A "Virtual" Challenge: The Potential Impact of Electronic Commerce on Local Government Revenues

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Over the past twenty years many California cities have substantially increased their reliance on sales tax revenue. The growth of online shopping threatens to undermine this source of revenue, because taxes are not collected for many electronic commerce transactions. More importantly, cities relying heavily upon traditional retail may lose revenue, depending on how the State decides to redistribute taxes from online sales. Alternatives evaluated in this article include, redistribution according to the location of the retailer, location of the consumer (a residence), and population. The potential impacts of online sales growth and revenue redistribution are evaluated for Bay Area cities, 15 of which are identified as highly vulnerable, rapidly growing middle class suburbs. In conclusion, the implications of policies to mitigate such impacts are explored.

Introduction: Defining the Issue

Business-to-consumer sales over the Internet totaled $25.8 billion in 2000, accounting for nearly 1% of retail sales (US Department of Commerce 2000). Online sales are projected to grow to five times that amount by 2004 (Forrester Research 1998). Estimates suggest that online transactions could account for as much as 15% of total retail sales within the next decade (OECD 1998, 5).

The growing importance of online commerce has significant implications for local government sales tax revenues. Sales taxes are currently collected on only a portion of online transactions. Online commerce, with its interactivity, should dwarf mail order and home shopping services, and there is typically no differentiation to the online consumer between retailers in-state and out-of-state. The relative ease with which consumers may purchase online goods from out-of-state suggests that interstate commerce could comprise a significant share of online retail sales. However, in *Quill vs. South Dakota*, the U.S. Supreme Court prohibited state governments from requiring out-of-state retailers to collect and remit sales taxes. Although *Quill* refers to a catalog retailer, the same criterion is assumed to apply to online

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sales. Therefore, retailers are only required to collect sales taxes from consumers in states where they have a physical presence. Without such requirements, consumers seldom fulfill their obligation to report such taxes and the revenues are essentially lost.

In-state sales taxes are equally blurred with concerns over 'physical presence' and tax collection. States may collect sales taxes from the dotcom retailers that are physically located within the state, but may only collect on purchases made by consumers also located with the state. For instance, Amazon.com is located in Seattle, and as a result, the State of Washington may collect taxes on their sales to consumers – typically residents – in Washington. Amazon.com sales to California, however, may not be taxed. Some companies, such as Barnes & Noble, have taken advantage of this situation to legally isolate their online activities, thereby avoiding sales tax collection in most states.

For States such as California, home to Silicon Valley and resplendent with internet-based business, the collection of in-state sales taxes remains significant. The State of California recently released a pamphlet to clarify online retailer's obligation to collect sales taxes:

> *"While your customers are responsible for the use tax, you must collect it from them and pay it to us if you:*
> *- Have a permanent or temporary business location in California, including a warehouse, sales room or office; or you*
> *- Have any kind of representative or agent in the state, even temporarily, who makes sales, takes orders, installs or assembles merchandise, or makes deliveries for you."*
> *(California State Board of Equalization, 1999)*

Indeed, many online retailers do have a physical presence in the states in which their customers reside, and make no attempt to create a separate status for tax purposes. Online purchases from these "click-and-mortar" retailers – Eddie Bauer, The Gap and Gateway Computers, included – are currently subject to sales tax. Online sales of consumer durables such as automobiles, large appliances, and furniture, are also unlikely to escape tax collection, as many of these goods require the presence of a local distributing agent.

Unfortunately for local governments, the debate over online commerce is dominated by this concern for tax collection. While it is true that more comprehensive tax collection of online commerce could increase revenues, a more subtle – and perhaps more threatening –

concern lies with issues over the redistribution of those revenues.

In thirty-four states, local governments receive a local share of statewide sales taxes. Typically, these local shares are redistributed based on the location in which the sales took place – the jurisdiction of the physical location for the retailer. For a variety of reasons, communities often capture a share of regional sales tax receipts out of proportion with their share of regional income. But state governments clearly have many options when it comes to redistributing these revenues.

Currently, California tax code suggests that, for the purpose of determining the appropriate tax rate, when purchases are shipped from one location to another they are considered taxable sales in the jurisdiction where delivery takes place (California State Board of Equalization 1998, 6-8). This definition implies that the local share of online sales taxes would also be redistributed to the jurisdiction where delivery took place - typically the home or perhaps the office of the online consumer. If online sales are redistributed based on the residence of the consumer, a potential exists for high-income communities, which often receive very little revenue from sales taxes, to receive a windfall of new revenue. At the same time other suburban communities, heavily dependent on traditional sales taxes would receive proportionately less revenue.

