REVENUE ESTIMATE STATE OF CALIFORNIA
(REV. 4/98) BOARD OF EQUALIZATION

BOARD OF EQUALIZATION
REVENUE ESTIMATE

ELECTRONIC COMMERCE AND MAIL ORDER SALES

Summary

Updated Estimates. Based on information released by the U.S. Census Bureau and other sources in 2009, we have updated our estimates of remote sales (electronic and traditional mail order sales) revenue losses from out-of-state vendors. We now estimate annual revenue losses of $1.085 billion in calendar year 2009 (to be remitted in fiscal year 2009-10). Of the total, $600 million are owed by consumers and $485 million were unpaid by businesses. These revenues are spread among approximately 12.7 million households and 2.9 million businesses. Unpaid sales and use tax liabilities in 2009-10 average $166 per year for each California business, and $47 per year for each California household. Revenue from these out-of-state electronic commerce and mail order purchases are a significant component of the sales and use tax gap. (As defined here, the tax gap is the difference between what taxpayers owe and what they voluntarily pay.) This paper documents our estimates of sales and use tax revenues associated with electronic commerce and mail order sales that are not voluntarily paid from fiscal years 2007-08 through 2011-12.

Comparisons to Previous Estimates. Our previous estimates of remote sales revenue losses were released in 2007 and estimated for calendar year 2005. The estimates presented in this paper reflect several developments since 2005, including the following ones:

- The U.S. Census Bureau significantly revised historical e-commerce estimates of purchases for both businesses and consumers. Most of the revisions were upward for both consumers and businesses.
- E-commerce purchases made by businesses and consumers have grown rapidly, continuing a long-term trend.
- A recession began in December 2007. Available evidence indicates that e-commerce growth rates have slowed sharply for consumers and have dramatically turned negative for businesses since the recession began.
- The Board of Equalization implemented the Instate Service Business Component of the Tax Gap program in July 2008.
- Legislation was passed and signed into law in 2009 (ABx4 18, statutes of 2009) that should significantly improve compliance of use tax payments by businesses, starting in fiscal year 2009-10.
- SB 1009 (Statutes of 2003), requires a line on the income tax form to encourage consumers to pay their use tax obligations. This legislation and Board of Equalization outreach efforts have contributed to more consumers paying their use tax obligations on their income tax forms in recent years. However, SB 1009 does not apply to purchases of taxable sales made after December 31, 2009. While it is possible that another bill could pass extending this sunset date, under current law there will no longer be a line

on the income tax form for reporting use tax for purchases made on or after January 1, 2010.

In our opinion these changes combined are so great as to render comparisons to the 2007 estimates meaningless.

Background, Methodology, and Assumptions

(1) Background Sources and Data Assumptions

The methodology used to derive these estimates is very similar to that which we used in our previous revenue estimates. There are two major markets for electronic commerce: business-to-consumer (B-to-C) and business-to-business (B-to-B). Each market has its own separate data sources and critical assumptions. We will assume all mail order sales are B-to-C. A more detailed description of our methodology and assumptions is found in our technical documentation.[1]

(2) Business-to-Consumer (B-to-C)

Other than reflecting the developments discussed above, we made no major changes in our methodology used to estimate business-to-consumer (B-to-C) purchases.

(A) Data Sources. We define remote sales as all sales from retail sellers to households that are made electronically or by using traditional mail order sales channels. Our basic data source is the U.S. Census Bureau, as it was in previous estimates. The Census Bureau publishes sales estimates for North American Industrial Classification System (NAICS) Industry 4541 ("Electronic Shopping and Mail Order Houses," or ESMOH) monthly, annually and every five years in various reports.[2] This industry data is our basic data source, and it consists of retailers whose primary business (or a separate subsidiary) is mail order or electronic commerce sales. From another Census Bureau publication we split sales into e-commerce and traditional mail order sales and we add an estimate of e-commerce sales from companies that make a portion of their sales from websites, but have no separate website subsidiaries.[3]

