# Zappers - What's Coming New Fraud & New Enforcement

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Southeastern Association of Tax Administrators
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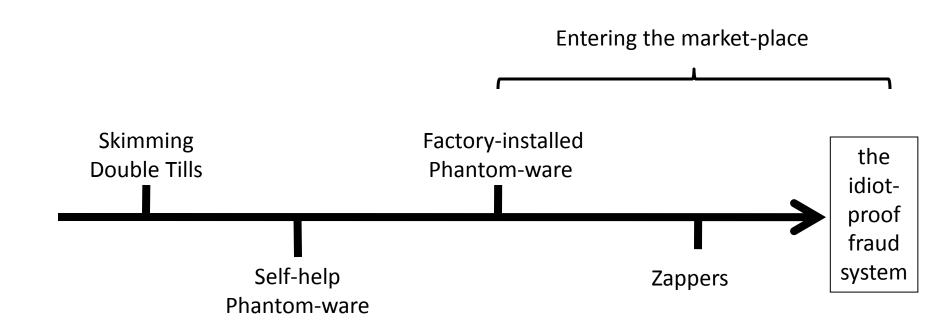
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### Theme: Market-place

### This is a Mid-size business issue

- (1) Skimming <u>has been</u> an individual fraud issue, not a market-place issue
- (2) Phantom-ware applications show skimming entering the market-place:
  - Self-help phantom-ware
  - Factory-installed phantom-ware
- (3) Zappers developed next
  - Installers, rogue developers, smaller developers
- (4) Internet based programs

### Development Time Line



#### THE **COMPETITIVE** MARKET-PLACE

Greece – 10m people; 800,000 SMEs; 300,000 to 350,000 ECRs and POS systems; turnover of 30,000 to 40,000 systems per year; 300+ different machines (all certified); 50 importers and manufacturers – Germany & Italy (EU); USA, Japan, China (non-EU).

**AND** Greece has the highest fraud ratio in the EU (30%)

### Estimated Losses & Efforts Undertaken

### 1. Estimated tax losses [restaurant industry only]

- West Virginia:
  - GDP = 23.4% of Quebec
  - \$99.5 million

### 2. Other states:

California	\$2.8b	New York	\$1.8b
Virginia	\$578m	Mississippi	\$417m
North Carolina	\$599m	Louisiana	\$319m
South Carolina	\$255m	Arkansas	\$156m
Georgia	\$372m	Tennessee	\$408m
Florida	\$1.1b	Kentucky	\$272m
Alabama	\$276m	TOTAL USA	\$21,095b

### Three US Zapper Cases

- Stew Leonard's Dairy (Norwalk, CT) 1994
  - Custom made zapper (former NCR IT expert)
  - Zapper is kept in a hollowed out book in office
  - \$17m (IRS income tax audit) Customs uncovered
- LaShish restaurants (Detroit, MI) 2007
  - Zapper kept at owner's residence connected to ECRs at 13 restaurants
  - Skim \$20m (4 years) sent to Hezbollah (Lebanon)
  - CIA mole (sister-in-law); wife in prison
  - Husband is fugitive from US (in Lebanon)
- Theodore R. Kramer (Detroit, MI) 2011
  - Installer (Journal Sales Remover program)
  - 2 strip clubs over \$500,00 gross sales
  - 5 years in prison (plea bargain will talk

# Phantom-ware

There are two types:

Self-help

Factory Installed

# Type 1 – Self-help Phantom-ware

- Modern ECRs can be re-programmed to eliminate the audit trail (critical records)
  - Z Reports (daily/periodic) end of day report that records sales, taxes, media totals, discounts, voids, etc.
  - X Reports same as Z Reports except they do not "reset" the system after being taken.
  - Electronic Journal records all transactions (blow-byblow) entered in the machine
- Programming is "secret" (not in user's manual) – limit access [bad employee issues]

