



California's Business Equipment Tax: An Inconsistent, Arbitrary and Inefficient Tax

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EXECUTIVE SUMMARY

Business taxpayers, especially those in the high-technology sector, have long complained that the property tax on business equipment is inconsistent, arbitrary, and inefficient. This report explores those issues and sheds light on the debate using both statistical and anecdotal documentation.

Notwithstanding the sincere efforts at cooperation between Cal-Tax, business taxpayers, and assessors, a deep divide still exists between taxpayers and tax agencies concerning the fundamental fairness of the application of the personal property tax. This report may provide some information to help bridge that divide and provide some common ground upon which to achieve some mutually acceptable solutions.

Growth in the technology sector and in the use of high-technology is key to California's future prosperity. Computers and other high-technology equipment are pervasive in the economy. From the perspective of business taxpayers, inconsistent or misapplied taxation of this type of equipment may have serious consequences on the growth of these sectors of the California economy.

In particular, the role of obsolescence as a factor in depreciation is the subject of an ongoing debate among taxpayers, assessors, State Board of Equalization (BOE) members and staff, and other interested parties. For purposes of valuing business equipment, the concept of "useful life" should include economic and technological obsolescence, as well as physical deterioration. The extent to which these other aspects are considered is a major policy issue for many industries and assessors.

For fiscal year 2000-01, gross-assessed valuation of real property and improvements totaled \$2.2 trillion. Assessment of tangible personal property totaled \$155 billion, or about 8 percent of all county-assessed valuation. Said another way, county-assessed personal property (which also includes boats and private airplanes) will bring in less than \$1.6 billion of the total \$24 billion-plus in statewide property tax revenues last year.

Most counties spend a disproportionate amount to collect personal property tax compared to the revenues received. According to a BOE survey, there is a 3-to-1 ratio statewide between county-employed real property appraisers and business property appraisers. That is,

one-quarter of county appraisers value business property, to raise approximately 8 percent of property tax revenues.

Based on interviews conducted with numerous business property taxpayers, valuation is the most controversial and contentious aspect of the personal property tax. Assessors' offices – and the BOE – have relied on what many taxpayers believe to be anachronistic techniques and formulas to determine fair market value for property that loses value very rapidly. In today's environment of rapidly changing technologies and markets, taxpayers are highly critical of taxing agencies' reliance on a decades-old study of long-lived, heavy industrial property, and the application of that study's analytical framework to other unrelated types of equipment.

Even assessors agree. Two retired assessors and an incumbent assessor interviewed for this report favor repealing the tax. Among other things, they stated their belief that compliance costs for small- and medium-sized businesses are out of proportion to the tax generated from these businesses.

One of the greatest frustrations noted by taxpayers was the wide degree of inconsistency among counties for the tables that are used to determine the fair market value of property. A survey of the 20 counties with at least \$1 billion each of assessed value of personal property found variation among the counties in the manner and extent that similar property is valued.

The BOE's Assessment Practices Surveys found that, in counties with the largest personal property tax bases, most assessors did not use the board's recommended index factors, many did not follow the recommended depreciation schedules, and many made other adjustments to recommended approaches to valuation. In many cases, these surveys revealed that assessors generally favor administrative efficiencies over accurate, consistent valuations.

A study of valuation differences among industries found evidence of wide disparities in several industries between their opinions of property valuation and the appraisals by county assessors. Not surprisingly, much of the disputed property was high-technology equipment or within the high-tech industry. According to the author, "High-tech-



nology equipment of all sorts was the source of well over half the total disputes reported. Other machinery, equipment, fixtures, office equipment, copiers, etc., each were disputed, but *en toto* these other categories amounted to less dispute than high-technology equipment alone.” Of the four manufacturing industries reported to have the greatest margin of disputed valuation, three have high levels of technology equipment: aerospace, semiconductors, and computers and electronics.

There are substantial differences in the new BOE-adopted depreciation curves for non-production computers, compared with the schedule in place in the earlier part of the decade. Especially for rapidly obsolescing personal computers, the curves are steeper, and begin from a lower base. This results in consistently lower “fair market value” assessments (and lower property taxes paid) under the new tables, compared with relying on the office equipment table.

Most assessors include copiers as office equipment with a life of six years. But copiers are being replaced more quickly than in the past, and older copiers are re-leased at lower prices. However, the assessors’ trend factors reflect physical life, not the technological life or the economically productive life.

A market does not exist for some equipment that is no longer used for production, including specialized, expensive tools. Nonetheless, some county assessors insists on valuing this idle equipment at a 20 percent minimum value, whereas taxpayers believe the value for equipment no longer used should be closer to 0 percent. In fact, some equipment may have a negative value, because the cost to get rid of it exceeds the value.

According to retailers, depreciation factors in California are worse than in neighboring states.

INTRODUCTION

Property taxation in California has undergone a revolution during the last generation. Proposition 13 provided billions of dollars of needed property tax relief to homeowners and businesses on whose land, houses and business establishments those taxes were causing real economic hardship.

But the tax relief and taxpayer protections that have benefited owners of real property have been less appar-

Every category of business surveyed complained of the headaches caused by double assessment. Usually, if the taxpayer caught the mistake, it would be resolved on appeal. But the compliance costs – to research the equipment, file appropriate paperwork, and attend appeal meetings – disproportionate to what are easily correctable mistakes, not disputes over valuation.

For example, one biotechnology company was assessed for the same piece of equipment by both the real and business tax divisions of the Los Angeles County Assessor’s Office. The assessor’s office did not dispute that a double assessment occurred, but nonetheless required the taxpayer to provide extensive documentation and spend time in personal appearances to resolve the issue. The impression left with taxpayers is that the auditors for each division pick up the equipment because there is no disincentive for them not to record it and, more importantly, that there is a distinct lack of communication between the business and real property divisions.

The inconsistency and unpredictability of the valuation system also encourages appeals. Most high-technology companies report that they appeal annually, in large part because they want to keep their options open for taking advantage of another company’s appeal or settlement. They protect their rights by appealing, even though this may be an inefficient use of resources. For larger companies, appeals can cost upwards of \$100,000.

Taxpayers in one large county decried the audit practice as “insular,” and the auditors and supervisors as “inaccessible.” Taxpayers believe that auditors give more attention to escape assessments – situations where property escaped assessment and the auditor increased the tax assessment – turning a blind eye to possible overvaluations.

ent to owners of “personalty” or personal property, which in California is mostly business equipment. While the tax rate for personalty was reduced by the interaction of Proposition 13 with existing provisions of the California Constitution¹ to the same 1 percent rate as other property, personalty is reassessed annually, while real property is reassessed only when a change in ownership on new construction occurs. Furthermore, the handbooks



and procedures for valuing personal property are suggested by the State Board of Equalization, but are in fact adopted and implemented independently by each of the 58 county assessors. These suggested procedures should be distinguished from the rules adopted by the BOE, which are binding on county assessors.

