BOARD OF EQUALIZATION
REVENUE ESTIMATE

ELECTRONIC COMMERCE AND MAIL ORDER SALES

Summary

The California State Board of Equalization (BOE) summarizes California electronic commerce and mail order sales and use tax revenue estimates for fiscal years 2012-13 through 2014-15 in Table 1. The BOE estimates that total revenue losses related to remote sellers for both businesses and household consumers were about $1.012 billion in fiscal year 2012-13. These losses are expected to grow to $1.080 billion by fiscal year 2014-15, consistent with substantial growth in electronic commerce sales.

These revenue losses are spread among approximately 12.4 million households and 3.7 million businesses. Unpaid sales and use tax liabilities in 2013-14 average $44 per year for each California household, which are associated with more than $500 per household in taxable purchases. California businesses average $157 per year in unpaid sales and use tax liabilities.

Table 1
Fiscal Year Forecasts of Use Tax Revenue Losses
(Millions of Dollars)

	Fiscal Year 2012-13	2013-14	2014-15
Business to Consumer (B-to-C)	$492	$547	$607
Business to Business (B-to-B)	$520	$574	$472
Total Use Tax Revenue Losses	$1,012	$1,121	$1,080
Total Use Tax Revenue Losses by Funding Jurisdiction			
State	$785	$869	$837
Local	$227	$251	$242
Total State and Local Use Tax Revenue Losses	$1,012	$1,121	$1,080

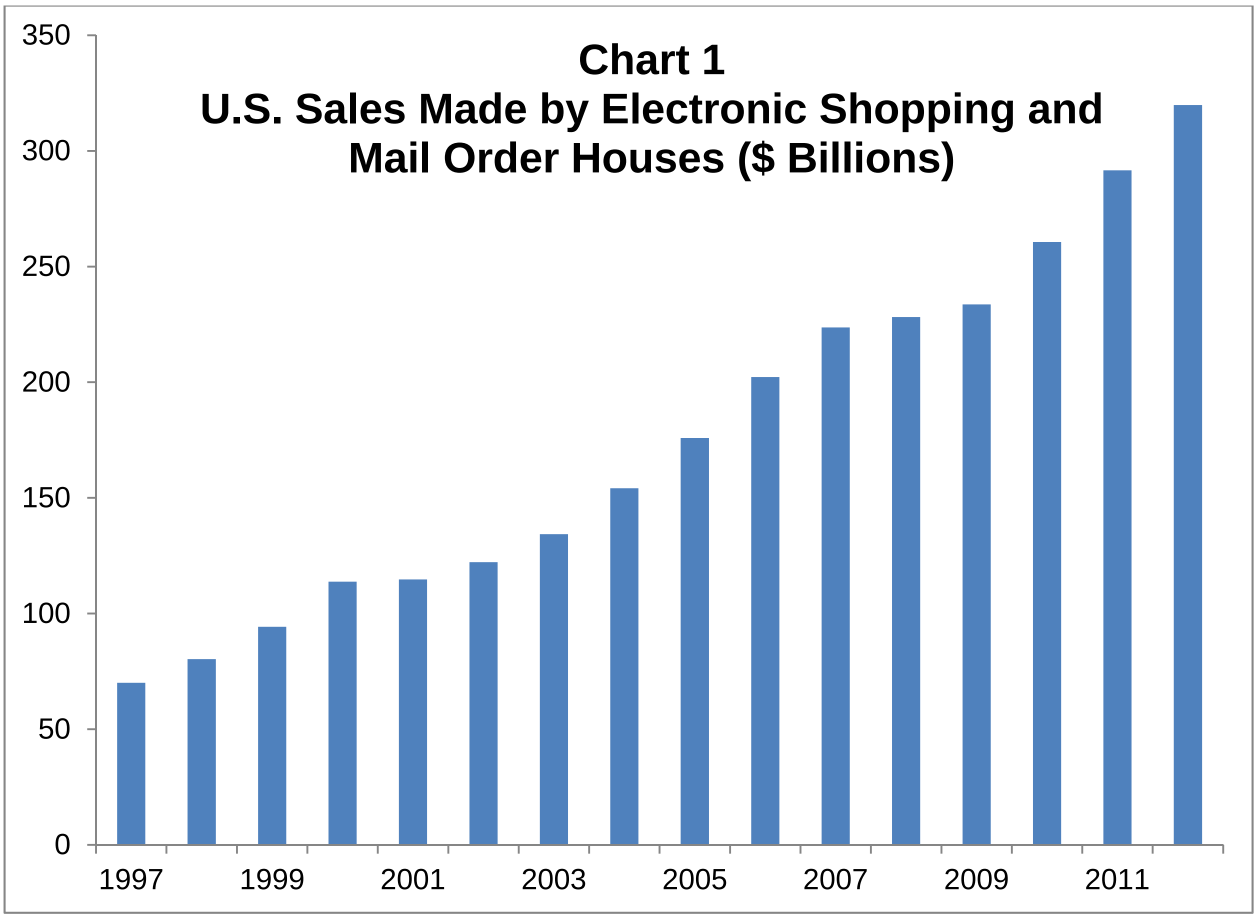
Note: Totals may not add because of rounding.