### Examples of "Hidden Functions"

- Sales Data Reset:
  - Resets all sales data on the terminal to zero
- Turn Off Journal/ Turn On Journal:
  - Electronic journal can be set to not function
- Master Reset:
  - Clears out the entire memory of the till and brings it back to a blank default program – the till then determines which terminal it is by looking at others on the LAN and then prompts to import its program from one of the other terminals on the LAN

### Example: CASIO TE-2000

See: Zappers & Phantom-Ware: A Global Demand for Tax Fraud Technology http://papers.ssrn.com/sol3/papers.cfm?abstract\_id=1139826

- Cash Register Good Practice Guide
  - EU Cash Register Study Group
    - Part of the Fiscalis Committee
- Use of a refund to skim cash HMRC
  - Re-program Z Report not to record refunds
  - Re-program X Reports not to record refunds
  - Eliminate refunds from the Electronic Journal
  - Thus, the ECR nets refund against a sale, and records only a lower (net) sale amount, without a trace in Z Report, X Report, or Electronic Journal

# Type 2 – Factory installed Phantom-ware

- Does not require re-programming
- Secret (hidden) functionality built in to ECR
  - Not discussed in user's manual
  - Not visible in menu structure
  - Commonly revealed only in oral communications with
    - » Installer
    - » Sales representative
- The idea is to remove the need to re-program
  - Manufacturer looses "deniability"
  - These programs have only one function

# Zappers

There are three generations

Zappers Past; Zappers Present;

Zappers Yet to Come

### Zapper from the Past

- This is an old Quebec Zapper. It has been "hard wired" into the ECR. The picture shows the top of the ECR removed, and the yellow arrow points to the device.
- When Zappers are added to ECRs this way it is very easy to find them.
- People only do it this way in jurisdictions that are not looking for them.



### Contemporary Zapper

Note: this Swedish zapper requires a lot of manual intervention.



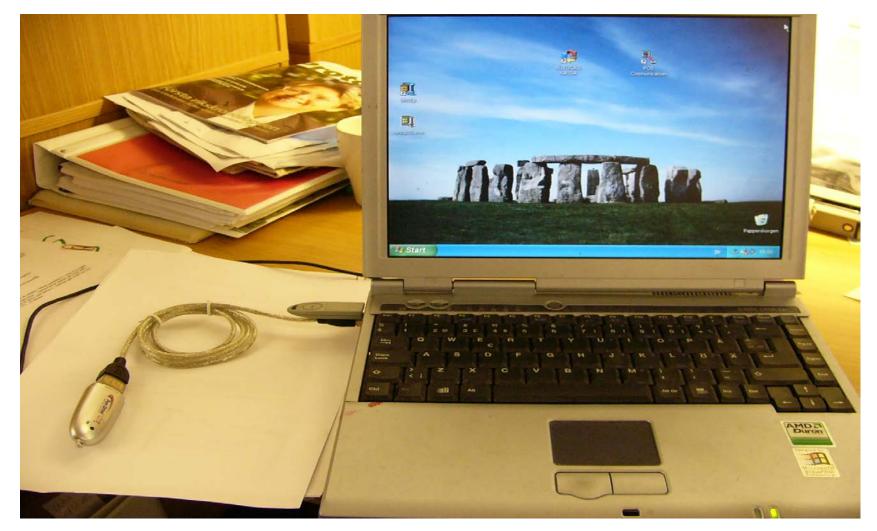
#### TT PI Electronique – cash register

Manufactured in Paris (since 1983)

Popular in Italy, Belgium, Portugal, Spain, Germany, Denmark, Australia, USA and North Africa.

Uses "Restodata" back-office program

Cash register is connected to a PC (in the back office) like the one on the following slide.



