REPORT BY THE

AUDITOR GENERAL

OF CALIFORNIA

A COMPARISON OF THE STATE BOARD OF EQUALIZATION'S APPRAISALS OF THE CELLULAR TELEPHONE INDUSTRY'S TAXABLE PROPERTY WITH THE APPRAISALS OF SIMILAR INDUSTRIES' TAXABLE PROPERTY

P-936

APRIL 1990

REPORT BY THE

OFFICE OF THE AUDITOR GENERAL

P-936

A COMPARISON OF THE STATE BOARD OF EQUALIZATION'S
APPRAISALS OF THE CELLULAR TELEPHONE INDUSTRY'S
TAXABLE PROPERTY WITH THE APPRAISALS OF
SIMILAR INDUSTRIES' TAXABLE PROPERTY

APRIL 1990

Telephone:
(916) 445-0255

STATE OF CALIFORNIA
Office of the Auditor General
660 J STREET, SUITE 300
SACRAMENTO, CA 95814

Kurt R. Sjoberg
Acting Auditor General

May 3, 1990

P-936

Honorable Elihu M. Harris, Chairman
Members, Joint Legislative
Audit Committee
State Capitol, Room 2148
Sacramento, California 95814

Dear Mr. Chairman and Members:

The Office of the Auditor General presents its report concerning the State Board of Equalization's (board) program for conducting property tax appraisals of cellular telephone companies. Our report shows that the board uses appraisal methods which are in accordance with the law and are similar to those used by the board and by county assessors to appraise comparable industries. The report indicates a need for improvements in the board's application of the income and sales approaches to valuing cellular telephone companies, as well as a need for more effective quality control review of the board's appraisals.

Respectfully submitted,

KURT R. SJOBERG
Acting Auditor General

TABLE OF CONTENTS

SUMMARY

RESULTS IN BRIEF

The State Board of Equalization (board) appraises the taxable property of public utilities in California, including cellular telephone companies, to determine its fair market value. During our review, we noted the following:

- The board's methods for appraising cellular telephone systems are the same as its methods for appraising other public utilities;

- When appraising cellular telephone companies, the board does not separately value the Federal Communications Commission (FCC) license. However, it does capture value created by the possession of an FCC license by appraising the cellular system as a single unit;

- When the six counties we reviewed appraise radio and television stations, they neither appraise them as single units, nor separately value their FCC licenses. However, some counties we reviewed do appraise cable television systems as single units to better capture the value of possessory interests created by cable franchises;

- Although the board uses methods allowed by the California Code of Regulations to appraise cellular telephone companies, the board has not performed certain appraisal procedures in accordance with prescribed standards, resulting in possible underassessments of cellular telephone companies; and

- The board did not review all appraisals of state-assessed properties in accordance with its procedures, resulting in an underassessment of approximately \$8.3 million, which resulted in an \$88,000 revenue loss to several counties.

BACKGROUND

The California Constitution requires the board to annually appraise the taxable property of telephone companies that are regulated by the California Public Utilities Commission (CPUC), including cellular telephone companies. The board then allocates a proportionate value to each county, and the counties collect the taxes based on that value. In addition to being regulated utilities, cellular telephone companies have FCC licenses, statutory duopolies, unrestricted earnings, and high rates of growth. The number of subscribers in the State has increased from 15,000 in 1984 to an estimated 308,000 in 1989 while operating revenues for cellular telephone companies have increased from $11.3 million in 1984 to $483.3 million in 1988. Because of this growth, the acquisition prices for cellular telephone companies have also increased significantly.

The board, in its appraisals, may use the principle of unit valuation in appraising cellular telephone companies' taxable property. Using the principle of unit valuation, the board appraises as a single unit all the assets making up an operating system. In addition, the board, in appraising cellular telephone companies, must use the most reliable appraisal methods: the sales approach, which considers prices at which the property being valued or comparable properties have recently sold in the open market; the income approach, which considers future earnings of the properties; and the cost approach, which considers the historical cost, replacement cost, or reproduction cost, as appropriate.

PRINCIPAL FINDINGS

The Board's Methods of Appraising Cellular Telephone Companies and Companies in Comparable Industries

When appraising regulated companies, including cellular telephone, interexchange telephone, local telephone, and radio telephone companies, the board uses the principle of unit valuation and, accordingly, does not separately identify and value FCC licenses. However, by appraising each company as a whole, the board captures value created by the possession of a FCC license. In addition to using the principle of unit valuation, the board uses the cost, income, and sales approaches, as allowed, to appraise these companies. However, for the cellular telephone industry, depending on the stage of development of each company, board appraisers' reliance on each of the approaches may differ among companies and from year to year for the same company.

County Assessors' Methods of Appraising Companies Comparable to Cellular Telephone Companies

Like the board, counties may use a method of unit valuation; however, county assessors do not apply this method when appraising radio and television stations. Instead, they separately appraise the personal and real property making up the operating system. However, in appraising cable television companies, some county assessors we reviewed separately appraise personal property, real property, and possessory interests in real property while other county assessors we reviewed use a unit valuation method.

In accordance with the California Code of Regulations, county assessors we reviewed use cost, income, and sales indicators when appraising radio and television stations and cable television companies. However, the valuation limitations of the California Constitution, Article XIII A, which restrict when counties may reappraise the full market value of real property, apply to all county appraisals of real property and possessory interests, including that of radio and television stations and cable television companies. These limitations do not apply to county assessors' appraisals of personal property, nor do they apply to any board-assessed real or personal property.

The Board's Program for Appraising Cellular Telephone Companies Needs Improvement

In the 1989 appraisals of cellular telephone companies, the board did not prepare the income indicators and the sales indicators in accordance with the California Code of Regulations and the Assessors' Handbook. Specifically, the board, in its application of the income approach to value cellular telephone companies, used current rather than future income. In addition, the board did not investigate the conditions of comparable sales transactions. Consequently, the cellular telephone companies may have been underassessed in 1989. Although we could not determine the values at which these companies would have been appraised had the board developed income indicators and sales indicators in accordance with the regulations and the Assessors' Handbook, we noted that the sum of the sales indicators was twice the sum of the board's actual appraisals. If the board undervalued these companies, various local governments have been deprived of unknown amounts of tax revenues.

In addition, the board did not review all the appraisals of public utilities to verify the appraisals for mathematical accuracy, as required by the board's written procedures for conducting such reviews. Although it appears most of the unreviewed appraisals did not cause significant errors, the appraisal of one cellular telephone company resulted in an underappraisal of approximately $8.3 million which, in turn, created an $88,000 revenue loss for several counties.

RECOMMENDATIONS

To improve its appraisals of cellular telephone companies, the board should take the following actions:

- Make adjustments in the development of the income indicators to reflect anticipated growth in income;

- Investigate the conditions of each comparable sale to make the best possible comparisons between sold property and property being appraised; and

- Fill vacant staff positions to accomplish the above tasks.

To ensure the accuracy of its public utility appraisals, the board should take the following actions:

- Follow its procedures for ensuring the accuracy of its appraisals by having reviewers verify all entries on the appraisals;

- Correct its appraisal of the cellular telephone company that was improperly valued because of a mathematical error; and

- Submit budget change proposals for sufficient staff to review appraisals.

AGENCY COMMENTS

The board does not take exception to the report's findings and recommendations.

INTRODUCTION

The State Board of Equalization (board) administers 15 tax programs for support of state and local government activities. Four of the board's five members are elected from legislatively defined districts within the State while the fifth member, the state controller, serves in an ex-officio capacity. In fiscal year 1989-90, the board had 3,347 employees in more than 60 offices throughout the State and in several other states, and its programs generated taxes exceeding $22 billion.

Article XIII, Section 19, of the California Constitution requires the board to annually appraise property owned or used by intercounty pipeline companies; private railcar companies; regulated railroads; gas, electric, and telephone companies; and other public utilities in California, including cellular telephone companies. The State considers cellular telephone companies to be regulated public utilities under Section 216 of the Public Utilities Code. As such, they are appraised by the board and referred to as state assessees. The board also appraises other public utilities, such as local telephone, interexchange telephone, and radio telephone companies, that the Federal Communications Commission (FCC) licenses and the CPUC regulates. County assessors appraise most other taxable property.

