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When Governor Arnold Schwarzenegger and legislative leaders announced appointments to the Commission on the 21st Century Economy on December 11, 2008, the Commission's mandate was underscored. The Commission is charged with the task of proposing ways to modernize the California revenue system, and to do so by April 15, 2009. The Governor is concerned with the "feast-or-famine" budget cycles. Senate President pro Tempore Darrell Steinberg emphasized that the Commission is expected to provide a, "…much needed outside perspective on what exactly needs to be done to bring our tax system up to date." Assembly Speaker Karen Bass also sees modernization as the key focus of the Commission. She indicated that it should provide a "thorough review of California's economic structure, to modernize and stabilize a system built for the 1930s,"…

There is a second theme running through the Commission's mandate. Senate Republican Leader Dave Cogdill expects "…revenue-neutral recommendations to improve our broken budget system while ensuring our state remains competitive in a global economy." Assembly Republican Leader Mike Villines anticipates, "…positive and lasting changes…focusing on tax reforms that will encourage economic growth, job creation and opportunity…not…higher taxes."[1]

The Commission therefore faces a classic tax reform dilemma – how to reform and modernize, without raising taxes. The reality is however, that California has run out of money. It needs a measured effort to bring in more revenue with the right kind of tax reform. Estimates are that California's deficit will be $40 billion by mid-2010.[2] This proposal suggests that the right way to resolve (at least part of) the modernization/revenue dilemma is to make the sales tax progressive.

THE FIRST PROPOSAL - ZAPPERS

An earlier paper suggested that the California Commission on the 21st Century Economy should consider certification of electronic cash registers (ECRs) as a technology-intensive solution to automated sales suppression fraud.[3] These fraud programs, called Zappers, siphon taxes and profits from business records. The sales and income tax losses in California from

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[1] Office of the Governor, Press Release, *Gov. Schwarzenegger and Legislative Leaders Announce Appointments to Bipartisan Commission on the 21st Century Economy* (Dec. 11, 2008) GAAS:826:08 *available at* http://gov.ca.gov/index.php?/press-release/11233/ (last visited Dec. 16, 2008).
[2] Mike Zapler, *How Big is California's Budget Hole? Try these numbers on for size*, THE MERCURY NEWS (Jan. 15, 2009) (reporting on Governor Schwarzenegger's State of the State address) *available at*: http://www.mercurynews.com/localnewsheadlines/ci_11465543 .
[3] Richard T. Ainsworth, *California Zappers: A Proposal for California's Commission on the 21st Century Economy* BNA International Indirect Taxes Journal (forthcoming, in two parts, Jan. & Feb. 2009) also *available at*: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1324812.

Zappers could approach one-billion dollars annually.[4] Minor statutory changes, no tax rate change or base expansion were needed under this proposal. Immediate actions could be taken.

THE SECOND PROPOSAL - BIOMETRICS

This proposal is also technology-intensive, but it takes a longer view to revenue reform. It seeks to fundamentally align the sales tax with the digital foundation of the 21st Century economy. Significant statutory changes may be needed to implement this proposal, but these changes can easily raise an additional six-billion dollars in revenue annually without a rate change.[5]

The core policy question is whether California is willing to change the way it defines sales tax exemptions; is it willing to move from product-centric to person-centric exemptions. Once again certified systems will be relied upon, but a key new element in this proposal is the encryption of exemption certificates in IDs (smart cards with biometric identifiers that will allow the poor or handicapped to make certain purchases tax free).

Restated, this proposal suggests that instead of exempting *all* bread purchased for human consumption, California should exempt only bread purchased for human consumption *by the poor*, the disabled or other groups or classes of people that it deems entitled to an exemption because of their economic status. Bread purchased for human consumption by the general population would be taxed.[6] The result is to expand the tax base. The tax rate could remain the same (or could be lowered). No matter what was done with the rates however, the overall fairness of the sales tax would be greatly improved.