Business taxpayers, especially those in the high-technology sector, have long complained that the property tax on business equipment is inconsistent, arbitrary, and inefficient. This report looks at some of the key issues in the taxation of business personal property and highlights some of the major disputes between business taxpayers and county assessors.

Growth in the technology sector and in the use of high technology, is key to California's future prosperity. Computers and high-technology-based equipment are pervasive in the economy. Inconsistent or misapplied taxation of this type of equipment may have serious consequences on the growth of these sectors of the California economy.

The dominant concern by business taxpayers regarding the personal property tax is a belief that this system cannot fairly assess the market value of their equipment. A proliferation of valuation theories and practice guidelines among counties has caused confusion and frustration for businesses that must comply with tax practices in different counties.

BACKGROUND

Much of the following description of the personal property tax is derived from *Taxing California Property* by Ehrman and Flavin.²

What is Personal Property?

The State Board of Equalization has defined tangible personal property as "all property that may be seen, weighed, measured, felt or touched or which is in any manner perceptible to the senses, except land and improvements."³ While the California Constitution mandates that all real property must be taxed according to value, the taxation of personal property is discretionary with the Legislature, except that personal property cannot be taxed higher than real property. According to the Constitution, "(T)he Legislature may provide for prop-

In addition, business taxpayers expressed concerns about:

- double assessment and double taxation of business equipment,
- difficult and unfair appeals and audit practices, and
- high compliance costs compared with other taxes.

Cal-Tax made every effort to include comment and feedback from county assessors as part of this report. Documentation was solicited from assessors in large counties and was provided by most of their offices.

Individual assessors were interviewed and surveyed through the assistance of the California Assessors' Association (CAA). Leaders of the CAA reviewed an early draft of this report. Their comments and insights were valuable and are included at appropriate places within the text of the report. The full response to the Cal-Tax questionnaire is included as an appendix.

While it is clear that assessors are deeply interested in and have strong opinions about the personal property tax, they also place most of the responsibility on taxpayers or their professional consultants for inconsistent treatment, compliance difficulties, delays, and confusion. Notwithstanding the sincere efforts at cooperation between Cal-Tax and assessors, a deep divide still exists between taxpayers and tax agencies concerning the fundamental fairness of the application of this tax.

erty taxation of all forms of tangible personal property..."⁴

The Legislature and the people have made major exceptions and exemptions to this general rule for personal property.

- Motor vehicles are subject to in-lieu motor vehicle registration fees instead of property taxation.
- Personal effects, household furnishings, and pets are exempt from property taxation.
- Business inventories were fully exempted by the Legislature in 1979.
- Possessory interests in personal property (primarily government-owned equipment for defense contractors) has been ruled to be exempt.
- Intangibles are expressly exempted, including



the intellectual property or value associated with motion pictures, computer software, and business records.

- Personal property owned by banks, insurance companies, and other financial corporations are also exempt. These companies pay a state tax instead of personal property and other local taxes.

What remains taxable is primarily equipment used in business enterprises, as well as boats and airplanes. Because the primary thrust of this report concerns property used to generate business income, the term “business equipment” frequently will be used in place of personal property.”

How is Business Equipment Appraised?

Business equipment is valued at 100 percent of its fair market value as of the lien date, which is currently January 1 of each year. Since assessors cannot research and apply individual market values to the millions of pieces of equipment subject to taxation annually in California, they rely on mass appraisal techniques to estimate the value of categories of equipment.

Assessors may use three methods to value property: cost, capitalization of income, and use of comparable sales.

Acquisition cost. Under the cost approach, the starting point in the valuation of personal property is the acquisition cost. The cost of acquiring property usually includes the actual cost of the item of property, the cost of transportation and installation, plus any California sales and use tax.

Trending for price change. Acquisition costs for personal property are adjusted, or trended, to reflect price changes in the current costs of those items, as adjusted for inflation. Changes in acquisition costs for items of personal property are measured from the year of acquisition to the current year.

To illustrate the concept of trending, consider office equipment originally acquired six years ago for \$1,000. The Board of Equalization’s suggested index factor for office equipment for 1992 is 1.11. When applied to acquisition cost, the current Replacement Cost New (RCN – a term of art meaning the price-inflated cost) would be \$1,110. That is, it would require an expenditure of approximately \$1,110 in 1999 to replace office equipment

purchased in 1992 for \$1,000.

Life years. Each category of personal properties has specific expected lives associated with them. Expected lives are expressed as the number of years that items of personal property in each category are typically retained in use with normal maintenance.

Depreciation. Depreciation of personal property is defined as the loss in value caused by normal use of an item of property over its expected useful life. The remaining useful life of an item after depreciation is expressed as “percent good.” Depreciation can be expressed as the loss of value at any given age, or 100 percent minus the percent good. For example, if an item of personal property is regarded as 60 percent good, it has incurred 40 percent depreciation.

To illustrate depreciation, if the office equipment used in the above example has a 12-year life, then the percent good factor from the BOE tables for 1992 for 12-year property is 0.52. Applying this factor to the Replacement Cost New of \$1,110 results in a Replacement Cost New Less Depreciation (RCNLD – another term of art meaning the depreciated price-inflated cost) of \$577. That is, the office equipment purchased in 1992 for \$1,000 now has an estimated “fair market value” of \$577.

To summarize, when utilizing the cost approach for personal property, the current replacement cost new (RCN) must be obtained. For most business equipment, the original acquisition cost is adjusted to reflect changes in prices (e.g., inflation) for that type of equipment since its purchase. The RCN is then depreciated to reflect the age of the item of property. The resulting value is known as replacement cost new less depreciation (RCNLD). This valuation is the basis upon which the tax is imposed.

An ongoing debate among taxpayers, assessors, BOE members and staff, and other interested parties is the role of obsolescence in contributing to depreciation. For purposes of valuing business equipment, the concept of “useful life” should include economic and technological obsolescence, as well as physical deterioration. The extent to which these other factors are considered is a major policy issue for many industries and assessors.