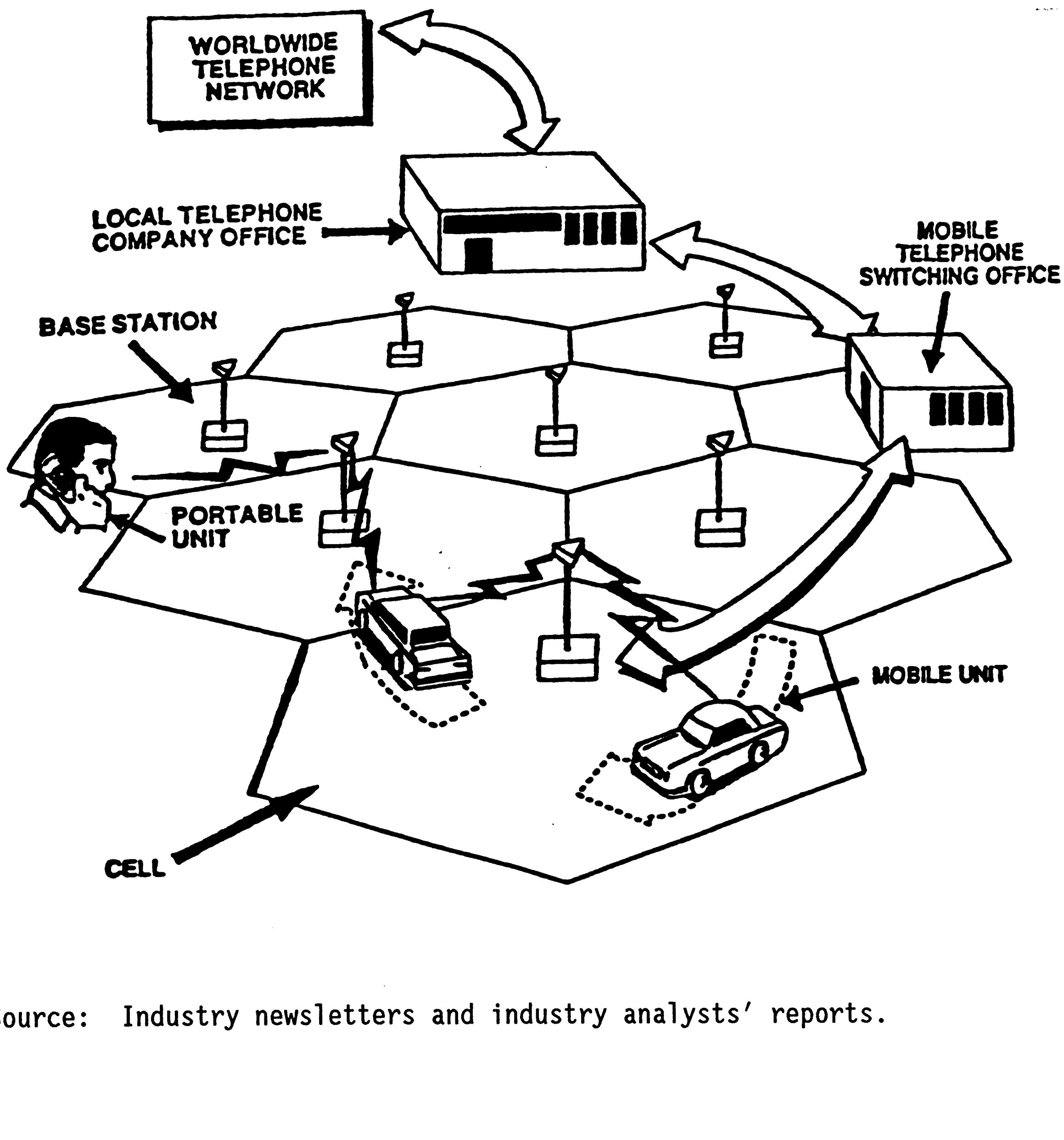
The board appraises state assessees at full cash or fair market value, which is the price that a willing buyer will pay in the open market to a willing seller. Every year board staff provide the board with estimates of the market value of state assessees. The board sets values for state assessees on or before May 31. The board then allocates these values to counties, which collect the utilities' property taxes at a one percent rate plus any locally added tax rates. The first installment of property taxes is due on the following November 1. For 1989, the board appraised 285 public utilities at a total value of approximately $70 billion. Included in this total were 22 FCC-licensed cellular telephone companies with a total appraised value of over $1.5 billion.

CELLULAR TELEPHONE COMPANIES

The cellular telephone industry is rapidly expanding, providing mobile telephone service to people in vehicles and other locations away from typical landline telephone service. As shown in Figure 1, the area of a cellular telephone system is divided into adjoining cells, each of which contains a base station consisting of a transmitter and an antenna. When a subscriber makes a call on a cellular telephone, the nearest base station picks up the call and relays it to a mobile telephone switching office, which then connects the caller to the regular telephone lines or to another cellular terminal. As the subscriber moves from one cell to another during the call, the mobile telephone switching office automatically transfers the call, without interruption, from one base station to another.

FIGURE 1

MODEL OF A CELLULAR TELEPHONE SYSTEM

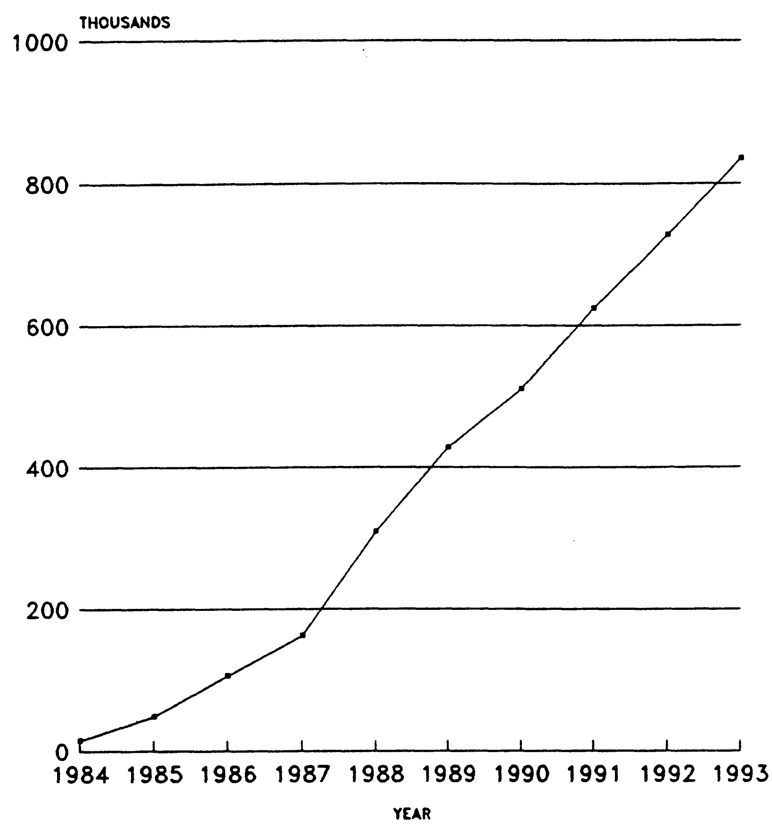


Source: Industry newsletters and industry analysts' reports.

The number of cellular telephone subscribers in California has increased significantly over the last five years. As Chart 1 shows, the number of subscribers grew from 15,000 in 1984 to 308,000 in 1988. By 1993, the number of cellular telephone subscribers is expected to exceed 800,000.

CHART 1

NUMBER OF CELLULAR TELEPHONE SUBSCRIBERS IN CALIFORNIA 1984 THROUGH 1993



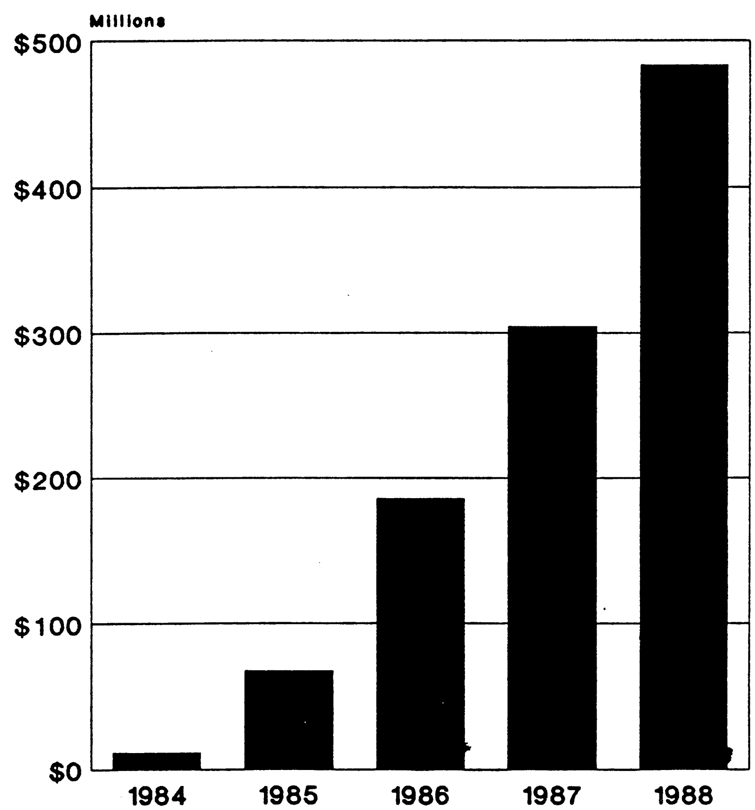
Source: California Public Utilities Commission.

Note: Figures are projected for 1989 through 1993.

With the growth in subscribers, the operating revenues of cellular telephone companies in the State have increased substantially. As shown in Chart 2, the operating revenues of these companies have grown from $11.3 million in 1984, when cellular service first became available, to $483.3 million in 1988.

CHART 2

CALIFORNIA CELLULAR TELEPHONE COMPANIES' GROSS OPERATING REVENUES 1984 THROUGH 1988



Source: California Public Utilities Commission.

FCC Licensing

The FCC licenses and regulates cellular telephone companies in the United States. An FCC cellular telephone license is a radio station authorization that specifies a date of construction and grants authority to operate the cellular telephone system. In 1982, to encourage competition, the FCC began issuing two cellular telephone licenses in each FCC cellular market or service area. It awards one license to a wireline telephone company, which has the lines and equipment for regular telephone service in addition to radio cell sites with cell transmitters and a mobile telephone switching office. The FCC awards another license to a nonwireline company, which has only radio cell sites, cell transmitters, and a mobile telephone switching office. These companies, known as cellular wholesale companies, control their cellular service area as a "duopoly."

Initially, the FCC's process for issuing licenses for cellular telephone service was as follows: the FCC reviewed the applications, made selections based on the ability to provide service, and awarded permits to construct cellular systems. However, because it received so many applications for cellular telephone licenses, the FCC adopted a lottery system for awarding the licenses.