(B) Taxable Portion of Remote B-to-C Sales. Data from the *2007 Economic Census* for remote sales for NAICS Industry 4541 include detailed product categories and sales volumes of each. Based on this list of products, we estimate that about 30.5 percent of U.S. remote sales were exempt in 2007 under the California sales and use tax law. The vast majority of these exempt sales, 25.8 percent of the 30.5 percent, are prescription drugs. These percentages apply to all remote sales; there are no separate product data for electronic and mail order sales. We will assume that these national product category percentages of remote sales also apply to

[1] "2009 Electronic Commerce and Mail Order Sales Revenue Estimates – Technical Documentation," November 3, 2009.

[2] Every five years the U.S. Census Bureau takes a census of businesses. The most recent census year was 2007. Data for the 2007 census is just starting to become available. It will take several years for all of the 2007 data to be released.

[3] *2007 E-Commerce Multi-sector Report,* U.S. Census Bureau, May 28, 2009, web site: http://www.census.gov/eos/www/ebusiness614.htm.

California. This premise implies that 69.5 percent of remote sales are taxable to California purchasers.

(C) Compliance and Nexus Percentage Assumptions. For revenue estimation purposes, we assume that all retailers registered with the Board of Equalization (firms with California nexus) are remitting the sales and use taxes they owe. We further assume that all use tax payments made by households were remitted on their income tax forms.

Based on research done in 2004 and updated with more recent information from the *2002 Economic Census of Retail Trade,* we estimate that about 64 percent of remote sales to California households were made from retailers that have nexus in California. This estimate is based on company reports and employment and sales by employment size category.[4] We also confirmed this estimate with data from the *Internet Retailer Top 500 Guide*. This percentage implies that 36 percent of revenues related to sales made by remote sellers to California households are not paid except for the amounts paid on income tax forms.

(D) Estimate and Forecast Assumptions. The most detailed data available are for 2007, the year of the most recent economic census. The e-commerce portion of ESMOH for 2008 and future years was estimated based on the e-commerce portion in 2007. An estimate of ESMOH for 2009 was made based on data available for the first six months of 2009. Forecasts for 2010 and 2011 growth are identical to those used in the revenue estimate made for ABx4 18. (The revenue estimate for ABx4 18 assumes a pattern of B-to-B sales for 2010 and 2011 that follows the forecasted percent change in national spending on business equipment and software, according to a leading national macroeconomic forecasting firm. Based on historical trends, we assume the B-to-C spending will grow in a similar manner as business equipment and software spending.)

Table 1 shows how these assumptions and data were combined to result in revenue estimates for each year. The data in the table are documented with line number references. We assume that all calendar year liabilities are all paid in the fiscal year ending July 1 of the following year. We first estimate what we call baseline revenues and then adjust them by subtracting use tax liabilities, most of which are paid by consumers on their income tax forms.[5]

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[4] Memo from Joe Fitz, Chief Economist, to Board Member Leonard, “Electronic Commerce,” August 30, 2005.

[5] Line 15 of Table 1 includes use taxes paid by businesses.

Table 1

Business to Consumer (B-to-C) Sales and Revenues
(Millions of Dollars Unless Otherwise Noted)