At the heart of this issue is the interaction between the digital economy and the fiscalization of land use. For example, more wealthy jurisdictions with large property tax receipts often use zoning to exclude major retail centers to avoid traffic and other negative impacts. As a result they often capture a smaller share of regional sales taxes than would be expected based on their level of income. On the other hand, rapidly growing suburban communities often actively work to attract such commercial development because of its potential to generate significant tax revenues (Lewis and Barbour 1999). In the wake of Proposition 13, these patterns have intensified as cities' abilities to raise property taxes, and other tax revenues have become significantly constrained.

The San Francisco Bay Area is an ideal location to explore the linkages between these critical areas of planning research. Among the region's 100 cities, a wide range exists in terms of their fiscal and demographic profiles. These differences provide a window through which the vulnerability of local tax bases to the growth of online shop-

ping can be examined. These differences also help illustrate the implications that shifts in purchasing from traditional retail centers to online retail sites may have for city revenues. Results suggest that the changes in retail activity brought about by electronic commerce would likely result in insignificant changes for some jurisdictions, and potentially serious challenges for others.

While it is not possible to calculate a precise impact on each community, it is possible to develop an understanding of their exposure to declining tax revenues. Based on an analysis of fiscal trends among Bay Area cities, a group of cities are selected for a detailed evaluation. Cities receiving substantial and increasing shares of revenue from sales taxes are the primary focus. Among this group, particular attention is given to the cities with the largest shares of retail activity in areas of rapid growth for electronic commerce. Potential sales tax revenue losses to electronic commerce are estimated for five of these select cities. The implications of these losses are then explored by comparing the socioeconomic characteristics of these highly vulnerable cities with others for which sales taxes are a small share of revenues. The article concludes with a presentation of the implications of several alternative sales tax redistribution methods for Bay Area cities: a call to expand the current debate.

Methodology

This exploratory analysis unfolds by asking three fundamental questions: 1) Which Bay Area cities have the most to lose from the growth of online sales? 2) How do highly vulnerable cities differ from less vulnerable cities? 3) How would alternative approaches to administering online sales taxes affect the regions cities?

Answering the first question requires two pieces of information. First, it is necessary to characterize the degree to which local jurisdictions rely upon sales taxes to fund basic services. The current percent of revenue from sales taxes and the change of this share over time are used to define the level of dependency. Second, the sources of sales tax receipts also provide a measure of potential impacts. The share of revenues each city derives from retail sectors in which online shopping is expected to capture large market shares also vary substantially, offering another measure of vulnerability. Therefore, local governments exposure to lost revenue is defined by both their dependency on sales taxes and the retail activities that provide such re-

ceipts. With this basic information, an initial understanding of potential revenue losses can be reached.

To answer the second question the socioeconomic characteristics of the cities that are most vulnerable are contrasted with less vulnerable cities. Median household income, share of households with children, occupational characteristics and the rate of population growth provide an indication how these two groups of cities differ. Comparisons reveal some general patterns. These patterns raise concerns that the fiscal impact of increased online shopping will fall most heavily on the region's rapidly growing middle class suburbs.

Therefore, it is important to explore how state policies regarding collection and redistribution of online sales taxes could exacerbate or mitigate these impacts. To illustrate the implications, local shares of online sales tax receipts are reallocated based on three alternatives: 1) the location of the online consumer, 2) a share proportional to current local shares of traditional physical sales tax receipts and 3) cities share of population.

The Structure of Sales Taxes

A variety of sales tax systems exist in the U.S. Among the 45 states that have sales taxes, rates vary from 3% in Colorado to 7% in Mississippi and Rhode Island. On top of these state sales taxes, 34 states have a variety of local sales taxes that add between 0.25%-4.5% to the state rates. (U.S. Census Bureau 1998) On average, sales tax revenues account for 32.9% of total state government revenues. (U.S. Census Bureau 1998)

In California, sales taxes have become an increasingly important source of government revenue. At the state level, collection of sales taxes are expected to total $24.4 Billion for the current fiscal year, while city and county governments will collect $7.7 Billion. (Legislative Analysts Office 2000) Sales taxes account for roughly one-third of general revenues for the State and city governments, but a much smaller share for counties (California State Controller 1998). However, in spite of this small share, counties do depend heavily on sales taxes to fund specific programs such as transportation and public safety.

The components of the California sales tax are somewhat complex. Statewide, the base tax rate is 7.25%. Of this amount, 5% goes directly to the State General Fund, 1% is redirected to county and city governments, 0.5% is allocated to a Public Safety Fund, another 0.5%

is allocated to a Local Revenue Fund, and the remaining 0.25% is allocated to cities and counties for transportation needs. (California State Controller 1998, vi) Local jurisdictions are also authorized to impose county or special district sales taxes up to 1.5% above the base rate. Currently 24 of California's 58 counties have additional sales taxes to fund transportation infrastructure, transit districts, libraries, flood protection, open space preservation, public safety and hospitals. (California State Board of Equalization 1998, 20)

Although the amount of annual sales tax revenue varies from year to year, the sources of taxable sales have remained fairly stable over the past two decades. Table 1 shows the percentage of California's taxable sales that are derived from each major retail sector. While some small shifts have taken place in the sources of sales tax revenue the sources have been fairly stable over time. The specialty store category, which includes big-box retail stores such as Wal-Mart and Costco, has increased its share of taxable sales. Business and personal services, which include activities such as travel agents, photography studios, film processors, photocopy centers, video rental stores, dry cleaners and an assortment of other taxable services, has also become a more important source of taxable sales. Finally, the automotive sector, although still the largest single source of taxable sales, brings in a smaller share of revenue than it did in 1980.