Appraisals

Section 723 of the Revenue and Taxation Code authorizes the board to use the principle of unit valuation to appraise public utilities. Using this principle, the appraiser values the utility as a single unit, including all the assets making up its operating system. While the board generally appraises the entire operating system of a state assessee as a single unit, we found that counties we reviewed usually appraise separately the real property and personal property of the operating unit for each assessee. However, county officials indicated that they do use the principle of unit valuation, when appropriate, for certain types of properties. These properties usually have real estate assets that are an integral part of, and cannot be separated from, the total value of the business. Examples of such properties are mining operations, golf courses, marinas, and for some counties, cable television systems.

County assessors are required to assess taxable property based on its full value. Except as provided under the California Constitution, Article XIII A, full value is defined as fair market value. Article XIII A requires that county assessors assess real property at fair market value for a base year, which is either tax year 1975-76 or the most recent year in which there has been a change in ownership, new construction, or a reduction in the value of the property. Subsequent annual increases in assessments are limited to an inflation adjustment factor of not more than two percent. However, the valuation limitation provisions of Article XIII A do not apply to county-assessed personal property, and court cases have determined that these provisions do not apply to the personal and real property of state assessees, including cellular telephone companies.

Title 18, Sections 1, 3, and 8, of the California Code of Regulations requires all appraisers, including county assessors and board appraisers, to use either one or a combination of the three standard approaches to determine the full market value of taxable property, making adjustments as necessary to exclude the value of nontaxable assets, such as cash and receivables. One method is the comparative sales approach. Using this method, the appraiser considers prices at which the property being valued or comparable properties recently sold in the open market. According to Title 18, Section 4, when reliable sales information is available, the comparative sales approach is the preferred valuation method. Another valuation method is the income approach to value. Using this method, the appraiser considers future income attributed to the property being valued or the amount that investors would be willing to pay for the right to receive the income the property is expected to yield. The third method is the cost approach to value. With this method, the appraiser considers historical cost (the amount invested in the property less depreciation), replacement cost (the cost of replacing the property with property of similar utility less depreciation), or reproduction cost (the cost of reproducing the property less depreciation), as appropriate.

In accordance with the California Government Code, Section 15606, the board is responsible for ensuring the uniformity of the appraisal methods used by all 58 county assessors in the State. To ensure uniformity in assessment practices, the board publishes an Assessors' Handbook containing analyses and recommendations on property tax matters for the guidance of county and board property tax appraisers. The Government Code, Section 15606, requires the board to prepare and issue instructions to appraisers that are designed to promote uniformity throughout the State in the assessment of property. However, instructions in the Assessors' Handbook are not necessarily legally enforceable by the board, and final responsibility for interpreting the law rests with the courts (State Board of Equalization v. Board of Supervisors, 105 Cal. App. 3d 813). Nevertheless, according to General Dynamics Corporation v. San Diego County, 108 Cal. App. 3d 132, the courts should accord great weight to interpretations of statutory provisions as set forth in the Assessors' Handbook. Courts generally will abide by such interpretations unless they are clearly erroneous or unauthorized.

The cellular industry disagrees with the board's methods of appraising cellular telephone companies, and lawsuits that challenge these methods are pending against the board. The lawsuits contend that cellular telephone companies' FCC cellular licenses have value but are nontaxable assets. Because of this contention, cellular telephone companies maintain that the board should exclude the value of FCC licenses from the appraisals of these companies. At least one lawsuit also contends that the board's appraisals of cellular telephone companies are illegal and in violation of Article XIII, Section 19, of the California Constitution because they include the value of FCC licenses while county assessors do not assess the values of FCC radio and television licenses. However, as of the date of this report, no court has sustained legal challenges to the board's method for appraising cellular telephone companies.

The value that is created through the ownership of an FCC license and that is included in board appraisals of cellular telephone companies is not based on the amount of the FCC license fee itself, but rather on the benefits derived from the authority granted by the license. FCC license application fees are only intended to reflect the cost of processing the application and do not reflect the value applicants may ascribe to the license. The FCC maintains that cellular licenses, as with other FCC licenses for such industries as radio and television stations, are not the property of the licensee and have not been subject to mortgage, lien, pledge, or any form of security interest. According to the FCC, federal regulations do permit the assignment of cellular licenses, but FCC approval is required.

SCOPE AND METHODOLOGY

The purpose of our review was to determine the methods used by the board from 1985 through 1989 to appraise wholesaler cellular telephone companies in California and to compare the methods used for

1989 with the board's and county assessors' methods for appraising comparable industries. For comparison, we selected industries that have FCC licenses, are regulated by the CPUC, or have other characteristics similar to cellular telephone companies. The industries we selected were the interexchange telephone, local telephone, radio telephone, radio, television, and cable television.

FCC licenses are a central issue in the appraisal of cellular telephone companies. Therefore, we contacted FCC officials to determine the licensing process for each of the industries we reviewed and to determine whether the FCC assigns values to the licenses.

To compare the board's and county assessors' property appraisal methods, we first reviewed laws, rules, and regulations related to the appraisal of the selected industries.

We restricted our review of the cellular telephone industry to the board's appraisals of wholesaler cellular telephone companies. To determine the board's methods of appraising wholesaler cellular telephone companies, we reviewed all appraisal data reports for wholesaler cellular telephone companies from 1985 through 1989. The board appraised 4 cellular telephone systems in 1985, 7 systems in 1986, 10 systems in 1987, 16 systems in 1988, and 22 systems in 1989.

To determine the board's methods of appraising interexchange, local, and radio telephone companies, we reviewed the appraisal data reports for nonstatistical samples of 20 of the 80 interexchange, 18 of the 21 local, and 12 of the 65 radio telephone companies appraised by the board in 1989. However, because board appraisers do not fully document reasons for the degree of reliance they place on the three appraisal methods and because appraisers exercise judgment in the appraisal process, we did not attempt to prove or disprove the value of the individual appraisals we reviewed.

To determine whether counties and the board used comparable appraisal methods, we reviewed the county assessors' methods of appraising radio and television stations and cable television companies. We visited four large counties (Los Angeles, San Francisco, San Diego, and Santa Clara) and two small counties (Stanislaus and Yuba). We reviewed, where available, the appraisal summary reports for two radio stations, two television stations, and two cable television companies for 1989 or another recent year at each of the counties we visited. However, we did not review the board's compliance program, which requires it to review county assessors' procedures and practices in appraising property.

Finally, to determine whether the board reviewed public utility appraisal worksheets in accordance with its written criteria, we reviewed the 1989 appraisal for each company in our sample, checking whether the board independently verified all cross-references and all mathematical computations on appraisals.

AUDIT RESULTS

I

THE STATE BOARD OF EQUALIZATION'S METHODS OF APPRAISING CELLULAR TELEPHONE COMPANIES AND COMPANIES IN COMPARABLE INDUSTRIES

As permitted under Revenue and Taxation Code, Section 723, the State Board of Equalization (board) uses the principle of unit valuation when assessing cellular telephone companies and other regulated public utilities. Accordingly, it does not separately value Federal Communications Commission (FCC) licenses. Nevertheless, by appraising the value of these companies as a whole, the board, in its appraisals, captures value created by the possession of some FCC licenses. The board uses the methods allowed by the California Code of Regulations, Title 18, to develop cost, income, and sales indicators in appraising cellular telephone companies and other regulated utilities. For the cellular telephone industry, depending on the development stage of each company and of the industry as a whole, the degree of reliance that board appraisers accord to the indicators may differ among cellular companies and from year to year for the same company.

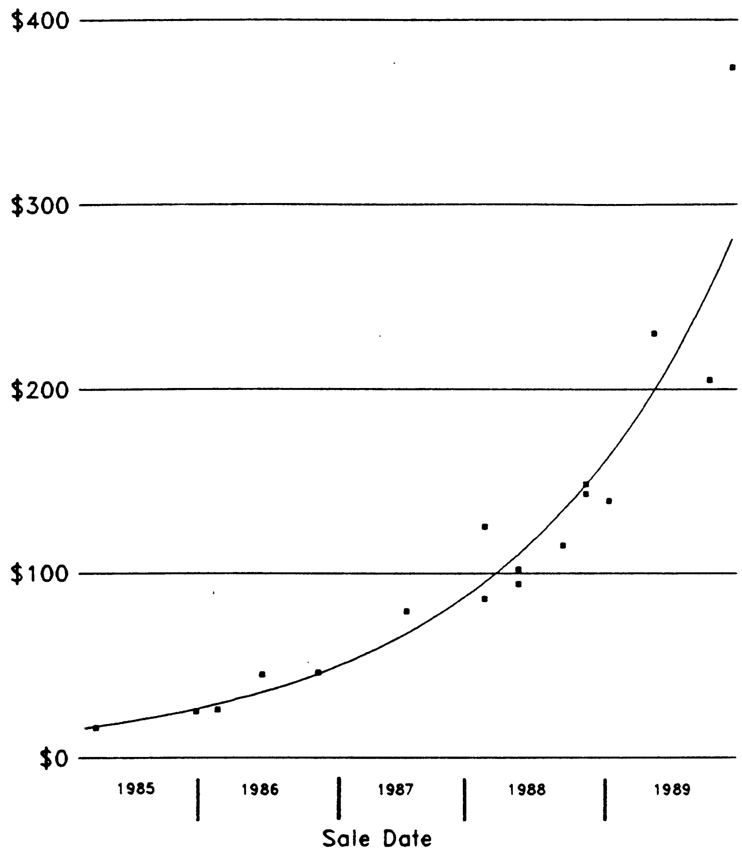
Background

Vigorous sales and customer growth, together with expectations of a bright future for the cellular industry, have attracted intense interest among investors. In California, major cellular telephone markets are recognized by industry analysts as attractive in terms of growth, business activity, and demographics. One investment firm valued California's wholesaler cellular telephone companies at over $7.7 billion in a report dated September 1988.