This is not an unheard of approach to structuring sales tax exemptions. Most of the exemptions in the Japanese Consumption Tax work this way;[7] and South Carolina takes this approach to exemptions with its senior citizens.[8] If fully implemented this proposal would allow California the flexibility to lift the regressive burden of the sales tax from its citizens, without sacrificing billions of dollars in revenue. It would allow needed corrections to be made to the least progressive slice of the California revenue system.[9]

To continue the example, the policy mandate for exempting bread for human consumption from the sales tax is understandable when the beneficiary is a person in economic

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[4] This revenue estimate is based on a comparison the California and Quebec GDP. It assumes that businesses in California are at least as likely to skim sales as they are in Quebec, and then applies the results of the statistically rigorous studies of skimming in the Province conducted by Finance Quebec to California. *Id.*

[5] Estimate based on eliminating the product-based exemption for food for home consumption and replacing it with the same exemption limited to qualified individuals – in this instance determined to be living under the poverty level by the US Census Bureau. *See infra* notes 11though 13 and accompanying text.

[6] Richard T. Ainsworth, *Biometrics: Solving the Regressivity of VATs and RSTs with "Smart Card" Technology*, 7 FLA. TAX REV. 651 (2006); also *available at*: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=922691.

[7] Richard T. Ainsworth, *A Technological Approach to Reforming Japan's Consumption Tax*, 49 TAX NOTES INT'L 437 (Feb. 4, 2008) also *available at*: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=947485.

[8] S.C. Code Ann. § 12-36-2620 (allowing individuals age 85 or older to claim a 1% exclusion from the state sales, use, casual excise, or transient accommodations tax rate on purchases for their personal use).

[9] Robert J. Landry III, *The Regressivity of Individual State Taxes from 1980 to 2000: A Nationwide Comparison,* STATE TAX NOTES 899 (Sept. 25, 2006).

need. Bread is a necessity, and the poor have a difficult time making this purchase if they are additionally burdened with a tax. However, when we exempt the rich as well as the poor (as is the case today) the exemption for bread purchased for human consumption conflicts with tax policy.

It is characteristic of sales tax systems designed in the 1930's to strive for "rough justice" in this area. In the 1930's we could not easily distinguish among taxpayers–we could not quickly and accurately sort the entitled from the un-entitled. As a result, the California decision was to benefit everyone. It did not need to be this way. Ten states approached the same problem and took a different road to "rough justice"–they tax all purchases of food for human consumption.[10] In the 21st Century economy California can do better.

SCOPE OF THE REVENUE LOSS

The 2008-2009 Tax Expenditure Report indicates that during this fiscal year the estimated loss from exempting food products from the retail sales tax is $6,669 million.[11] The most recent review of poverty rates in California was conducted by the US Census Bureau in 2004 and places the poverty level at 13.2% of the population.[12]

If California decided to redefine the exemption for food[13] and instead of granting a universal exemption to anyone who purchased food for human consumption, it determined that this exemption would only be available to that portion of the population living at or below the poverty level then an additional $5.748 billion would be collected. It would not be necessary to drawn the line at the poverty level. It could be drawn more generously. Nor would it be necessary to redefine only the food for human consumption exemption. With the size of the losses in sales tax revenue from all exemption provisions,[14] it is very possible that net revenue gains could be realized even while lowering the overall sales tax rate if all exemptions were to be redefined in this manner.

IDENTIFYING THE POOR AND OTHER QUALIFIED INDIVIDUALS

California already has an advanced system of digital identification in place that it uses very effectively to prevent welfare fraud–the Statewide Fingerprint Imaging System (SFIS).[15] The generic name for the processing heart of the SFIS is the Automated Fingerprint

[10] The ten states that fully include food for human consumption in the retail sales tax base are: Alabama, Connecticut, Delaware, Hawaii, Iowa, Kansas, Mississippi, New Mexico, Oklahoma, and South Dakota.

[11] CALIFORNIA DEPARTMENT OF FINANCE, TAX EXPENDITURE REPORT 2008-1009, 9 at Table 3 (indicating losses to the general fund of $4,194, to local governments of $2,265, and to the State Fiscal Recovery Fund of $210 in millions of dollars) *available at*: http://www.dof.ca.gov/Research/documents/Tax_Expenditure_Rpt_08-09-w.pdf (last visited Jan. 24, 2009).