		Calendar Years				
		Actual	**Estimated**	**Estimated**	**Forecast**	
Line No.		**2007**	**2008**	**2009**	**2010**	**2011**
1	U.S. Sales Made by Electronic Shopping and Mail-Order Houses (ESMOH, NAICS 4541)		221,433	221,433	226,839	247,185
2	Percent Change	8.7%	2.5%	0.0%	6.2%	16.9%
3	On-line	88,915	92,817	92,817	96,890	114,648
4	Mail Order	127,048	128,616	128,616	129,949	132,538
5	Add Non-ESMOH online sales to Line 3 (Assume 8% of All Retail E-Commerce)1/	99,051	103,398	103,398	107,935	127,717
6	Total Remote Sales (Line 4 + Line 5)	226,099	232,013	232,013	237,884	260,255
7	Taxable Percentage in 2007		69.5%	69.5%	69.5%	69.5%
8	Estimated Taxable U.S. Remote Sales (Line 6 x Line 7)	157,139	161,249	161,249	165,329	180,877
9	California Share of U.S.	12%	12%	12%	12%	12%
10	California-Taxable U.S. Remote Sales (Line 8 x Line 9)	18,857	19,350	19,350	19,840	21,705
11	Noncompliance Rate	36%	36%	36%	36%	36%
12	Revenue Loss Tax Base (Line 10 x Line 11)	6,788	6,966	6,966	7,142	7,814
13	Tax Rate (Average Annual Rate for Calendar Year)	8.00%	8.00%	8.75%	9.00%	8.50%
		Fiscal Years				
		2007-08	**2008-09**	**2009-10**	**2010-11**	**2011-12**
14	Estimated Baseline Revenues (Line 12 x Line 13)	$543	$557	$610	$643	$664
15	Estimated Taxes Paid (SB 1009)	$8	$9	$10	$0	$0
16	***Estimated Revenues Losses (Line 14 - Line 15)***	***$535***	***$548***	***$600***	***$643***	***$664***

Notes:
1/ Line 5 adjusts online sales to include sales from companies without website subsidiaries. These are generally relatively small sellers.

(2) Business-to-Business (B-to-B)

(A) Data Sources and Definitions

We based our B-to-B revenue estimate on data from the Merchant Wholesale Trade Sales Survey published by the U.S. Census Bureau.[7] Unlike the B-to-C data, we are not aware of any Census Bureau estimates that include traditional mail order sales to businesses. We assume that B-to-B electronic commerce sales include traditional mail order sales from one business to another business.

(B) California Adjustments

Vehicle Sales Adjustments and Industry Exemptions. We excluded transportation equipment purchases from our estimates because most vehicles are registered with the Department of Motor Vehicles and sales and use tax compliance is generally very high as a result. Some industries have exemptions or partial exemptions that reduce their use tax liabilities. The industries with exemptions for which we made adjustments are insurance (which is exempt from the use tax) and agriculture, which is exempt from the state portion of sales and use taxes for equipment purchases.

We adjusted for vehicle sales and these specific industry exemptions because we found data sources that in our judgment could reasonably estimate the exemptions. No data exists, to our knowledge, for online purchases for these adjustments. Therefore, we assumed that the overall purchase data relationships matched the online data relationships. Sources of data for these adjustments are the U.S. Census Bureau and the U.S. Bureau of Economic Analysis (BEA).[8]

California Share of U.S. Sales. Unlike B-to-C sales, we excluded the California portion of sales explicitly. (In B-to-C sales, the California portion is subsumed in the portion of all U.S. retail companies selling online that are registered with the Board. For B-to-B sales we are unable to determine the percentage of all companies that are registered with the Board.) Instead, we assume an estimate of the California share of all U.S. companies are registered with the Board. We use an estimate of 13 percent for the California share of U.S. B-to-B sales, which is slightly higher than our population share of the nation (12 percent) to reflect the share of California to U.S. gross domestic product.

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[7] *2007 E-Commerce Multi-sector Report,* U.S. Census Bureau, May 28, 2009, web site: http://www.census.gov/eos/www/ebusiness614.htm.

[8] Sources: *2009 Capital Spending Report: U.S. Capital Spending Patterns, 1999-2007,* U.S. Census Bureau; Table 5.5.5U and "Industry Tables," U.S. Bureau of Economic Analysis.

(C) Exempt Sales.
Sales data tabulated by the Census Bureau include all sales, both final sales and sales of intermediate goods used as inputs in the production process. We assume that 60 percent of sales are exempt, either because the exemption is related to the kinds of final goods sold or because the sales are not of final goods, but are instead sales for resale or intermediate goods used in production. If 60 percent of sales are exempt, this implies that the remaining 40 percent of sales are taxable under California law.