In recent purchases of cellular telephone systems, larger companies have bought out smaller companies at increasingly higher prices. Chart 3 shows that the value of cellular telephone systems tripled between late 1988 and late 1989. This value is expressed in terms of dollars per unit of population (per POP) in the cellular telephone service areas. POPs are the number of persons residing in a cellular telephone market.

CHART 3

SELECTED VALUES, PER POP, OF CELLULAR TELEPHONE COMPANIES MARCH 1985 THROUGH DECEMBER 1989



Source: Industry newsletters and industry analysts' reports.

As shown in Table 1, the board's appraisals of the taxable property of wholesaler cellular telephone companies have also increased in number and value in recent years.

TABLE 1

APPRAISALS OF CELLULAR TELEPHONE COMPANIES 1985 THROUGH 1989

	Number of Companies Appraised	Average Appraisal	Total Cellular Appraisals
1985	4	$11.2 million	$ 44.6 million
1986	7	16.0 million	112.2 million
1987	10	45.1 million	450.5 million
1988	16	56.4 million	902.0 million
1989	22	68.8 million	1.5 billion

The increase from $11.2 million to $68.8 million since 1985 is a 514 percent increase in the average appraisal. In the same period, the total value of the board's cellular telephone company appraisals increased 3,263 percent.

To compare the appraisals of cellular telephone companies with appraisals of other state-assessed industries, we also reviewed the board's appraisals of interexchange telephone companies, local telephone companies, and radio telephone companies. Interexchange telephone companies provide long distance service or sell telephone systems; local telephone companies provide telephone service in local areas; and radio telephone companies provide two-way radio service and paging services.

THE BOARD USES THE UNIT VALUATION PRINCIPLE TO APPRAISE CELLULAR TELEPHONE COMPANIES

The Revenue and Taxation Code, Section 723, permits the board to use the principle of unit valuation when appraising public utilities. Using unit valuation, which the courts have recognized as appropriate for over 100 years, the appraiser values the operating system as a whole, rather than separately identifying the value of each component of an operating system. When appraised as a single operating unit, public utility property usually has a value greater than the sum of the separately appraised values of component parts of the same system.

When the board applies the principle of unit valuation to the appraisal of a cellular telephone company, it does not separately assign a value to the FCC cellular license; nevertheless, the appraisal captures the value created by possession of an FCC license. While the board makes adjustments to exclude the value of nontaxable assets, such as cash and receivables, from the appraisal, it makes no adjustment to exclude value derived from possession of the FCC license.

In our review of the board's appraisals of interexchange, local, and radio telephone companies, we noted that the board also uses the principle of unit valuation to appraise companies in these industries. As with cellular telephone companies, when these companies hold FCC licenses, the board does not separately value the licenses, but the value, if any, created by the possession of these licenses is reflected in the appraisals of these companies. For the details of our review of the board's appraisals of these industries, see Appendix A.

The Board Uses Combinations of Cost, Income, and Sales Indicators To Appraise Cellular Telephone Companies

In appraising cellular telephone companies, the board uses the approaches prescribed in the California Code of Regulations, Title 18, Section 3, to develop sales, income, and cost indicators of value, which are preliminary estimates of the value of the property. To complete the appraisal, the board reconciles the value indicators and forms a value conclusion. The board used two or more of these indicators in appraising the 22 cellular telephone companies it appraised in 1989.

The board developed cost indicators of value for the appraisal of all 22 cellular telephone companies in 1989. The sum of the cost indicators for all 22 companies was $485.1 million, and the average value of the cost indicator was $22 million. The average cost indicators presented in this chapter are based on reproduction cost.

The board also developed income indicators for the appraisals of 14 of the 22 cellular telephone companies appraised in 1989. The sum of the income indicators for these 14 companies was $996.2 million, and the average value of the income indicator was $71.2 million. Board staff did not compute income indicators for the other eight companies because, in their judgment, these companies had not yet reached normal income production.

The board uses capitalization rates to convert income into income indicators of value: a capitalization rate is the anticipated rate of return investors require when investing in properties. In its simplest form, the process may be represented by the equation:

$$\frac{\text{income to be capitalized}}{\text{capitalization rate}} = \text{income indicator}$$

The board also makes adjustments to exclude a portion of the income attributable to nontaxable assets.

The board developed sales indicators of value in the appraisals of all 22 cellular telephone companies appraised in 1989. The sum of the sales indicators for all 22 companies was $3 billion, and the average value of the sales indicator was $137.4 million. The California Code of Regulations, Title 18, Section 4, and the Assessors' Handbook indicate that the sales approach to value is the preferred approach when reliable data are available.

To develop sales indicators for cellular telephone companies, the board uses the "price per POP" valuation model that is used in the cellular telephone industry and the investment community. This model is suggested as a method for appraising cellular telephone companies in an appraisal handbook published by the Western States Association of Tax Administrators.

When the price of a system is known, this price is divided by the number of POPs to compute a price per POP:

$$\frac{\text{price of a system}}{\text{POPs}} = \text{price per POP}$$

To develop sales indicators of value for the 22 cellular companies it appraised, the board used a price per POP of $100, which it derived from data published in an industry newsletter and an investment firm's research reports. (We address weaknesses in the board's use of this data in Chapter III.) The board adjusted this $100 factor to exclude the value of nontaxable items and to reflect the stage of development and profit potential of each company. The resulting actual price per POP factors used ranged from $30 to $83. The board then computed the sales indicator of the value for each cellular telephone company as the product of the adjusted price per POP factor and the population of the company's cellular telephone service area (POPs):

$$(\text{price per POP}) \times \text{POPs} = \text{Sales indicator of value}$$

In our review of the board's appraisals of interexchange, local, and radio telephone companies, we noted that the board primarily uses cost and income indicators to appraise interexchange and local telephone companies, while it primarily uses cost indicators to appraise radio telephone companies. The board seldom uses sales indicators because there are few sales in these industries. For details of our review of the board's appraisals of these industries, see Appendix A.

Value Indicators Used in the Appraisal of Cellular Telephone Companies May Differ Greatly

We analyzed appraisal data reports for wholesale cellular telephone companies for 1989 and determined that there are wide variances between the value indicators, with income indicators and sales indicators generally exceeding cost indicators. The following table summarizes averages and totals for the cost, income, and sales indicators the board developed to appraise the cellular telephone industry in 1989.

TABLE 2

AVERAGE AND TOTAL VALUE INDICATORS AND APPRAISALS FOR CELLULAR TELEPHONE COMPANIES APPRAISED IN 1989

Indicators	Number of Companies	Average Value	Industry Totals
Cost	22	$ 22.0 million	$485.1 million
Income	14	71.2 million	996.2 million
Sales	22	137.4 million	3.0 billion
Board appraisals	22	$ 68.8 million	$ 1.5 billion

Note: The board did not develop income indicators for eight of the newer cellular companies.

Table 3 presents a summary comparison of value indicators for the 14 cellular telephone companies for which all three indicators were computed in 1989.

TABLE 3

AVERAGE VALUE INDICATORS AND APPRAISALS FOR 14 CELLULAR TELEPHONE COMPANIES IN 1989

Indicators	Average Value
Cost	$ 33.5 million
Income	71.2 million
Sales	210.1 million
Board appraisal	$105.3 million

The average sales indicator was nearly three times the average income indicator and more than six times the average cost indicator. According to the Assessors' Handbook, the value indicators often differ significantly. We reviewed the methods for developing each indicator to determine the reasons for these wide variances between the indicators.

The cost indicator was generally the lowest because appraisers arrive at an estimate of unit value by summing the separate values of numerous components of the cellular telephone system. In developing a cost indicator, appraisers did not capture such components of the total value as the full value derived from the possession of an FCC license or the value created by assembling the separate components of the cellular telephone system into a single operating unit. The board believes that a significant portion of a cellular telephone company's taxable value is derived from the possession of an FCC license and from assembling the separate components of the system into a single operating unit. It also believes that, because of the complete or partial exclusion of these components of value, the cost indicator is biased toward undervaluing cellular telephone systems.

Income indicators were generally greater than cost indicators because they capture more of the value created by the possession of an FCC license and the value created by combining the separate components of the cellular telephone system into a single operating unit. On the other hand, the board's income indicators were generally lower than sales indicators because the income indicators did not capture the present value of future income growth anticipated by investors or purchasers of cellular telephone companies whereas the sales indicators did. The board computed the income indicator by capitalizing current income rather than by forecasting future income. According to the California Code of Regulations, Title 18, Sections 3 and 8, and the Assessor's Handbook, the income to be capitalized is the future net income that can reasonably be anticipated by a prospective purchaser. (In Chapter III, we note that the board's use of current income to develop the income indicator is a deficiency that the board needs to correct.)

Finally, we found that the sales indicators were generally greater than the cost and income indicators because they capture such components of value as value derived from the possession of an FCC cellular telephone license, value created by assembling the separate components of the cellular telephone system into a single operating unit, and the present value of future income growth anticipated by investors or purchasers of cellular telephone companies. (In Chapter III, we note that the board did not develop the sales indicator in accordance with the California Code of Regulations and the Assessors' Handbook.)

In our review of the board's appraisals of interexchange and local telephone companies, we noted that the average percent difference between the cost indicators and the income indicators for companies in these industries was much less than the percent difference between these indicators for the cellular telephone companies. For details of our review of the board's appraisals of these industries, see Appendix A.

