZ\$15 is collected on this NZ\$100 sale (indicated by the notation NZ-GST NS: 15).¹⁷ Finally, the Total New Zealand normal sales (at the time of this invoice) is recorded as NZ\$100.¹⁸

The next invoice is also a B2C normal sale (NZ-TR: 2/2 NS). It is the second invoice, and the second normal sale (2/2). The transaction amount is for NZ\$20. The determination that this sale is made to a New Zealand resident is confirmed through a similar application of residence indicators [NZ GSTA (1985) §8B(2)(c) and (d) in this instance].¹⁹ The two indicators were found to be non-contradictory and were deemed by the seller's analytical algorithm to be the most reliable indicators of residence.²⁰ This sale is treated as a B2C sale, because the seller has not been notified that the buyer was registered.²¹ The NZ-GST on this normal sale is NZ\$3. The counters indicate total NZ-GST collected from all normal sales is now 18, with total New Zealand sales of NZ\$120.

The third transaction is a little different. Like the first two invoices, this invoice is for a remote service supplied to a New Zealand resident [NZ-TR: 3/3 NS]. The residence indicators are at NZ GSTA (1985) §8B(2)(a) and (d). However, the remote service provider has been notified by the buyer that it is a registered New Zealand taxpayer. Thus, this is a B2B transaction. The place of supply is outside New Zealand, and the transaction is outside the scope of the New Zealand GST.²² No GST is collected.

There is the possibility that the supplier could (unilaterally) elect to treat this supply as being made *inside* New Zealand, but this election has not been made. If made, the election would not impact the amount GST collected.²³ It would however, help the remote supplier exceed the NZ\$60,000 registration threshold, which would allow it to file returns and deduct New Zealand input GST.

The counters for New Zealand taxable sales and New Zealand GST collected both remain the same from the previous invoice – total New Zealand taxable sales remain at NZ\$120, and total GST collected is NZ\$18.²⁴ What is new on this invoice is a counter for total sales to New Zealand residents supplied outside New Zealand. This amount is NZ\$230.

¹⁶ NZ GSTA §8(4) would deem the service supplied outside of New Zealand, if the seller was notified that the buyer was a New Zealand business. NZ GSTA §8B(5) requires non-resident suppliers to presume that a New Zealand-resident customer is not a GST-registered business unless the customer has provided their GST registration number, New Zealand Business Number or notified the supplier of their status as a registered business.

¹⁷ NZ GSTA (1985) §8(3)(c).

¹⁸ “Ttl NZ NS sales 100” = Total New Zealand sales in the normal sales category is 100.

¹⁹ NZ GSTA (1985) §8B(2)(c) and (d) are the buyer's bank details, and the MCC of the IMSI stored on the SIM card used by the buyer to make the purchase.

²⁰ NZ GSTA (1985) §8B(3)(a).

²¹ NZ GSTA §8(4).

²² NZ GSTA §8(4D).

²³ Under NZ GSTA §11A(1)(x), the election to treat the supply as one that was made in New Zealand requires a zero-rate.

²⁴ 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.

The fourth invoice is a normal refund (NR) of 20, including a return of GST of 3. This is the first normal refund and the fourth invoice in this sequence [NZ-TR: 1/4 NR]. The counters show no change in the aggregate GST collected of 18, total New Zealand sales of NZ\$120, and total non-New Zealand sales to New Zealand residents of NZ\$230. New records include the refund on a supply of NZ\$20, and a NZ-GST refund of NZ\$3.

The fifth invoice is a B2C transaction with a United Kingdom resident consumer [UK-TR: 1/5 NS].²⁵ Application of the NZ residency rules [NZ GSTA (1985) §8B(2)(a)(b)(c)(d) and (e)] have all come up blank. UK residency is found (after classifying this transaction among total sales of less than €10,000). The only residence indicator needed was the customer's billing address, which was found to be within the UK. UK-VAT of £20 is recorded. Total UK sales are £100.

The data collected on this fiscal invoice would easily facilitate HMRC's or IRD's audit of the transaction. The invoice could be immediately recovered by auditors, and the results of the supplier's algorithmic reasoning displayed quickly. The audit could be done in London or Wellington from a laptop computer.