Introduction

Updated Estimates. This is an update of the BOE 2010 electronic commerce and mail order sales and use tax gap estimates for fiscal years 2012-13 through 2014-15. The “tax gap” is defined as the difference between what taxpayers owe and what they voluntarily pay. These estimates of sales made by out-of-state companies reflect updated and revised data, changes in business practices, law changes, and regulation changes since December 2010. To revise the estimates, the BOE reviewed Sales and Use Tax Department data and information released by the U.S. Census Bureau and other sources, including industry.

One of the most important differences from the 2010 study is an update of the percentage of sales made from unregistered out-of-state companies to California households. The most recent review indicates that 23 percent of such sales come from companies not registered with the BOE. In the 2010 report, the estimate was 37 percent. With this decline in the percentage and no other changes in law, sales tax administration practices, taxpayer behavior, or other factors, the tax gap associated with electronic commerce and mail order sales would be expected to decrease significantly from the estimates released in 2010.

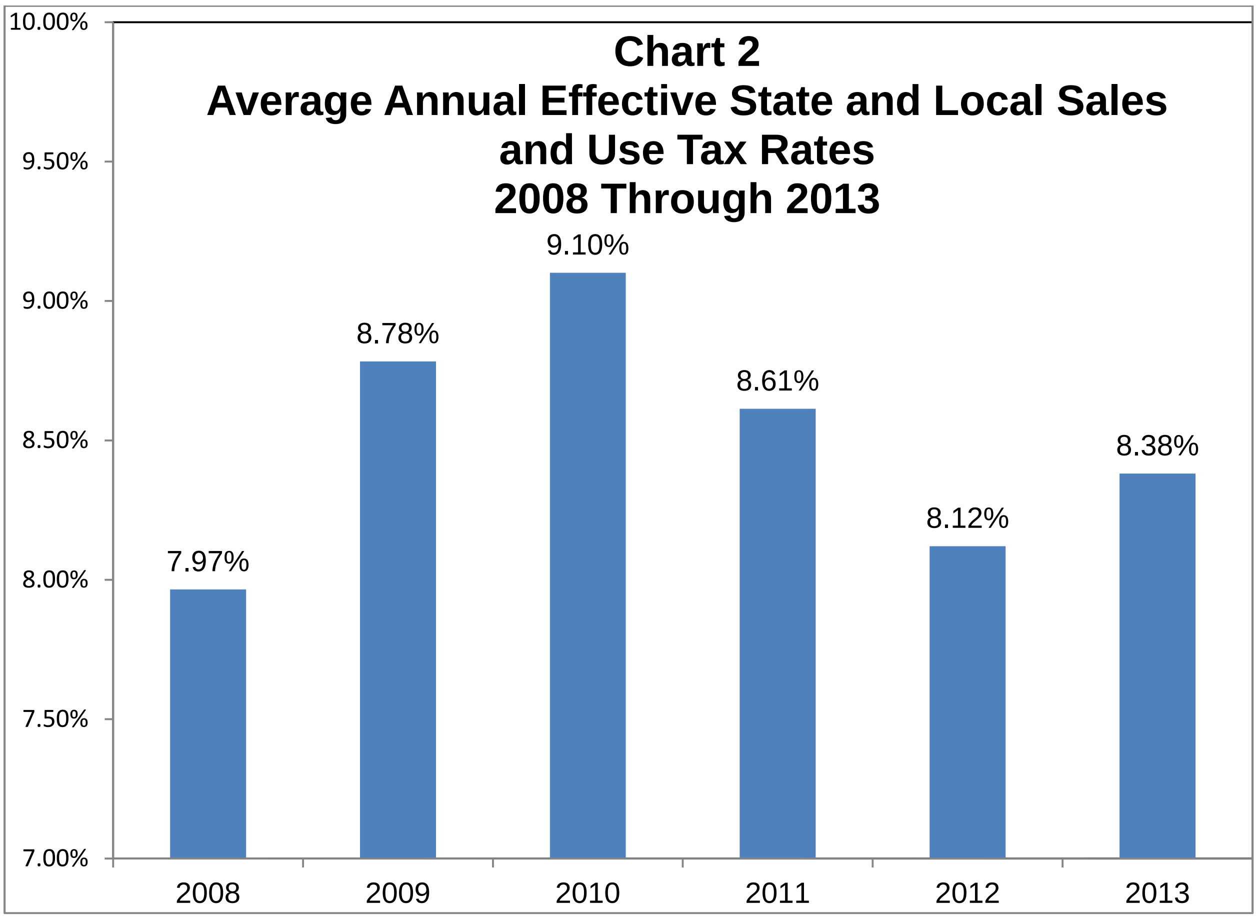
Historical Changes in Annual Tax Gap Estimates. As shown in Chart 1, U.S. sales made by "Electronic Shopping and Mail Order Houses" have risen dramatically since the late 1990s. These sales jumped more than four-fold, from $70 billion in 1997 to $320 billion in 2012, primarily from increases in electronic commerce.[1] Over the past three years they have grown, on average, over 11 percent per year. The data available show double-digit increases continuing into the first half of 2013.



