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SOFTWARE: ON THE REVENUE SIDE

ANYTHING GOES

Kathleen K. Wright†

Very little guidance exists which addresses the question of the timing of revenue recognition upon the sale, license, or lease of computer software. As a result the accounting practices which have developed are as diverse as the methods of disposition employed by the industry. These same policies also serve as the basis for recognizing revenue for tax purposes.

Applying existing guidelines to software transactions can be difficult, because at least some of those principles were developed with sales of tangible products in mind. For example, passage of

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2. ELEMENTS OF FINANCIAL STATEMENTS OF BUSINESS ENTERPRISES, Statement of Financial Accounting Concepts No 6 (Fin. Accounting Standards Bd. 1985); RECOGNITION
title and passage of risk are two reference points frequently used to determine when an exchange transaction has occurred and revenue should be recognized. However, in software exchange transactions, title generally does not pass, because most exchanges involve licenses or leases, and risk of ownership may be retained by the licensor, who can easily duplicate, at little cost, software that is lost or destroyed. Additionally, software is sold in a variety of different ways. Software is often licensed or leased with certain rights retained by the developers. This situation generally provides no right to reproduce for sale or sublicense, or with the right to reproduce and use only at designated sites or machines. Software is also marketed by selling all rights to the products or by contracting to develop software with rights passing to the end-user on completion and acceptance. Oftentimes these types of arrangements have characteristics of a joint venture with the licensee providing partial funding for the development of the software while in other instances, the product already exists and is owned by the vendor who contracts with the end user to customize the product. In the absence of any authoritative guidance, the industry has developed its own guidelines which are reviewed in this paper. The paper concludes with a proposal that will provide financial results which are consistent and reflect generally accepted accounting principles.

The federal income tax rules which are applicable to the recognition of income from the sale, lease or license of software to an end user have been modified by the 1986 Tax Reform Act under provisions which are generally beneficial to the industry. This paper includes an analysis of these changes as they are applicable to the development and commercialization of computer software.

1. Research Methodology.

To obtain data on current market practice, a questionnaire was developed which requested information regarding cost capitalization and revenue recognition policies employed for accounting and

4. Id.
tax purposes. This paper focuses on the responses related to revenue recognition policies. The questionnaire was sent to 500 software vendors with a thirty-four percent response rate. The software vendors were selected from *Data Sources* (Summer, 1987) and were included if gross annual revenues exceeded $10 million.6

Upon receipt of the questionnaires, on-site follow up interviews were conducted with certain respondents in order to obtain clarification and further insight into the issues involved. The results of this research process are summarized herein.

2. *Accounting for Software Revenue Recognition.*? —SURVEY RESULTS/LICENSE OR LEASE OF SOFTWARE TO END USER.

This type of transaction generally has a software vendor licensing or leasing a software system directly to a company. Licensing grants the right to use, but not to own the software and sometimes may include the right to reproduce and use at designated sites or machines. Generally the software has been developed, but may require minor modifications. In the simplest case, there are no vendor obligations and no risks of collecting under the contract. Question 8 addressed this situation and respondents were asked to indicate which of the following events would trigger revenue recognition:

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Number</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>57%</td>
<td>94</td>
<td>Delivery of the software</td>
</tr>
<tr>
<td>15%</td>
<td>24</td>
<td>Signing of the contract</td>
</tr>
<tr>
<td>13%</td>
<td>21</td>
<td>Billing of the customer</td>
</tr>
<tr>
<td>15%</td>
<td>25</td>
<td>Other</td>
</tr>
<tr>
<td>100%</td>
<td>164</td>
<td></td>
</tr>
</tbody>
</table>

Corporations that recognize revenue upon delivery of the software argue that the transaction is essentially a sale and point out that revenue from a sale is traditionally recognized at delivery. They view the signed contract as no more than a firm purchase order and deem the customer's liability for payment to accrue upon delivery. They go on to argue that the contract exists in this transaction to provide legal protection against unauthorized duplication

6. *Data Sources* is published by Ziff Davis Publishing Company and is a comprehensive guide to software products and vendors. The information included in the publication is obtained from surveys and other technical manuals.

7. “Revenue Recognition” relates to the time period within which the revenue generated from software licensing and leasing arrangements, sales and other marketing arrangements is recognized in the financial statements.

8. See Appendix I.
of the product and really does not relate to the accounting process. Several respondents who indicated billing as the event that triggered revenue recognition, noted that shipment of the software product occurred at the same time.

Software vendors who recognize revenue upon signing of the contract view delivery as incidental and not the essence of the transaction which they argue occurs when the license agreement is accepted. They suggest a similarity to license agreements for films and television programs where delivery of an existing film is an insignificant part of the earnings process. They go on to state that where the software is developed it is unlikely that the software will not be delivered and the delivery itself is not a key event in the earnings process.

In the author's view, revenue should be recognized upon delivery. In other industries, the sale of a product is normally recorded upon delivery and there is no substantive reason why that same policy should not apply here. Additionally, and in most cases, the software is delivered immediately so that the time between signing of the contract and delivery is very short. If the software is not available then the criteria for revenue recognition which include vendor performance have not been met and, therefore, there is no basis for revenue recognition.

The above analysis might not be applicable if the vendor has significant other vendor obligations that are not separable from the software license and which will be performed after delivery. These obligations include installation which might require customization and implementation of the software, debugging, enhancements, data conversion, and other system integration requirements. In this case, respondents to Question 9 indicated that revenue was recognized as follows:

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Amount</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>40%</td>
<td>54</td>
<td>Delivery of software</td>
</tr>
<tr>
<td>18%</td>
<td>24</td>
<td>Acceptance of software</td>
</tr>
<tr>
<td>13%</td>
<td>18</td>
<td>Billing</td>
</tr>
<tr>
<td>11%</td>
<td>15</td>
<td>Signing of Contract</td>
</tr>
<tr>
<td>17%</td>
<td>23</td>
<td>Other</td>
</tr>
<tr>
<td>100%</td>
<td>134</td>
<td></td>
</tr>
</tbody>
</table>

Proponents of delivery as the revenue recognition point argue that the transaction is essentially a sale and this policy makes sense
if the product has been successfully installed in the past and customer acceptance is likely.