The sixth invoice is very different. It records the fourth normal sale transaction, but it is made to a customer who is from a "third country," that is neither New Zealand nor the United Kingdom [3rdC-TR: 4/6 NS]. The sale is for 1,000 with 10% VAT of 100.

This process will continue for each invoice sent for fiscalization. The process takes less than a second for each invoice under the system established in Fiji. It is both comprehensive and thorough.

DETERMINING AND ADJUSTING FOR ERRORS AND DOUBLE TAXATION OF REMOTE SERVICES

²⁵ 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 changed 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>

Blending a residence-based GST with a *Netflix Tax* cannot be done smoothly. A residence-based tax (by definition) only claims authority to direct the activities of nationals. It controls the behavior of residents, and keeps its hands-off of non-residents.

But a *Netflix Tax* is designed to deal precisely with disruptive non-residents. It is concerned with non-resident sellers of services who (remotely) sell to residents and tilt the level domestic playing field in their favor when they do. It is difficult to have a pure residence-based tax and a *Netflix Tax* at the same time. New Zealand tries to accomplish as much as it can (indirectly). New Zealand resists (directly) reaching out and controlling non-resident sellers, but it needs a way to do so.

An approach, like that offered here, of using technology to regulate domestic commercial activities, as is done in Fiji offers a better solution. Fiji is less concerned about sellers (wherever they are) than it is about invoices issued to residents. The *fiscal invoice* is a regulatory device in the Fijian commercial market. No one is allowed to operate without providing fiscal invoices to resident buyers.

We need to change the focus. It is not the remoteness of the seller and the residency of the buyer that we should be looking at. It is the technological sufficiency of the invoice in the domestic market.

Nothing is more emblematic of this need to change the analytical focus than is the treatment of the tax invoice, and its use in correcting errors arising in the assessment of the GST, and the solutions that a *fiscal invoice* offers to double taxation.

Adjusting for errors in assessing GST

Current law. The *Netflix Tax* rules are open to reporting mistakes. The most likely errors involve a non-resident service provider treating a sale to a GST-registered recipient as a sale to a final consumer and improperly collecting GST.

This problem arises (largely) because the *Netflix Tax* requires non-resident suppliers of remote services to (initially) treat their services as being supplied to a consumer who is not GST registered.²⁶ If this classification is wrong, the customer must notify the supplier that they are GST registered,²⁷ or provide a GST registration number, or provide a New Zealand business number.²⁸

There would seem to be a simple solution in cases where the customer did not notify the seller, and GST is erroneously imposed. Because the (erroneously classified) purchaser is in fact a GST business, it would seem to be easy to allow this New Zealand business to deduct the GST

²⁶ NZ GSTA §8B(5) and (6).

²⁷ NZ GSTA (1985) §8B(6)(a)

²⁸ NZ GSTA (1985) §8B(6)(b). But note, a GST registered business may decide not to identify themselves as GST registered, if they plan on using the supply in a non-taxable activity. Thus, all *non-notifications* of GST registration status are *not made* in error. There are reasons to remain silent.

paid in error on its next return.²⁹ The only apparent problem is that the business (that had been considered to be a final consumer) would not have a tax invoice.

Why not just ask for an invoice? Although this would seem reasonable, the *Netflix Tax* does not allow non-resident suppliers to issue tax invoices,³⁰ nor does it allow them to issue credit notes.³¹

This reasoning is perfectly in keeping with the design of a residence-based GST – invoicing rules are for residents, not for non-residents. This forces an unusual resolution. If the GST that was collected may not be deducted, and an invoice supporting the GST may not be issued, then the only remedy open to the customer is private;³² the customer must ask the supplier to return the GST.

But, just to make things a bit more confusing, there is an exception. Even though non-resident suppliers of remote services have no requirement to issue a tax invoice,³³ they are allowed to do so (in cases of error) if the payment for the supply is NZ\$1,000 or less (including the GST). The reason for this exception is not clearly stated. It is theoretically inconsistent with a pure residence-based GST.