**Back-Office PC** 

Notice the "dongle" (grey memory stick) protecting proprietary program

Notice the silver memory stick – this is the "zapper"

Restodata is programmed to automatically download all information about all transactions from all cash registers every morning at (for example) 5:00 am

### **Next Generation**

Internet-based Zappers

Six cases in Portugal

Zappers used with credit card transactions

United Kingdom, Portugal & Norway

### I-HOPs in Ohio

US District Court, Northern District of Ohio, Western Division 3:12-cr-262-DAK (filed 5-22-2012)

- 18 people indicted \$3 million [Tarek Elkafrawi]
- FBI; ICE-HSI; Joint Terrorism Task Force [Egypt; Jordan; Lebanon]
- SABLE/2010 MICROS POS Internet access
- Two franchise fees [Equipment/land; royalty/advertising = 8% net sales].
- Manipulation of
  - Sales, payroll, false SSN, multiple SSN, 200+ illegal workers, underpaid for overtime, MICROS system manipulation of hours worked, weekly I-HOP credit \$2,300
  - Remote access to I-HOP MICROS with "Team Viewer" software from home computers – reset clock; manipulate cash transactions because tickets remained open; MICROS taken "off-line"

# Would you let this guy out? Where's the Zapper?

As stated by the Magistrate Judge, a sixty-four count indictment filed on May 22, 2012, charges Defendant in 53 counts as follows: one count of money laundering, in violation of 18 U.S.C. § 1956 (h); two counts of alien harboring in violation of 8 U.S.C. § 1324; eighteen counts of mail fraud, in violation of 18 U.S.C. § 1341; twenty-three counts of identity theft, in violation of 18 U.S.C. §§ 1028 and 1028A;

two counts of arson, in violation of 18 U.S.C. §§ 844 (h) and (i), and six counts of health care fraud, in violation of 18 U.S.C. § 1347. Upon conviction, the money laundering and mail fraud charges carry a potential statutory penalty of up to 20 years. The potential penalty for conviction of each aggravated identity theft charge is a consecutive two-year period. The indictment also includes a forfeiture count pursuant to 18 U.S.C. § 982.

**Detention Order** (July 13, 2012) **USA v TAREK ALKAFRAWI**, et al. Case No. 3:12 CR 262

### Nifty-Fifty in PA & NJ

US District Court, Eastern District of Pennsylvania 2:12-cr-241-MAM (May 16, 2012)

- Evasion began in 1986 FBI & IRS-CI
  - Philadelphia, PA area & several NJ locations
- \$15 million skimmed (\$2.2m income tax)
- Paid workers in cash cash taken to Florida retirement home & kept in safes on premises
- Second set of books found
- Family owners and managers at each location
- Several owners filed \$0 returns with claims for refundable credits

# Calls from the field -- Zapper?

 We have an account where the records show only receipts for certain times of the day, the other times of operations are missing. I assume this would be turning off the machine or putting it on training mode. Have you heard of a zapper that would remove certain time periods from records? Thanks.

### A Possible Zapper?

 There is a chain of five restaurants in the same town, two high end, three middle to higher end. Labor ratio is 26 percent, should be around 38 to 40, mostly credit cards, seems high though the average is about 88 percent on preliminary analysis, same POS. I suspect that maybe credit cards could be diverted, need to dive deep to see what is there, the labor is out of line based on analysis of what we usually see.

### How about here?

 Another one, we have the electronic data and the order numbers are missing throughout the audit at a rate of 11 percent per quarter. Guest check numbers are missing at a smaller rate, the order numbers are deep programmed where there are reasons for missing guest receipt numbers to be missed per software IT folks, they say order numbers should always show, .... zapper?

### State Actions

- The most common question posed by State legislators goes like this:
- "We already have penalties for tax fraud, why do we need more?"
- The answer is:
- You need to be able to penalize the INSTALLER.