Others believe that at least some, if not all, of the revenue should be deferred until the software has been completely installed and there is assurance of customer acceptance. This policy is similar to other FASB guidelines for service related transactions.\textsuperscript{10} Where vendor obligations are significant and the contract extends over a long period of time, such as the obligation to modify existing software or develop customized software to meet the customers’ needs, there appears to be wider acceptance of a deferral method. Proponents of deferral argue that the provision of Accounting Research Bulletin 45 (\textit{Long Term Construction-Type Contracts}), provides the best available guidance. Under Statement of Position 81-1, \textit{Accounting for Certain Construction Type and Certain Production Type Contracts}, which interprets ARB 45 and which applies to a broader category of contracts, revenue should be recognized using the percentage of completion method unless there are substantial doubts that the software can be successfully developed, in which case the completed contract method should be used.\textsuperscript{11}

In the author’s view, when the vendor undertakes only incidental obligations then the revenue recognition at the point of delivery seems sound. Where the vendor obligations are substantial and include major modifications to existing software, then revenue recognition should be delayed. If the vendor has developed and successfully installed similar software in the past, then the percentage of completion method should be used. If the acceptance criteria of the customer are unique, then revenue recognition should be

\begin{itemize}
\item \textsuperscript{10} See \textit{ACCOUNTING FOR SERVICE TRANSACTIONS}, Invitation to Comment (Fin. Accounting Standards Bd.) which states:
\begin{quote}
...if services are performed in more than a single act, the proportion of services to be performed in the final act may be so significant in relation to the service transaction taken as a whole that performance cannot be deemed to have taken place until execution of that act. Revenue should be recognized when that act takes place.
\end{quote}

\item \textsuperscript{11} \textit{ACCOUNTING FOR CERTAIN CONSTRUCTION TYPE AND CERTAIN PRODUCTION TYPE CONTRACTS}, Statement of Position [SOP] No. 81-1 ||| 23, 28 (Fin. Accounting Standards Bd.). Paragraph 23 of SOP 81-1 states that the percentage of completion method is the preferable accounting method if the contractor has “the ability to make reasonable dependable estimates ... of the extent of progress toward completion, contract revenues and contract costs.” The SOP of Position requires the completed contract method to be used only when there is persuasive evidence that the contractor is unable to make reasonable estimates or there are “inherent hazards.” Paragraph 28 defines inherent hazards as events which relate to contract conditions or external factors that raise questions about contract estimates and about the ability of either the contractor or the customer to perform his obligations under the contract.
\end{itemize}
delayed until the contract requirements have been fulfilled and the
customer has accepted the end product. Where successful imple-
mentation is required under the contract, and implementation is un-
certain, then deferral of revenue until customer acceptance is
appropriate.

Application of the percentage of completion method to the
computer software industry is not without problems. Computer
software development costs are often incurred before the contract is
signed as generally the transaction requires modification of an ex-
isting software package. The Financial Accounting Standards
Board Statement of Financial Accounting Number 86 requires that
most software development costs be expensed as incurred.\textsuperscript{12} If
these costs are used in measuring progress to completion, the result
would be recognition of almost all of the revenue generated under
the contract when the contract is signed. To preclude this result,
costs incurred before the contract should not be included in measur-
ing the difference in the timing of recognition of costs and revenues.
An alternative to measure the progress to completion would be to
use the incremental cost incurred to modify the software. Al-
though this is a better alternative, this procedure can also lead to
distortion as in most cases the bulk of the costs are incurred with
production of the first unit. In addition, there is an inherent impre-
cision in measuring costs associated with progress to completion
when most of the costs involve labor which is being expended on
many different projects at the same time. Despite this criticism, fol-
low up interviews indicated that this was the preferred industry
method.

Sales of movie and television programs are also similar to
software sales. The licensing of films to television is treated as a sale
of a right or group of rights to broadcast the film, similar to the
license of software to the end user who has full and free use of the
software but does not obtain control over rights of reproduction and
resale. Revenue recognition for motion pictures is governed by

\textsuperscript{12.} \textit{Accounting for the Costs of Computer Software to be Sold, Leased or
Otherwise Marketed}, Statement of Financial Accounting Standards No. 86 (Fin. Ac-
counting Standards Bd. 1985). The Statement covers only software intended for sale, lease, or
other marketing. The Statement identifies the costs incurred in the process of creating a
software product and classifies those costs that are properly research and development and
those that are capitalizable production costs. Research and development costs are required to
be expensed as incurred and are defined to include all costs incurred to establish the techno-
logical feasibility of a computer software product. Technological feasibility is established
when the enterprise has completed all planning, designing, coding and testing activities that
are necessary to establish that the product can be produced to meet its design specifications,
including functions, features and technical performance requirements.
FASB 53, *Financial Reporting by Producers and Distributors of Motion Picture Films* which requires that revenue from films licensed to movie theatres be recognized on the date of public exhibition.\(^{13}\) Revenue from films licensed to television is recognized when the license period begins if all of the following conditions are met: determination of the cost of each film, acceptance of the film by the licensee, availability of the film for telecast, and collectibility of the license fee.\(^{14}\) If this standard were applied to computer software, it would essentially mean that revenue from the license of software would not be recognized until the software was developed, delivered, and accepted by the licensee. As discussed above, this procedure gives distorted financial results as costs are expensed long before the revenue is recognized. The same problem does not exist for the motion picture industry as the production costs for a film are capitalized and amortized in proportion to the revenue recognized from distribution of the film. Perhaps the best solution is to "rethink" FASB 86 cost recognition requirements to achieve a better matching with the revenue recognition process.

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**Survey Results/License or Lease of Software to Non-end User.**

Software is often licensed to non-end users, such as distributors, retailers, or original equipment manufacturers to market to end users. These arrangements can take a variety of payment and distribution forms. Payment may be required as a fixed or variable license fee, payable in a lump sum or payable over the term of the license agreement effective for a fixed or unlimited time period. Software distribution generally occurs in one of three ways:

—All copies of the software are made by the vendor and transferred to the non-end user on a price per unit basis for ultimate transfer to the end user.

—The non-end user is granted a license to reproduce and distribute the software. The vendor may charge a fixed or variable fee or a combination of both. The license may be unlimited or may be for a fixed time period or a fixed number of copies.