It appears that Inland Revenue is sensitive to taxpayer compliance costs. For low-value purchases of remotely supplied services, the cost of issuing a refund easily exceed the cost of issuing a tax invoice.³⁴ Considered in the context of remotely supplied services, NZ\$1,000 is certainly high enough to include most music and video downloads. These downloaded services are probably the heart of the *Netflix Tax*, but the way New Zealand gets to this resolution is painful.

Technology – a better way. Three factors make technology a better solution to the *Netflix Tax*'s erroneous GST assessment problem. First, extending Fiji's *fiscal invoice* to all remotely supplied services destined for New Zealand's market (B2B or B2C) would directly reverse invoicing rule of NZ GSTA §8B(5) and (6). A statutory revision is anticipated. A *fiscal invoice*

²⁹ A cross-border B2B transaction should be zero rated by the non-resident supplier, and reverse charged by the resident purchaser. It should not be taxed by the supplier.

³⁰ NZ GSTA (1985) §24(5).

³¹ NZ GSTA (1985) §25(4).

³² NZ GSTA (1985) §20(4C) (deduction prohibitions).

For a supply of remote services to which section 8(3)(c) applies, a recipient of the supply is denied a deduction of input tax in relation to the supply unless the recipient has obtained a tax invoice under section 24(5B). [Section 24(5B) lists situations where an invoice is permitted, but does not list this circumstance.]

However, if non-resident supplier is a registered New Zealand business, then it will be allowed to make an adjustment to the payment of output tax on the return where the mistake has been made. NZ GSTA (1985) §25(1). An adjustment will be required only if the non-resident supplier has already accounted for an incorrect amount of output tax as a result of the mistake.

³³ Recall, B2B remote services transactions are sourced outside of New Zealand, §8(4D)(main clause), although with the possibility of an election, §8(4D)(final clause), by the seller to source the transaction inside New Zealand where it will be zero-rated, §11A(1)(x). Only B2C transactions are initially sourced within New Zealand, §8(3)(c). For those transactions the foreign supplier is obligated to collect and remit the GST. The domestic consumer has no need of an invoice for GST purposes as it cannot utilize an input credit.

³⁴ NZ GSTA (1985) §24(4)

is a tax invoice, and would be required of all sellers into the New Zealand market. A corrected *fiscal invoice* would be a proper tax invoice, and related credit notes should be allowed.

Secondly, if New Zealand were to extend Fiji's *fiscal invoice* regime in this manner, and if these digital invoices were enforced in the same manner that Brazil enforces digital records through SPED (*Sistema Publico de Escrituracao Digital* or the Public System for Digital Accounting), then there will be very little very little "leakage" in the system.³⁵

SPED makes any contract drafted on paper unenforceable at law if it does not have a digital original. In terms of the *Netflix Tax*, a similar rule would make all contracts for remotely supplied services to New Zealand residents unenforceable if they were not accompanied by a true *fiscal invoice*. With SPED-like rules and enforcement it is unlikely that any remote supplier would sell, or any New Zealand buyer would purchase without a *fiscal invoice*.

In addition, anyone purchasing a remotely supplied service would (most likely) immediately scan the QR code on the fiscal invoice to confirm that the receipt was genuine. A copy of an invalid invoice with either no QR code, or a non-functioning QR code would (if sent to a credit card company) be all that would be needed for a fraud claim.

The *fiscal invoice* would not only be a valuable document protecting New Zealand residents against remote seller frauds, it also would close a very important enforcement loop for Inland Revenue. The IRD would now have data both confirming the sale (from the seller upon issuance of the invoice) and confirming the purchase (from the buyer, whether a business or a consumer, upon receipt of the invoice).

Thirdly, if Inland Revenue wanted to become pro-active in the remotely supplied services sector much more possible. The New Zealand Tax Core will contain a comprehensive, real-time database of all remotely supplied services transactions. A basic artificial intelligence (AI) engine, similar to those used by major credit card companies, could be employed to identify unintended errors as they occurred, much like credit companies search for fraud risks.³⁶ Factors

³⁵ See part 1 at note 5 and 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>. For a discussion of SPED in an EU VAT context, see the following article where the author proposes adoption of SPED and digital invoices in the EU before the commencement of the Fiji reform. The invoice documentation considered in this earlier paper did not rise to the level of Fiji's *fiscal invoice* as the *proof of audit* functionality, and the *enforcement counters* were not embedded in QR codes. The digital invoices anticipated at that time were more primitive. Digital versions of paper invoices were all that was anticipated. See: Richard T. Ainsworth, *Stopping EU VAT Fraud with a Third Invoicing Directive*, 71 TAX NOTES INTERNATIONAL 545 (August 5, 2013).