[1] Source: U.S. Census Bureau, http://www.census.gov/retail/

Based on the data in Chart 1, the BOE estimated California historical noncompliance (tax gap) revenues for business-to-consumer transactions from 1997 to 2012. From 1997 to 2011, the BOE calculated these revenues assuming 37 percent of sales were from unregistered out-of-state companies (the percentage used in the 2010 study). For illustrative purposes, BOE assumed 23 percent (the current estimate) in the 2012 calculations.

With no other change in federal or state laws, sales tax administration practices, taxpayer behavior, or other factors, the tax gap associated with electronic commerce and mail order sales would be expected to increase generally every year from 1997 to 2011, paralleling the growth shown in Chart 1. However, many of these factors have changed within the past 17 years. For example, combined state and local sales tax rates increased gradually from 1997 to 2008, rising from 7.92 percent to 7.97 percent, primarily because of more local district taxes over this time period. However as shown in Chart 2, rates have varied dramatically from 2008 to 2013, mostly due to legislative changes in statewide tax rates.



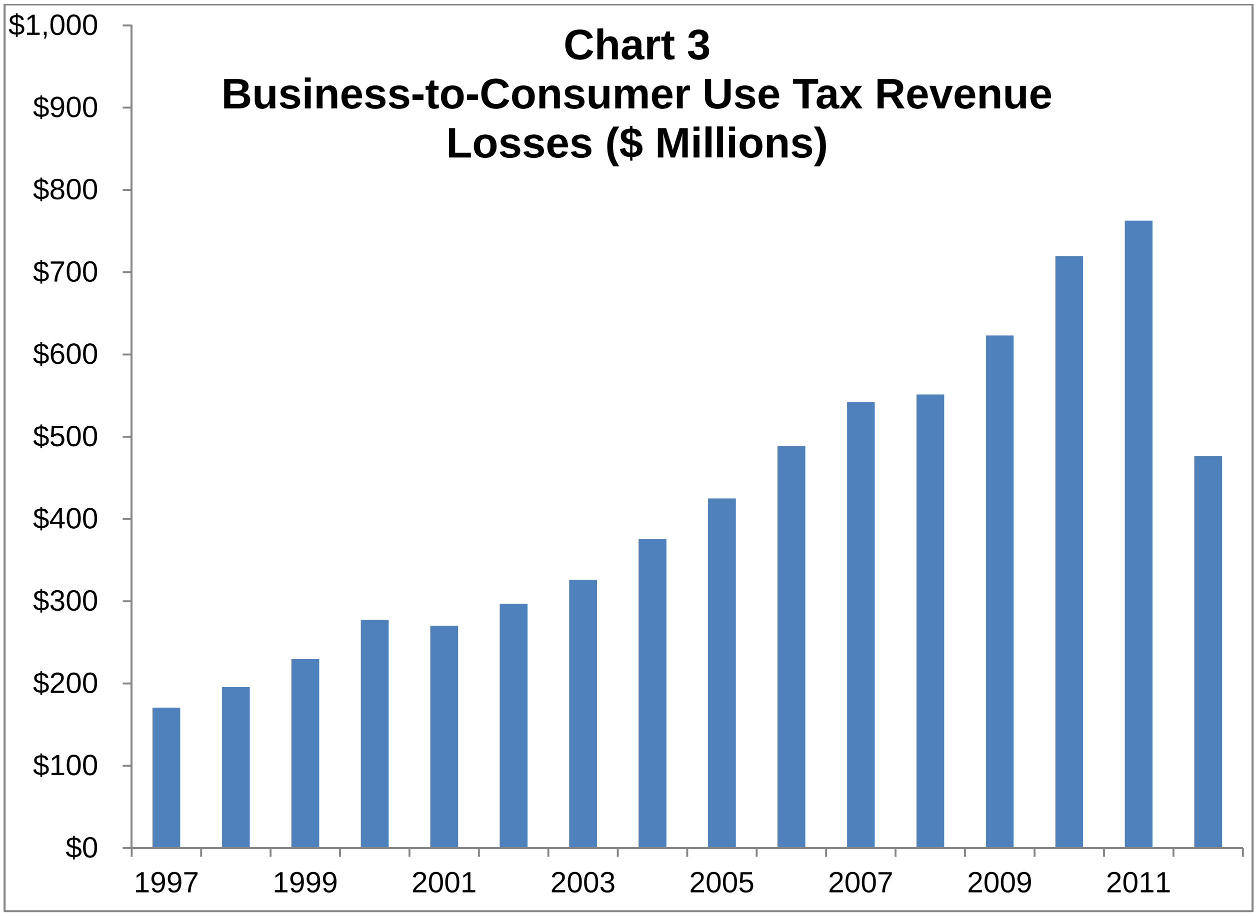
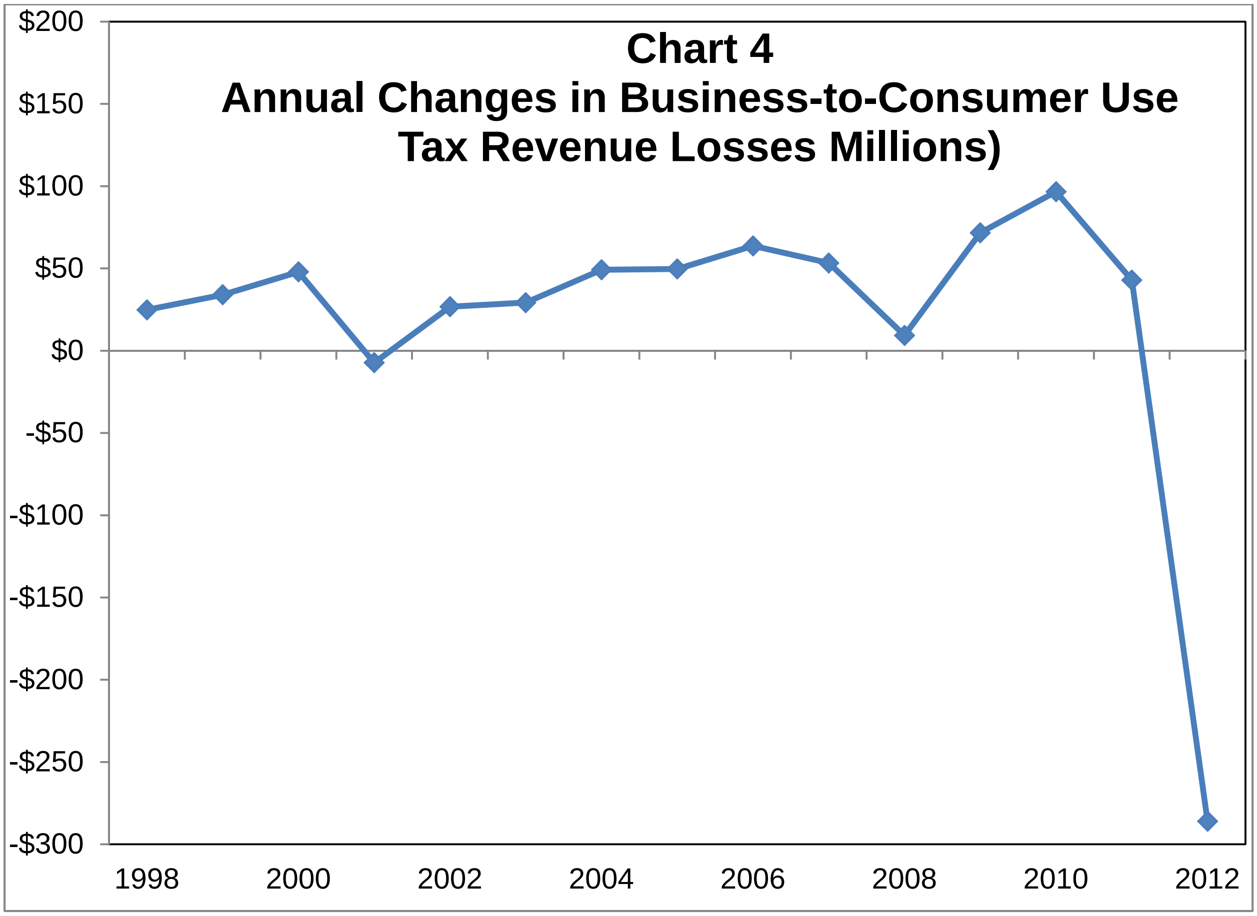