(D) Compliance by Businesses. After talking to Sales and Use Tax Department staff, we assumed that sales and use taxes are paid on 80 percent of the California taxable B-to-B electronic commerce sales (registered and unregistered taxpayers). A report on electronic commerce sales tax revenue impacts by the U.S. General Accountability Office (GAO) assumed a range of 50 to 95 percent compliance rates for taxable B-to-B purchases excluding cars.[9] Our 80 percent assumption for all purchases would be in the middle portion of the GAO range.[10] A 2008 study by the Washington Department of Revenue found a use tax compliance rate of about 74 percent.[11] However, Washington compliance rates documented in previous studies were close to 80 percent, and it seems reasonable that California could have somewhat higher compliance than Washington currently has. Eighty percent compliance implies that the remaining 20 percent of taxes due are not paid.

(E) Estimate and Forecast Assumptions. The most recent B-to-B e-commerce data are available for 2007. Census Bureau and BEA data indicate that the vast majority of business spending for final consumption are for capital equipment items. We estimated B-to-B e-commerce for 2008 and 2009 using the growth rates in capital equipment spending for 2008 and the first half of 2009. (First half spending in 2009 compared to first-half spending in 2008 represents all of 2009.) Forecasts for 2010 and 2011 growth are identical to those used in the revenue estimate made for ABx4 18.

Table 2 shows how these assumptions and data were combined to result in revenue estimates for each year. The data in the table are documented with line number references. We assume that all calendar year liabilities are all paid in the fiscal year ending July 1 of the following year. We first estimate what we call baseline revenues and then adjust them by subtracting estimates of use tax liabilities to be paid by businesses because of both the BOE Tax Gap program efforts and AB x4 18. Revenues from BOE Tax Gap Program efforts are estimated to be $70 million per year. The revenue estimates for AB x4 18 are quite large, ranging from $151 million in fiscal year 2009-10 to $437 million in fiscal year 2011-12. These estimates have the effect of subtracting about 60 percent of baseline revenues from the estimates in fiscal year 2011-12.

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[9] *Sales Taxes: Electronic Commerce Growth Presents Challenges; Revenue Losses Are Uncertain*, U.S. General Accounting Office, June, 2000. Car sales are often excluded in such analyses because with vehicle registration requirements, tax compliance rates for car purchases are assumed to be close to 100 percent.

[10] Excluding car sales would reduce the 80 percent compliance assumption, but it would likely still be in the middle of the GAO range.

[11] "Department of Revenue Compliance Study," Washington Department of Revenue Research Report 2008-5, July 10, 2008, website:
http://dor.wa.gov/Docs/Reports/Compliance_Study/compliance_study_2008.pdf

Table 2

Business to Business (B-to-B) Sales and Revenues
(Millions of Dollars Unless Otherwise Noted)