³⁶ There is a great amount of written material applying AI to forensic fraud investigations. Generally speaking AI is applied to historical databases to determine *what happened in the past*. There is not as much written on the preventive use of AI on real-time databases to try to avert mistakes that may be in the process of occurring contemporaneously with data acquisition. The principles are the same, just the applications differ. Consider: Mark Nigrini, FORENSIC ANALYTICS: METHODS AND TECHNIQUES FOR FORENSIC ACCOUNTING INVESTIGATIONS (June 2011) leading text in forensic accounting for detecting fraud in technology systems; and Zensed, *Fraud Prevention Made Easy: Zensed Artificial Intelligence Fraud Prevention* (August 6, 2017) (leading commercially available AI engine for discovering anomalies in data patterns to detect fraud) available at: <https://www.zensed.com/>

like past transactions, type of industry, transaction volumes, frequency of previous erroneous GST assessments, as well as time of day or business agent making the purchase or sale could all be part of this risk of error assessment.

For example, AI could detect that a New Zealand registered business which had previously made numerous (zero-rated, B2B) purchases of services from remote suppliers, but had just now made another remote purchase of services where GST was charged (as if the transaction were B2C). In this instance Inland Revenue could compose a text message to the purchaser's tax department saying:

Inland Revenue has received notification that at 10:15 today you purchased services from a remote supplier for NZ\$500. If this is true, please respond by texting "yes" or "no."

Our records indicate that this NZ\$500 charge is GST-inclusive. NZ\$65 is the GST amount included by the seller in the invoiced amount. If this is not the transaction you intended, please text "not intended," and contact the seller for a refund or a revised fiscal invoice.

Communicating with taxpayers in this manner would not only solve invoicing errors in real-time, but it would underscore the *taxpayer services* function of Inland Revenue while simultaneously letting taxpayers know that the government is following GST compliance carefully and in real-time.

DOUBLE TAXATION OF REMOTELY SUPPLIED SERVICES

Double taxation. Considered globally, one of the greatest difficulties with properly taxing remotely supplied services is that multiple jurisdictions may lay claim to the same transaction. Imposing the correct tax is inherently problematical when the seller is remote, and the buyer is mobile. Businesses are less likely than final consumers to experience double taxation (GST/VAT) on remotely supplied services.³⁷ This is largely a final consumer concern, but (oddly enough) New Zealand's resolution does not engage the consumer.

The *Netflix Tax* addresses one very specific double tax fact pattern – where a non-resident consumer is subject to New Zealand GST (as the recipient of remote services that are physically performed in New Zealand),³⁸ but is also subject to a similar consumption tax in his country of residence. Similar rules can be found in other countries.³⁹ The New Zealand sourcing rules on

³⁷ The zero-rate/reverse charge pairing of GST/VAT rules for cross-border B2B transactions minimizes double taxation problems for businesses.

³⁸ NZ GSTA (1985) §8(3)(c)

... goods and services are treated as being supplied in New Zealand if the supplier is a non-resident and ... the services are remote services supplied to a person resident in New Zealand, *other than services that are physically performed in New Zealand by a person who is in New Zealand at the time the services are performed*

³⁹ South African VAT Act (1981) §11(2)(k) & (l)(iii) & §7(1)(c) with definitions at 1(1) (indicating generally and through various scenarios that if a non-resident is in South Africa at the time the services are physically rendered then the place of supply is South Africa).

this point conflict with OECD recommendations, and as a consequence are sure to result in double taxation in some instances.⁴⁰

To resolve this double taxation problem the New Zealand *Netflix Tax* provides for a supplier's deduction to offset the tax imposed by the *other jurisdiction* on the same supply of services.⁴¹ This is an unusual formulation for a number of reasons:

- (1) New Zealand is preferring a non-New Zealand assessment over its own. This appears to be a concession to the strength of the OECD *Guidelines*, and an expectation that, given the OECD position, this kind of double taxation is likely to be a common occurrence.
- (2) Although the double tax is caused by conflicts in opposing government tax rules, and even though the burden of the double tax (if not corrected) will fall entirely on the final consumer, it is the seller that New Zealand looks to for resolution. Neither government plays any role in the resolution, and the customer (who bears the whole risk of loss) is completely unaware that a “behind the scenes” tax adjustments are being made with respect to the tax imposed on its transactions.
- (3) The remedy selected – allowing a seller to deduct one jurisdiction's output tax from its own output tax imposed on the same sales – is otherwise unheard of in consumption taxes.⁴²
- (4) New Zealand's resolution is time-sensitive, and operates on a “cash basis.” That is, it requires tax to be *collected and remitted* to the other jurisdiction before the New Zealand offset is allowed. Early, or anticipatory corrections (deductions) to resolve the double tax event is not allowed. The double tax must occur, before New Zealand's remedy applies. New Zealand considers the foreign *output tax* to be a qualifying New Zealand *input tax*.

When Inland Revenue's Policy and Strategy group demonstrated the double taxation problem and its solution it drafted a New Zealand/Australian example to clarify the rules.⁴³ Australia is New Zealand's second largest trading partner, and as KPMG noted, the “... Australian remote services GST rule could have a major impact, [on] New Zealand's budding digital businesses ...”⁴⁴ With some embellishments, figure 6 (below) presents that example.

Figure 6 considers a US test preparation (tutorial) business that specializes in medical school entrance exam preparation. It provides services on line (globally), and live instruction in select locations. Wellington, New Zealand is a live instruction location for the Oceania region. Individuals who attend live instruction can access the online materials for the same NZ\$1,000

⁴⁰ OECD, International VAT/GST Guidelines at ¶¶ 3.2 & 3.6. See: Hendriette Zulch, South African Value-Added Tax: Place of Supply rules for cross border supplies of services – a comparative analysis with Chapter 3 of the OECD's International VAT/GST Guidelines, Stellenbosch University Master of Commerce (Taxation) Research Thesis (December 2017).

⁴¹ NZ GSTA (1985) §20(3)(dc).

⁴² But see: *Gaston Schul Douane-Expeditie BV v. Staatssecretaris van Financiën*, C-47/84, [1985] ECR 1491 (where the ECJ determined that the owner of a yacht upon which French VAT was imposed upon import from Monaco was sold in a C2C transaction to a Dutch buyer who was also charged import VAT on the same goods, and in which case the ECJ determined that a portion of the Dutch VAT should be offset by the French VAT already paid).

⁴³ New Zealand Inland Revenue, *Policy and Strategy, Special Report: GST on Cross-border Supplies of Remote Services* (May, 2016) at 6.

⁴⁴ KPMG, *Tax Mail* (February 29, 2016) available at: <https://home.kpmg/content/dam/kpmg/pdf/2016/02/taxmail-Oz-GST-changes-will-affect-kiwis.pdf>

fee, as there is no difference between the online content versus live instruction. The reason for the live instruction format is simply that some students prefer to learn that way. Most of the Wellington attendees are from New Zealand, but some travel from other countries, including in this example one individual from Australia.

The Australian student lives with his parents in Sydney, Australia, but will be temporarily in Wellington for the three-week live instruction sessions. This student pays the full fee (NZ\$1,000) out of his salary at the University of Sydney library. The payment is made in advance (from Sydney) with an Australian credit card.

Both New Zealand and Australia claim jurisdiction over this transaction. The Australian GSTA ¶9-25(5)(d) imposes tax if a supply is “connected with Australia.”⁴⁵ The student in this example can be shown to be an “Australian resident” under AU GSTA ¶9-25(7),⁴⁶ with the only contrary evidence being the student’s temporary (three week) stay at a Wellington hotel during the instruction sessions. The example is drafted to show that these remotely supplied services are provided to an Australian resident who is just temporarily in New Zealand. They are subject to the Australian GST at a 10% rate.