Capitalization of income. This approach includes any method of converting an anticipated income stream into



a present value estimate. Appraisers use this approach when the property fits three criteria: (1) value is a function of income (i.e., the property is purchased for the income it will produce), (2) value depends upon the quantity and quality of the income stream (return on investment), and (3) future income is less valuable than present income.⁵

Comparable sales. This approach uses “direct evidence of the market’s opinion of value of a property,” which is the common understanding of “fair market value.” Competitive substitutes are measured for their selling prices, listings, offers, etc. While this may seem like the preferred approach and is used frequently in appraising real property, it is often difficult to achieve in appraising personal property. According to the BOE, this approach is limited in its application to personal property because (1) most types of business equipment and fixtures are resold infrequently, (2) sales data are generally limited by comparability, and (3) business equipment and fixtures are often not sold without affecting other property. The BOE notes, however, that this approach may be used for personal property that is frequently resold or exchanged, such as agricultural equipment, boats and airplanes.

Board of Equalization Valuation Tables

The State Board of Equalization publishes assessors handbooks covering a variety of practice guidelines, including AH 504, which covers the appraisal of equipment, inventory, and supplies. The Board also annually supplements this handbook with a handbook giving equipment index factors for converting historical costs to present costs (AH 581). These handbooks have significant influence, though they are not binding upon local assessors. More recently, the Board adopted specialized schedules for specific categories of equipment, such as non-production computers and biomedical equipment.

These guidelines are important because they make the distinction between the traditional accounting approach to value and the property tax appraiser’s approach to value. This distinction lies at the core of many of the difficulties that taxpayers face with the assessment of business equipment.

Fundamentally, the cost shown on a taxpayer’s

books (“book value”) for a piece of property does not necessarily relate to “full cash value,” or “market value,” the concept of interest to property tax appraisers. The appraiser estimates depreciation by attempting to calculate the actual difference between the replacement cost new and the current market value of the equipment. A traditional accounting approach to depreciation uses a different methodology for determining depreciation, which usually reduces the book value more rapidly and completely than does the property tax appraiser. The property tax appraiser is not governed by IRS depreciation rules.

Within the bounds set by state statutes and BOE rules, assessors are free to utilize any appraisal method that arrives at “fair market value.” Differences among counties and from the BOE handbooks result in vastly different concepts of the fair market value of individual pieces of equipment.

Revenues from the Personal Property Tax

Judged strictly by the numbers, the main focus of county assessors and tax collectors should be assessment and collection of taxes on real property.

For fiscal year 2000-01, gross-assessed valuation of real property and improvements totaled \$2.2 trillion. Assessment of tangible personal property totaled \$155 billion, or about 8 percent of all county-assessed valuation. Said another way, county-assessed personal property (which also includes boats and private airplanes) will bring in less than \$1.6 billion of the total \$24 billion-plus in statewide property tax revenues last year.

But these aggregate numbers can mask some important considerations.⁶

First, most counties spend a disproportionate amount of time and money collecting personal property tax compared to the revenues received. According to a survey by the Board of Equalization, the statewide ratio between county-employed real property appraisers and business property appraisers is three to one. That is, one-quarter of county appraisers value business property to raise approximately 8 percent of county property tax revenues.⁷ As with all averages, some counties devote more resources to business property than others. But there does not seem to be a correlation between those counties and counties with a higher dependence on revenues from



business equipment taxes as evidenced by the percentage of appraisers assigned to the business division, noted below:

- Santa Clara, 38 percent
- San Francisco, 38 percent
- Alameda, 34 percent
- Orange, 33 percent

Second, a few large counties rely more heavily on personal property tax revenues than the statewide average of 8 percent. Counties receiving more than the statewide average of property tax revenues from the personal property tax include:

- Santa Clara, 12 percent
- San Mateo, 9.5 percent

Some assessors argue that a better measure of relative workload is the actual number of assessments in the various categories. While this may be the case, it still shows no relationship between workload, resources, and revenues. Statewide, according to the Board of Equalization, personalty and fixtures (excluding boats and aircraft) account for nearly 8 percent of all assessments on the local roll.

Assessors also argue, with merit, that the very nature of appraising and processing business property is more labor intensive than for real property. Since Proposition

13, except during times of real estate deflation, the vast majority of real property in the state is assessed at the prior year's value, plus a 2 percent inflation factor. New construction and changes of ownership must be reassessed, but even these are relatively straightforward processes, using readily available comparable market values or construction costs.

Business property, as the discussion on valuation below illustrates, is a far more complex and contentious field. As long as counties must assign fair market value to millions of pieces of equipment, assessment of business property will be far more labor intensive than suggested by the relative revenues.

"Return on Investment"

Indeed, analyzing various tax programs by a "return on investment" model reveals that collection costs for most taxes cost about 1 percent or less of revenues. The cost of collecting personal property taxes is significantly higher. The following table represent a statewide average, so the "overhead" cost for local taxes varies from county to county.

Figure 1, *Tax Administration Costs*, demonstrates the stark difference between costs to administer most taxes and the personal property tax.

VALUATION ISSUES

Based on interviews conducted with numerous business property taxpayers, valuation is the most controversial and contentious aspect of the personal property tax. Assessors' offices – and the Board of Equalization – have relied on what many taxpayers believe to be anachronistic techniques and formulas to determine fair market value for property that loses value very rapidly.

For example, the fundamental source for the depreciation tables, known as the "R-3 curve," used by the Board and by county assessors is a decades-old study of public utility property by Iowa State University. In today's environment of rapidly changing technologies and markets, taxpayers are highly critical of taxing agencies relying on a decades-old study of long-lived, heavy industrial property, and applying that study's analytical framework to other unrelated types of equipment.

Information-based technologies are pervasive in the

California economy; they are not merely a phenomenon of manufacturers in the Silicon Valley. Familiar businesses such as service stations use sophisticated point-of-sale technologies to interface between the customer, the pump, and tracking of inventory. Other retailers from department stores to grocers use similar technologies, which change with advances in satellite communications, Internet-based communications, and customer preferences.

Taxpayers interviewed for this report observed that the valuation tools used by assessors' offices are obsolete and inadequate.

Even assessors agree. An incumbent assessor and two retired assessors interviewed for this report favor repealing the tax. Among other things, they stated their belief that compliance costs for small and medium-sized businesses are out of proportion to the tax generated from these businesses.