Table 1

Source of California Sales Taxes by Sector - Percent of Total Annual Sales Tax Receipts

	1980	1998
Apparel stores	3%	3%
General merchandise	10%	11%
Specialty stores	6%	10%
Food stores	6%	5%
Eating and drinking establishments	8%	8%
Household	3%	3%
Building material	4%	5%
Automotive	21%	17%
All other retail stores	4%	3%
Retail Stores Total	**66%**	**64%**
Business and Personal Services	**4%**	**5%**
All Other Outlets	**30%**	**31%**

Source: California State Board of Equalization, *Taxable Sales in California Annual Report* (series)

The Significance of Sales Tax Revenues for Bay Area Cities

California cities vary in the degree to which they rely on sales taxes. The average share of general revenue cities raised from sales taxes in 1997 was 27.3%. However, the shares for individual cities ranged from a high of 91% to less than 1%. Table 4 summarizes the number of California cities at various levels of dependency.

Table 2
Significance of Sales Tax Revenue Among California Cities

Sales Tax Percentage of General Revenues	**Number of Cities FY 1997-98**
More than 50%	31
40%-50%	86
30%-40%	122
20%-30%	115
Less than 20%	117

Source: California State Board of Equalization, *Taxable Sales in California Annual Report 1997-98*

Within the Bay Area, a similar range in the reliance on sales taxes can be seen. Table 3 shows the variation among cities within the region. In just over half of the region's 100 incorporated cities sales taxes accounted for at least 30% of general revenues. In five of these cities, sales taxes made up more than 50% of general revenues. At the other end of the spectrum, eleven cities received less than 10% of their general revenues from sales taxes.

Table 3
Significance of Sales Tax Revenue Among Bay Area Cities

Sales Tax Percentage of General Revenues	**Number of Cities FY 1997-98**
More than 50%	5
40%-50%	21
30%-40%	27
20%-30%	15
10%-20%	21
Less than 10%	11

Source: California State Board of Equalization, *Taxable Sales in California Annual Report 1997-98*

Over time these shares have also changed significantly for many

cities. Among Bay Area cities with greater than average levels of general revenues from sales taxes, 27 substantially increased dependence on sales taxes from 1989 to 1997, eight substantially decreased dependence and 28 had shares that were fairly stable (changed by less than 10%). Among cities with low dependency on sales taxes, only two significantly increased their reliance on sales taxes as a revenue source (Table 4).

Table 4
Changes in Sales Tax Dependency Among Bay Area Cities - Number of Cities Grouped by Share of Revenue in 1997 and Change in Sales Taxes as a Share of Revenue between 1989-97

	Share of General Revenue from Sales Taxes 1997	
	More than 27%	***Less than 15%***
Total Number of Cities	63	20
Change in Share of Revenue from sales taxes - 1989-97		
Substantial increase	27	2
Substantial decrease	8	13
Similar share	28	4

Source: California State Board of Equalization, *Taxable Sales in California Annual Report*

However, high shares of revenue from sales taxes are only one measure of dependency. Among local governments with above average shares of revenues from sales taxes, not all are dependent in the same manner. Sales tax receipts range from a high of $4,748 per person in Colma to only $43 per person in Moraga. Although cities such as Colma, Emeryville, Brisbane and Corte Madera have high shares of revenues from sales taxes, substantial declines in sales tax receipts would still leave them with considerable revenue per capita. The loss of sales taxes for cities such as Pittsburg, Dixon, Vacaville and Morgan Hill would have a more significant impact since each depends heavily on such revenue, but has little cushion in terms of revenue per capita.

Table 5 summarizes the share of sales taxes in 1997, the change in this share over time, and the level of revenue per capita for numerous Bay Area cities. Based on these figures, the most vulnerable cities are identified as those with 1) large shares of revenue from

sales taxes, 2) significant increases in this share over time and 3) lower than average revenues per capita. A total of 15 Bay Area cities fall into this category and are shown as the first group in Table 5. The 6 cities in the second group all have shares of revenue from sales taxes in excess of 25%, but collect more than $300 per capita. Therefore, they are less vulnerable, since even large declines in sales tax revenue would still leave them with substantial revenue per capita. Finally, the third set of cities in Table 5 consists of those characterized as minimally dependent on sales taxes (comprising less than 10% of general revenues). The fifteen highly vulnerable cities identified in Table 5 are also highlighted in a map of the region in Figure 1, showing the geographical distribution of sales taxes as a percentage of general revenues (1997).