New Zealand also claims the right to impose GST on the same transaction. The New Zealand rules are based on the place of performance. New Zealand claims jurisdiction because the “... services ... are physically performed in New Zealand by a person who is in New Zealand at the time the services are performed.”⁴⁷

This is a problem for the student. The transaction is potentially subject to GST at 25% (15% NZ GST, and 10% AU GST). If the Medical School Prep company has an automated system, and if it does not itemize the separate New Zealand and Australian GST charges, the student might not notice the 25% tax. His fellow students from New Zealand would notice the difference if they were comparing tuition bills. Figure 6 presents this fact pattern (below).

⁴⁵ There are two elements that need to be met for a purchaser to be deemed an Australian consumer: (1) the residence element and (2) the consumer element. Australia allows a seller to determine this with information from “business systems” or from information received directly from the purchaser. Of the two elements, the first is more complex, the second is reasonably straight forward. For the first element, the Australian Tax Office explains in its *Terms We Use* document (September 27, 2017) that business systems should have the following information and that it should be sufficient to prove residence element:

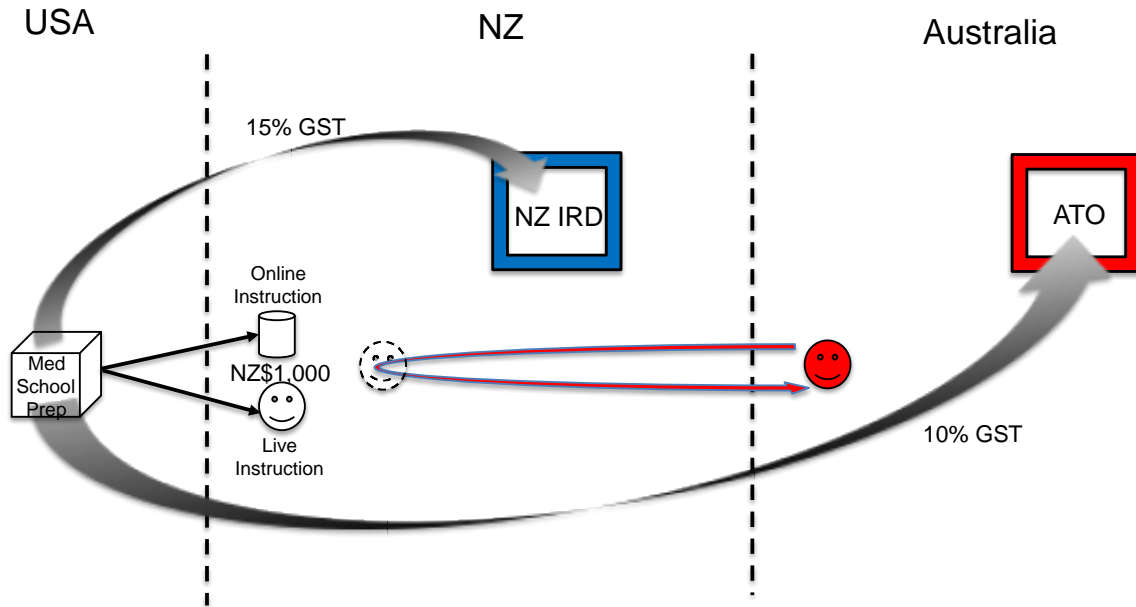
... the purchaser’s billing or mailing address; bank details, including the location of the bank; credit card details, including any descriptor that shows the location of the credit card issuer; location data from third party payment intermediaries; mobile/cell phone SIM country code; telephone country code; country selection; tracking/ geolocation software; IP (internet protocol) address; representations and assurances given by the purchaser; the origin of correspondence; and locations, such as a Wi-Fi spot, where the physical presence of the purchaser is needed.

For the second element, the ATO explains that a person is a consumer if they are not registered for the Australian GST. Available at: <https://www.ato.gov.au/business/international-tax-for-business/gst-on-imported-services-and-digital-products/terms-we-use/?anchor=Australianconsumers#Australianconsumers>

⁴⁶ The student is subject to Australian Income Tax under §6 of the *Income Tax Assessment Act 1936*; not registered for GST; has an Australian billing address, mailing address, bank account, credit card used for this purpose, has a mobile phone from which the course data is accessed with an Australian SIM card, etc.