				Calendar Years		
		Actual	**Estimated**	**Estimated**	**Forecast**	
Line No.		**2007**	**2008**	**2009**	**2010**	**2011**
1	Merchant Wholesale Trade Sales (MWTS) E-commerce	1,226,071	1,170,194	913,605	970,248	1,134,220
2	Percent Change	2.7%	-4.6%	-21.9%	6.2%	16.9%
	California Adjustments:					
3	Transportation equipment	36,704	26,726	11,962	12,704	14,851
4	Partial exemption for agricultural equipment	3,248	3,777	4,337	4,606	5,384
5	Insurance equipment	7,719	7,367	5,752	6,109	7,141
6	U.S. E-commerce Adjusted for Industry Exemptions (Line 1 - Line 3 - Line 4 - Line 5)	1,178,400	1,132,323	891,553	946,830	1,106,844
7	California share of U.S. Gross Domestic Product	13%	13%	13%	13%	13%
8	Exclude Estimated Sales Made by CA Businesses (Line 6 x Line 7)	153,192	147,202	115,902	123,088	143,890
9	California-Adjusted U.S. Remote Sales (Line 6 - Line 8)	1,025,208	985,121	775,651	823,742	962,954
10	Estimated Share of Taxable Sales	40%	40%	40%	40%	40%
11	California-Taxable U.S. Remote Sales (Line 7 x Line 9 x Line 10)	53,311	51,226	40,334	42,835	50,074
12	Baseline Noncompliance Rate	20%	20%	20%	20%	20%
13	Revenue Loss Tax Base (Line 11 x Line 12)	10,662	10,245	8,067	8,567	10,015
14	Tax Rate (Average Annual Rate for Calendar Year)	8.00%	8.00%	8.75%	9.00%	8.50%
				Fiscal Years		
		2007-08	**2008-09**	**2009-10**	**2010-11**	**2011-12**
15	Estimated CA-adjusted baseline revenues (Line 13 x Line 14)	$853	$820	$706	$771	$851
16	Revenue Adjustments:					
17	BOE Tax Gap Program			70	70	70
18	ABx4 18			151	253	437
19	***Estimated Revenues Losses (Line 15 - Line 17 - Line 18)***	***$853***	***$820***	***$485***	***$448***	***$344***

Revenue Summary

California electronic commerce and mail order sales and use tax revenue estimates for fiscal years 2007-08 through 2011-12 are summarized in Table 3 below.

Table 3
Estimated Revenue Losses From Total Remote Sales (B-to-B and B-to-C)
(Millions of Dollars)

	Fiscal Years				
	2007-08	**2008-09**	**2009-10**	**2010-11**	**2011-12**
Total Estimated State and Local Revenue Losses 1/	***$1,388***	***$1,368***	***$1,085***	***$1,091***	***$1,008***
State General Fund	$868	$855	$713	$727	$653
State Fiscal Recovery Fund	$43	$43	$31	$30	$30
Local Funds	$477	$470	$341	$333	$326

1/ Total estimated state and local revenue losses are the sum of figures from Table 1, Line 16 and Table 2, Line 19.

Qualifying Remarks

The most cost efficient method of collecting sales and use tax is to have the seller collect the tax and remit it to the Board. The state's sales and use tax law is designed to collect the revenue in this manner. The electronic commerce transactions that this estimate addresses are from an out-of-state seller who is not registered with the Board because he or she is not "engaged in business" in California. Federal law precludes states from requiring businesses not engaged in business in their states to collect the use tax from the purchaser. Without the ability to require the seller to collect the use tax and remit it to the Board, collecting these use tax liabilities from the purchaser can become very difficult and expensive.

In these electronic commerce transactions, since the seller is not registered with the Board, the purchaser has a use tax liability. Our estimate identifies electronic commerce transactions as either business-to-business or business-to-consumer. For the most part neither the purchasing business nor the consumer may be aware of their use tax liability.

According to the 2002 Economic Census of California there are 2,920,443 businesses in California. The total unpaid use tax from electronic commerce sales made to these businesses is estimated to be $485 million in fiscal year 2009-10. (This is 20 percent of total taxable B-to-B spending on which taxes are not being paid referenced on Line 12 in Table 2.) That means that the average use tax liability is about $166 per year. While some taxpayers may owe large amounts, others will have paid their liability in full or may not have use tax liabilities from remote purchases. Without the expensive process of auditing a large number of these taxpayers, it would be difficult to know how much of this revenue we can expect to receive.

For business to-consumer electronic commerce sales, it would be even less cost effective to pursue individual purchasers. There are over 12.7 million households in California. The average liability for electronic commerce sales would be about $47 per household per year. (This is 36 percent of total taxable B-to-C spending on which taxes are not being paid referenced on Line 11 in Table 1.)

Preparation

This revenue estimate was prepared by Joe Fitz, Research and Statistics Section. For additional information, please contact Mr. Fitz at (916) 323-3802.

Current as of November 3, 2009.

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