Table 5

Share of Revenue from Sales Taxes, Changes Over Time and Revenue Per Capita Among Bay Area Cities

	Sales Tax as a Share of General Revenue 1997	Pct. Change in Sales Tax as a Share of Revenue 1989-97	Sales Tax per Capita
High share of revenue from sales taxes, increasing reliance on such revenues and low revenues per capita			
Gilroy	52%	63%	$ 208.93
Petaluma	44%	15%	$ 136.43
Milpitas	43%	129%	$ 201.66
Pittsburg	43%	31%	$ 85.87
Morgan Hill	43%	28%	$ 102.37
San Ramon	41%	75%	$ 167.87
Dixon	38%	125%	$ 95.66
Union City	37%	19%	$ 113.21
Fremont	34%	32%	$ 127.66
Rohnert Park	34%	79%	$ 105.63
Belmont	34%	13%	$ 83.47
Livermore	34%	67%	$ 144.56
Danville	32%	40%	$ 80.81
Vacaville	28%	20%	$ 82.74
Moraga	28%	13%	$ 43.27
High share of revenue from sales taxes, but substantial rev. per capita			
Colma	91%	2%	$4,747.67
Emeryville	34%	-6%	$ 782.87
Brisbane	51%	-15%	$ 733.48
Corte Madera	49%	3%	$ 460.65
Santa Clara	42%	10%	$ 366.90
Mountain View	35%	2%	$ 307.00

Small share of revenue from sales taxes			
Hillsborough	1%	-59%	$ 4.32
Piedmont	2%	-18%	$ 13.85
Ross	3%	-17%	$ 19.51
Monte Sereno	3%	73%	$ 6.96
Belvedere	3%	-38%	$ 21.89
Los Altos Hills	5%	-3%	$ 13.75
East Palo Alto	6%	-31%	$ 12.17
Atherton	7%	48%	$ 27.46
Portola Valley	7%	-18%	$ 25.73
San Francisco	9%	-3%	$ 138.93
Orinda	10%	-43%	$ 41.11

Source: California State Controller's Office, *Annual Report on Financial Transactions Concerning Cities,* Fiscal Year 1996-97, Sacramento, CA, 1999.

The Sources of Sales Tax Receipts Among Highly Dependent Jurisdictions

Not only is there a variation in the degree to which cities rely on sales taxes, but the sources of taxable sales also vary from place to place. This is an important consideration, since the migration to online purchases is projected to be uneven across retail sectors. Local governments that depend heavily on sales taxes for a large share of revenue, and derive those revenues from sectors for which online commerce is expected to capture large market shares, are the most vulnerable to revenue losses.

Among the Bay Area cities with substantial shares of revenue from sales taxes the concentration of taxable sales by retail sectors varies. Table 6 contains a summary of the sources of taxable sales by broad retail category among the 10 of the 15 cities identified in Table 5 as highly vulnerable. We can see clear differences among these cities. For Petaluma, Morgan Hill, Pittsburg, Gilroy and Danville, retail stores generate more than 70% of taxable sales. Among cities with taxable sales concentrated in retail activities, specialization in particular sectors can clearly be seen. For example, Gilroy and Petaluma derive 27% and 25% of their revenues from the automotive sector, while Danville and Pittsburg have higher concentrations in the general merchandise sector, 31% and 22%, respectively.

Table 6
Sources of Taxable Sales Among Selected Cities

	Danville	Fremont	Gilroy	Liver-more	Milpitas
Apparel Stores	4%	1%	16%	1%	9%
General Merchandise Stores	31%	6%	6%	15%	9%
Food Stores	8%	4%	3%	3%	3%
Eating/Drinking Places	12%	6%	6%	5%	11%
Home Furnishings/Appl.	3%	2%	3%	1%	3%
Building Materials	3%	6%	5%	8%	5%
Automotive	2%	15%	27%	11%	3%
Service Stations	7%	4%	6%	6%	3%
Other Retail	16%	11%	6%	11%	13%
Retail Stores	85%	54%	78%	60%	58%
All Other Outlets	15%	46%	22%	40%	42%

	Morgan Hill	Petaluma	Pittsburg	San Ramon	Union City
Apparel Stores	1%	4%	6%	2%	1%
General Merchandise Stores	19%	8%	22%	6%	12%
Food Stores	7%	6%	7%	4%	4%
Eating/Drinking Places	11%	8%	9%	7%	5%
Home Furnishings/Appl.	3%	2%	1%	3%	1%
Building Materials	3%	5%	14%	7%	11%
Automotive	7%	25%	11%	1%	2%
Service Stations	8%	5%	3%	4%	4%
Other Retail	17%	9%	10%	13%	11%
Retail Stores	75%	71%	81%	46%	50%
All Other Outlets	25%	29%	19%	54%	50%

Source: California State Board of Equalization, *Taxable Sales in California During 1998*.