Chart 3 shows annual business-to-consumer use tax revenue losses. They rose from $171 million in 1997 to $763 million by 2011. In 2012, with the decrease in unregistered out-of-state sellers (nexus percentage) from 37 percent to 23 percent, the tax gap declined dramatically, to $477 million.[2] This amount decreased from 2006.

[2] This number differs from the estimate for 2012 shown later in this report in Tables 1, 3 and 4 because the Table 3 number relies on data not available for all years from 1997 to 2012.

Chart 4 shows annual changes in the tax gap using the data in Chart 3. The 2012 decline in the tax gap is unlikely to occur in future years unless tax laws or other factors change significantly. This is because the dramatic decrease in the nexus percentage in 2012 is not expected to be repeated in future years under current law. If electronic commerce growth continues at the same rate, the tax gap would be expected to annually increase. However, the absolute size of the gap will continue to be nearly $300 million less than it would have been without the decrease in the nexus percentage.



Background, Methodology, and Assumptions

<u>(1) Background Sources and Data Assumptions</u>

The methodology used to derive these estimates is similar to what was used in BOE's 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. It is assumed all mail order sales are B-to-C. The data sources and methodology are summarized here.

<u>(2) Business-to-Consumer (B-to-C)</u>

<u>Data and Methodology.</u> The BOE used the exact same data and methodology to determine taxable remote sales and the percentage of those sales made by firms registered in California that were used in the determination of the "Lookup Table" for calendar year 2013 specified in Regulation 1685.5 (Approved by Office of Administrative Law and filed with the Secretary of State with an effective date of 07/01/13.) Table 2 summarizes the relevant calculations made in Regulation 1685.5.