# State Legislative Activity

STATE	BILL	ACTION	STATE	BILL	ACTION
СТ	HB 5421	Law	NC	SB 854	
FL	HB 7099	Veto	NY	SB 2854	
GA	HB 415	Law	ОК	HB 2576	Law
IL	HB 6155		TN	SB 2194	
IN	HB 1337		UT	HB 96	Law
LA	SB 616	Law	WV	SB 411	Law
ME	LD 1764	Law			
MI	SB 768	Law			
МО	SB 840				

### **Notable Variances**

- Amnesty
  - Maine
  - New York
- Revocation of business license
  - Oklahoma (10 years)
- Mandatory 3<sup>rd</sup> party security
  - Missouri (for all new businesses and violators)

### Solutions

### Technology

- German government INSIKA smart card (\$50)
- Quebec government Sales Recording Module (\$800)
- Private sector Sales Data Recorder with mobile (\$350)

### Traditional

- Netherlands persuasion
- Norway comprehensive regulation

### Split payments

 Ecuador, Russia, Turkey, Argentina, Brazil, Peru, Chile, Uruguay, Austria, Mexico, Colombia, Guatemala, El Salvador, Dominican Republic, and Costa Rica.

## "Bad Apples"

 If there are privacy concerns with comprehensive technology solutions.

 Consider adopting a limited enforcement regime based on an Oklahoma/Missouri approach.

### **Further Reading**

- An American Look at Zappers: A Paper for the Physikalisch-Technische Bundesanstalt, Revisionssicheres System Zur Aufzeichnung Von Kassenvorgängen Und Messinformationenthe <a href="http://papers.ssrn.com/sol3/papers.cfm?abstract\_id=2026140">http://papers.ssrn.com/sol3/papers.cfm?abstract\_id=2026140</a>
- Zappers & Phantom-Ware: A Global Demand for Tax Fraud Technology <a href="http://papers.ssrn.com/sol3/papers.cfm?abstract\_id=1139826">http://papers.ssrn.com/sol3/papers.cfm?abstract\_id=1139826</a>
- Zappers: Tax Fraud, Technology and Terrorist Funding <u>http://papers.ssrn.com/sol3/papers.cfm?abstract\_id=</u> <u>1095266</u>

### **Thanks**

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### Supplemental Slides

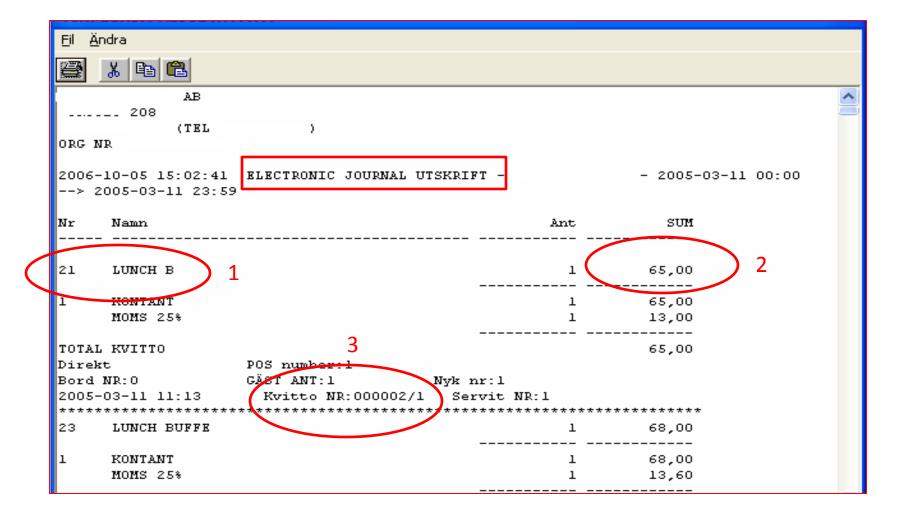
- Details of a Zapped transaction (from a Swedish Zapper)
  - 11 slides

- 9 Ways to find a Zapper
  - 11 slides

### Supplement 1

Details of a "zapping" from Sweden

# So, before manipulation here is the electronic journal the sales report the sales receipt



#### **Electronic Journal (before manipulation)**

- 1. Item number 21 is a Lunch B
- 2. It cost 65,00 kroner
- 3. The receipt is number 2/1

ORG-NR.