Tax Administration Costs

Figure 1

Tax	Administering Agency ^a	Revenues	Cost of Tax Administration	Agency Overhead
Income and Corporate (1997-98)	Franchise Tax Board	\$33.8 billion	\$330.2 million	0.98 percent
Sales and use (1997-98)	Board of Equalization	\$28.1 billion	\$246.0 million	0.87 percent
Motor vehicle fuel (1997-98)	Board of Equalization	\$2.88 billion	\$15.9 million	0.55 percent
State-assessed properties (1997-98)	Board of Equalization	\$760.6 million	\$7.8 million	1.03 percent
Cigarette (1997-98)	Board of Equalization	\$647.3 million	\$3.6 million	0.56 percent
Alcoholic beverage (1997-98)	Board of Equalization	\$271 million	\$2.3 million	0.85 percent
Real property ^b (1997-98)	County assessors	\$18.4 billion	\$206.1 million	1.12 percent
Business property ^b (1997-98)	County assessors	\$1.26 billion	\$68.7 million	5.45 percent

^aIncludes expenditures by other related agencies.

^bAssumes assessors devote 25 percent of resources to business property division, based on statewide average number of appraisers devoted to business property.

BOARD OF EQUALIZATION ASSESSMENT PRACTICES SURVEYS

The State Board of Equalization conducts periodic Assessment Practices Surveys (APS) to determine the adequacy of each county assessor's procedures and practices. The Board staff uses sampling, survey data, and other methods to highlight areas of concern, including valuation of taxable property, compliance with state laws and regulations, volume of assessing work and other duties.

In many cases, these surveys revealed that assessors generally favor administrative efficiencies over accurate, consistent valuations. The surveys confirm that business taxpayers are treated differently from one county to another and – by inference – may have a competitive advantage or disadvantage with businesses in different counties.

However, it is not surprising that assessors would be concerned with administrative efficiencies, given the high cost of administering this tax.

The equipment index factors and depreciation guide-

lines for commercial and industrial equipment appraisals in the BOE Assessors Handbook Section 581 are only recommendations, and do not have the force of law. A review of Assessment Practices Surveys found that, in counties with the largest personal property tax bases, most assessors did not use the Board's recommended index factors, many did not follow the recommended depreciation schedules, and many made other adjustments to recommended approaches to valuation.

Some excerpts from BOE Assessment Practices Surveys⁸:

Alameda County. (A)partment house furnishings, automatic teller machines, automotive repair equipment, beauty shops, ice machines, and modular buildings are all valued in Alameda County using the same combined-factor table. The index used for this table is an average of the commercial equipment indices for the following catego-



ries of equipment: garage, hotel laundry and dry cleaning, and the theater ... Because of the wide range of price-in-index factors, it is important that the appropriate table be selected. Unless specific tables are applied, differences in categories of businesses will not be recognized, which will cause excessively high or low valuations of individual business owners' property. (*Alameda, 1996*)

Fresno County. It should be the goal of all county assessors to provide the most accurate estimates possible of property valuations for assessment purposes. In that regard, staff appraisal production must be taken into account; however, when the concern for production overrides that for proper and equitable assessment, changes need to be made. With this thought in mind, we again make the recommendation that the assessor use all of the equipment index factor categories available for re-appraising business properties. (*Fresno, 1992*)

Kern County. Although overall county totals may show only a small "bottom line" difference, the accuracy of individual appraisals will be materially distorted. Using an average of the various categories of equipment index factors sacrifices accuracy for convenience. The result is inequitable treatment of taxpayers. (*Kern, 1995*)

Riverside County. We urge the assessor to reconsider the use of the arbitrary straight-line depreciation premise as compared to the appraisal-based premise employed in AH 581. (*Riverside, 1998*)

San Diego County. Although the percent good factors in AH 581 will not always produce the correct measure of fair market value, they do produce reasonable measures of value for most types of equipment and, as stated above, the factors are based on sound appraisal methodology. By contrast, except for regulated rate-based utilities, there is no evidence or theory to support the use of straight-line depreciation as an indicator of market value. (*San Diego, 1995*)

Santa Clara County. Standardization and consistency in the application of index factors are essential for effective, efficient, and equitable assessments among taxpayers. The selection and uniform application of the appropriate index factors are important

steps in the equalization process. (*Santa Clara, 1998*)

Assessors' Perspective

Assessors acknowledge that their "California experience is that willing buyers normally purchase equipment within a relatively narrow band of value." The assessors claim that most counties use the Board's AH 581 tables and factors, but that slight variations occur "because of the choice of economic life. In addition, variations could occur because of the cost of transportation and installation in different locations."

Assessors point out that mass appraisal techniques look at an "appraisal unit" rather than individual pieces of equipment. (An appraisal unit is the unit that people in the market typically buy or sell. It could be a single piece of equipment, or a large group of similar or related pieces of equipment.) "Therefore, it is possible that a single item may be valued differently than if that item were part of a larger appraisal unit."

Assessors also respond that most counties use the AH 581 "when employing the cost approach on the vast majority of business equipment." In addition,

Most counties modify the tables in AH 581 by producing a combined single factor consisting of the appropriate percent good times the trending index for the particular property type. Because some automated valuation programs are limited, some counties average some of the index tables for administrative ease, recognizing that composite indexes, though not ideal, have minimal impact on total valuation. Specific indexes, however, are preferred and used when practical or when the value differences may be material.

Beginning in 2000, the CAA has published a recommended equipment index, percent good and valuation factors for assessors to use.

The CAA also insists that lifing tables and valuations need to be based on local conditions, which not only undermines the notion of statewide standards, but begs the question: What local conditions are so compelling as to override the desire for consistency and equity?

OVERVALUATION

Taxpayers consistently express a belief that the life tables used by assessors "are extremely outdated." While

inconsistency is frustrating and adds to compliance costs, many taxpayers also believe that the depreciation sched-



ules used by the counties and the Board are biased to create more value than actually exists in the marketplace.

Richard Lane, a prominent statistician, conducted a study sponsored by Cal-Tax and the California Manufacturers and Technology Association to determine which industries and/or types of business personal property had the most significant valuation differences between taxpayers and assessors.⁹ The study objective was to identify which industries/property should be early subjects for future valuation studies.

Although Mr. Lane reported a disappointingly low response rate to his inquiries, he nevertheless concluded that several industries provided evidence of wide disparities between their opinions of property valuation and the appraisals by county assessors. Not surprisingly, much of the disputed property was high-technology equipment or within the high-tech industry.

According to Mr. Lane, "High-technology equipment of all sorts was the source of well over half the total disputes reported. Other machinery, equipment, fixtures, office equipment, copiers, etc., each were disputed, but *en toto* these other categories amounted to less dispute than high-technology equipment alone."