Table 2
Calculations to Determine Regulation 1685.5 Use Tax Table Percentage for 2013 (2012 Data)

U.S. Personal Income (Billions of Dollars) 1/	$13,431
U.S. Spending at Electronic Shopping and Mail Order Houses (Billions of Dollars)2/	$320
Additional Estimated Remote Sales From Other Retailers (2009 data, U.S. Census Bureau, E-Stats, Billions of Dollars)	$10
Total Estimated Remote Sales	$330
Taxable Percentage3/	69.3%
Estimated Taxable Remote Sales	$228.513
Percent of Income Spent on Electronic and Mail Order Purchases	1.7%
Average Percentage of California Purchases From Out-of-State Vendors Without Nexus 4/	23%
Average State and Local Sales and Use Tax Rate 5/	8.38%
Use Tax Table Percentage	0.033%

<u>Sources:</u>
1/ U.S. Bureau of Economic Analysis, "Table 2.1," http://www.bea.gov.
2/ U.S. Census Bureau, "Monthly Retail Trade Report," http://www.census.gov/retail.
3/ U.S. Census Bureau, *2007 Economic Census, Product Lines, http://www.census.gov/econ/census07*.
4/ Regulation 1685.5.
5/ Board of Equalization, Research and Statistics Section.

<u>(A) Specific Data Sources.</u> Remote sales are defined as electronic or traditional mail order sales. 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," (ESMOH) monthly, annually and every five years in various reports.[3] This industry data consists of retailers whose primary business (or a separate subsidiary) is mail order or electronic commerce sales. Based on another Census Bureau publication, BOE adds a Census Bureau estimate of e-commerce sales from companies that make some sales from websites, but have no separate website subsidiaries.

<u>(B) Taxable Portion of Remote B-to-C Sales.</u> Remote sales data from the *2007 Economic Census* for NAICS Industry 4541 include detailed product categories and sales volumes. Based on this product list, BOE estimates that about 30.7 percent of U.S. remote sales were exempt in

[3] Every five years the U.S. Census Bureau counts businesses. The most recent census year was 2007.

2007 under the California Sales and Use Tax Law. Prescription drugs account for the vast majority of these exempt sales; 26.2 percent of the 30.7 percent, are prescription drugs. These percentages apply to all remote sales; there are no separate product data for electronic and mail order sales. It is assumed these national product category percentages of remote sales also apply to California. This premise implies that 69.3 percent of remote sales are taxable to California purchasers.[4]

(C) Compliance and Nexus Percentage Assumptions. For revenue estimation, BOE assumes that all retailers registered with the BOE (firms with California nexus) are remitting the sales and use tax they owe. It is further assumed that all household use tax payments were remitted on income tax forms.

Based on 2012 research and the methodology specified in Regulation 1685.5, BOE estimates that 77 percent of remote sales to California households were made from retailers with California nexus. This percentage includes registrations made in response to AB 155 (*Statutes of 2011*).

(D) Forecast Assumptions. Forecasts for 2013 through 2015 growth assume the growth rate of ESMOH for the past three years. This average growth rate is 11.1 percent per year.

Tables 2 and 3 show how these assumptions and data combine to result in a revenue estimate for calendar year 2012. The shaded line in Table 2 (Estimated Taxable Remote Sales) indicates that this figure provides a starting point for the calculations made in Table 3. BOE assumes that all calendar year liabilities for 2012 ($492 million) are paid in the fiscal year 2012-13. Table 4 shows forecasts of revenues for the following two fiscal years.

Table 3
Estimate of Business to Consumer (B-to-C) Use Tax Noncompliance in Calendar Year 2012

	Millions of Dollars in 2012
Estimated U.S. Taxable Remote Sales (Regulation 1685.5, Table 2)	$228,513
California Share (U.S. Census Bureau, 12 Percent of U.S. Population)	$27,422
Remote Sales From Unregistered Companies (23%, Regulation 1685.5)	$6,307
Implied Taxable Sales Reported on Personal Income Tax Forms (Source: Franchise Tax Board, Assume Statewide Average Tax Rate of 8.12%)	$249
Implied Noncompliant Remote Sales (Sales Not Reported)	$6,058
Revenues at a Statewide Average Tax Rate of 8.12%	$492

Table 4
Fiscal Year Forecasts of Business to Consumer (B-to-C) Use Tax Noncompliance (Millions of Dollars)

2012-13	2013-14	2014-15
$492	$547	$607

[4] This percentage, 69.3 percent, differs slightly from the 69.5 percent used in 2010 due to a more thorough review of the Census data for implementation of Regulation 1685.5 after BOE's 2010 estimates were released.