[12] US CENSUS BUREAU, SMALL AREA INCOME AND POVERTY ESTIMATES, 2004. *See also*: David Boston, *Poverty Rates in California: the working poor in major cities hurt more,* in SUITE101.COM (July 20, 2008) *available at*: http://poverty.suite101.com/article.cfm/poverty_in_california (last visited Jan. 24, 2009).

[13] CAL. REV. & TAX CODE § 6359.

[14] CALIFORNIA, TAX EXPENDITURE REPORT, *supra* note 11 (indicating that losses from all exemption provisions in the retail sales tax is $14.392 billion).

[15] The Statewide Fingerprint Imaging System is described at http://www.sfis.ca.gov/welfare_afis.html (last visited Jan. 24, 2009).

Identification System (AFIS). AFIS was developed in the late 1970's and it was used primarily in law enforcement.

The State of California adopted this technology as a welfare fraud prevention device following the success of the Los Angeles Automated Finger Image Report and Match (AFIRM) system. The US GAO recognized the Los Angeles program, and recommended federal adoption of similar systems for fraud prevention:

> Los Angeles County in California implemented the Automated Fingerprint Image Reporting and Match (AFIRM) system to check the fingerprints of new welfare applicants against a database of prior claimants. The purpose of the system is to detect and deter fraudulent and duplicate benefit claims. California estimates that finger-imaging of welfare clients in just seven counties has saved about $86 million in the first 2 years of operation. The states of New York and Connecticut have implemented similar systems, reporting savings of $396 million and $15 million, respectively, in their first few years of operation.[16]

Privacy remains a major concern with wide use of this technology. Deployed in a mandatory regime over an entire population there are serious concerns if unauthorized disclosures of personally identifiable information are not prevented.[17] In a welfare or entitlement context the same concerns are present, however because participation in these programs is voluntary and because the systems themselves have proven to be very secure, the privacy reports have been very encouraging. Independent studies of the AFIRM system reported very low levels of objection.[18] There seems to be recognition that some fraud prevention measures are necessary in welfare programs. The State of California indicates:

> [A]n independent study of the AFIRM system in Los Angeles County by Ernst & Young reports that ninety-seven percent of the roughly 500,000 welfare applicants had a positive or ambivalent reaction to the use of fingerprints; only three percent voiced a negative reaction during the registration process. With positive education of welfare applicants regarding the benefits to them of a fingerprint security program, the negative response rate will effectively vanish. The fact is that many, if not most, Americans have had their fingerprints taken for employment or licensing and view the use of fingerprints as commonplace. Two-thirds of the 30,000 fingerprint checks processed daily by the FBI are for civil (non-criminal) purposes. At least three studies have shown that law abiding citizens do not object to the use of fingerprints.[19]

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[16] Barbara D. Bovbjerg, *Letter in Response to Questions From May 18thHearing on Uses of Social Security Numbers to the Honorable Steve Horn, Chairman, Subcommittee on Government Management, Information, and Technology Committee on Government Reform* (Aug. 21, 2000) GAO/HEHS/AIMD-00-289R, *available at*: http://www.gao.gov/archive/2000/h100289r.pdf (last visited Jan. 24, 2009).

[17] Neil M. Richards & Daniel J. Solove, *Privacy's Other Path: Recovering the Law of Confidentiality*, 96 GEORGE. L. J. 123 (2007) (discussing the origins and different development paths of privacy law in the US and UK – the US with and individualistic understanding and the UK with a relational understanding – and indicating that unpermitted disclosure of personal identifiable information [PII] within business records is central to both).

[18] Daniel Solove, *"I've Got Nothing to Hide" and Other Misunderstandings of Privacy*, 44 San Diego L.R. 745 (2007) (indicating that having nothing to hide does not answer the privacy issue, but that securing data from unauthorized disclosure does).