The Appraisers' Degree of Reliance on the Indicators May Differ From Assessee to Assessee

According to the Assessors' Handbook, when appraisers have more than one indicator of value at their disposal, they need to study the indicators, determine their relative validity, and arrive at a conclusion as to the market value of the property. The final value conclusion is an opinion.

To determine the relationship between the indicators and the board's value conclusions for the cellular telephone company appraisals, we analyzed the appraisal data reports, which show the value indicators and value conclusion for each company, and we developed "implied weighting" factors, using an algebraic formula. These "implied weighting" factors are shown in the following table.

TABLE 4

IMPLIED WEIGHTINGS OF VALUE INDICATORS CONSIDERED IN THE APPRAISAL OF 22 CELLULAR TELEPHONE COMPANIES IN 1989

	Implied Weightings		
Number of Companies	Cost Indicator	Income Indicator	Sales Indicator
7	.20	.50	.30
5	.33	.33	.33
1	.85		.15
3	.70		.30
2	.65		.35
2	.55		.45
1	.50		.50
1	.45		.55
Total 22			

As Table 4 shows, for seven companies, the board deemed the income indicator most reliable and accorded it equal consideration with the combined weighting of the cost and sales indicators. In the board's judgment, these seven companies had made the greatest progress in developing their income potential; therefore, the board relied primarily on the income indicator.

For five companies, the board accorded the three indicators approximately equal consideration. In its appraisal data reports, the board noted that these companies had not yet achieved full income potential, and for this reason the board did not rely on the income indicator as much as it did for the other seven companies.

For the remaining ten companies, the board considered only the cost and sales indicators. In each case, it noted that the company was not yet operational or had not yet realized its income potential. The implied weightings of the cost and sales indicators reflect the board's judgment concerning the stage of development and future potential of the company.

To summarize, we found in our analysis of the appraisal data reports for the 22 cellular telephone companies appraised in 1989 that the board's degree of reliance on the value indicators was based on judgments supported by considerations that it consistently applied.

In our review of the board's appraisals of interexchange and local telephone companies, we noted that the board relies primarily on the cost indicators and the income indicators, while it relies almost entirely on cost indicators when appraising radio telephone companies. For details of our review of the board's appraisals of these industries, see Appendix A.

The Board's Degree of Reliance on the Approaches to Value May Differ From Year to Year

To determine whether the board has changed its degree of reliance on the three value indicators from year to year, we analyzed the appraisal data reports for all wholesale cellular telephone companies from 1985 through 1989 and calculated implied weightings for the value indicators. As Table 5 indicates, from 1985 through 1989, the board has decreased its reliance on cost indicators, expressed as average implied weightings, while it has increased its reliance on the income and sales indicators.

TABLE 5

AVERAGE IMPLIED WEIGHTING OF VALUE INDICATORS

1985	Cost Indicator	Income Indicator	Sales Indicator
1985	1.00	.00	.00
1986	.95	.05	.00
1987	.84	.16	.00
1988	.30	.15	.55
1989	.43	.23	.34

Although, from 1988 to 1989, the average implied weighting of the sales indicator decreased from .55 to .34, the average value of the sales indicator increased from $65.6 million to $137.4 million; therefore, the contribution of the sales indicators to the value conclusions has continued to increase.

Numerous factors influence appraisers' decisions to compute a value indicator and their decisions concerning the relative reliability and relevance of the three indicators. Some of the factors we noted in our review of the appraisal data reports and interviews with board staff members are as follows.

During construction and in the initial stages of operation, there may be no income to capitalize, or income may not yet have reached its full potential. We noted that the board did not rely upon the income indicator during the first year that it assessed a cellular telephone company. However, board staff believe that, as a cellular telephone company matures and becomes profitable, an income indicator can be computed and is considered more reliable than it was early in the company's history. We noted that, after using an income indicator in the appraisal of a company, the board relies on it in subsequent years. (The single exception to this pattern concerned a company that reported a sharp decline in net operating income after a profitable year.)

Moreover, the unavailability of data may preclude the computation of certain indicators. For example, if an assessee fails to submit property statements or financial statements, the board is unable to develop cost and income indicators. Finally, according to board staff, before 1988, sales of cellular telephone companies were not frequent enough to provide the market data needed to develop reliable comparable sales indicators. The reliance on sales indicators since 1988, therefore, reflects staff's perception of developments in the industry.

In our review of cellular telephone company appraisals from 1987 through 1989, we determined that changes in the degree of reliance on the value indicators from year to year generally reflect the application of these considerations.

Increases in Appraisal Values Have Outpaced Increases in the Value of Property as Measured Using Cost Indicators

In recent years, the board's appraisals of the fair market value of cellular telephone companies have increased more rapidly than the value of the companies' investments in taxable real and personal property as measured using cost indicators. When the property tax assessments of cellular telephone companies increase more rapidly than the companies' investments in cellular telephone systems, companies may have difficulty anticipating and planning for their tax bills.

In our review of the appraisal data reports as shown in Table 6, we determined that, for the ten cellular telephone companies appraised in 1987, 1988, and 1989, increases in appraised values have outpaced increases in the value of the companies' taxable real and personal property as measured by the cost indicator.

TABLE 6

COMPARISON OF APPRAISAL VALUES AND REPLACEMENT COSTS OF REAL AND PERSONAL PROPERTY

	Average Appraisal	Increase	Average Cost Indicator	Increase
1987	$ 45.1 million	---	$26.2 million	---
1988	88.4 million	96%	33.0 million	26%
1989	145.8 million	65	45.9 million	39

Appraisal values have increased more rapidly than the cost indicators of value because the board has increased its reliance on income indicators and sales indicators, which generally reflect greater value than cost indicators.

The board believes that the increases in the assessments of cellular telephone companies reflect increases in the fair market value of these companies. These increases are not fully captured by cost indicators of value.

CONCLUSION

As permitted under Revenue and Taxation Code, Section 723, the State Board of Equalization employs the principle of unit valuation when assessing cellular telephone companies and other regulated public utilities and, accordingly, does not separately value the licenses that the Federal Communications Commission issues to these companies. Nonetheless, by appraising the value of these companies as a whole, the board captures in its appraisals the value that is created by the possession of FCC licenses.

In accordance with the California Code of Regulations, Title 18, the board uses the cost, income, and sales indicators to appraise cellular telephone companies and other regulated public utilities. These indicators may yield very different estimates of the value of these companies; accordingly, board appraisers use their judgment to determine the degree of reliance they will accord each indicator. For the cellular telephone industry, depending on the development of each company and the industry as a whole, the degree of reliance that board appraisers accord to the indicators may differ between cellular telephone companies and from year to year for the same company.

II

COUNTY ASSESSORS' METHODS OF APPRAISING COMPANIES COMPARABLE TO CELLULAR TELEPHONE COMPANIES

To compare the State Board of Equalization's (board) appraisals of cellular telephone companies with counties' appraisals of industries that share some characteristics with cellular telephone companies, we reviewed the counties' methods of appraising radio and television stations and cable television companies. Like the board, counties may use a method of unit valuation; however, the county assessors we reviewed do not apply this method when appraising radio and television stations. Instead, they separately appraise the personal property and real property constituting an operating system. However, in appraising cable television companies, some county assessors separately appraise real property, personal property, and the possessory interests in real property that cable franchises create, while other counties use a unit valuation method for appraising cable television companies. The county assessors we reviewed do not consider licenses issued by the Federal Communications Commission (FCC) to have value, so they do not consider these licenses in their appraisals of radio stations, television stations, or cable television companies. Additionally, some county assessors use the principle of unit valuation when appraising a variety of other industries.

Like the board, county assessors, in accordance with the California Code of Regulations, Title 18, use cost, income, and sales approaches to develop value indicators when appraising radio stations, television stations, and cable television companies. However, county assessors are restricted in their assessments and appraisals because of the valuation limitations of the California Constitution, Article XIII A, which allows counties to reappraise the full market value of a property only when there is a change in ownership or when certain other events take place.

Background

We reviewed counties' appraisals of companies in the radio, television, and cable television industries in six counties: Los Angeles, San Francisco, San Diego, Santa Clara, Stanislaus, and Yuba. We selected companies in these industries because they share some characteristics with cellular telephone companies in the FCC licensing or regulatory process. Table 7 summarizes the characteristics of the industries we reviewed.

TABLE 7

COMPARISONS OF CELLULAR TELEPHONE, RADIO, TELEVISION, AND CABLE TELEVISION COMPANIES

Characteristics	Cellular Telephones	Radio/TV Stations	Cable TV Companies
FCC license	Yes	Yes	Yes
Sufficient sales to consider a comparable sales approach	Yes	Yes	Yes
Extensive possessory interests in land easements and rights of way	No	No	Yes
Statutory/economic monopolies	Yes	No	Yes
Holds local franchise that creates possessory interests	No	No	Yes
Appraised by the county assessor	No	Yes	Yes
Rapid growth industry	Yes	No	Yes

Source: Information provided by the board, the principal property appraiser of the board's Valuation Division, the FCC, the California Public Utilities Commission, the Public Utilities Code, and the Code of Federal Regulations.