—The vendor may grant a license similar to a license to reproduce, except that the vendor may copy the software because he has reserved that right to himself or because the holder of the li-

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cense reserved the right to require the vendor to make the copies. Software vendors were asked to describe their revenue recognition policies under these various arrangements.

Where the software is deliverable and the licensee has an unlimited right to reproduce and distribute the software and the license fee is fixed and payable, revenue is recognized as follows (Question 10):

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Event</th>
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</thead>
<tbody>
<tr>
<td>62%</td>
<td>Delivery of software</td>
</tr>
<tr>
<td>15%</td>
<td>Signing of the contract</td>
</tr>
<tr>
<td>12%</td>
<td>Billing</td>
</tr>
<tr>
<td>11%</td>
<td>Other</td>
</tr>
<tr>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

Proponents of delivery argue that the contract is only executory until such time as the master copy of the program is actually delivered. Once the product is delivered the earnings process is complete and revenue should be recognized. The alternative position would be to amortize the income over the life of the contract based on the argument that this is the time period over which the income is earned. Proponents of delivery contend that in no other industry does the customer's use of the product determine the revenue recognition policy of the seller.

In the author's view revenue on the sale of a license to reproduce and distribute software that is unlimited as to time and quantity should be recognized on delivery of the software master. This is the date that the exchange has occurred and the earnings process is complete. The licensor is not concerned with whether or not the licensee uses the rights granted under the license, unless of course the fee has not been paid. Additionally, if the period of time is not limited under the license agreement, then amortization over an arbitrary useful life would be imprecise and subjective. This policy should also be applied where the software is manufactured by the licensor for the licensee, as generally this is a separate transaction which is reimbursed by the licensee. The majority of respondents to Question 11 indicate that this is customary practice.16

Where the license fee is payable over an extended period of time, respondents to Question 12 indicated that revenue is recognized as follows:

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15. See Appendix I.
16. Id.
REVENUE SIDE

42% 54 Delivery of the software
19% 24 Signing of the contract
14% 18 Deferred and amortized
13% 15 Billing
14% 18 Other
100% 129

Proponents of delivery argue that the sale of software under a deferred payment plan should still be recognized when the exchange occurs unless there are issues related to collectibility of the receivable. They argue that only the timing of the receipt of payments differs, which should not affect revenue recognition if realization is reasonably assured.

In the author's view where the contract extends for over a one year period of time, and if there is a risk related to collectibility of the receivable, then revenue should be deferred and recognized as the payments are received. The industry does have unique risks which must be considered. Oftentimes, the licensee is a start up venture with no historical record of performance or the product is new and will require a substantial marketing effort to generate profits. In these cases, revenue recognition should be deferred until the vendor can reasonably determine that the transaction is viable for both parties and that the licensee is capable of honoring the commitment.

Where the license fee is fixed and paid, but the contract is limited to certain quantities or a certain time period, revenue is recognized as follows (Question 13):

57% 48 Delivery of the software
14% 12 Signing of the contract
14% 12 Payment
14% 12 Other
100% 84

In this case, delivery of the software is the logical point of revenue recognition unless there are significant vendor obligations such as training and enhancements or other program modification. If the software has been delivered, then revenue recognition should not depend upon usage by the licensee.

If the agreement has a cancellation clause which allows the li-

17. Id.
18. See id. at 6.
licensee to cancel the agreement at any time, then revenue is generally recognized as follows (Question 16):

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>38%</td>
<td>Delivery of the software</td>
</tr>
<tr>
<td>18%</td>
<td>Customer acceptance</td>
</tr>
<tr>
<td>15%</td>
<td>Payment</td>
</tr>
<tr>
<td>15%</td>
<td>Deferred and amortized</td>
</tr>
<tr>
<td>15%</td>
<td>Other</td>
</tr>
<tr>
<td>100%</td>
<td>Total</td>
</tr>
</tbody>
</table>

In this case, the income should be recognized when the customer accepts the software. Respondents to our telephone interviews indicated that the risk of cancellation at this point is remote and added that the licensee's ability to cancel the license should not change the point of revenue recognition. Delivery of the software is premature particularly where a new or customized software package is involved. Deferral of the revenue over the license term is an extremely conservative policy which may be warranted only if the software is unique and the company is a start-up venture.

—SURVEY RESULTS/POSTDELIVERY CUSTOMER SUPPORT SERVICES.

It is a common practice for the software developer to offer, either separately or as part of the original contract, postdelivery customer support services. These services may include telephone support, “bug-fixing,” and enhancements. The appeal of such an arrangement to the licensee is access to future enhancements or new products at favorable rates. The licensor often uses the monies collected from these services as a source of funding for the development and production of enhancements. The most questionable set of facts occurs when the fee is payable up front prior to performance under the contract. In this case the fee revenue is recognized as follows (Question 17):

19. Id.
56% 78 Deferred and recognized under the straight line method over the life of the contract.

17% 24 Under the same method that applies to the license fee as the fee for support services is not separately stated.

15% 21 Immediately upon signing or inception of the contract.

11% 15 Other

100% 138

Proponents of deferral of the revenue argue that this policy results in matching of revenue with expense, as the expense related to future product enhancements has not as yet been incurred. This is consistent with Paragraph 84 (d) of FASB Statement of Concepts No. 5 which requires that revenues be recognized as earned, e.g., as time passes if services are rendered continuously over time.21

Proponents of immediate recognition argue that it is difficult to determine how much of the fee should be deferred and state that the monies are earned when the customer has the obligation to pay.

In the author's view, postdelivery customer support services should be recognized over time to result in a consistent matching of costs and revenues. FASB No. 86 requires that certain costs of enhancements should be capitalized.22 If the revenue were recognized immediately, then there would be an erroneous accounting result. The time period over which the revenues are amortized is overwhelmingly straight line over the life of the contract, although 12 respondents did indicate that they amortized the income based upon performance of the service.23 This is technically the more correct approach; however, it requires contract by contract recordkeeping which is burdensome. Additionally, this methodology would require an allocation of costs of enhancements between products delivered to existing customers, and those delivered to new customers, which is excessive recordkeeping for little enhanced value.