⁴⁷ NZ GSTA (1985) §8(3)(b) & (c).

Figure 6: Double Taxation



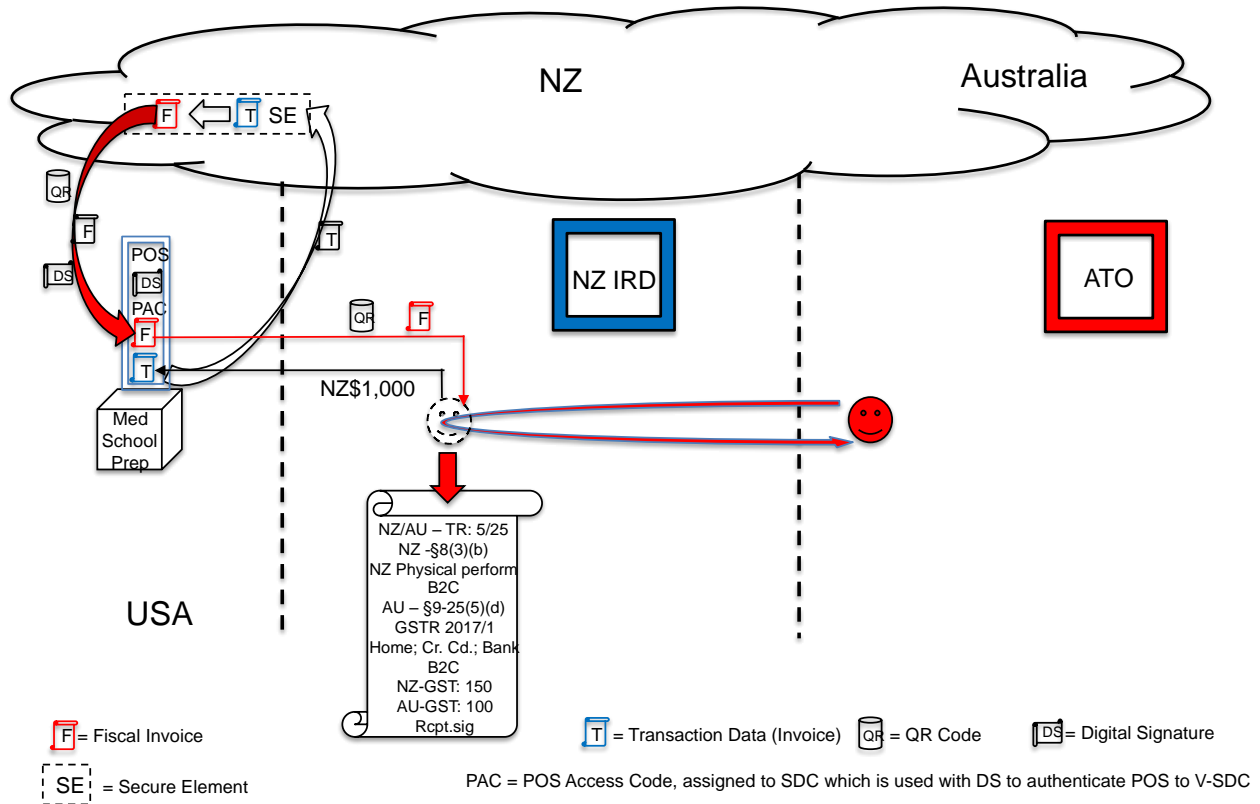
New Zealand resolves this double tax problem by allowing the US company to reduce the New Zealand GST of NZ\$150, by taking an input credit for the amount of the Australian GST of NZ\$100, but only if “... the supplier has, in relation to the supply, *incurred liability for, returned and paid* a consumption tax in another jurisdiction.”⁴⁸

This is a “cash basis” deduction. The foreign GST must be more than just “incurred.” It must be “returned and paid” before it can be deducted. There is no provision for notifying the final consumer, and there is no provision requiring the value of the additional input credit to flow through to the final consumer, much less to allow the final consumer to apply for a refund directly to the IRD if the seller does not provide one.