To assess potential losses more precisely, greater detail on retail activity is helpful. The most important sources of taxable sales for a subset of the most vulnerable cities are shown in Table 7. A striking pattern is the high degree of concentration for some cities in retail categories in which significant shares of sales are expected to take place online within the next five years (Forrester Research 1998). Milpitas clearly stands out as highly vulnerable: 22% of taxable sales are concentrated in the computer and software sector, which is one of the areas experiencing the most rapid online penetration. An additional 16% of the city's taxable sales are from vehicle sales, which may also move substantially toward online commerce. In Livermore and Pleasanton, department stores, vehicle sales and computer stores

account for 35% and 45%, respectively. In Petaluma, 45% of retail sales are concentrated in such sectors.

Table 7
Top Ten Sources of Taxable Sales for Highly Dependent Cities -Percent of Taxable Sales by Retail Sector

Livermore		**Milpitas**		**Petaluma**	
Department Stores	21%	Comp/Software Stores	22%	New/Used Car Dealers	12%
Eating Places	9%	New/Used Car Dealers	16%	Department Stores	12%
New/Used Car Dealers	9%	Eating Places	8%	Catalog/Mail Order	9%
Gas Stations	8%	Drug and Grocery Stores	7%	Eating Places	7%
Drug and Grocery Stores	8%	Hardware Stores	5%	Gift, Misc. Retail	7%
Comp/Software Stores	5%	Gas Stations	5%	Drug and Grocery Stores	6%
Nursery/Garden Stores	4%	Gift, Misc. Retail	5%	Sporting Goods Stores	5%
Sporting Goods Stores	4%	Catalog/Mail Order	3%	Hardware Stores	4%
Household Appl. Stores	3%	Auto/Home Stores	3%	Boat Dealers	3%
Auto/Home Stores	3%	Sporting Goods Stores	2%	Lumber/Bldg Supply	3%
All other retail	28%	All other retail	24%	All other retail	32%

Pleasanton		**Morgan Hill**	
New/Used Car Dealers	23%	Eating Places	14%
Department Stores	20%	New/Used Car Dealers	12%
Eating Places	11%	Rec. Vehicle Dealers	12%
Drug and Grocery Stores	8%	Gift, Misc. Retail	11%
Gift, Misc. Retail	5%	Florists	9%
Misc. Food Stores	5%	Drug and Grocery Stores	8%
Gas Stations	5%	Auto/Home Stores	4%
Hardware Stores	2%	Catalog/Mail Order	2%
Lumber/Bldg Supply	2%	Hardware Stores	2%
Sporting Goods Stores	2%	Comp/Software Stores	2%
All other retail	18%	All other retail	32%

Source: D&B Marketplace 4.0, *1998*.

Estimates of Potential Losses

A number of estimates have been developed to predict the future market share of Internet commerce. The estimates of market share of online sales across specific retail sectors developed by Forrester Research are summarized in Table 8. The percentage of vulnerable city's sales tax revenue by sector, multiplied by the forecasted online market shares gives a sense of the magnitude of potential revenue losses.

Table 8
Forecast of Share of Online Retail Sales by Category by 2004

Media	**19%**	**Recreation**	**4%**
Software	25%	Toys	5%
Books	18%	Sporting Goods	5%
Music	20%	Tools and Garden	3%
Videos	12%	**Electronics**	**12%**
General Apparel	**4%**	Computers	14%
Apparel	5%	Electronics	10%
Footware	1%	Housewares	**7%**
Accessories	3%	Appliances	6%
Gifts and Flowers	**6%**	Household Goods	9%
Flowers	10%	Food and Beverage	2%
Greetings	3%	Health and Beauty	5%
Specialty Gifts	6%	Replenishment Goods	7%

Source: Forrester Research, *U.S. Online Retail Projections*, 1998

The potential sales tax revenue losses from Internet commerce can then be illustrated by developing estimates for the cities with the most exposure. For example, the City of Milpitas receives 43% of its general revenues from sales taxes. In 1997, this amounted to $12,347,470 in revenue. (California State Controller 1999) The city also received much of this revenue from retail activities such as computer and software stores, hardware stores, auto supply, sporting goods, household appliances and apparel stores. In these sectors, online shopping is expected to reach market shares ranging from 20% for computer software and hardware sales to 5% for sporting goods sales. If the traditional retail activity in Milpitas were to lose similar shares to online shopping, the losses of revenue would amount to 8% of annual sales tax receipts. Based on current receipts this would be roughly $990,000 in lost revenue each year. Table 9 shows the potential losses among a subset of highly dependent cities.