(3) Business-to-Business (B-to-B)

(A) Data Sources and Definitions
The data available for estimating B-to-B revenues are less certain than that for B-to-C revenues.[5] BOE based its B-to-B revenue estimate on data from the Merchant Wholesale Trade Sales Survey published by the U.S. Census Bureau.[6] Unlike the B-to-C data, BOE is unaware of any Census Bureau estimates that include traditional mail order sales to businesses. The BOE assumes that B-to-B electronic commerce sales include traditional mail order sales from one business to another business.

(B) Adjustments
Vehicle Sales Adjustments and Industry Exemptions. Transportation equipment purchases are excluded from the 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. BOE adjusted for industry exemptions, including the use tax exemption for insurance and the partial farm equipment sales and use tax exemption for agriculture.

Available data sources reasonably estimate vehicle sales and these specific industry exemptions, enabling BOE to adjust for them. Apparently, no data exists to adjust similarly for online purchases. Therefore, BOE assumed that the overall purchase data relationships matched the online data relationships. Data sources for these adjustments are the U.S. Census Bureau and the U.S. Bureau of Economic Analysis (BEA).[7]

California Share of U.S. Sales. The California portion of sales was excluded by estimating the California share of all U.S. companies that are registered with BOE. An estimate of 13 percent for the California share of U.S. B-to-B sales was used, which is slightly higher than our population share of the nation (12 percent) to reflect the California share of U.S. gross domestic product.

(C) Exempt Sales. Sales data tabulated by the Census Bureau include both final sales and sales of intermediate goods used as inputs in the production process. 60 percent of sales are assumed exempt, either because final goods sold are exempt or because the sales are 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. These estimates reflect all taxable business purchases made without regard to whether sales or use tax has been paid. Businesses can pay sales and use

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[5] U.S. Census Bureau e-commerce data are collected in several separate surveys. These surveys use different measures of economic activity (shipments, sales and revenues). The Census Bureau notes that these measures "should be interpreted with caution." There is potential for double counting of sales if the data are interpreted incorrectly. Furthermore, we do not know with certainty how much of the total B-to-B sales and use tax obligation has already been paid by businesses.

[6] *2011 E-Commerce Multi-sector Report,* U.S. Census Bureau, May 23, 2013, web site: http://www.census.gov/eos/www/ebusiness614.htm.

[7] Sources: *2013 Capital Spending Report: U.S. Capital Spending Patterns, 2002-2011,* U.S. Census Bureau; Table 5.5.5 and "Industry Tables," U.S. Bureau of Economic Analysis.

tax to registered companies at the time of purchase. Alternatively, purchasers can pay use tax either directly to BOE or on their individual income tax returns. Overall compliance rates are unknown.

Through one means or another BOE believes that registered sales and use tax is paid on 90 percent of California taxable B-to-B electronic commerce sales. BOE data on tax returns processed under ABx4 18[8] indicate a similar percentage. The Illinois Department of Revenue estimates that businesses pay 90 percent of their sales and use tax liabilities.[9] This compliance percentage also is consistent with data from the U.S. General Accountability Office (GAO), which assumed a range of 50 to 95 percent compliance rates for taxable B-to-B purchases, excluding cars.[10] The BOE believes California is likely to have far better compliance than most states because of both size (which implies more business purchases from firms with nexus) and a long tradition of relatively strong tax administration. Ninety percent compliance implies that the remaining 10 percent of taxes due are not paid.

(E) Forecast Assumptions. The most recent B-to-B e-commerce data are available for 2011. Census Bureau and BEA data indicate that the vast majority of business spending for final consumption is for capital equipment items. The BOE estimated B-to-B e-commerce for 2012 through 2015 using the growth rates of capital equipment spending from the June 2013 *Global Insight* Forecast.[11]

(F) Adjustment for Recent Legislation

Assembly Bill 93 (as amended by Senate Bill 90) created partial sales and use tax exemptions for manufacturing and bio-technology equipment that will take effect July 1, 2014. The BOE adjusted for the impacts of this legislation. The same Census Bureau source used to determine B-to-B revenues indicates that 24 percent of all U.S. merchant wholesale trade sales were electronic commerce sales in 2011. The BOE assumes electronic commerce purchases made under AB 93 are the same percentage prior to adjusting for the BOE Tax Gap Program and ABx4 18[12].