Because county appraisers assess radio, television, and cable television companies, their assessments of the companies' real property are subject to the valuation limitation provisions of Article XIII A. These limitations provide that the value of real property is appraised for a base year, either tax year 1975-76 or the most recent year in which there has been a change of ownership, new construction, or a reduction in the value of the property. For each subsequent year, Article XIII A limits the assessed value to an adjustment by an inflation factor not exceeding two percent of the prior year's value. Construction costs, comparable sales, and the sales price of the subject property may be considered in the base year assessment. In contrast, Article XIII A provisions do not apply to any property, real or personal, that is assessed by the board. The board annually reappraises, at fair market value, state-assessed companies, including cellular telephone companies, using the principle of unit valuation to appraise the entire operating system.

County Assessors Separately Value Real and Personal Property To Appraise Radio and Television Stations

When appraising radio and television stations, assessors at the counties we visited prepare separate appraisals of personal property and real property, rather than appraising the operating system as a whole. They believe that the value of the taxable property of radio and television stations is equal to the sum of the separately appraised values of their personal property and real property and that they are capturing the value of all taxable property.

One reason the county assessors separately appraise the real and personal property of radio and television stations is to comply with the real property valuation limitations of Article XIII A. While assessors may reappraise real property only when there is a change in ownership or when certain other events take place, they reappraise personal property annually. Most assessors at the counties we visited believe that, because of this mandated difference in the methods for assessing real and personal property, separate appraisals are a more practical procedure.

In accordance with the California Code of Regulations, Title 18, Section 3, the county assessors we reviewed also used replacement cost indicators to appraise personal property and cost, income, and comparable sales indicators to appraise real property.

All the county assessors we visited believe that FCC radio and television licenses do not create monopolies and do not have significant value in themselves. They also believe that the possession of such licenses does not significantly enhance the value of other properties used by radio and television stations. For these reasons, counties do not consider FCC licenses in the appraisals of radio and television stations.

The counties' treatments of FCC radio and television licenses differ from the board's treatment of FCC cellular telephone licenses. As described in Chapter 1, in its appraisals of cellular telephone companies, the board uses the unit valuation principle to capture value created by the possession of an FCC cellular license.

County Assessors Use Both Separate and Unit Valuation Methods <u>To Appraise Cable Television Companies</u>

In appraising cable television companies, the counties use approaches allowed by the California Code of Regulations, Title 18, and the Assessors' Handbook. When there is a change in ownership or when certain other events take place as outlined in Article XIII A, assessors at three of the six counties we visited separately appraise the personal and real property of cable television companies in the same manner that they appraise radio and television stations. Additionally, they separately appraise possessory interests in the real property of cable television companies.

Unlike radio and television stations, cable television companies hold extensive possessory interests in real property, which are created by local cable franchises. These franchises grant cable companies the right to use streets and easements to run distribution cables. The three counties generally appraise possessory interests by capitalizing the cable franchise fee over the term of the franchise.

We found that the three county assessors who separately value property components use replacement cost indicators to appraise personal property, while they use cost, income, and sales indicators to appraise real property. These are the same indicators as those used by county assessors to appraise radio and television stations and those used by the board to appraise public utilities.

In the remaining three of the six counties we reviewed, the county assessors use a unit valuation method to appraise cable television companies. In these counties, when there is a change in ownership, the county assessors appraise the entire operating systems by using the sales price as the starting point. They then allocate the unit value of the system to the separate categories of personal property, real property, and possessory interests in real property. In subsequent years, the county assessors may apply no more than the two percent inflation limitation to the assessment of the real property and possessory interests unless there is a change in ownership or certain other events take place. However, as with radio and television stations, they reappraise the personal property of cable television companies annually. Through this process, the county assessors we visited comply with the valuation limitation provisions of Article XIII A.

When they use a unit valuation method, we found that these three assessors use replacement cost indicators to assess personal property and cost, income, and sales indicators to assess real property. Any other value is possessory interest.

For the counties we visited, the county assessors believe that the FCC regulation or licensing requirements do not confer statutory or economic monopolies on their holders. In addition, all six county assessors believe that FCC licenses have no significant value in themselves. Accordingly, they do not assign a value to the FCC licenses in their appraisals of cable television companies.

The three county assessors who use the principle of unit valuation to appraise cable television companies as a whole believe that a unit appraisal better captures the full value of the possessory interests in real property created by local cable franchises. They believe that the holder of a cable franchise enjoys a de facto monopoly on cable service in the franchise area and that, without regulatory restriction on their earnings, the value of the cable franchise and the possessory interest it creates may well exceed the value of the capitalized franchise fee. This application of the unit method is similar to the principle of unit valuation that the board uses to capture the value created by possession of the FCC licenses for cellular telephone companies.

Two of the three counties that separately value the personal property, real property, and possessory interests in real property when they appraise cable television systems are considering using the unit valuation method when a change in ownership occurs to capture the full value of the entire cable television system.

We also found that cable television property is not the only property that county assessors appraise using a unit method of valuation. The real estate assets of certain properties within the counties are an integral component in the valuation and cannot be segregated from the value of the operating system. As a result, these properties are appraised as a single operating unit. Examples of such properties are mining operations, marinas, ski resorts, golf courses, and regional shopping centers.

In the three counties where county assessors use the principle of unit valuation to appraise cable television systems, the cable television industry has challenged this practice. The industry asserts that unit valuation unfairly includes nontaxable property such as franchise fees, licenses, and goodwill. The cable television industry's concerns are similar to the cellular telephone industry's concerns with the board's use of unit valuation in appraising cellular telephone companies. These court cases are in various stages of litigation, and the parties have not resolved all issues, as discussed on page 9.

CONCLUSION

While counties may use a unit method of valuation, the county assessors we reviewed do not apply this method to value radio and television stations. Instead, they separately appraise personal and real property. However, in appraising cable television companies, the counties reviewed apply both the separate and the unit appraisal methods to capture full value of the operating systems. Also, county assessors we reviewed appraise radio and television stations and cable television companies using the same cost, income, and sales indicators of value as the board uses when it appraises public utility companies. Unlike the board, all county assessors must comply with the valuation limitations of Article XIII A in their assessment of real property. As a result, the county assessors can only reappraise the full market value of real property when there is a change in ownership or when certain other events take place. The assessors in all six counties believe that FCC licenses have no significant value in themselves and that the separate appraisal approach captures the taxable value of all property used by the assessee.

III

THE STATE BOARD OF EQUALIZATION'S PROGRAM FOR APPRAISING CELLULAR TELEPHONE COMPANIES NEEDS IMPROVEMENT

Although the State Board of Equalization (board) used legally allowed methods in its 1989 appraisals of cellular telephone companies, it did not prepare the income and sales indicators in accordance with the California Code of Regulations and the Assessors' Handbook. As a result, in 1989, the board may have underassessed that portion of the cellular telephone industry we reviewed. In addition, the board did not review all the appraisals of public utilities to verify mathematical accuracy, as required by the board's written procedures. Although it appears that most of the unreviewed appraisals did not cause significant errors, the appraisal of one cellular telephone company resulted in an underappraisal of approximately $8.3 million, which, in turn, created a total revenue loss of $88,000 for several counties.

THE BOARD'S INCOME INDICATORS FOR APPRAISING CELLULAR TELEPHONE COMPANIES MAY BE BIASED DOWNWARD

In the valuation of 12 of the 22 cellular telephone companies appraised in 1989, the board relied on income indicators in addition to cost and sales indicators of value. As described in Chapter I, the board computed this indicator by capitalizing the assessee's current net operating income, adjusted to remove a portion of the income allocated to nontaxable property. However, according to the California

Code of Regulations, Title 18, Section 8, as well as the Assessors' Handbook, when using an income approach to value, the appraiser should estimate the future income that a prospective purchaser can reasonably anticipate, rather than the current income. The appraiser should then convert that income into a value estimate by means of a capitalization rate.

This "principle of anticipation" was explained by the court in De Luz Homes, Inc. v. County of San Diego, 45 Cal. 2d 546, 290 p2d 544, (1955), as follows:

> The net earnings to be capitalized are not those of the present owner, but those that would be anticipated by a prospective purchaser. "Anticipated future earnings is the sole matter of consequence, since reported earnings are already water under the mill."

It is the view of the board's principal property appraiser that the income indicators may be biased toward the lower side of the value range for cellular telephone systems and that, if the income indicators were developed taking into consideration anticipated income growth, they should approximate the sales indicator. As noted in Chapter I, the average sales indicator was nearly three times the income indicator for the 14 companies for which both indicators were developed.

The board itself has criticized some county assessors for failing to project future income when they develop income indicators.

It has made these criticisms in its surveys of the assessment practices of county assessors, which the board conducted in accordance with the Government Code, Section 15640.

The principal property appraiser stated that the board lacks sufficient staff to adjust income indicators so that they will reflect anticipated growth in income.

Board Staff Did Not Prepare
Sales Indicators in Accordance
With Regulations and Appraisal Standards

In the valuation of all 22 cellular telephone companies appraised in 1989, board staff relied on sales indicators of value, in addition to cost and income indicators. However, when using sales prices and securities market data to develop the average unit of comparison per POP, as discussed in Chapter 1, board staff did not follow all the procedures prescribed by the California Code of Regulations, Title 18, Section 4, and the Assessors' Handbook for the analysis of sales of comparable properties.

According to the Assessors' Handbook, a sales analysis must include investigation of the conditions of each comparable sale. Further, an appraisal handbook published by the Western States Association of Tax Administrators states that a sales analysis should determine such matters as the cash equivalent of the price paid; the purchaser's objectives, including income projections for the property;

and the amount of additional investment required to generate that income. According to the principal property appraiser, such an analysis would typically include reviews of sales contracts, financial statements, inventories of assets sold, and interviews with buyers and sellers. To develop sales indicators for the appraisal of certain public utilities such as railroads, the board has investigated many comparable sales. In contrast, to develop sales indicators for the appraisal of cellular telephone companies, the board used reports of prices and securities market data from an industry newsletter and from an investment firm's research reports. It did not further investigate the conditions of each comparable sale to verify whether the sales data were correctly reported, whether the sales were arms-length transactions, and which assets were sold. The board also did not investigate the characteristics of the companies for which securities market data was obtained to determine whether the systems owned by these companies were comparable to California's cellular telephone systems. Further, it appears that the value of certain cellular telephone systems was counted twice when board staff developed the per POP unit of comparison used in the computations.