Table 9
Estimates of Potential Losses in Sales Tax Revenue by City

	Est. Decline in Retail Sales	1997 Sales Tax Revenue	Potential Loss	Loss Per Capita
Milpitas	8.0%	$12,347,470	$ 990,638	$ 16.18
Pleasanton	4.9%	$15,750,317	$ 765,780	$ 12.81
Livermore	4.6%	$ 9,796,914	$ 446,837	$ 6.59
Morgan Hill	4.3%	$ 2,993,905	$ 128,558	$ 4.40
Petaluma	3.6%	$ 6,684,051	$ 243,567	$ 4.97

Source: Calculations by author based on data from; California State Board of Equalization, *Taxable Sales in California During* 1998, *D&B Marketplace 4.0*, 1998 and Forrester Research, *U.S. Online Retail Projections*, 1998. Estimated declines in sales were based on Forrester projections of online shares by retail sector multiplied by share of retail activity from each sector. The result was applied to 1997 sales tax receipts to indicate the relative dollar value of such losses. Finally, the losses were expressed in per capita terms.

Demographic Characteristics of Highly Vulnerable Communities

Based on the trends and patterns of sales tax dependency among cities, the next step is to examine the how the demographic characteristics of the vulnerable cities differ from the cities that are less at risk for lost sales tax revenue. A common pattern is evident among the communities with significant and rapidly increasing shares of revenue from sales taxes. Almost all experienced more rapid population growth between 1990 and 1997 than cities with low dependency on sales taxes. Additionally, their median household income is much lower than cities that do not depend on sales tax revenues (Table 10).

The cities that were highly dependent, but experienced a substantial decrease in sales taxes as a share of general revenue were mostly of an established "professional suburb" character. They grew at a much slower pace than the cities that were rapidly increasing dependence, 2-8% compared to 7-31% for cities that grew more heavily dependent on sales taxes. Additionally, their profiles - based on 1990 census data - reflect a larger share of residents employed in executive, managerial and technical occupations.

The jurisdictions with exceptionally low shares of revenues from sales taxes are all highly affluent enclaves, with the exception of East Palo Alto. Unlike the other cities in this group, East Palo Alto's low level of revenue from sales taxes is more likely the result of an inability to attract retail development than its use of zoning to excludes such uses. The region's three major cities are a mixed picture in terms of

reliance on sales taxes as a source of general revenues. Oakland and San Francisco have fairly low shares, 13% and 9.5% respectively, and each has seen sales taxes decrease as a share of general revenue. San Jose, however, has a relatively high share, 28.2%, and has seen sales taxes grow in importance since 1989.

Table 10
Demographic Characteristics of Cities with High and Low Dependency on Sales Tax Revenues

	Population Growth 1990-97	Median Household Income 2000
High share of revenue from sales taxes, increasing reliance on such revenues and low revenues per capita		
Gilroy	12%	$ 67,500
Petaluma	14%	$ 70,500
Milpitas	21%	$ 85,200
Pittsburg	8%	$ 50,900
Morgan Hill	22%	$ 90,700
San Ramon	19%	$ 102,300
Dixon	31%	$ 60,800
Union City	11%	$ 71,600
Fremont	11%	$ 85,000
Rohnert Park	8%	$ 60,300
Belmont	6%	$ 94,700
Livermore	19%	$ 76,700
Danville	22%	$ 135,300
Vacaville	19%	$ 63,000
Moraga	5%	$123,800
Small share of revenue from sales taxes		
Hillsborough	6%	$ 254,900
Piedmont	6%	$ 183,000
Ross	7%	$ 237,100
Monte Sereno	2%	$ 220,900
Belvedere	7%	$ 236,200
Los Altos Hills	6%	$ 250,500
East Palo Alto	7%	$ 57,700
Atherton	3%	$ 290,300
Portola Valley	7%	$ 203,900
San Francisco	7%	$ 68,600
Orinda	4%	$ 148,000

Sources: California Department of Finance, Demographics Unit, and Association of Bay Area Governments

Such patterns are connected to the distribution of retail activity in the Bay Area. Figure 2 shows the ratio of aggregate household income to local sales tax receipts across the region's cities. This ratio

provides an indicator of how proportional each city's sales tax receipts are to their disposable income. Cities with ratios above $3000 of household income for every $1 of sales tax revenue receive sales tax revenue far below what their income would indicate. By definition, these cities have low levels of dependence on sales taxes. Conversely, the 15 cities identified as highly vulnerable all have ratios of household income per dollar of sales tax receipts that are lower than the regional average.

Theories explaining retail location are consistent with this pattern. Retail activity based upon comparison shopping such as car dealerships, big box retail stores and regional shopping malls have large "trade areas" since consumers are willing to travel larger distances in search of lower prices and wider selection. (Carn et. al. 1988) Consistent with theory, these high value retail activities in the Bay Area do tend to cluster near central locations with good freeway access, in an attempt to serve large portions of the region. These clusters also tend to be located in suburbs with more modest income levels. Therefore, the lion's share of the taxable sales generated in these retail districts is from shoppers who reside in nearby jurisdictions with large populations and/or higher than average income levels.