#### Förs.per familj

#### 2005-03-11 till 2005-03-11

Namn	SUM
Unknown family	693,00 kr
AVHÄMTNING	1 701,01 kr
DRINK	340,00 kr
DRYCK	1 026,00 kr
MAT	19 981,00 kr
SPRIT	669,00 kr
STARKÖL	13 492,00 kr
AIN	3 144,00 kr
TOTAL	41 046,01 kr

Out of SALES : 0,00 kr Rabatt : -209,70 kr

### **Sales Report (before manipulation)**

We need this for comparison later

#### T00120050311.TIC - Anteckningar

<u>Arkiv R</u> edigera Forma <u>t Visa H</u> jälp						
	2					
R 1 1 65001 X 1 1 1300P						
D 0 1 1 1 1						
-1103051113(00002/1) 3 F	650007670006001H					
A 23 1 6800G						
R 1 1 6800D						
x 1 1 1360B						
C 0 2 0G D 0 1 1 1 1L						
-1103051120000003/1	680007676006001N					
<u></u>						

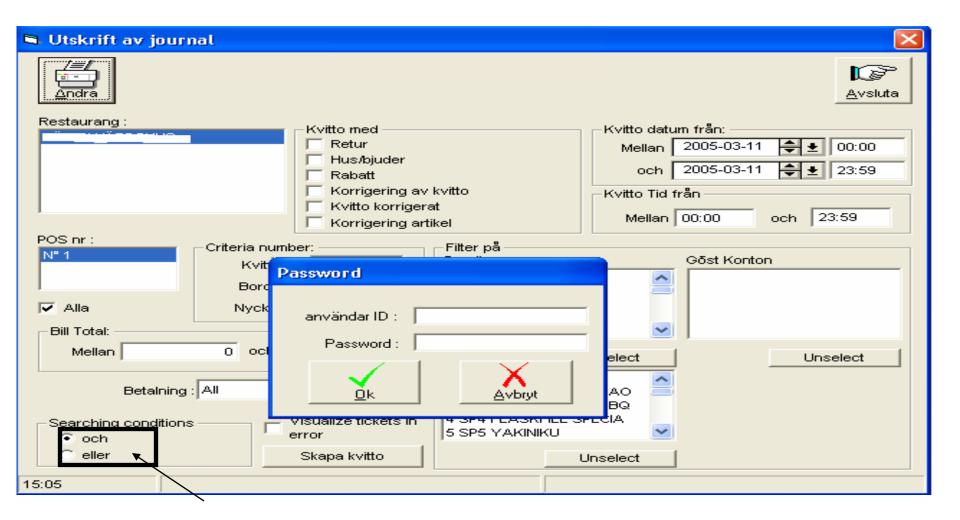
#### Sales receipt (before manipulation)

These are in the ".TIC" files (for "tickets"). Notice:

- 1. Item number 21
- 2. Sales price of 65,00 kroner
- 3. Ticket number (receipt number) 2/1

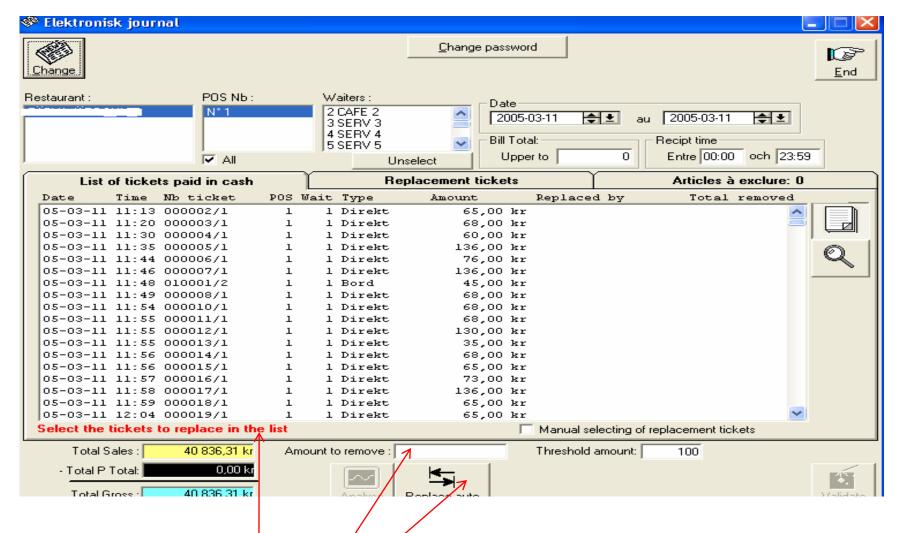
# To manipulate the data you insert the zapper (silver memory stick)