In the transcripts of the board's May 31, 1989, meeting to set values for state-assessed properties, the principal property appraiser acknowledged shortcomings in the development of the sales indicators. He acknowledged that staff had not studied sales contracts and income forecasts to determine exactly what was included in the selling prices for the comparable sales. They had not had the time to do the required analysis, he said. Consequently, the staff had "backed off a little." He acknowledged that most of the companies had said that the information for the analysis was available. Further, the principal property appraiser stated to us that the board needs to do better analyses of comparable sales to improve the reliability of the sales indicators.

The principal property appraiser also told us that the board did not perform these steps because of several vacancies at the senior property appraiser level. The senior property appraiser positions became vacant and have remained so during an ongoing review of the classification of these positions by the Department of Personnel Administration and the board.

We are unable to determine the values at which the cellular telephone companies would have been appraised in 1989 had the board developed income indicators and sales indicators in accordance with the California Code of Regulations and the Assessors' Handbook. However, the principal property appraiser stated that the cellular telephone companies were "most likely valued at the low end of a fair market value range." As shown in Table 2, on page 24, the sum of sales indicators, which are the preferred indicators when reliable data are available, was $3.0 billion. This was twice the sum of the board appraisals of $1.5 billion. If the board indeed undervalued these companies, various local governments have been deprived of unknown amounts of tax revenues.

THE BOARD DID NOT FOLLOW ITS APPRAISAL REVIEW PROCEDURES, RESULTING IN REVENUE LOSSES TOTALING $88,000 TO SEVERAL COUNTIES

The board's written procedures for reviewing appraisals require that a reviewing appraiser thoroughly review each unitary appraisal for mathematical and procedural accuracy. The board's procedures state that the reviewing appraiser must verify every entry on the appraisal, including all cross-references within the appraisal and all mathematical computations. Further, the reviewing appraiser is required to indicate with a blue pencil dot every item verified. The board also requires the reviewing appraiser to verify the correctness of all data from external sources and from other pages in the appraisal; to verify that the procedures used on each page are in accordance with current policies; to verify all extensions and footings; to initial and date each reviewed page found to be correct; and to initial and date the appropriate control forms.

In our review of the board's public utility appraisals, we found that some appraisals had no verification of entries while other appraisals contained pages not verified by a reviewer. We reviewed 71 of the board's 1989 appraisals of companies in the cellular telephone, interexchange telephone, local telephone, and radio telephone industries. All 22 cellular telephone company appraisals contained pages not verified by a reviewer, and 17 had no verification of entries. For the remaining 49 appraisals in the other industries we reviewed, 14 appraisals contained pages not verified by a reviewer, and one had no verification of entries. However, we found that, of the 22 appraisals of cellular telephone companies in our review, 21 either had no errors or had errors that resulted in insignificant differences.

Although it appears that most of the appraisals of cellular telephone companies within our review resulted in no significant errors, one appraisal of a cellular telephone company contained an error that caused an underappraisal of approximately $8.3 million. As a result, the tax liability of the assessee was understated, and several counties lost a total of $88,000 in revenues.

The principal property appraiser stated that the review process for the 1989 appraisals was abbreviated because of an increase in the number of appraisals and a lack of staff available to perform these reviews. The number of state assessees has increased from 158 in 1983 to 285 in 1989. Additionally, although in its annual budget change proposals, the board has requested personnel to meet increased appraisal workload, the principal property appraiser stated that the board has not been granted the additional personnel.

CONCLUSIONS

Although the State Board of Equalization used legally allowed methods in its 1989 appraisals of cellular telephone companies, it did not develop the income indicators and the sales indicators in accordance with the California Code of

Regulations and the Assessors' Handbooks. The indicators have been developed inadequately because the board has lacked the appropriate staff. As a result, in 1989 the board may have underassessed that portion of the cellular telephone industry we reviewed. If the board undervalued the companies, various local governments have been deprived of unknown amounts of tax revenues.

The board also did not review all of the appraisals of state-assessed properties for mathematical accuracy. Although most of the appraisals within our review resulted in either no errors or insignificant errors, one unreviewed appraisal of a cellular telephone company contained an error resulting in an underappraisal of $8.3 million, which remained undetected. This resulted in an understatement of tax liability and a revenue loss totaling $88,000 for several counties. The principal property appraiser of the board's Valuation Division stated that the 1989 appraisals were not properly reviewed because of an increase in the number of appraisals and a lack of staff available to perform these reviews.

RECOMMENDATIONS

To improve its appraisals of cellular telephone companies, the State Board of Equalization (board) should take the following actions:

- Make adjustments in the development of the income indicators to reflect anticipated growth in income;

- When computing the sales indicators, investigate the conditions of each comparable sale to make the best possible comparison between the sold property and the property being appraised; and

- Fill vacant staff positions to accomplish the above tasks;

To ensure the accuracy of its public utility appraisals, the board should take the following actions:

- Follow its procedures for ensuring the accuracy of its appraisals by having reviewers verify all entries on the appraisals;

- Correct its appraisal of the cellular telephone company that was improperly valued because of a mathematical error, and notify the counties involved so they can collect the underassessed revenues due to them; and

- Submit budget change proposals for sufficient staff to review appraisals.

We conducted this review under the authority vested in the auditor general by Section 10500 et seq. of the California Government Code and according to generally accepted governmental auditing standards. We limited our review to those areas specified in the audit scope section of this report.

Respectfully submitted,

KURT R. SJOBERG
Acting Auditor General

Date: April 27, 1990

Staff: Samuel D. Cochran, Audit Manager
John Albers
Graeme Johnson, CPA
Keith Kuzmich
Pamela Haynes
Andrew Collada

A DETAILED REVIEW OF THE STATE BOARD OF EQUALIZATION'S APPRAISALS OF COMPANIES COMPARABLE TO CELLULAR TELEPHONE COMPANIES

To compare the State Board of Equalization's (board) appraisals of cellular telephone companies with its appraisals of other comparable industries, we reviewed the board's methods of appraising 20 of the 80 interexchange telephone companies, 18 of the 21 local telephone companies, and 12 of the 65 radio telephone companies appraised by the board in 1989. Interexchange telephone companies provide long distance service or sell telephone systems. Local telephone companies provide telephone service in local areas. Radio telephone companies provide two-way radio service and paging services. We selected these companies because of similarities to cellular telephone companies. Table A-1 compares the characteristics of cellular telephone companies with these companies.

TABLE A-1

COMPARISONS BETWEEN CELLULAR, INTEREXCHANGE, LOCAL, AND RADIO TELEPHONE COMPANIES

Characteristics	Cellular Telephone	Interchange Telephone	Local Telephone	Radio Telephone
Federal Communications Commission license	Yes	Yes	Yes	Yes
Uses wireless technology	Yes	Yes	No	Yes
Extensive possessory interest in public streets and rights of way	No	No	Yes	No
Availability of comparable sales	Yes	No	No	No
Monopolistic/ duopolistic market	Yes	No	Yes	No

Source: Information provided by the board, the principal property appraiser of the board's Valuation Division, Code of Federal Regulations, and California Public Utilities Commission.

The Board Uses Unit Valuation and Cost, Income, and Sales Indicators To Appraise Interexchange, Local, and Radio Telephone Companies

The Revenue and Taxation Code, Section 723, permits the board to use the principle of unit valuation when appraising public utilities. Further, the board considers such characteristics as technological changes, possessory interests, and degree of regulation when selecting the valuation methods for appraising these companies.

According to the principal property appraiser of the board's Valuation Division, when the board uses unit valuation to appraise interexchange, local, and radio telephone companies, it does not separately assign a value to or appraise licenses issued by the Federal Communications Commission (FCC). However, when the board uses unit valuation, any value created by possession of an FCC license may be reflected in the appraisal of taxable property.

In its appraisals of interexchange, local, and radio telephone companies, the board uses one or more of the methods defined in the California Code of Regulations, Title 18, Section 3, to develop cost, income, and sales indicators.

Interexchange Telephone Companies

In our review of a nonstatistical selection of 20 out of 80 interexchange telephone companies the board appraised in 1989, we found that the board, as with cellular telephone companies, used both cost indicators and combinations of cost, income, and sales indicators to appraise these companies. The board used cost indicators for appraising all 20 companies. However, for some companies, the board apparently relied on income and sales in addition to cost indicators to arrive at an appraisal of fair market value. For instance, we found that the board also used cost and income indicators for appraising 9 of these companies and cost and sales indicators for appraising one of these companies. Table A-2 describes the relationship between the indicators based on the implied weightings we calculated using the board's data.

TABLE A-2

IMPLIED WEIGHTINGS OF VALUE INDICATORS CONSIDERED IN THE APPRAISAL OF 20 INTEREXCHANGE TELEPHONE COMPANIES IN 1989

		Implied Weightings		
	Number of Companies	Cost Indicator	Income Indicator	Sales Indicator
	10	1.00		
	1	.70	.30	
	6	.50	.50	
	1	.30	.70	
	1	.20	.80	
	1	.50		.50
Total	20			

For the nine companies for which the board used both cost and income indicators, the board apparently relied equally on both the cost and income indicators for six of the companies; it apparently relied more on the income indicators for two of the companies; and it apparently relied more on the cost indicator for one company. The average value indicators for these nine interexchange telephone companies in 1989 were as follows: the cost indicator had an average value of $206.4 million, and the income indicator had an average value of $223.6 million. The average value for the board's appraisal of these nine companies was $215.5 million.