20. See id. at 7.


23. See Appendix I.
—SURVEY RESULTS/DATA PROCESSING SERVICES.

Software vendors often offer data processing services. These services generally involve use of software owned or licensed by the data services company as well as time sharing arrangements for machines or use of databases. Often the customer is charged a subscription fee when he first enters into the data services contract. The respondents to Question 18 were almost evenly split between immediate recognition and deferral over the period of service.

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<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>57%</td>
<td>Deferred and amortized over period of service</td>
</tr>
<tr>
<td></td>
<td>39%</td>
<td>Inception of the data services contract</td>
</tr>
<tr>
<td></td>
<td>4%</td>
<td>Other</td>
</tr>
<tr>
<td></td>
<td>100%</td>
<td>54</td>
</tr>
</tbody>
</table>

The proponents of immediate recognition have a compelling argument. They claim that the costs incurred at inception such as legal fees, data entry and installation of data communications devices, hookups, and training are associated with the subscription fee. Any subsequent fees are for usage and should be accounted for over the period of service. Others argue that the subscription fee is really for service to be rendered over time and should be recognized as income over the time period in which the related services are provided.

In the author’s view the subscription fee should be recognized at the inception of the contract as it relates to costs incurred at the inception of the contract and is payment for a separate revenue generating activity. This methodology provides the more effective matching of revenues with related expenses.

—SUMMARY.

As the above results indicate, too much discretion exists in choosing revenue recognition policies. In the author’s view, software sales revenue should be recognized upon delivery of the software unless there are substantial modification requirements or the fee is payable over time and there is a substantial risk of non-collectibility. Where the contract requires substantial modifications, then the income should be deferred and recognized under the percentage of completion method if there is relatively little doubt that the customer will accept the product. If the software involves a prototype that has not been installed and used previously, then rev-
enues should not be recognized until customer acceptance. Where payment is deferred and there is a risk of collectibility then the income should be recognized as the payments are received. Service revenue should be deferred and amortized over the life of the contract. Subscription fees for processing services should be recognized at the inception of the contract to properly match the revenue with the related expense.

As with any accounting requirement that is based on an arbitrary criterion, not everyone will agree that the financial statement results are proper. While it may not be viewed by everyone as the best answer, the above policy will at least result in a uniform approach throughout the industry. The computer software industry is too dynamic to have to “play the game” with only half of a rulebook. Even if the final result is a somewhat arbitrary compromise, it is better than the tremendous inconsistency that exists today.

Impact of the 1986 Tax Reform Act on Software Revenue Recognition

The federal income tax rules which are applicable to the recognition of income from the sale, lease or license of software to an end user have been modified by the 1986 Tax Reform Act under provisions which are generally beneficial to the industry. This article analyzes these changes as they are applicable to the development and commercialization of computer software.

—CASH METHOD OF ACCOUNTING.

The tax treatment of the income generated upon the disposition of computer software will depend on the method of disposition and the classification of the property. The timing of the recognition of the income will depend upon the accounting method employed (i.e. cash, accrual or hybrid). Generally, the proceeds received from the sale of software will constitute ordinary income. In the case of custom design software, the transaction, traditionally, will be in the form of services as the title to the software remains with the developer and the contract requires modifications to a prewritten program that is prepared to the special order of the customer. The sale of canned computer software to the public generally involves property held by the taxpayer primarily for sale to the customers in

26. See I.R.C. §§ 64, 1221, 1231.
the ordinary course of its trade or business. The sale of canned software to the public does not involve the transfer of any underlying rights in the computer software but instead merely the production and sale of copies of the software.\textsuperscript{27} In computer technology, the issue involves whether the transferor is parting with all rights in the source code program.\textsuperscript{28} Situations can exist where the owner of computer software wishes to sell off all rights in the computer software in situations that clearly do not involve a sale to customers in the ordinary course of business. The owner and developer of computer software might decide to discontinue selling a given computer program to the public and instead sell off all rights in the program to another computer company. As a second example, independent individual computer programmers generally write programs on their own and sell them to computer software companies for a royalty. Transfer of the source code will involve a transfer of title.\textsuperscript{29} This transaction generally qualifies for capital gain treatment, although the significance of this characterization is somewhat reduced with the elimination of the lower rates for capital gains. However, where the transferor retains the source code and transfers the object code, he is generally transferring stock in trade (or inventory). Although the income generated from this transaction will be ordinary, some tax planning opportunities may exist with respect to timing of the recognition of the revenue.

Although most companies are required to use the accrual method of accounting, a software company may be able to use the cash method to account for revenue recognized upon sale of custom or canned programs.\textsuperscript{30} This means that income recognition can be deferred until payment is received. For the company to assert this position, it must prove that inventory is not a material income producing factor in the business.\textsuperscript{31} For custom software producers or companies that offer time sharing (i.e. rent the use of their software), this would appear to be a relatively simple exercise since

\textsuperscript{27} See I.R.C. §§ 1221(1), 1231(b)(1)(B).

\textsuperscript{28} The source code is the work product of the computer programmer. It represents a series of instructions written in a computer language which must be converted to an "object code" or a series of ones and zeros corresponding to the presence or absence of an electrical impulse, in which form the program is understandable to the computer.

\textsuperscript{29} The sale of a product line by a computer software company would qualify for capital gains treatment under I.R.C. § 1231, and the sale by an individual computer programmer is more likely than not protected under I.R.C. § 1235 as a patentable design.

\textsuperscript{30} I.R.C. §§ 446, 448 (§ 448 was amended by the Tax Reform Act of 1986, effective for tax years beginning after December 31, 1986.) \textit{See supra} note 5.

\textsuperscript{31} Treas. Reg. § 1.446-1(e)(2)(i) requires corporations which must use an inventory method to use the accrual method.
these companies are basically providing a service. The real issue regarding inventory presence arises where canned software is offered for sale. A case can be made that software is essentially an intangible, it is really knowledge, and the fact that the knowledge is transmitted by a particular medium such as tapes or discs should not control the determination of cash versus accrual method accounting for tax purposes. This analysis has been successfully used in the state courts in sales tax issues but never specifically applied under federal tax law. There have, however, been several cases where federal courts have held that service organizations that transfer goods along with their services are required to use the accrual method.