[19] California Statewide Fingerprint Imaging System, Fingerprint Imaging of Welfare Applicants and Recipients, *available at*: http://www.sfis.ca.gov/id_req.html (last visited Jan. 24, 2009).

In a sense, this tax proposal is about welfare grants. A sales tax exemption is a benefit that the state would like to extend to citizens in need when they purchase necessities. The problem this proposal looks at is that California grants sales tax exemptions universally not surgically. Rich and poor alike enjoy the same exemption when purchasing the same items, even though exempting the rich is not at all the intended policy.[20] Universalism in exemptions not only leads to over-exemption (and revenue loss), but it compromises efforts to make the sales tax into a progressive levy.

Fortunately, in the economy of the 21st Century we have the technology to do better. We can (if we choose) surgically exempt individuals from state-imposed charges on necessities in real time. Technologically speaking, there is no difference between an individual who makes a purchase with a credit card and signs an electronic pad, and a person who swipes an ID with biometric identifiers and presses a finger scan to authorize a sales tax exemption on designated purchases. A truly "smart" ID card could do a great deal more than grant an exemption – it could set dollar limits on overall tax exemptions allowed per person each month; it could adjust the overall exemptions to reflect quantities of exempt items purchased each month; it could preserve an auditable individual record of exempt purchases made. The point is that California already does much of this in the welfare context when it employs biometric IDs to prevent fraud.

The question this proposal asks is: would California be willing to do the same when it grants sales tax exemptions? Would it be willing to do so in exchange for $6 billion in additional revenue each year? Would it be willing to do so in exchange for what would be far-and-away the most progressive sales tax anywhere?

Stated another way, would California be willing to treat exemptions under the sales tax as they really should be, as welfare grants to individuals in great need? If so, then the exemption issue in the sales tax is conceptually not all that different from the welfare fraud issue in classic entitlement programs. Our concern should be how to best devise a system that will prevent welfare fraud (claims of tax exemption by individuals not entitled to receive them) instead of abandoning our progressive ideals and granting exemptions to everyone.

CERTIFIED TAX SOFTWARE

To implement this solution California needs a simple and inexpensive way to adjust the tax (item-by-item) on sales to certain final consumers (qualified individuals making qualified purchases). The solution needs to integrate seamlessly with the current economy. Multiple and mixed transactions need to be handled without interruption to normal retail processes. The solution should be virtually invisible to the casual observer.

[20] JOHN F. DUE & JOHN L. MIKESELL, SALES TAXATION: STATE AND LOCAL STRUCTURE AND ADMINISTRATION 74 and 79 (2d ed. 1994) (noting that the exemption for food is "… the most expensive … cost[ing] a state from 20 percent to 25 percent of sales and use tax revenue… [and] is perhaps the largest mistake the states have made in their sales tax structures, … Larger volumes of expenditure of persons above the lowest income levels are freed from tax for no justification whatsoever").

The technology to solve this problem is available today, and can be seen in operation in jurisdictions where the consumption tax employs multiple rates. These jurisdictions have systems that perform real time tax determinations with software installed on site or remotely accessed. Moving among rates is not more complicated than processing some transactions in cash, and others with credit or debit cards.

Properly programmed, it is a relatively easy matter for an automated tax calculation system to match up the skew code of a good or service with a specified tax rate to determine the tax due. It is not at all a large leap in technology for a tax calculation system to be programmed to recognize that a different rate should be applied where an exemption (zero-rate, or reduced rate) code is received from a "smart" ID passed during the purchasing process.

From a systems perspective the question presented by the "smart" ID with an embedded exemption (zero rate or reduced rate) certificate, is no different than the problem presented to an automated system that determines the tax on the same items in multiple taxing jurisdictions. Different jurisdictions frequently have different rates, exemption requirements, and reporting standards for the same items. Functionally, the poor, elderly, or disabled person qualifying for an exemption can be seen by an automated system as simply another taxing jurisdiction with a different set of rates and requirements. Rather than discriminating among geographic jurisdictions, the system in this instance discriminates within the same jurisdiction among purchasers based on a set of codes activated by encrypted authorization codes embedded in the "smart" ID.