Implications of Alternative Distribution Systems for Equity within the Region

The impact of growing Internet commerce on city revenues will depend upon the system used to collect and distribute the local share of online sales tax receipts. In fiscal year 1997-98, Bay Area cities received slightly more than $800 million in revenues from their local share of the statewide tax. If online shopping were to reach 10% of total retail activity, the revenues at stake, based on current receipts, would be $80 million. To illustrate the importance of local share allocation rules, three alternatives for distributing this amount are examined. The share of the $80 million that each city would receive under the different allocation systems is shown in Table 11.

The residence of the online consumer is one basis that the State could use to determine the amount of revenue redistributed to each city. For example, when mail order or other non-traditional purchases are shipped within California, they are considered taxable sales in the jurisdiction where delivery taxes place (California State Board of Equalization 1998, 6-8). Alternative 1 allocates the $80 million based upon

this definition for the location of online sales.

However, the State may also decide that the location of the online consumer is too difficult or costly to determine. Therefore, another alternative would be to simply assume that online sales are proportional to physical sales and distribute the $80 million based upon each city's current share of sales tax receipts, as shown in Alternative 2. By using such a basis for distributing online sales taxes, the State would be implicitly re-enforcing the current patterns of sales tax revenue distribution among cities.

In keeping with what is popularly known as the "digital divide," the distribution of online sales in the region will generally follow patterns of household income. In cities with more disposable household income, there will be greater amounts of online purchases. If the state were to use Alternative 1 to determine the distribution of online sales taxes,, communities that currently depend heavily on traditional retail sales taxes would receive a much smaller share of online sales tax revenues. Comparing the amount received under Alternative 1 versus Alternative 2 illustrates this difference.

The impact of the alternatives has significant implications in terms of creating winners and losers among Bay Area cities. For example, the city of Gilroy, which depends heavily on sales taxes would likely receive only $ 403,988 under Alternative 1, but $691,943 based upon Alternative 2. Alternative 3 offers some compromise between the disparities of Alternatives 1 and 2. Under a system that distributes revenues based on population, Gilroy would receive $530,365.

That being said, many cities with insignificant sales tax receipts would receive a windfall from Alternative 1. For example, Hillsborough's share of the $80 million based upon their current share of traditional sales tax revenues is only $5,607, however under Alternative 1, they would likely receive $436,550.

Table 11
The Revenue Implications of Alternative Online Sales Tax Distribution Mechanisms

	Alternative 1: place of residence	Alternative 2: share of traditional sales taxes	Alternative 3: population
High share of revenue from sales taxes, increasing reliance on such revenues and low revenues per capita			
Gilroy	$ 403,988	$ 691,943	$ 530,365
Petaluma	$ 632,590	$ 680,348	$ 676,673
Milpitas	$ 681,728	$ 1,198,295	$ 858,251
Pittsburg	$ 522,570	$ 370,604	$ 701,493
Morgan Hill	$ 519,039	$ 338,366	$ 433,698
San Ramon	$ 766,746	$ 759,483	$ 599,600
Dixon	$ 142,756	$ 126,092	$ 198,560
Union City	$ 609,497	$ 612,183	$ 879,152
Fremont	$ 2,652,027	$ 2,261,464	$ 2,732,819
Rohnert Park	$ 428,634	$ 445,126	$ 526,446
Belmont	$ 473,044	$ 257,627	$ 344,868
Livermore	$ 945,291	$ 967,234	$ 998,027
Danville	$ 941,204	$ 311,458	$ 534,284
Vacaville	$ 856,206	$ 704,280	$ 1,167,849
Moraga	$ 322,596	$ 65,993	$ 219,462
Small share of revenue from sales taxes			
Hillsborough	$ 436,550	$ 5,607	$ 155,452
Piedmont	$ 318,467	$ 14,838	$ 152,839
Ross	$ 81,868	$ 4,619	$ 30,045
Monte Sereno	$ 146,447	$ 3,224	$ 45,721
Belvedere	$ 107,656	$ 5,380	$ 30,045
Los Altos Hills	$ 325,221	$ 8,252	$ 109,731
East Palo Alto	$ 189,934	$ 34,328	$ 335,724
Atherton	$ 326,106	$ 25,049	$ 99,280
Portola Valley	$ 241,253	$ 11,075	$ 60,091
San Francisco	$ 9,965,839	$10,257,479	$10,437,486
Orinda	$ 442,891	$ 65,093	$ 228,606
Other Large Cities			
Oakland	$ 3,622,718	$ 2,867,621	$ 5,294,510
San Jose	$ 10,199,495	$10,669,469	$12,123,944

Source: Alternative 1 is based upon each city's share of regional household income multiplied by $80 million. Alternative 2 is based upon each city's share of current sales tax receipts multiplied by $80 million. Alternative 3 is based upon each city's share of population multiplied by $80 million.