The 1986 Tax Reform Act also includes provisions which will affect use of the cash method. New Internal Revenue Code ("IRC") section 448 bars any C Corporation or partnership that has a C corporation as a partner from using the cash method except for qualified personal service corporations and entities that meet a $5,000,000 gross receipts test. In addition, any tax shelter is prohibited from using the cash method. To qualify as a personal service corporation, the corporation must meet an activity test and an ownership test. To meet the activity test requires that substantially all the services be in the fields of health, law, engineering, architecture, accounting, actuarial science, performing arts, or consulting. A high technology company could qualify under the function test if it were engaged in providing engineering or consulting services. The ownership test is met if substantially all of the value of the outstanding stock in the corporation is owned by employees performing services for the corporation in one of the qualifying activi-

32. See District of Columbia v. Universal Computer Assocs., Inc., 465 F.2d 615 (D.C. Cir. 1972) where the court held that the intangible value of the information (tax return preparation software) purchased by Universal, and not the tangible cards on which the program was stored, was the controlling factor; First Nat. Bank v. Bullock, 584 S.W.2d 548 (Tex. Ct. App. 1979) (a sales tax case where the court looked at the essence of the transaction and held that the customer was buying the computer process and not the tapes).

33. See Wilkinson Beane Inc. v. Comm., 28 T.C.M. (CCH) 450 (1969), aff'd 420 F.2d 352 (1st Cir. 1970) (where caskets were sold as part of mortuary services); Rev. Rul. 73-485, 1973-2 C.B. 150 (where taxpayer sold orthopedic devices and artificial limbs along with his services); Rev. Rul. 74-279, 1974-1 C.B. 110 (where optometrist sold lenses and frames along with his services).


35. A tax shelter is defined for this purpose pursuant to I.R.C. § 461(i)(3) and includes any enterprise where the interests in such enterprise have been offered for sale in an offering required to be registered with any Federal or State agency having the authority to regulate the offering of securities for sale. (§ 461 was amendment [same language as note 30].) See supra note 5.

ties. This is generally the case in the computer software development industry where most of the employees participate in stock ownership plans.

Section 448 continues to allow use of the cash method if the average annual gross receipts for the previous three year period is less than $5,000,000. This provision could prove beneficial for start up companies.

S Corporations, partnerships with no corporations as partners, and proprietorships that are not tax shelters may continue to use the cash method regardless of the nature or size of their business as long as that method clearly reflects income. Software companies could convert to S Corporations and continue to use the cash method, unless the S Corporation qualified as a "tax shelter." A tax shelter is any enterprise (other than a corporation) if at any time interests in it have been offered for sale in any offering required to be registered with a federal or State agency having the authority to regulate the offering of securities for sale, any syndicate within the meaning of IRC section 1256(e)(3)(B) (involving hedging transactions), where more than thirty-five percent of the losses are allocated to limited partners, and any tax shelter under IRC 6661(b)(2)(C)(ii) (involving the understatement penalty and applicable primarily to partnerships). In most instances, software development corporations organized under Subchapter S should not be classified as a "tax shelter" as their major shareholder's are generally also the officers and directors and active participants in the business. Therefore, the Subchapter S Corporation should be entitled to use the cash method of accounting.

It should not be assumed that all software companies will benefit from using the cash method. Several software companies enter into contracts which require prepayments of fees for their services. Under the cash method these payments must be recognized upon receipt. Under the accrual method, on the other hand, these payments may only be deferred if the contract terms meet the very specific requirements of Revenue Procedure 71-21 which requires that services be rendered and the income recognized in the period following the period of payment. Specifically, the IRS allows the accrual method taxpayer who receives a payment in one taxable

39. I.R.C. § 446(b).
year for services to be performed under the agreement by the end of the succeeding taxable year to include the payment in income as earned through the performance of the services.\textsuperscript{43} The amount of an advance payment earned in a taxable year through the performance of services should be determined by a reasonable estimate of the percentage of the work that has been completed. Where the contract requires development of a new software program, the percentage of work completed may be difficult to assess. It would seem reasonable in such cases to include in income an amount on a straight line ratable basis over the time period of the agreement. However, the amount includible pursuant to Revenue Procedure 71-21 cannot be less than the amount of the payment included in gross income for financial reporting purposes. Moreover, Revenue Procedure 71-21 is inapplicable to payments received if any portion of the services may, under the terms of the contract, be performed after the end of the taxable year immediately following the year of receipt. In such a case, the position of the IRS is that the entire amount of the advance payment must be included in gross income in the year of receipt. Despite the position of the IRS, in certain situations taxpayers have been allowed by the courts to defer pre-paid service income.\textsuperscript{44} The cases are not entirely consistent, however, and the IRS can be expected to challenge any deferral beyond that allowed by Revenue Procedure 71-21.

—CHARACTERIZATION OF INCOME AS PASSIVE INCOME.

In order to prevent individuals with large passive incomes from transferring such income into corporations, the IRC imposes a penalty on certain personal holding company income.\textsuperscript{45} A personal holding company is defined as one in which more than fifty percent of the value of the outstanding stock is owned, directly or indirectly, by not more than five individuals.\textsuperscript{46} A 38.5% tax is imposed on the undistributed personal holding company income if at least 60% of the adjusted ordinary gross income of the corporation is “personal holding company income.”\textsuperscript{47}

\textsuperscript{43} Rev. Proc. 71-21, 1971-1 C.B. 549.
\textsuperscript{44} Boise Cascade v. United States, 530 F.2d 1367 (Ct. Cl. 1976), cert. denied, 429 U.S. 867 (1977). In this case, the engineering services were to be performed by a specified date and the court allowed the taxpayer to recognize the income based on the work performed on the contract during the taxable year.
\textsuperscript{45} I.R.C. § 541 (§ 544 was amended by the Tax Reform Act of 1986, effective for tax years beginning after December 31, 1986). See supra note 5.
\textsuperscript{46} I.R.C. § 542(a)(2).
\textsuperscript{47} I.R.C. §§ 541, 542(a)(1). See supra note 45.
Software companies frequently have no more than five shareholders and receive substantial income in the form of license fees and royalties. It had been presumed, however, that since software companies were active trades or businesses, not the type at which the personal holding company tax was directed, their income would not be personal holding company income. However, in a 1984 letter ruling the IRS took the position that a one time license fee paid by new customers, together with annual maintenance fees for the use of computer software protected under the company's trademarks and copyright notices, and treated as trade secrets, constituted personal holding company income.\(^4\) In this letter ruling, the IRS dismissed arguments that Congress did not intend that such a company be so taxed. They held instead that personal holding company status must be determined by means of a "mechanical test" and that congressional intent was therefore irrelevant.