However, because of the importance of this rate determination process to California, the tax calculation accuracy of this software should be certified by the State, and assurances should be extended to retail businesses using these systems that would remove them from liability for tax determination errors, barring fraud. These are the same certification parameters and business assurances in place under the Streamlined Sales Tax Agreement (SSUTA).[21]

The SSUTA provides three models for software certification: the certified service provider (CSP);[22] the certified automated system (CAS);[23] and the certified proprietary system (CPS).[24] The CAS and CPS models allow in-house automated systems to be certified.[25] Unlike the CSP model, relief from liability under a CAS or a CPS model is dependent on the taxpayer properly using the certified system.[26] Under the CSP model a third party operates the system remotely and accepts liability for errors in operating the system. Although 22 states, not including California, have joined the SSUTA,[27] implementing the solution recommended in this

[21] STREAMLINED SALES AND USE TAX AGREEMENT (adopted November 12, 2002, amended November 19, 2003 and further amended November 16, 2004) at §§ 331, 306, 328 & 502C, *available at* http://www.streamlinedsalestax.org.
[22] *Id.* at § 203.
[23] *Id.* at § 203.
[24] *Id.* at § 207.
[25] *Id.* at § 501 (C) and (D).
[26] UNIFORM SALES AND USE TAX ADMINISTRATION ACT (as approved on Dec. 22, 200, and as amended on Jan. 22, 2001) at §§ 9(b) and (c) (for CAS and CPS respectively).
[27] These twenty-two states are divided into two groups, the full members, and the associate members. A full member state is a state that is in compliance with the Streamlined Sales and Use Tax Agreement through its laws, rules, regulations, and policies. Those states are: Arkansas, Indiana, Iowa, Kansas, Kentucky, Michigan, Minnesota, Nebraska, Nevada, New Jersey, North Carolina, North Dakota, Oklahoma, Rhode Island, South Dakota, Vermont,

proposal does not require California's membership. In fact, if the modernization suggestions discussed in both of these proposals (California Zappers and California Biometrics) were to be adopted California would be moving considerably beyond the SSUTA framework in terms of automated sales tax compliance.

Thus, because highly discriminatory, multi-jurisdictional tax calculation systems are certified today under the SSUTA (and are in use around the globe), it is not difficult to imagine that the same type of discrimination function (within the single jurisdiction of California) can both work and be certified in the same manner. This level of automated tax processing only awaits the adoption of certificates of exemption in "smart" IDs. The programming and systems design barriers have already been overcome.

Business is ready for this kind of change. Almost all business information today– including all critical data needed for determining sales taxes is digitized.[28] Certification of business systems is commonplace. The SSUTA certification process involves measuring the software against third party standards: (1) the AICPA's SAS 94[29] and (2) the US- GAO Federal Information Systems Control Audit Manual.[30] In addition, CSP's and CAS software developers must comply with (3) ISO Number 17799[31] of the International Organization for Standardization.

CONCLUSION

If we begin with the premise that California is a technologically advanced economy, then there would seem to be no technological barrier preventing it from adopting the solution offered here. California can adopt technology-intensive tax solutions if and when it determines that they offer more efficient outcomes.

Washington, West Virginia, and Wyoming. An associate member state is a State that has achieved substantial compliance with the terms of the Streamlined Sales and Use Tax Agreement taken as a whole, but not necessarily each provision, and there is an expectation that the state will achieve compliance by January 1, 2008. Those states are: Ohio, Tennessee, and Utah, *see* http://www.streamlinedsalestax.org (last visited Jan. 24, 2009).