There is a new version of the CMDCAR.DLL program on the zapper



#### Double-Click on the secret module

It is not all that apparent what you need to do here, but by double clicking in the box in the lower left, entering an ID and a password, you will get to the next screen – the Electronic Journal (which can be adjusted).



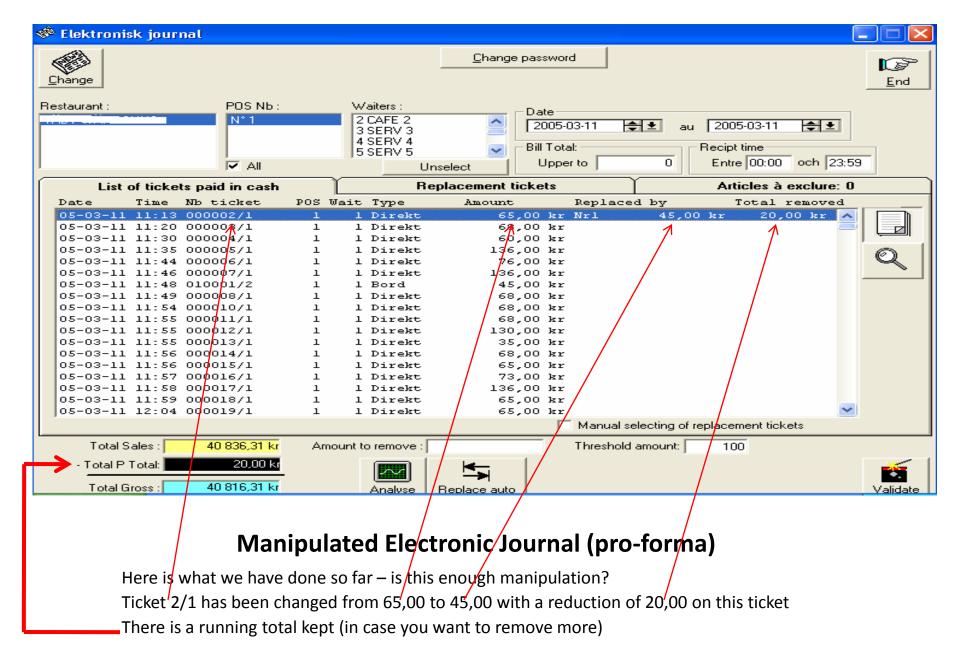
#### "Manipulate-able" Electronic Journal