Of the four manufacturing industries reported to have the greatest margin of disputed valuation, three have high levels of technology equipment: aerospace, semiconductors, and computer and electronics. In fact, according to Mr. Lane, computers remain in dispute "in spite of a landmark study and agreement in 1996-97."

Overvaluation is not solely caused by bad depreciation assumptions. It even occurs when setting the correct purchase price for equipment. An aerospace company in Southern California buys computers in very large quantities – hundreds, perhaps thousands at a time. The company can achieve significant discounts by purchasing these computers in quantity, including installation. The company estimates the amount of the quantity discount to be about 10 percent.

The Board of Equalization Assessors Handbook AH 504, *Assessing Personal Property and Fixtures*, specifically states that the "purchase price of equipment may reflect discounts allowed due to payment within a pre-determined period, or due to the quantity purchased... Discounts and rebates offered by a seller are a normal part of supply and demand in the process of setting market

value, where the prudent buyer pays as little as reasonably possible and the seller charges as much as possible. The price paid for the property after recognition of discounts and rebates represents the amount received by the seller as well as the cost to the buyer."

However, during an appeal of an assessment by the aerospace company in Los Angeles County, the assessor's office insisted that the quantity discounts received by the company should be added back into the purchase price of the computers, on the grounds that the discount was not available to every purchaser. According to the assessor's representative, "there should have been an amount added to the appraisal so that the equipment would be assessed to what it would be assessed to everyone else." This point of view is in direct conflict with the policy and procedures outlined by the Board of Equalization and is contrary to fundamentals of market value, which are based on a transaction between a "willing buyer and willing seller."

Another aerospace company encountered a different issue with overvaluation in Orange County. In valuation of non-production computers, the assessor not only valued the computer according to "market value," but added a factor – amounting to 15 percent of market value – to reflect "value in use." That is, the value that the equipment would have received in exchange (a.k.a., "fair market value") was adjusted upward to reflect that the computers were being productively used. This "piling on" of factors to generously define value is apparently not isolated, according to taxpayers.

Not surprisingly, assessors have a very different perspective on overvaluation. They suggest that:

(T)here exists the possibility that (private property tax) agents will intentionally misreport, cause an overvaluation, and then share in the proceeds from a reduction in value. Tax managers of large corporations do not seem to be accountable to anyone and they frequently hand-off their responsibilities to tax representatives. When appeals result in refunds caused by agents' misrepresentation of assets, persons in positions of authority at the corporations do not exhibit awareness or concern.

The assessors suggest that legislation is needed to prevent this behavior: prohibiting tax agents from filing both a property statement and an appeal application that relates to the value reported on that statement. On the



other hand, additional information often becomes known to taxpayers and assessors after these filings.

Specialized Schedules

As a result of complaints to the board, or activity in individual counties, several specialized schedules have been developed that attempt to more closely align appraisal of business property with its true market value. But according to many taxpayers, even these efforts by assessors or the Board of Equalization are coming up short, since technological and economic obsolescence of machinery is accelerating faster than the tax assessor's ability or desire to track it.

The most important recent example of the development of a specialized schedule was one for valuation of non-production computers.

Computer Valuation

Throughout the early 1990s, debate swirled at the Board of Equalization and several county assessors' offices over the proper depreciation schedules to use for valuation of non-production computer equipment. Various studies were undertaken by the Board and by private consulting firms, sponsored primarily by the Silicon Valley computer industry.

Over a period of several years, the original depreciation schedules applying to personal computers (PCs) and mainframes were negotiated and adjusted significantly to recognize the rapid economic and technological obsolescence endemic to this industry.

There are substantial differences in the new depreciation curves, compared with the schedule in place in the earlier part of the decade. Especially for rapidly obsolescing personal computers, the curves are steeper, and begin from a lower base. This results in consistently lower "fair market value" assessments (and lower property taxes paid) under the new tables, compared with relying on the office equipment table.

County assessors have adopted the State Board of Equalization's computer valuation tables, with only a few notable exceptions.

San Francisco adopted substantially different depreciation schedules, beginning with a small depreciation for the year of purchase, unlike any other surveyed county. San Francisco also has a 5 percent minimum-percent good valu-

ation, compared to the Board's 2 percent.

Several other counties adopted the board's tables for the first several years of depreciation, but wind up with a higher minimum level of valuation. Alameda, Fresno, Orange, San Diego, and San Mateo consistently adopt a higher minimum than the Board and most other counties. Figure 3, *Valuation of 7 Year Old Personal Computers*, illustrates some of the remaining variation among counties on valuing PCs.

Alameda had a 5 percent minimum value for all computers, compared with 2 percent in the BOE table. Fresno has a 10 percent minimum value. Orange had higher minimum values (6 to 9 percent). San Diego and San Mateo had 5 percent minimum values. For several years after the Board of Equalization published its recommended tables, the Los Angeles County Assessor adopted them, but insisted on maintaining a 10 percent minimum percent good. After many complaints from taxpayers, the assessor's office recently changed its non-production computer tables to reflect the BOE depreciation schedule.

While these differences may seem minimal, they add up to real money and real compliance headaches for businesses with multiple locations. For example:

Not only do these differences in value translate into different (and often more expensive) tax bills, but they require companies with multi-county operations to monitor and track the different depreciation schedules.

The re-valuation of non-production computers was a complex, multi-year effort, which took much time and resources of state tax officials, assessors' offices, and taxpayers. And still, many taxpayers believe that computers are overvalued – even with the new tables – perhaps by as much as 20 percent. While this may be speculative, other states have recognized a much more rapid depreciation schedule for computers.

Neighboring States

In Oregon, microcomputers, peripherals, CAD/CAM equipment, and word-processing systems are depreciated much more quickly and steeply; that equipment is considered to have a four-year life. In Arizona, for valuation purposes, personal computers have a three-year life, and mainframes have a five-year life, compared with the eight- to nine-year lives in California under the revised schedules. In Wisconsin, beginning in 1999, com-



puters, software, and electronic peripheral equipment are exempt from personal property taxation.

Common, High-Tech Equipment

Computers obviously are not the only piece of high-technology equipment in widespread use that may have been overvalued. Another familiar piece of office equipment subject to rapid technological advance is the photocopier.

Most assessors include copiers as office equipment with a life of from five to nine years. But copiers are being replaced more quickly than before, and older copiers are released at lower prices ~~income production~~. However, the assessors' trend factors reflect physical life, not the technological life or the economically productive life.

A few assessors have recognized this anomaly by creating separate tables for copiers and other high-technology office equipment, such as electronic cash registers, point-of-sale equipment, telephones, and faxes. Compared with the depreciation schedules in those counties for regular office equipment over the same period of time, these special tables provide a slightly steeper and quicker depreciation curve.