[28] School of Information Management and Systems at the University of California at Berkeley study titled "*How Much Information.*" (indicating that 93 % of the three billion gigabytes of data generated worldwide (in 1999) was computer generated) *available at*: http://www.cni.org/tfms/2000b.fall/handout/How-KSwearingen2000Ftf.pdf (last visited Jan. 24, 2009); Peter Lyman and Hal R. Varian, *How Much Information? 2003* (School of Information Management and Systems at the University of California at Berkeley, release date October 27, 2003) in the Executive Summary (of the 5 exabytes of new information created in 2002, 95% was stored on magnetic media, mostly hard disks) *available at*: http://www.sims.berkeley.edu/research/projects/how-much-info-2003/printable_report.pdf (last visited Jan. 24, 2009.

[29] STREAMLINED SALE TAX PROJECT, CERTIFICATION STANDARDS (rev. 5/17-04) *available at* http://www.streamlinedsalestax.org/ (provides a detailed application of SAS 94, FISCAM and ISO 17799 to the SSUTA);STREAMLINED SALES AND USE TAX AGREEMENT, *supra* note 21; AMERICAN INSTITUTE OF CERTIFIED PUBLIC ACCOUNTANTS, PROFESSIONAL STANDARDS, Vol. 1 AU § 319 *The Effect of Information Technology on the Auditor's Consideration of Internal Control in a Financial Statement Audit,* as amending SAS No. 55 *Consideration of Internal Control in a Financial Statement Audit*.

[30] STREAMLINED SALES AND USE TAX AGREEMENT, *supra* note21; U.S. GOVERNMENT ACCOUNTING OFFICE, ACCOUNTING AND INFORMATION MANAGEMENT DIVISION, FEDERAL INFORMATION SYSTEMS CONTROL AUDIT MANUAL, (FISCAM) Vol. 1 (GAO-AIMD12.19.6) *available at* http://www.gao.gov/special.pubs/ai12.19.6.pdf.

[31] STREAMLINED SALES AND USE TAX AGREEMENT, *supra* note 21; INTERNATIONAL ORGANIZATION FOR STANDARDIZATION, ISO 17799: INFORMATION TECHNOLOGY, SECURITY TECHNIQUES, CODE FOR INFORMATION SECURITY MANAGEMENT (ISO/IEC 17799:2005).

To go down this technology road, California will need to do three things: (1) extend the biometric identity card system[32] and embed these cards with encrypted zero-rate or reduced-rate authorization codes; (2) define the classes of citizens who will be authorized for zero-rate or reduced-rate purchases, and associate these qualified purchasers with goods or services they could purchase at each rate,[33] and (3) establish a software certification regime for programs used at the retail sale level.[34] It would be necessary for this software to recognize both the reduced-rate or zero-rate codes and correctly associated them with the goods and services qualified for special treatment for a specific taxpayer. The software would need to calculate the tax and retain an audit file for each transaction. The audit file security issue is the same concern that California needs to address with Zapper prevention in ECRs. The best solution to date is the German smart card that costs approximately $30 to purchase and install.[35]

With this technology in place California policymakers could design the world first progressive consumption tax. Revenue could be raised, or rates could be lowered as needed without impacting the poor, handicapped or disabled. This is what a sales tax for the 21st Century economy looks like.

[32] There is no need for this ID to be mandatory. Those who qualify for reduced or zero rates would not need to secure an ID card, if they had privacy concerns, just as some individuals refuse to reveal their social security number. However, without a "smart" ID card it would not be possible for an individual to get a reduced rate of tax on qualifying purchases. If this result was deemed unfair, or if California determined that for various reasons (power outages, system failures, etc.) that an alternate (back-up paper) system should be implemented to manage the privacy issue, then individual could be allowed to make reduced or zero rated purchases in another manner.

[33] It is expected that much of this work would be done by social services agencies. It should also be expected that this program would start out small and expand in scope and granularity as time went on.

[34] There is no need to make use of this software mandatory. In all instances where a retailer decided not to install certified software, the sales tax would be due at the standard rate *for all sales* in the same manner as under the present regime. There would, of course, be considerable pressure from customers who qualified for an exempt of reduced rate to have the software installed. Thus, free market pressures and self-interest would facilitate wide acceptance of the software.

[35] Richard T. Ainsworth, *California Zappers*, *supra* note 3.