

The Digital Ellipse: IT Systems & Tax Administration

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Agenda

- A Digital Culture
- Visualizing the Tax Process
- IT Decision Matrix
- Problem – regressivity of VAT/RST
- Biometrics on National ID's
- Application
 - Tax – Exempt the Poor
 - Natural Disaster Relief
- Conclusion

How Digital Are We?

Data Creation:

- 2000 – 93% of the three billion gigabytes of data generated worldwide was computer generated

Data Storage:

- 2002 – 5 exabytes of new information – created
 - 92% was stored on magnetic media, mostly hard disks
 - 7% was stored on film
 - 0.01% was stored on paper
 - 0.002% was stored on optical media

5 exabytes =

- 19 million books in Library of Congress = 10 terabytes
- 500,000 x Library of Congress = 5 exabytes
 - University of California at Berkeley's School of Information Management Systems

Trend: Find a Digital Solution to Tax Administration Problems

- Automate the Government Sector
 - Workflow automation
 - Audit selection; remote audits
- Automate the Government-Taxpayer interface
 - E-filing (IRS)
 - Customs reporting
- Certification of Taxpayer's Automated Processes
 - OECD – proposals
 - Streamlined Sales Tax – application

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Visualizing the Tax Process (Theory)

- Linear:
 - Tax Administration at one end
 - Businesses (as withholding agents & taxpayers) in the middle
 - Individuals at the far end
- Businesses = legal/ economic conduit for remitting a defined percent of GDP to the government.
- Should Tax Administrations automate these relationships? Should it be linear?

Visualizing the Tax Process
(IT View-point)

- Ellipse:
 - Dual Focal Points:
 - Tax Administration
 - Businesses
 - Intense data flows in both directions between these points
 - Individual – primarily a commercial relationship (purchase & employment) with businesses – secondary relationship with TA
 - Limited data flows

Visualizing the Tax Process
(Business View-point)

- EXAMPLE: single business making sales throughout the USA & Brazil:
 - 13,176 taxing jurisdictions
 - USA: 7, 588 (Retail sale tax)
 - 46 States
 - 1,732 Counties
 - 5,571 Cities
 - 229 Districts
 - Brazil: 5,588 (Consumption tax – 3 types)
 - 1 Federal
 - 27 States
 - 5,560 Municipalities
 - Do businesses want tax automation?

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Cost-Benefit Matrix

	Tax Office	Taxpayer Interface	Taxpayer's Software
Customs			
VAT (RST)			
Income Tax			

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Regressivity: Strongest Argument Against a VAT or RST

- A uniform tax imposed on all consumption unfairly burdens the poor.
- Present Solutions:
 1. Multiple rates (zero-rate) or exempt necessities (basic foods and medical)
 2. Single low rate with broadest possible base (solve regressivity with direct expenditures)
- Examples
 1. Prescription medication (all except Illinois)
 2. New Zealand; Singapore VATs

Re-visualize the Problem

- VAT/RST information flow is primarily Tax Administration → Business
- The goal is to selectively favor certain Businesses → Individual relationships
- QUESTION: Can the Business → Individual relationship be efficiently regulated?
 1. Efficient audit control over business
 2. Efficient individual qualification & identification system

1. Efficient Audit Control Over Business

- Point-of-sale transactions (primarily)
- Certification of tax calculation systems
 - Large Sellers
 - CSP/ CAS/ CPS
 - Small Sellers
 - CSP [Government sponsored]
- Audit immunity (barring fraud)

2. Efficient Individual Qualification & Identification System

- National Identity Cards with Biometrics
- Functionality of the card would include: qualification for “zero-rating” of selected transactions (by product code) with maximum monthly exemption amounts
 - Basic food staples
 - Medical services & goods
 - Clothing

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National Identity “Smart” Cards

- France ('08)
- UK ('08)
- USA ('08)
- Germany ('07)
- Spain ('07)
- Netherlands ('06)
- Belgium ('04)
- Hong Kong ('03)
- Estonia ('02)
- Macau ('02)
- Norway ('01)
- Italy ('01) - #1 (13m)
- Malaysia ('01)
- Brunei ('00)
- Finland ('99)

More than an ID

- “Function creep” (Malaysia – parking, tolls, ATM, e-cash) why not add a consumption tax exemption for the poor?
- Finland (16K) chip smart card:
 - ID number, Name, Personal ID code, Date of issue, Date of expiration, Nationality, Issuing authority, Photograph, Signature, Certificates for Social Health Services, On-line authentication, encrypted digital signature, biometric information (planned).
- Malaysia (32K); Hong Kong (64K)

Why the Growth in ID's?

- Post 9-11 Security concerns (passports):
 - US: Visa Waiver Program (MRP by 6-26-05)
 - Andorra, Australia, Austria, Belgium, Brunei, Denmark, Finland, France, Germany, Iceland, Ireland, Italy, Japan, Liechtenstein, Luxembourg, Monaco, the Netherlands, New Zealand, Norway, Portugal, San Marino, Singapore, Slovenia, Spain, Sweden, Switzerland, and the United Kingdom
 - After 10-26-05 passports issued must have biometrics (digital photo)

Security & the Digital ID

- Contact smart card ID (like a credit card)
- Radio Frequency ID (RFID)
 - 10 centimeters v. 27 meters (skimming)
- Passport databases
- Linking of databases
- IBM – “cancellable biometrics” 9-7-2005 (allows multiple biometric images for multiple authentication programs)

Handicapped & the Digital ID

- Some handicapped groups see digital ID as a barrier to access (back-up system?)
- Medical conditions (privacy) & fingerprint biometric distortions – e.g., leukemia, breast cancer.
- Some occupations & fingerprint biometric distortions – e.g., lab workers; cleaning professions.
- Weight gain; athletic activity – hand and facial biometric distortions.

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Tax Application – Exempt Poor

- Simple Question:
 - Is the holder of the card and the person to whom the card was issued the same? (digital representation of – fingerprint; shape of hand; full face photo – note: not the fingerprint itself).
- US campuses use it today: dining halls, libraries, labs, dorms, gyms:
 - University of Georgia; University of New Hampshire; Rutgers; UC Santa Barbara, etc.
 - Chronicle of Higher Education 12-2-05 (A28)
- Cost: \$30 to \$40 per student

Natural Disaster Application – Katrina (present system)

- Louisiana – RST relief to storm victims:
 - State Tax Holiday Dec. 16, 17, & 18 (all consumer TPP less than \$2,500 – not cars, not restaurant meals) [R.S. 47:305.54]
 - RST refunded on any automobile destroyed. [R.S. 47:315.1(A)]
 - RST refund on agricultural & manufacturing equipment purchased to replace destroyed equipment. [R.S. 47:305.54(A)(1)]
 - Anything purchased with FEMA or Red Cross card.

Natural Disaster Application – Katrina (digital solution)

- Geographic & economic identification of people impacted
- Identification of goods & services by product code for exemption.
- Multi-state cooperation possible:
 - LA: Hotel & Motel [LAC 61: 1.4301]
 - TX: Hotel & Motel (only proof of LA, AL, MS residence)

Texas Exemption Certificate 12-302

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Can Consumption Taxes be an Efficient Instrument of Social Policy

- Linear vision – No
- Elliptical & digital vision – Yes

- The reality is that political forces will continue to press consumption taxes into social policy rolls – simply because they provide immediate, visible relief.