The hardship of this letter ruling was essentially eliminated, within limits, by the TRA of 1986 which now excludes computer software royalties from the definition of personal holding company income if certain conditions are met.\(^5\)

First, the royalties must be received by a corporation engaged in the active conduct of the trade or business of "developing, manufacturing or producing computer software and the royalties must be attributable to computer software which is developed, manufactured, or produced by the corporation in connection with that trade or business or is directly related to that trade or business."\(^6\) By limiting the benefits to corporations which are developing, manufacturing, or producing software, the exception will not apply to software companies which only market someone else's software. If the company also develops, manufactures and produces software in conjunction with the sale of software produced by others, then all of the above referenced activities should be directly related to the same trade or business of producing software and qualify for the exception.

Second, the royalties must constitute at least fifty percent of the ordinary gross income of the corporation during the taxable year.\(^7\) This requirement ensures that a company is primarily in the software business and that the business is actively conducted.

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49. See I.R.C. § 543(d) (§ 543 was amended [same language as note 30]). See supra note 5.


Third, expenses incurred by the corporation under IRC section 162 (trade or business), 174 (research and development), and 195 (amortization of start up expenses) taken collectively must equal or exceed twenty-five percent of the ordinary gross income of the corporation of that taxable year (or, in the alternative, the average of such deductions for the five previous taxable years or for the period of existence of the corporation, whichever is less, must equal or exceed twenty-five percent of the average ordinary gross income of the corporation for such period). This requirement should not pose a problem for most software development companies as compensation is generally includible in the computation, and only must be excluded to the extent of payments to the five individual shareholders holding the largest percentage by value of stock of the corporation.

The fourth requirement is that the other personal holding company income of the corporation must not be over ten percent of the ordinary gross income of the corporation. If the other personal holding company income is greater than ten percent, the corporation can distribute out the excess and still satisfy this test. The start up venture is also allowed to exclude interest from the definition of personal holding income during the first five taxable years of the corporation if the three previous requirements are met. This exception accommodates the general funding strategy of these companies which normally receive venture capital funds at incorporation and then invest these funds for a period of time until the research and development process gets underway.

Congress has now recognized that the personal holding company tax was never meant to apply to companies engaged in an active trade or business and has therefore made this provision retroactive in that it applies to software royalties received before, on or after December 31, 1986.

Unfortunately, the 1986 Act did not change the definition of passive income for Subchapter S purposes. IRC section 1375 imposes a corporate tax on the passive income greater than twenty-five percent of gross receipts if the corporation has Subchapter C earnings and profits. Thus, the limitations on passive income may prevent some closely held software companies from electing

Subchapter S status to obtain the lower individual tax rates unless they pay a dividend to eliminate all their accumulated earnings and profits. Software royalties continue to qualify as passive income for Subchapter S even if significant services are provided and the company is an active business.\(^{57}\) The Service has, however, recently ruled in Letter Ruling 8642081 that certain types of income from licensing software are not royalties but rather payment for services rendered. To the extent the software was licensed on a month to month basis for a fixed time period under a contract which also provided for substantial services (such as maintaining the software and providing on-site maintenance), the payments were not held to be passive income.\(^{58}\)

Most recently, in Letter Ruling 8820039, an S corporation was found to have payments for services characterized as service income where all of its income came from developing and marketing computer programs. In this case the customers obtained a nontransferable nonexclusive right to use specific programs for a fixed period (generally twenty years). Title to the program and documentation remained with the S Corporation. The fee for such twenty year use was a lump sum charge which included one year's support in the form of on-site installation, on-site training and program modification as required. After the first year, a fee equal to twelve percent of the then current price for the program is charged to those customers who wish to continue receiving the support services. Most of the corporation's customers contract for the continued support.

This letter ruling is interesting in that even though a basis existed for allocating the amounts received between that paid for the use of the property and that paid for the support services, the letter ruling makes no effort to treat as "rents" any portion of the amounts which the S Corporation received. Thus, even though the amounts received represent compensation for the right to use property (and are therefore "rents"), the IRS concluded they will not constitute rent for purposes of the passive investment income limitation, since significant services are provided by the S Corporation to its customers.

Perhaps the law has evolved to the point that if the S Corporation receives payment for services in a context in which it also makes the use of property available to its customers, the entire amount received will be treated as a fee for services. The guiding principle, as expressed in Revenue Ruling 81-197, seems to be that

\(^{57}\) Passive income is defined in I.R.C. § 1362 (d)(3)(D) to include rents and royalties.
the payment is not rent where the payor does receive the use of corporate property if the corporation also provides significant services in connection with the payment. It appears not to matter that a separate fee is charged for the use of the property as long as there is, with respect to that property, an amount received for significant services.

—ALTERNATIVE MINIMUM TAX.

The Tax Equity and Fiscal Responsibility Act of 1982 (TEFRA) added research and development expenses as an item of tax preference to the minimum tax. Research and development expenses, however, were only a tax preference item for individuals and personal holding companies. Because software license revenue may have resulted in companies being personal holding companies, and because they also spent significant amounts of money on research and development, the add-on corporate minimum tax could have applied. Since software royalties are no longer personal holding company income, these corporations are retroactively relieved from the add-on minimum tax resulting from the preference for research and development expenses.

—CONCLUSION.

The tax principles applicable to the disposition of high technology have been somewhat simplified by the repeal of the capital gains benefit. Although restrictions on use of the cash method may force certain high tech firms to convert from cash to accrual, the exceptions provide some flexibility for software development companies. The particular provision providing relief from the personal holding company tax is long overdue and corrects an unfair application of that provision to the software development industry.