Taxpayers believe that the efforts by these counties, while going in the right direction, have not gone far enough. The new tables do not adequately reflect the rapid obsolescence now part and parcel of fax machines, telecommunications systems, and high-technology equipment such as copiers. Unfortunately, the majority of counties have not acknowledged that such a class of overvalued equipment even exists.

Another example of specialized equipment that is typically overvalued is electronic test equipment. In most counties, this equipment is classified as industrial or manufacturing equipment, not as computers. Taxpayers claim that high-technology test equipment should be classified similarly as computers, since they depreciate just as quickly and are, in fact, often just a specialized form of computer. For example, in San Diego County electronic equipment and scientific instruments are given a slightly more favorable depreciation schedule than other office equipment, although not nearly as favorable as computers.

Computer manufacturer appeal. The inability of assessors to deal with economic obsolescence was dramatically highlighted in a computer manufacturer's appeal

of a personal property tax case. Using raw data from the manufacturer's personal property tax return, the assessor attempted to back into the value of the computers by creating a life table. The table purported to show a "smooth" decline in the value of the computers over time, permitting the assessor to simply estimate the typical life of the computers in question.

Unfortunately, the data in the table used by the assessor was largely fabricated. Upon cross-examination, assessor personnel admitted that nearly half of the entries in the table were wrong – some substantially wrong. When the correct numbers were entered, the assessor's hypothesis of smoothly declining values for computers – and thereby the ability to derive an accurate life table for this taxpayer – simply evaporated. In fact, for a variety of reasons, the aggregate value of computers bought in any one year fluctuates dramatically: for good reasons, but without any discernable pattern.

The assessor's office had ample evidence that the table did not accurately reflect the taxpayer's return, but instead chose to change the numbers to create a "smooth" table to come up with a life table. This example makes two compelling points: (1) raw numbers on property values are unreliable when attempting to determine physical lives of assets. The raw data (from the taxpayer's Form 571-L) also completely ignores economic obsolescence, which may be even more important than the physical life; and (2) taxpayers are needlessly and wrongly subjected to arbitrary valuations which overstate the value of a taxpayer's assets.

Semiconductors

"Moore's Law" states that computing power doubles every eighteen months, and the price is cut in half. And just as computers are becoming faster and cheaper, so must the equipment that builds them. Unfortunately, this is not reflected in the valuation of this equipment for property tax purposes.

Since an agreement was reached on valuation of non-production computers in 1997, a focus of the technology industry has been the valuation of production machinery for the manufacture of high-tech equipment, such as semiconductors, disk drives, and many other specialized products.

Few counties separately value equipment used to



manufacture high-technology products or components, even though they suffer faster economic and technological obsolescence than traditional manufacturing equipment. For example, Riverside County values semiconductor manufacturing equipment more favorably than it does other manufacturing equipment. But the State of Utah values this equipment even more favorably, correctly recognizing just how quickly this equipment loses value.

This debate over high-technology equipment begs the larger question: why should computers used in the “back office” have a different, lower value than the computers and computer-driven equipment on the factory floor? Unfortunately, the reason one category of high-technology equipment has a more accelerated depreciation schedule is simply because it has been the focus of attention and debate, not because of any systematic analysis.

Biotechnology

In 1998, in response to requests from major biotechnology manufacturers, the Board of Equalization alerted assessors to not use Board tables to value biotechnology equipment as per the tables in AH 581 for hospital/pharmaceutical/general equipment valuation.¹⁰ The Board recognized the “unique environment in which the biotechnology industry operates (including rapid scientific and technological advances and a strict regulatory climate) and its effect on valuation, including particularly the economic life, of specialized biotechnological equipment (personal property and fixtures.)”

The Board announced that it would be contracting with an independent consultant to study valuation issues within the biotech industry, and in the meantime it would work with assessors and the biotech industry to develop interim guidance for valuing specialized biotechnology equipment.

In response, county assessors dismissed evidence of overvaluation brought to the Board by biotechnology firms. Even though assessors claim that “specific indexes are preferred and used when practical or when value differences may be material,” they have been curiously reluctant to move ahead on a study of biotechnology valuation.

A 1999 letter to the Board of Equalization on behalf of the California Assessors’ Association stated that “there is

no basis for (interim) guidelines” for biotechnology equipment valuation. In particular, the assessors objected to the biotech industry’s plea to develop a composite factor for lab equipment, production equipment, and building fixtures. They objected because they believe those categories of equipment have “vastly different lives and a composite table cannot accurately reflect market values.” They are also skeptical that industry records exist that reflect the seven-year table suggested by the industry.¹¹

In effect, the assessors took a very hard-line position against interim guidelines, in advance of any study being undertaken.

The compliance problems faced by this industry are not trivial, and are emblematic of many industries operating in numerous California counties. A survey of seven counties conducted by a member of the industry showed substantial variation on manufacturing and lab equipment. For the biotech industry, the survey found that manufacturing equipment lives varied from eight to 15 years, laboratory equipment lives varied from five to 12 years.

Notwithstanding these difficulties, the Board recently agreed to create a new recommended depreciation schedule for the biopharmaceutical industry. This schedule will yield more accurate valuations, thus reducing assessments reportedly up to \$2 million annually, by depreciating biomedical equipment more rapidly in accordance with the marketplace.

Aerospace

Because of defense consolidation and downsizing, substantial excess capacity, including extra equipment, exists in California’s defense industry. Much equipment, including highly specialized pieces, is idle and will not be used again, and its value is lower because it is simply not in use.

A market does not exist for some equipment that is no longer used for production, including specialized, expensive tools – especially since there is now only one commercial aircraft manufacturer in this country. Nonetheless, a county assessor insists on valuing this idle equipment at a 35 percent minimum value, where the company believes the value should be closer to 5 percent.

A county assessor insisted that all idled equipment from one aerospace company be stored in a separate warehouse, even though the equipment was extremely



large and difficult to move.

Familiar Industries

Even familiar, conventional businesses such as service stations and printers have incorporated computerization into their production or delivery processes. No longer is a gas pump just a pump; no longer is a printing press just a press.

Gasoline marketers and dealers must invest \$25,000 to \$60,000 per station in a computerized network to control and monitor pumping and tie into the point-of-sale (POS) equipment. The mechanical aspects of pumping are but a small part of the overall information processing system, including satellite communications for POS transactions, that comprise the gasoline filling and billing transaction.