For these nine companies, the difference between the average cost indicator and the average income indicator is 8.3 percent, which contrasts with the cellular telephone industry in which the average difference between the cost and income indicators is 112 percent. We found that the difference between these indicators calculated for interexchange telephone companies was not significant in comparison with the cellular telephone companies because, according to the principal property appraiser of the board's Valuations Division, the earnings growth, which is not reflected using the cost approach, is presently lower for most interexchange telephone companies than for cellular telephone companies.

We found that the board appraised interexchange telephone companies using valuation methods that appear to be appropriate to this industry's characteristics. For example, the board used replacement cost indicators to appraise some of these companies because the appraisers felt this indicator most accurately accounts for the replacement of outdated systems. Equipment used in the interexchange telephone industry has been recently updated. For instance, some interexchange telephone companies have updated their telecommunications systems with the addition of fiber-optics. The board also used income indicators to appraise some of these companies that have experienced high earnings because, in contrast to cost indicators, when the board uses income indicators, it considers that the value of the property depends on the income that it will produce rather than on the income it has already produced. Also, in one instance, the board used the sales indicator in addition to the cost indicator to value an interexchange telephone company because the entire company was sold and all the financial information regarding the sale pertained only to the interexchange telephone operation.

Local Telephone Companies

In our review of a nonstatistical selection of 18 of the 21 local telephone companies appraised by the board in 1989, we found that the board used either cost indicators or combinations of cost and income indicators to appraise these companies. The board apparently relied on cost indicators for appraising all 18 companies. We found that the board also considered the income indicators in addition to cost indicators in its appraisals of 17 of these companies. According to the principal property appraiser, the board also used the income approach to appraise local telephone companies because of established income for some local telephone companies. Table A-3 describes the relationship between the indicators based on the implied weightings we calculated using the board's data.

TABLE A-3

IMPLIED WEIGHTINGS OF VALUE INDICATORS CONSIDERED IN THE APPRAISAL OF 18 LOCAL TELEPHONE COMPANIES IN 1989

	Implied Weightings	
Number of Companies	Cost Indicator	Income Indicator
1	1.00	
1	.80	.20
1	.70	.30
3	.60	.40
6	.50	.50
4	.40	.60
2	.30	.70
Total 18		

For the 17 companies for which the board used both cost and income indicators, the board appeared to rely more on the income indicator for six companies, it apparently relied more on the cost indicator for five companies, and it appeared to rely equally on both indicators for six companies.

The average value indicators for these 17 local telephone companies in 1989 were as follows: the cost indicators had an average value of $1.3 billion, and the income indicator had an average value of $1.6 billion. The average value for the board's appraisal of these nine companies was $1.5 billion. The difference between this average cost indicator and average income indicator is 27.3 percent, which contrasts with the cellular telephone industry in which the average difference between the cost and income indicators is 112 percent. We found that the difference between these indicators calculated for local telephone companies was not significant in comparison with the cellular telephone companies because, according to the principal property appraiser, the earnings growth is presently lower for local telephone companies.

The board appraised local telephone companies using valuation methods that appear to be appropriate to the characteristics of this industry. For example, it appears that the board used historical cost indicators rather than other cost indicators to value all of these companies because they approximate the rate base from which the FCC and the California Public Utilities Commission (CPUC) allow a rate of return. The board is following the California Code of Regulations, Title 18, Section 3, which states that, if the income from the property is regulated by the CPUC, the board may use historical cost to develop a value indicator. However, in developing the cost indicators, the board does not consider plant expansion and other capital improvements associated with most of the local telephone companies. According to the board's principal property appraiser, the board also used the income indicators to appraise most of these companies because their incomes have stabilized for the most part and are reasonably easy to forecast.

Radio Telephone Companies

In our review of a nonstatistical selection of 12 out of 65 radio telephone companies the board appraised in 1989, we found that the board used either cost indicators or combinations of cost and income indicators to appraise these companies. It appears that the board used only cost indicators to appraise 10 companies because these companies did not have a consistent level of earnings, which made applying income indicators difficult. For 2 companies that showed earnings growth, the board used both the cost and income approaches. The following table describes the relationship between the indicators based on the implied weightings we calculated using the board's data.

TABLE A-4

IMPLIED WEIGHTINGS OF VALUE INDICATORS CONSIDERED IN THE APPRAISAL OF 12 RADIO TELEPHONE COMPANIES IN 1989

		Implied Weightings	
	Number of Companies	Cost Indicator	Income Indicator
	10	1.00	
	1	.75	.25
	1	.50	.50
Total	12		

For one of the 2 companies for which the board used both cost and income indicators, the board apparently relied more on the cost indicator; for the other company, the board appeared to rely equally on both indicators.

We found that the board appraised radio telephone companies using valuation methods that appear to be appropriate for the characteristics of the radio telephone industry. For example, the board used reproduction cost indicators to value all radio telephone companies because radio telephone paging equipment has a short life and is frequently replaced with identical equipment. Further, the California Code of Regulations, Title 18, Section 3, states that the board may use reproduction cost indicators when appropriate to determine the cost of reproducing property at its present site and at present price levels, less depreciation.

In addition, according to the board's principal property appraiser, the board used income indicators to appraise two of these companies because their incomes have stabilized and are reasonably easy to forecast.

For the companies we reviewed within the interexchange, local, and radio telephone industries, we found that the board used the sales indicator to appraise one interexchange telephone company. However, according to the principal property appraiser, the board does not frequently use sales indicators to appraise companies in these industries because there are few sales in these industries.

STATE OF CALIFORNIA

STATE BOARD OF EQUALIZATION

1020 N STREET, SACRAMENTO, CALIFORNIA
(P.O. BOX 942879, SACRAMENTO, CALIFORNIA 94279-0001)

(916) 445-3956

April 25, 1990

Mr. Kurt R. Sjoberg, Acting Auditor General
Office of the Auditor General
660 J Street, Suite 300
Sacramento, CA 95814

Dear Mr. Sjoberg:

The Board and its staff have reviewed the report of the Auditor General entitled, A Comparison of the State Board of Equalization's Appraisals of the Cellular Telephone Industry's Taxable Property With the Appraisals of Similar Industries. I am responding to the report on behalf of the Board and its staff.

We were pleased to see that the report noted that the methods used to appraise the cellular telephone companies conform to the laws and regulations relating to the assessment of public utility properties. Overall, we generally agree with the Auditor General's conclusions and recommendations. Although we did not have the staff to do as thorough a job as might be desirable in the applications of these methods, the deficiencies which are identified in Chapter 3 do not, in our opinion, constitute noncompliance with laws and regulations relating to the assessment of public utility property. We agree that these deficiencies may have resulted in somewhat conservative value estimates for the cellular industry.

We are prepared to continue to seek the necessary resources to carry out the program and to implement the six recommendations contained in the audit report. Our specific comments on the six recommendations follow:

1. Projected Income Growth. We agree that the appraiser should capitalize anticipated future income. It's very difficult and subjective to predict future income streams for a new and rapidly growing industry such as the cellular telephone business. Nevertheless, the staff will strive for more in-depth studies of the industry to make appropriate growth projections in future appraisals of cellular telephone companies.

2. More In-depth Sales Analyses. We plan to make investigations of the conditions and financial arrangements relating to sales of telephone companies, and hope to use our new proposed staff resources to implement this recommendation. At the present time, one appraiser is responsible for the unitary valuations of the 61 cellular telephone companies doing business in California.

3. Fill Vacant Positions. We have taken steps to fill all vacant journey-level appraisal positions and made limited-term appointments to fill vacant senior level positions. Permanent appointments at the senior level have been precluded pending resolution next month of a long-standing classification study.

4. Review All Appraisals. We agree that all appraisals have not been checked by a review appraiser as required by our policy as we did not have sufficient personnel to make a thorough review of the mathematical accuracy of each appraisal report. We are pleased to note that with one exception either no errors or insignificant errors were found on the appraisals reviewed by your staff.

5. Correct Mathematical Error. We will investigate the error discovered by the audit team and take appropriate action to correct the error. Board audits are performed for the purpose of uncovering mathematical errors, reporting errors and analytical problems associated with annual valuations. The Board may make the necessary correction either by processing a roll change to correct the error or by adopting an escape assessment upon completion of the next financial audit of the company's financial records.

6. Submit BCP for Additional Staff. The Board fully concurs with the Auditor General's recommendation that we submit Budget Change Proposals (BCPs) for more staff to implement the procedural recommendations in this report. We have in fact submitted a series of BCPs over the past several years to keep pace with our growing workload without success. For the 1990-91 budget year, 12 additional Valuation staff positions are proposed in the Governor's Budget. This request is pending before the Legislature.

In conclusion, we will make every effort to fully implement the audit recommendations within budgetary constraints.

We wish to express our appreciation to the Auditor General's audit staff for the professional manner in which the study was conducted.

Sincerely,

Cindy Rambo

Cindy Rambo
Executive Director

CR:js

cc: Members of the Legislature
Office of the Governor
Office of the Lieutenant Governor
State Controller
Legislative Analyst
Assembly Office of Research
Senate Office of Research
Assembly Majority/Minority Consultants
Senate Majority/Minority Consultants
Capitol Press Corps