These alternatives represent a narrow approach to the redistribution of local sales tax shares. City and county shares of state gas taxes in California are currently allocated based upon a complex formula that takes into account population, miles of highways and demonstrated spending needs (Caltrans Office of Transportation Economics

1998). A similarly formulaic approach to online sales taxes could be used to redirect such revenues based on policy objectives. For example, the formula could redirect funds based on the number of school-aged children in each jurisdiction, with the objective of supporting education spending.

Subvention formulas based on such principles, or Alternative 3 would both accomplish the objectives outlined by advocates of regional tax base sharing (Orfield 1997). Advocates of tax base sharing argue that fragmented taxation authority is a central problem in many U.S. cities. As cities expand and decentralize, the flight of upper and middle-income households to new communities on the urban fringe is facilitated. The central cities and suburbs are left with declining tax revenues and a larger share of residents with costly social service needs. To redress such issues they propose a regional pool of tax revenues that can be shared among low, moderate and high-income communities.

If California were to require online retailers to collect and remit sales taxes based on a city's population rather than its share of online purchases, it would accomplish a form of tax base sharing. Additionally, since no one has really laid claim to such revenue, such a shift could be accomplished without the perception that some cities are "giving up" their taxes to neighboring districts. Regional tax base sharing through taxing online sales could be a politically more palatable option than current tax base sharing proposals.

Conclusion

The precise definition of a physical presence is currently the subject of debate. For example, Barnes and Noble set up a separate corporation to house their online retail activities to avoid collecting sales taxes on online purchases. Although there are many Barnes and Noble retail outlets spread across the US, B&N.com has only a few physical warehouses and offices owned by its online corporation (The Economist, January 29, 2000, 14). Recently, the California legislature passed AB 2114 to close such a loopholes, but the governor vetoed the bill (San Francisco Chronicle, September 26, 2000).

However, many online retailers do have a physical presence in the states in which their customers reside. These retailers have been dubbed "click-and-mortar" because they have both physical stores and web sites within the same corporation. Retailers such as Eddie

Bauer and The Gap find that offering consumers the choice of a physical location to return or exchange online purchases is more important than maintaining separate status for tax purposes. Other primarily online retailers such as Gateway Computers have also moved to establish physical stores to compliment the online or mail order operations upon which their business was built.

Additionally, online purchases of consumer durables, which make up a large share of sales tax receipts, are also unlikely to escape collection. Regardless of the location of the electronic commerce site, the delivery of an automobile, large appliance, furniture or other large consumer durable good would require a local distribution agent. Based on California's definition of a *physical presence*, they should be required to collect sales taxes. For automobile purchases over the Internet, the state also has much more leverage to ensure that consumers pay the tax due on the purchase. Since vehicles must be registered the state has a mechanism to ensure that consumers pay the tax even if the retailer is not collecting.

This evaluation of Bay Area cities highly dependent on such revenues reveals a strikingly consistent picture. They are almost all rapidly growing middle class suburbs. The process by which so many of these middle class bedroom communities have come to rely on sales taxes is no doubt complex – the fiscalization of land use and the impact of Proposition 13 with other tax revolt measures each comprise a burgeoning literature – and will form the basis of a separate paper. However, the implications of the trends are clear.

Given the current moratorium on Internet sales taxes, these communities stand to lose proportionally more than older urban centers or more affluent suburbs. Even with a uniform system for collecting online sales taxes, the distribution of taxable sales in the region will still be affected. The principle issue in this case is not the failure to collect sales taxes, but concern over which communities receive them. In this regard, state policies determining how the local share of online sales taxes are distributed will be critical to determining winners and losers.

Currently, sustained increases in consumer spending have expanded sales tax bases almost universally. As a result, there is less urgency to confront the complex issues surrounding taxation of online sales. However, if electronic commerce expands significantly among high-value consumer durable goods, such as home furnishing or automobiles, the

pressure to collect sales taxes from online retailers will no doubt increase. The weakness of the current debate is that it focuses primarily upon whether or not online retailers should be required to collect sales taxes. However, the system for distributing the local share of online sales taxes that are collected has more subtle, but perhaps more significant implications for communities within many metropolitan regions.

California will be faced with important choices as the growth of electronic commerce reshapes consumer purchasing patterns. Currently the debate surrounding online sales taxes is polarized. On one side are those who see the growth of electronic commerce as a threat to state and local government tax bases. On the other side are those who fear any government attempt to collect sales taxes from online merchants will harm this growing industry. However, the results of this paper indicate that the growth of online shopping presents either a pitfall or a unique opportunity for the State. If treated as an afterthought, the State could end up creating an online taxation policy that only serves to widen the already yawning "digital divide." If handled appropriately, taxes collected from online sales can be harnessed to improve socioeconomic equity.

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