Including the entire pumping and information processing system as an integrated unit is important for tax compliance and payment purposes, since as personal property, this equipment would be depreciated more quickly than as a fixture.

The newspaper publishing industry has undergone massive computerization during the last several decades. Presses in the old days lasted for decades; these days, with highly integrated and computerized systems, printing systems have much shorter life spans. In fact, the presses are controlled by computers, as are many of the functions ancillary to printing.

In Los Angeles and Orange Counties, assessors were assigning 15-year lives for these computer-controlled presses, but only depreciating to 40 percent good until taken off-line. Taxpayers are claiming that this now-high-technology equipment should be depreciated over no more than 10 years, closer to the typical depreciation schedule for computer-operated equipment. Taxpayers also argue

that – with the rapidly changing printing technology – a 40 percent good factor for what will ultimately only be salvage value for the metal is highly inflated.

Retail

Retailers also strongly believe that their business equipment depreciates more quickly than is reflected in the assessor tables. There is a very small aftermarket for used equipment after remodels, which are frequent in this industry, so the equipment, such as storage and display furnishings, must be sold at auction or junked.

Retailers are also critical of the mass appraisal system used by county assessors. While enabling assessors to more easily value large amounts of equipment, it fails to distinguish between very different types of retailers. For example, department stores remodel more frequently than do “Big Box” retailers, so their physical assets have shorter useful lives. If both types of retailers are appraised similarly, then one or the other is being treated inequitably.

Neighboring States

According to retailers, the depreciation factors in California are worse than in neighboring states. Neighboring states generally have uniform depreciation schedules for their counties.

For example, in Arizona, the depreciation schedule for store equipment reflects a ten-year life, with a minimum percent good of 10 percent. In Oregon, store equipment has an eight-year life with a minimum percent good of 30 percent; store fixtures have a ten-year life, also with a minimum percent good of 30 percent. In Utah, store fixtures and furnishings are depreciated over nine years, with a minimum percent good of 12 percent.

DOUBLE TAXATION

Assessors and taxpayers agree that “double assessment” is a too-frequent circumstance in taxation of business equipment and fixtures. But assessors and taxpayers sharply disagree over who is responsible for double assessments.

Double assessments occur when a piece of equipment, usually a fixture, is assessed by both the real property

and business property divisions of the assessor’s office. These assessments are included as part of the overall property valuation for both real and personal property, and are reflected in the tax bill. The mistake is usually caught only when the taxpayer reviews the tax bill and has procedures sufficient to identify equipment that is assessed by both divisions.



Every category of business surveyed complained of the headaches caused by double assessment. Usually, if the taxpayer caught the mistake, it would be resolved on appeal. But the compliance costs – to research the equipment, file appropriate paperwork, and attend appeal meetings – are out of proportion to what are easily correctable mistakes, not disputes over valuation.

For example, one biotechnology company was assessed for the same piece of equipment by both the real and business tax divisions of the Los Angeles County Assessor's Office. The assessor's office did not dispute that a double assessment occurred, but nonetheless required the taxpayer to provide extensive documentation and spend time in personal appearances to resolve the issue. The impression left with taxpayers is that the auditors for each division pick up the equipment because there is no disincentive for them not to record it and, more importantly, that there is a distinct lack of communication between the business and real property divisions.

This lack of communication has real "customer service" implications. For example, an appraiser with the business property division found an item on the real property account of an aerospace firm that was clearly personal property. The appraiser reclassified the property, but would not contact the real property division to clear up the other side of the ledger, claiming that was the responsibility of the taxpayer.

Appraisal of leasehold improvements (LHI) is another area of frequent double assessment, according to taxpayers. Businesses moving into leased space often will pay for tenant improvements, such as carpeting, lighting, and other structural and non-structural improvements. The LHIs not classified as real property are reported on the tenant's annual personal property statement filed with the county assessor. Depending on how the lease is structured, the tenant may also be paying the tax on the real property – the building and the structural improvements.

Commercial property is often sold based on the capitalized rental stream. The value is based on full build-out, including all leasehold improvements in place. The purchase price, which includes all leasehold improvements, becomes the de facto fair market value for purposes of real property valuation. However, the tenant is also paying personal property taxes for the leasehold improvements classified as personal property, on a cost

basis. Therefore, the same improvements are being taxed twice.

The State Board of Equalization has recognized this problem with a separate chapter in the AH 504 addressing communications between the business property divisions in county assessors' offices and others staff members who value real property.

Customer service in this area was a frequent complaint. If the taxpayer caught the mistake, then it would usually be resolved, but the responsibility for resolving the error was inevitably left to the taxpayer.

Assessors' Perspective

Assessors do not dispute that double assessments occur, and are not rare. But they insist that the fault lies not with their offices, but with the taxpayer. The California Assessors' Association states that "most double assessments result from improper reporting of leased property or from failure to provide fixture and/or structure detail on the property statement ... Lack of adequate descriptive information from property owners or their representatives by far represents the major reason for double assessments."

Counties also dispute that their staff is poorly trained, lack incentives, or does not communicate on equipment or fixtures that could be subject to double assessments. The CAA states:

Most counties have developed efficient and formal referral systems to facilitate communication between the Real and Business Property Division. There is a heightened awareness of the necessity to diligently analyze reported new construction or acquisitions to determine the assessability (repairs and maintenance would normally not be assessed) and the responsibility for valuation in order to avoid either a double assessment or an escaped assessment.

Most counties have a referral system that flows both ways. Building permits received by the Real Property Divisions are analyzed and, when appropriate, referred to the Business Division. Likewise, information received on property statements relating to real property is referred to the Real Property Division.

In the end, the assessors point to administrative remedies (i.e., property tax appeals) as the ultimate enforcement for properly classifying property.



AUDITS AND APPEALS

Another consequence of the complexity and inconsistency of the business personal property tax are frequent and disputatious appeals and audits. Many business taxpayers believe that audits are arbitrary and unnecessarily adversarial, not to mention expensive.

In some ways, taxpayers are ambivalent regarding the audit and appeals process for the business personal property tax. The amount of research and documentation required for personal property appeals is out of proportion to the value being appealed, especially compared with appeals for real property disputes. Comparative values and sales for real property are readily available; sales of equipment are individual and may not necessarily reflect the trade level. Therefore, much more documentation is needed for what may amount to a much smaller dispute in dollar terms.

Taxpayers also believe that the \$400,000 mandatory audit level is out of date, since this threshold translates into a tax bill of only \$4,000. Resulting changes from such an audit would probably be less than the combined taxpayer and agency resources put into the audit itself.