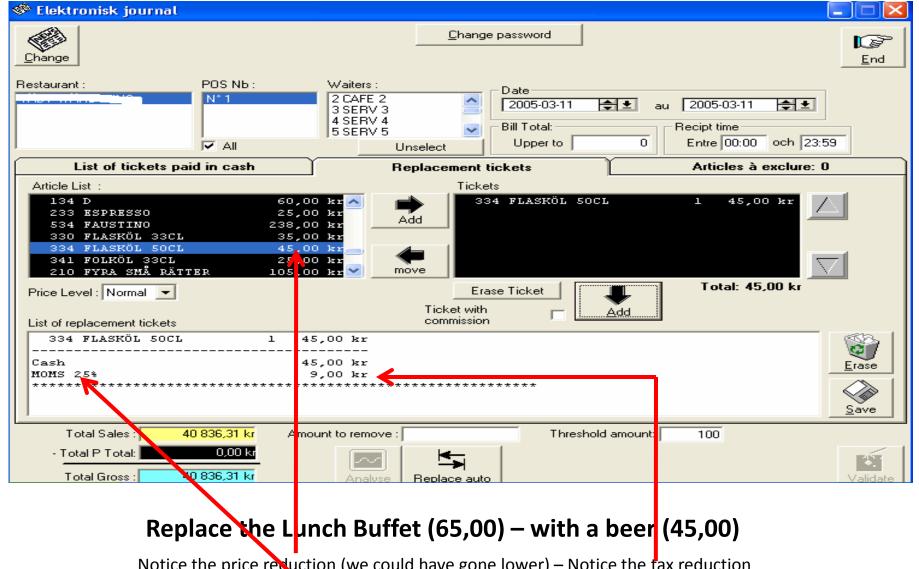
Notice that we can either

- (1) select a ticket to adjust, or
- (2) auto-replace

So, assume we take the selection of a ticket approach ... (1),

When we select the first item (ticket number 2/1) we then get ...

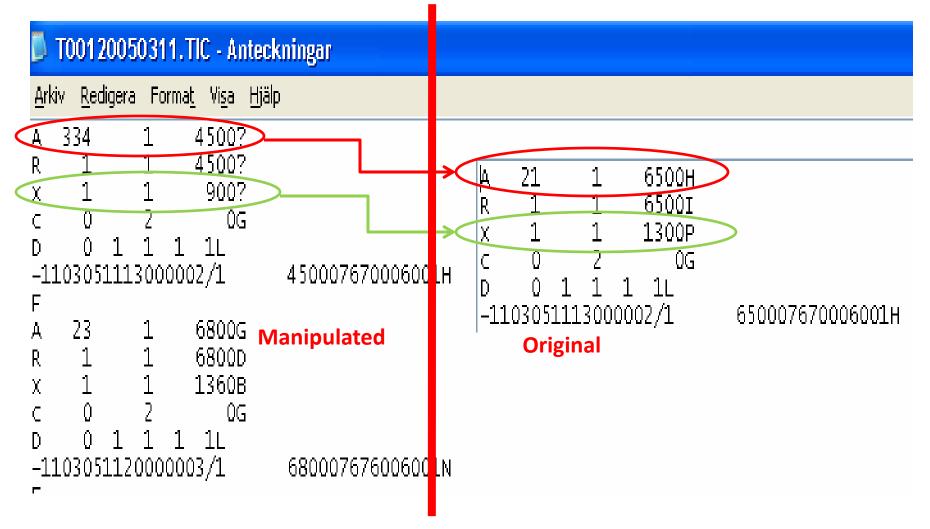




Notice the price reduction (we could have gone lower) – Notice the tax reduction The Swedish VAT is at 25%

Nr 	Namn 			Ant	SUM 		
21	→ LUNCH B			1	65,00		
1	KONTANT	Original		1	65,00		
	MOMS 25%	_		1	13,00		
TOTAI	L KVITTO				 65,00		
Direk		POS number:l					
			Nyk nr:1				
2005-	-03-11 11:13	Kvitto NR:000002/1	Servit NR: J	-			
Nr	Namn			Ant	sum		
334	FLASKÖL 50CL			1	45,00		
204	7	Manipulated	/	<b>-</b> 	43,00		
1 /	KONTANT	Manipulated		1	45,00		
	MOMS 25%			1	9,00€		
TOTA	AL KVITTO		/		45,00		
Dire		POS number:l					
	1 NR:O	GÄST ANT:1	Myk nr:1				
2005	5-03-11 11:13	Kvitto NR:000002/	Y Servit NB	<b>1</b>			
++++		***********	*****				
Comparison: Original & Manipulated Electronic Journal							
Notice the reduction in gross sales & the reduction in tax.							

If this record is tied into inventory control, adjustments in related purchases will be necessary [some zappers will do this for you] because you may have just "sold" more beer than you ordered



#### Comparison of the TIC-files – Manipulated & Original

Notice the "?" in the Manipulated version in contrast with the letters "H", "I" & "P" in the original version. This one of the tell-tale signs of manipulation in this particular program. It may indicate that the system has not been correctly updated since the manipulation procedure.