However, if we assume that New Zealand, or perhaps both New Zealand and Australia have adopted and extended Fiji’s *fiscal invoice* regime so that any business selling into the New Zealand or Australian markets would be required to issue a fiscal invoice, then the problems present in this fact pattern would be substantially mitigated. Consider figure 7 (below).

⁴⁸ NZ GSTA (1985) §20(3)(dc).

Figure 7: Resolving Double Taxation with a Fiscal Invoice



The key to the fiscal invoice is the QR code on each invoice. The QR code allows the purchaser (as well as the seller and the tax authority) to check all the data, including the tax amounts in real-time. Figure 7 incorporates the fiscal invoice data flows of figure 3 (presented earlier in this paper). It shows the transaction data passing to the certified POS of the Medical School Test Preparation company, which automatically makes a request for a *fiscal invoice* from the *secure element*. The **request** goes to a virtual sales data controller (V-SDC), which is the secure element, and which is located in the cloud. The **response** is the production of the *fiscal invoice* with its QR code which will allow all parties (consumer, seller and government) to pull up the encrypted details of the invoice. The *fiscal invoice* will tell the consumer clearly that he was being charge *both* the New Zealand and the Australian GST. In this case, there would be more than enough time for the consumer (immediately upon receipt of the fiscal invoice) to request an adjustment directly from the seller.

In figure 7 (above) the invoice for this purchase shows that this was a New Zealand/Australian transaction [NZ/AU – TR: 5/25]. It was the fifth transaction like this this that was processed by the POS out of 25 transactions in the sequence (there are 25 transactions in this sequence so far, with only 5 of them being students from Australia, because it is assumed that many of the students in the “live instruction” seminars are from New Zealand). There is a clear statement on the invoice that New Zealand considers this to be a taxable B2C transaction, under a *physical performance* test in New Zealand [NZ§8(3)(b)], and that so does Australia under a residency test [AU §9-25(5)(d)].

But even more is possible with this data. As was discussed earlier when considering adjustments for errors, either New Zealand or Australia (or both) could employ AI to scan the *fiscal data base* for instances of double taxation. In this instance a text message to the seller and the customer notifying them of the double taxation would be an appropriate *taxpayer service* reaction. Something like the following could issue:

Inland Revenue has received notification that at 9:30 today you purchased services from a remote supplier for NZ\$1,000. If this is true, please respond by texting “yes” or “no.”

Our records indicate that a double consumption tax may have been imposed. Both the New Zealand (15%) and the Australian (10%) GST appear to apply to this transaction. However, under NZ GSTA (1985) §20(3)(dc) it is possible for your supplier to reduce the NZ GST by the amount that has been paid to Australia. It is recommended that you contact your supplier for an adjustment.

In this example, because both New Zealand and Australia have adopted a *fiscal invoice*, and because they are sharing the same cloud platform through an information exchange the double taxation of the student can be verified from both sides. The problem can be identified immediately with an AI program scanning the *fiscal invoice* data base for instances of double taxation.

CONCLUSION

Technology is facilitating VAT/GST avoidance schemes involving remote sales of services. This has created problems in residence-based VAT/GST systems (like New Zealand), that are far more difficult to deal with than is the case in source-based systems (like those in the EU). New Zealand has taken a traditional statutory draftsman approach to the problem with the so-called *Netflix Tax*.

Fiji has struggled with similar problems, but has developed technology-based security systems that seem to address remote sales of services more effectively than traditional approaches. Fiji is fighting technology with technology. Its use of computer code in mandated fiscal invoices functions as a tax regulation.

This paper considered three application of Fiji’s technological approach to the taxation of remote sales of services as encapsulated in New Zealand’s *Netflix Tax*. The issues of registration threshold rules, remote enforcement options, and the efficient resolution of double taxation have been considered. In each case, the technological solutions have been overlaid on traditional approaches. Fiji’s approach is not only more efficient and effective than the traditional approach, it offers a number of opportunities for the tax authority to provide enhanced (digital, and real-time) taxpayer services.

A final paper will consider four remaining issues; the problems and advantages in placing responsibility for tax reporting and collection with an electronic marketplace rather than the individual remote supplier, issues in dealing with domestic agents of remote service providers,

how to detect and respond to false information sent to the tax administration, and how to deal with dual-status taxpayers.