60. I.R.C. § 56(b)(2).
61. I.R.C. § 56(b)(2).
62. Section 301(a) of the Act (cited supra note 5) repealed I.R.C. § 1202 which provided for the deduction of long term capital gains recognized by individuals.
APPENDIX I

Questionnaire/Software Vendors

Results

Instructions: Please respond to the following questions based on policies in place during 1987/1988. Please include all responses on the questionnaire and return in the self addressed envelope. Thank you for providing us with this information.

—Software Accounting Policy/Capitalization of Software Development Costs—FASB 86, effective essentially for years following 1985, applies to companies that market computer software and attempts to divide all costs into two categories: research and development costs which must be expensed and production costs to be capitalized.

1. Did the requirements of FASB 86 result in a change in accounting policy for software development costs related to software your company develops/ purchases for sale?

<table>
<thead>
<tr>
<th></th>
<th>Internally developed Software</th>
<th>Purchased Software</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>120</td>
<td>24</td>
</tr>
<tr>
<td>No</td>
<td>45</td>
<td>120</td>
</tr>
<tr>
<td></td>
<td>165</td>
<td>144</td>
</tr>
</tbody>
</table>

2. If the answer to question 1 is “Yes,” indicate the financial impact of the change for the year 1987.

   15 Material decrease in income.
   69 Material increase in income.

Note: Indicates that most companies who developed computer software for sale to others expensed such costs prior to the issuance of FASB 86.

3. If the result of FASB 86 has been to increase the software development costs which are expensed, indicate whether your company has experienced the following results:

   a. The increased expense has adversely affected the ability of the company to raise capital.
   b. The increased expense has resulted in a reduction in the investment in new product programs.
   c. The increased expense has adversely affected the price of the company’s stock.
   d. The increased expense was immaterial and has not affected
the operation of the company or its ability to obtain financing.

e. Other (Specify)

Note: Very few responses were obtained to this question, so it was deleted from the questionnaire.

4. Internally developed software — FASB 86 specifies that costs incurred internally in creating a software product must be charged to expense when incurred as research and development until technological feasibility has been established for the product. Thereafter, all production costs are to be capitalized. Under this policy, indicate how your company accounts for the cost of design modifications.

92 a. All such costs are expensed.
24 b. All such costs are capitalized.
42 c. Certain costs are capitalized. (Specify the type of costs that are capitalized.)

Most respondents indicated that they attempted to capitalize development costs incurred after technological feasibility had been reached as required by FASB 86.

5. Indicate whether your company uses the same accounting policy for software developed/purchased for internal use and for sale to third parties.

66 a. Yes
75 b. No
30 c. Not applicable. (Our company does not develop/purchase software for internal use.)

If the answer to the above question is “No,” briefly describe the accounting policy used for software developed/purchased for internal use.

45 Expense all software developed/purchased for internal use.
15 Capitalize and amortize over useful life.

6. FASB 86 requires that the software development costs which are capitalized be amortized based on the straight line method or written down to net realizable value. Indicate which amortization method your company used in its most current reporting period and the time period if amortized under the straight line method.

80 a. Straight Line Method
70 b. Ratio Method

If you used the straight line method, please indicate the time period over which the costs are being amortized.

45 three years
If your company used the net realizable method, indicate the methodology used to forecast the total revenues to be generated from sales of the software.

- Past Performance of similar products
- Budget Forecasts
- Management judgment
- Other (Specify)

Software accounting policy—Revenue Recognition/License Fees

The following questions relate to the policy used by your company to recognize revenue on the sale or license of software to others and the fees collected which relate to this activity. For the following transactions indicate the event which will result in revenue recognition. Possible points for software revenue recognition include the following:

- Signing of the contract
- Delivery of the software
- Acceptance of the software product
- Billing
- Payment
- Deferred and amortized over the period of use
- Not Applicable (Company does not engage in this type of transaction.)
- Other (Specify)

License or lease of software to end user — Indicate the transaction which results in revenue recognition when your company licenses or leases software to an end user, the software has been developed, the end user is ready to accept delivery and there is no risk of collectibility under the contract. There are no other vendor obligations.

A
B
C
D
E
F
G
H
9. Assume the same facts as set forth in question 8 except that contract specifications create other vendor obligations that are not separable from the software license. These obligations will be performed after delivery of the software.

15 A  
54 B  
24 C  
18 D  
 9 E  
12 F  
21 G  
 6 H  

10. License of software to non-end users — Assume that the license fee is fixed and has been paid, the software is deliverable and the licensee is allowed an unlimited right to reproduce and distribute the software. Indicate the event which will result in revenue recognition of the license fee.

15 A  
63 B  
 6 C  
12 D  
 6 E  
 - F  
48 G  
 - H  

11. Assume that the license fee is fixed and has been paid, the software is deliverable and the licensor is required to reproduce the software and will bill the licensee for reproduction charges. Indicate the event which will result in revenue recognition of the license fee.

18 A  
60 B  
 - C  
18 D  
 6 E  
 3 F  
36 G  
 3 H  

12. Assume that the license fee is fixed but will be payable by the licensee over an extended time period. Under a de-
ferred payment plan, indicate the event which will result in revenue recognition.

13. Assume that the license fee is fixed, nonrefundable and has been paid, the software is deliverable and the licensee has a right to distribute and reproduce copies in limited quantities for a limited period of time. Indicate the event which will result in revenue recognition of the license fee.

14. Assume that the license fee is fixed, nonrefundable and has been paid, the software is deliverable and that the licensee is also required to pay a variable fee after the license has been in effect for a specified period of time or after a specified volume of usage has been achieved. Indicate the event which will result in revenue recognition of the fixed portion of the license fee.

15. Assume the license fee is fixed and has been paid, however the license has a provision which allows the licensee to cancel the license agreement at any time. Indicate the event which will result in revenue recognition of the license fee.
16. Assume the license fee is fixed and is payable in installments over the life of the contract. The contract also requires your company to customize the software to meet the specifications of the licensee and provides for significant other vendor obligations, such as data conversions, installation and product training. Indicate the event which will result in revenue recognition of the license fee.