Table 5 shows how these assumptions and data combine to impact revenue estimates for each year. The data in the table are documented with line number references. It is assumed that all calendar year liabilities are paid in the fiscal year ending July 1 of the following year. Baseline

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[8] ABx4 18, Statutes of 2009 enacted Revenue and Taxation Code Section 6225, which requires a qualified purchaser to register with the Board and report and pay use tax owed for the previous calendar year.

[9] "A New Method for Estimating Illinois's E-Commerce Losses," Andy Chupick and Natalie Davila, *Tax Analysts Special Report,* February 16, 2009.

[10] *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.

[11] *Global Insight* is a well-known economic forecasting company that produces detailed monthly forecasts of the U.S. economy. The Research and Statistics Division, along with the Department of Finance and state agencies of many other states, subscribes to *Global Insight* forecasts.

revenues are estimated first. Next, they are adjusted by subtracting estimated use tax to be paid by businesses because of the BOE Tax Gap Program and ABx4 18. Revenues from the BOE Tax Gap Program and ABx4 18[12] are estimated to be $38 million and $51 million per year, respectively. Increases in these figures over time were not forecast due to insufficient data, and no clear trend in the available data. Using the methodology discussed earlier, the AB 93 legislation reduced fiscal year 2014-15 revenues on Line 19 of Table 5 by $155 million. (Revenues were $627 million prior to this calculation.) With this adjustment, revenues are $472 million, less than they were in 2011-12.

Preparation

Joe Fitz, Chief of the Research and Statistics Section, prepared this revenue estimate. For additional information, please contact Mr. Fitz at (916) 323-3802. Any use of this data should be credited to the California State Board of Equalization (BOE).

Current as of August 21, 2013.

cc: Ms. Cynthia Bridges
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[12] See *supra* note 6.

Table 5

Business to Business (B2B) Sales and Revenues
(Millions of Dollars Unless Otherwise Noted)

Line No.		Actual 2011	Estimated 2012	Forecast 2013	Forecast 2014	Forecast 2015
		Calendar Years				
1	Merchant Wholesale Trade Sales (MWTS) E-commerce	1,573,129	1,694,834	1,784,966	1,926,626	2,091,900
2	Percent Change	10.2%	7.7%	5.3%	7.9%	8.6%
	Adjustments:					
3	Transportation equipment	19,085	22,818	23,728	25,317	27,199
4	Partial exemption for agricultural equipment	7,460	8,037	8,465	9,136	9,920
5	Insurance equipment	2,794	3,010	3,171	3,422	3,716
6	U.S. E-commerce Adjusted for Industry Exemptions (Line 1 - Line 3 - Line 4 - Line 5)	1,543,789	1,660,969	1,749,602	1,888,751	2,051,065
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)	200,693	215,926	227,448	245,538	266,638
9	California-Adjusted U.S. Remote Sales (Line 6 - Line 8)	1,343,097	1,445,043	1,522,154	1,643,213	1,784,426
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)	69,841	75,142	79,152	85,447	92,790
12	Baseline Noncompliance Rate	10%	10%	10%	10%	10%
13	Revenue Loss Tax Base (Line 11 x Line 12)	6,984	7,514	7,915	8,545	9,279
14	Tax Rate (Average Annual Rate for Calendar Year)1/	8.61%	8.11%	8.38%	8.38%	8.38%
			Fiscal Years			
			2011-12	**2012-13**	**2013-14**	**2014-15**
15	Estimated CA-adjusted baseline revenues (Line 13 x Line 14)		$601	$609	$663	$561
16	Revenue Adjustments:					
17	BOE Tax Gap Program		38	38	38	38
18	Assembly Bill x4 18[13]		51	51	51	51
19	***Estimated Revenue Losses (Line 15 - Line 17 - Line 18)***		***$512***	***$520***	***$574***	***$472***

1/ Average rate for calendar year 2011, including the temporary tax increase effective from April 1, 2009 through June 30, 2011.

[13] See *supra* note 6.