### Supplement 2

## 9 Ways to find a Zapper

## How do you find Sales suppression devices?

- 1. Stealth visits before audit
- 2. Set up a dummy store
- 3. Detailed examination of ECR printouts
- 4. Concentrate on "high risk" businesses
- 5. Audit lead from a different "rigorous audit"
- 6. Audit lead from another jurisdiction
- 7. Find and follow the corrupt installer
- 8. Work collaboratively with absent owners
- 9. Read the 250 Quebec cases in your spare time to learn the fact patterns ... and other stuff ...

### 1. Stealth visits before audit

- This is how Revenue Quebec found its first Zapper in 1997
- Auditor visited a restaurant before opening an audit, saved her receipts, and looked for records in the TIC files of the ECR.
- Requires some luck

### 2. Set up a dummy store

- This is what the Canadian Broadcasting Corporation did in Montreal.
- ECR salesman approached CBC and explained factory-installed Zappers
  - Company was subsidiary of a US ECR distribution business
  - Salesmen actually gave interviews to CBC
- Connecticut has reported the similar activity in complaints by "honest" ECR sales people

## 3. Detailed examination of ECR printouts

- Swedish approach
  - There is a Swedish ECR lab in the government's training facility that has a number of corrupted ECRs for practice & training of auditors
- South Carolina attorney looking for this kind of evidence in court case
- Requires knowledge of ECR programs they are specific to ECR types not generic

## 4. Concentrate on "high risk" businesses

#### Not:

- If Mom or Pop runs the cash register
- If publicly held enterprise

#### • Yes:

- If multiple locations with a remote but actively engaged owner [La Shish (Detroit); Ronan (Australia)]
- Employees are paid wages under the table
- Unusual ratio of cash-credit transactions

## 5. Audit lead from a different "rigorous audit"

- Zappers leave a cash hoard that is difficult to dispose of – don't stop with the initial audit, push to find the Zapper:
  - Audit shows that many employees are paid in cash [Dudok (Netherlands)
  - Cash taken off shore- US Customs [Stew Leonard's Dairy (CT)]
  - Cash sent to Hezbollah Homeland Security [La Shish (MI)]
  - Normal lavish lifestyle evidence [Aleef Garage (UK)]

### 6. Audit lead from another jurisdiction

- Ontario picks up leads from Quebec
- New York should do the same with Quebec
- Frequently the devices spread in ethnic communities that have business ties to jurisdictions where this fraud is common [Brazil; Venezuela; Quebec]
  - Austria & Germany found similar Zappers in 600
     Chinese restaurants started in Austria with a
     Chinese grad student in a technology school –
     Germany followed the Austrian lead on audits

### 7. Find and follow the corrupt installer

- Revenue Quebec uses search warrants against installers simultaneously with a search of a restaurant.
  - Dudok (Netherlands) installers are correcting the system during an IRS audit to hide data
  - Boutique programmers makers of specialty cash register programs [Roy (Quebec)]

## 8. Work collaboratively with "absent" owners

- Absentee owners can be victims of the management company [Celine Dion (Quebec)].
- Franchise holders [McDonalds; Burger King; Duncan Donuts] that get a royalty per sale in the store [Cincinnati, Ohio (2007) – IRS]
- A business that hires too many computer savvy students could be a victim.

## 9. Read the 250 Quebec cases in your spare time to learn the fact patterns

 Revenue Quebec publishes summaries of all the ongoing cases on the web.

#### • Go to:

http://www.revenu.gouv.qc.ca/eng/ministere/centre information/communiques/ev-fisc/2008/janvier.asp

### What do you do when you find them?

#### Think beyond the audit:

- Who installed it?
- Who sold it?
- Who is competing with this business locally?

### Penalize beyond the audit:

- Make the sale, possession, distribution of a sales suppression device punishable
- Make continuation of the business contingent on the installation of certified ECRs [business licensing requirements]

#### Contact the marketplace:

- Treat the fraud as the tip-of-the-iceberg let the market know you are serious
- Initiate contact with other jurisdictions to collaborate