17. Assume that the license agreement includes a requirement that the vendor provide telephone support, fix programming errors, and deliver enhancements that are produced on new products at no cost. The support services fee is paid up front and is recognized as revenue:

- a. Immediatly upon signing or inception of the contract.
- b. Deferred and recognized upon performance of the service.
- c. Deferred and recognized under the straight line method over the life of the contract.
- d. Deferred and recognized upon delivery of the next version of the software.
- e. Under the same policy that applies to the license fee as the fee for support services is not separately stated.
- f. Not applicable (Our company does not engage in this type of transaction.)
- g. Other (Specify)
18. Assume that the agreement requires payment of a nonrefundable subscription fee for processing services and for the use of software owned by your company. The subscription fee is recognized as revenue upon:

21 a. Inception of the data services contract.

30 b. Deferred and amortized over the period of service.

3 c. Inception of the contract to the extent of costs incurred, with revenues in excess of costs deferred and amortized over the period of service.

99 d. Not Applicable. (Our company does not engage in this type of transaction.)

- e. Other (Specify)

19. Describe any other sale, license or lease transaction and the revenue recognition policy associated with that transaction which is not included above and which you feel would make this study more meaningful.

   Software consulting revenue — Respondent recognized revenue on the percentage of completion method.

   Product sold with some software development costs capitalized. Respondent indicated that the revenue generated from the sale was recognized when the product was shipped. The software costs continued to be amortized over the estimated life of the software.

   —Taxation of Software

20. Indicate whether software development costs are:

81 a. Capitalized for financial statement purposes and expensed for tax purposes.

- b. Expensed for financial statement purposes and capitalized for tax purposes.

90 c. Treated the same for financial and tax purposes.

21. If software development costs are reported differently for financial and tax purposes, indicate which categories are reported differently and how they are reported for each purpose.
<table>
<thead>
<tr>
<th></th>
<th>Financial Reporting Expense</th>
<th>Financial Reporting Capitalize</th>
<th>Tax Reporting Expense</th>
<th>Tax Reporting Capitalize</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feasibility Costs</td>
<td>3</td>
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<td></td>
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<tr>
<td>Design Costs</td>
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<td></td>
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<tr>
<td>Coding Costs</td>
<td>48</td>
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<tr>
<td>Testing Costs</td>
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<td>63</td>
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<tr>
<td>Product Enhancements</td>
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<td></td>
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<tr>
<td>Documentation and</td>
<td>21</td>
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<tr>
<td>Training</td>
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<tr>
<td>Manuals</td>
<td>18</td>
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<tr>
<td>Support Costs</td>
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<tr>
<td>Service Costs</td>
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<tr>
<td>Other (Specify)</td>
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</tbody>
</table>

22. If software development costs are capitalized for both financial and tax purposes, indicate the amortization method and time period for each reporting purpose.

<table>
<thead>
<tr>
<th></th>
<th>Financial Reporting</th>
<th>Tax Reporting Report</th>
</tr>
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<tbody>
<tr>
<td>Straight-Line</td>
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<td>Accelerated</td>
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<td>Declining Balance</td>
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<td>Modified ACRS</td>
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<td>Other:</td>
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<tr>
<td>Income Forecast</td>
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<tr>
<td>Other (Specify)</td>
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<td></td>
</tr>
</tbody>
</table>

Note: The number of responses to this question was negligible as the prevailing tax practice is to expense all software development costs.

23. Indicate whether the revenue generated by the license of computer software is

141 a. Recognized at the same time for financial and tax purposes.
12 b. Recognized for financial purposes and deferred for tax purposes.
   - c. Deferred for financial purposes and recognized for tax purposes.

24. If the revenue generated by the licensing of the computer
software is recognized at different times, indicate the transaction that results in revenue recognition for financial and tax purposes.

<table>
<thead>
<tr>
<th>Financial Purposes</th>
<th>Tax Purposes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contract Signing</td>
<td></td>
</tr>
<tr>
<td>Delivery of the Software</td>
<td></td>
</tr>
<tr>
<td>Billing for the Software</td>
<td></td>
</tr>
<tr>
<td>Payment</td>
<td></td>
</tr>
<tr>
<td>Deferred and amortized over period of use</td>
<td></td>
</tr>
<tr>
<td>Deferred and amortized based on percentage of development costs incurred (Percentage of Completion Method)</td>
<td></td>
</tr>
</tbody>
</table>

Other (Specify)

Note: The number of responses to this question was negligible as almost all respondents use the same revenue recognition method for financial and tax purposes.

25. Indicate whether the revenue generated from providing postdelivery customer support services is:

147 a. Recognized at the same time for financial and tax purposes.

3 b. Recognized for financial purposes but deferred for tax purposes.

3 c. Deferred for financial purposes, but recognized for tax purposes.

26. The Tax Reform Act of 1986 included a more restrictive definition of research and development expenditures for purposes of claiming the research and development tax credit. Will your company be eligible to claim the research and development tax credit in 1987 and, if so, indicate whether or not the more restrictive definition of research and development expenses significantly changed the categories of expenditures which you include in the computation.

81 a. Yes, expenditures eligible for the research and development credit remained the same as prior years.

21 b. Yes, expenditures eligible for the research and development credit significantly reduced in comparison to prior years.

15 c. No, our company was eligible for the research and development credit in prior years but will no longer be able to
claim the credit under the more restrictive provisions of the Tax Reform Act of 1986.

15  d. No, our company has never claimed the Research and Development tax credit.

6  e. Other (Specify)

27. Indicate how software is classified for each of the following reporting purposes:

<table>
<thead>
<tr>
<th></th>
<th>Tangible</th>
<th>Intangible</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal tax purposes</td>
<td>69</td>
<td>60</td>
</tr>
<tr>
<td>State sales tax purposes</td>
<td>72</td>
<td>63</td>
</tr>
<tr>
<td>Property tax purposes</td>
<td>48</td>
<td>90</td>
</tr>
</tbody>
</table>

—Company Profile and Optional Information

29. Total Software related revenues for the most recent fiscal year were:

30  a. Over $50 million
30  b. Between $20 million and $50 million
60  c. Between $5 million and $20 million
51  d. Less than $5 million

30. The company is

90  a. publicly owned
81  b. privately owned

Name, address and telephone number of person filling out this questionnaire.

Would you be willing to participate in a telephone interview?

  a. Yes
  b. No