The assessors support the retention of mandatory audits, believing their elimination would “lead to non-reporting or under-reporting assessable property... Elimination of audits would eliminate any incentive to properly file property statements. Most businesses under the mandatory audit threshold are seldom audited, but the fact that there is an audit program helps to assure compliance.” In fact, in the absence of mandatory audits, the CAA suggests that California would return to a system “where influence, or the appearance of influence, was more important than fair and equitable treatment of all property owners under the law.”

But the assessors are open to changing the threshold:

Some counties would like to see the threshold raised from the current \$400,000 to \$500,000 or more for administrative convenience. Many small- to medium-size counties fear that raising the threshold would effectively eliminate the audit program. A possible solution might be to have the threshold based on county size. Another possibility would be to allow counties to skip mandatory audits of certain accounts where the previous audit indicated no change.

The inconsistency and unpredictability of the valuation system also encourages appeals. Most high-technology companies report that they appeal annually, in large part because they want to keep their options open for taking advantage of another company’s appeal or settlement. They protect their rights by appealing, even though this may be an inefficient use of resources. For larger companies, appeals can cost upwards of \$100,000.

Assessors believe that the “system” does not contribute to a proliferation of property tax appeals, other than placing responsibility on taxpayers to appeal assessments that they believe may be incorrect. Indeed, assessors place the blame on taxpayers for the proliferation of appeals:

This mentality is fostered by some corporate tax managers and contingency fee tax agents who for the most part do not follow reporting instructions, do not know or understand the property tax laws, and do not know and understand valid appraisal approaches and techniques. While professing to want to “pay their fair share,” many counties have had experiences with large corporate property owners that show otherwise.

Taxpayers also report that communication among auditors is often inadequate. Within counties, auditors do not recognize and are not required to respect the work of their colleagues. And between counties, cooperative audits are often an exercise in duplication. Rather than using information developed in one county for an audit in another – which is the idea behind a cooperative audit – some counties undertake their own audits after a cooperative audit, because they are skeptical of the first county’s numbers.

Taxpayers in one large county decried the audit practice as “insular,” and the auditors and supervisors as “inaccessible.” The taxpayers believe that the auditors are instructed to generate revenues, and give more attention to escape assessments – situations where property escaped assessment and the auditor increases the tax assessment – turning a blind eye to possible overvaluations.

Assessors strongly deny that their offices have a mission to raise revenues, to the exclusion of examining overvaluations. However, they also recognize the opportunities to focus resources to collect escape assessments. In response to a question on audit workloads,



the California Assessors' Association replied:

Most counties have experienced an increase in audit workload. Some of the increase is due to more attention being given to non-mandatory audits. Both mandatory and non-mandatory audits represent a considerable return on investment...Most counties would agree that the audit program is not only a good investment, but that it assures a higher level of compliance than would be expected without an audit program. The mandatory audit program was enacted by the Legislature in the mid-1960s in response to significant non-compliance issues associated with larger business owners.

Many taxpayers from a variety of industries claimed that auditors do not share results of audits in process, and that there is no requirement within many counties to justify or substantiate the audit findings.

Another consistent complaint with the appeals process is with the Assessment Appeals Boards (AABs). Each county board of supervisors appoints private citizens to these boards to provide due process for taxpayers dissatisfied with the property assessments by the county assessors. Traditionally, most AABs are composed of individuals expert in or oriented toward real property valuation; few have expertise in valuation of equipment. Because of the highly technical nature of equipment tax appeals, taxpayers believe that the AABs are far more deferential to assessors' representatives than they may be for appeals of real property assessments.

Following is an example of taxpayer frustration with the audit process.

A large manufacturer was audited by a county's business division. What would typically have been a routine audit over the course of several months soon became mired in a lengthy and time-consuming investigation.

As is typically the case, the assessor assigned each category of manufacturing equipment a different tax life, ranging from five years to 15 (the shorter the life, the less the value, the less the tax). The auditor reviewed the company's books to determine if the taxpayer reported the manufacturing equipment in the correct categories. The auditor focused on the shortest life category – manufacturing tooling (which is assessed at a five-year life). After reviewing the taxpayer's itemized, descriptive listing of the individual assets making up that category, the auditor took the position that all the taxpayer's segregation of assets were inaccurate and concluded that there should be only one reporting category for all equipment. He then began analyzing that taxpayer's assets dating back over a dozen years and finally arrived at a composite, weighted depreciation table for that equipment.

The taxpayer performed a similar analysis, hiring outside consultants and attorneys at a cost of several hundred thousand dollars. After several more years of meetings with the auditor, a compromise was finally reached. Since the assets used to develop the depreciation table were several years old by the time the settlement was reached, the agreed-upon table was already obsolete, but used anyway. The table was not only applied retroactively to the audit period, but that same table was also applied to that taxpayer's equipment for each of the next several years.

The result of this audit and settlement effort, which was time-consuming and antagonistic on both sides, was an audit that took well over three years to complete, with the taxpayer spending five person-years in dedicated effort, at an enormous financial cost, all resulting in a valuation table that was obsolete before it was even used.

NOTES

¹ California Constitution, Article XIII, Section 2.

² Ehrman, Kenneth A. and Sean Flavin, *Taxing California Property*, Volume 1, Bancroft-Whitney Law Publishers, 1991. Mr Ehrman died in an auto accident recently.

³ 18 California Code of Regulations, section 123.

⁴ California Constitution, Article XIII, Section 2.

⁵ *Assessors Handbook 504*, Chapter 4, Valuation of Personal Property.

⁶ Sources for the state revenue and county expenditure figures are from Board of Equalization, *Annual Reports*, Sacramento; Board of Equalization, *A Report on Budgets, Workloads, and Assessment Appeals Activities in California Assessors' Offices*, 1996-97, Sacramento.

⁷ According to interviews with county assessors, some of these positions in some counties also appraise fixtures.

⁸ Board of Equalization, *Assessment Practices Surveys*,



(various counties and various years, as noted), Sacramento.

⁹ Lane, Richard, *Ad Valorem Taxation of Business Personal Property in California: A Survey of Taxpayers*, Lane Westly, Inc., July, 1999, Burlingame, California.

¹⁰ Johnson, Richard C., Deputy Director, Property Taxes Department, *Letter to Assessor, Equipment Index Factors for Biotechnology Equipment*, August 17, 1998.

¹¹ Casey, Thomas, San Mateo County Counsel, *Letter to Board of Equalization, Biopharmaceutical Industry Valuation Issues*, February 18, 1999.