

**PENNSYLVANIA'S COMPUTER SERVICES  
SALES AND USE TAX**

**AN EXAMINATION OF THE  
ECONOMIC IMPACTS OF THE TAX  
AND THE INDUSTRY**

***FINAL REPORT***

**Prepared by the Pennsylvania Economy League  
for the Pittsburgh High Technology Council**

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## **Introduction**

The computer services industry plays a major role in the economies of today's information age. Advances in new information processing technologies support growth in a variety of industries ranging from manufacturing to health care. Access to competitively priced information technology can be critical for these industries to remain competitive in their markets.

A related issue confronting public policy makers in Pennsylvania is Pennsylvania's sales and use tax as it is applied to computer services. Suppliers and purchasers of these services believe that the Pennsylvania sales and use tax adds unreasonable burdens and has an adverse impact on the affected firms and their business.

Currently, only a limited amount of information is available on who pays the tax and how it impacts Pennsylvania's economy. This is due in large part to the availability of only a minimal amount of quantitative information on the tax. Much of this information is just now surfacing. It is the purpose of this report to shed additional light on these issues and encourage a full evaluation of the tax so that it can be publicly debated based on sound economic and financial information.

This study contains three parts. First, background on the tax itself is reviewed. This examination includes the subjects of taxation, how it is applied, and how other states treat these same subjects for tax purposes. Second, PEL estimates the contribution of the computer service industry to Pennsylvania's economy. Third, the analysis develops estimates of the cost of Pennsylvania's computer services sales and use tax on the economy through the users of the taxed service.

The Pennsylvania Economy League utilized the IMPLAN econometric model to derive estimates of economic impacts for the industry and the impacts of the tax.

## **Background on the Computer Sales and Use Tax**

The computer sales and use tax is an extension of Pennsylvania's general sales and use tax to computer related services. The tax was first imposed by Act 22 of 1991. That act expanded the definition of taxable items to include computer services.

### **Subjects of Taxation**

The Commonwealth levies the computer sales and use tax on a variety of computer services. According to the law and Department of Revenue regulations, the following services are subject to the 6% sales and use tax.

- **Computer Programming.** Computer programming services include computer systems design and system analysis services, writing or modifying computer programs, developing customized computer software programs, testing computer programs or developing and altering databases. Example: sale of a license to use canned or custom software applications.
- **Computer Integrated Systems Design Services.** Designing computerized integrated systems for a specific application, including computer network systems, local area networks, office automation systems, computer-aided design (CAD), computer-aided engineering (CAE) systems services or computer-aided manufacturing (CAM) systems. Example: development of grocery store check-out systems.
- **Computer Processing, Data Preparation, or Data Processing Services.** Providing processing and preparation of reports using data supplied by the purchaser. Taxable services span the full process from data entry, arranging data for processing, providing computer equipment or computer time, tabulating and calculating data, and the distribution of the output. Examples: word processing, data entry, data base maintenance.

- **Information Retrieval Services.** Charges or fees for connection, computer time, usage, transmission, or content of information. Example: bulletin board services through a computer.
- **Computer Facilities Management Services.** Providing on-site management or controlling the operation of data processing facilities or similar services. Example: contracted project managers for computer facilities.
- **Other Computer Related Services.** Supplying computer related services not described above. Examples: computer consulting, data processing consulting, computer systems analysis.

The law specifically exempts the following computer services from the tax:

- the purchase of hardware and canned software used directly in manufacturing, mining, public utility, or agricultural processes.
- computer services which are part of electronic transfers supplied to financial institutions.
- computer services which are used in banking which are performed for customer related services.
- computer services used in the management or administrative services used by or performed for a regulated investment company, or a real estate investment trust.

### **Computer Services Industry Profile**

The following table profiles the historical development of the computer service industry in Pennsylvania. The data only include computer services businesses that are subject to the sales tax as defined above. Also, employment numbers include employees only and do not include sole proprietors. Economic impacts estimated later in this report include proprietors.

**Table 1**  
**Computer Services Industry Profile**  
**1980 - 1994**

<u>Year</u>	<u>Computer Services Industry Employment</u>	<u>Total Pennsylvania Employment</u>	<u>Number of Computer Service Businesses</u>
1980	10,827	4,045,060	391
1985	17,316	4,066,349	669
1990	29,443	4,598,441	965
1994	29,782	4,583,555	1,422

Source: U.S. Department of Commerce, Bureau of the Census, County Business Patterns

Both Pennsylvania's total employment and employment in the computer services industry grew from 1980 to 1990. However, during that period the computer services industry employment increased by 18,062 or 167% compared to a 13.7% increase in total Pennsylvania employment during the same period. While Pennsylvania's total employment declined slightly between 1990 and 1994, employment in the computer services industry increased modestly.

The number of computer service businesses continues to grow steadily and rapidly. From 1980 to 1994, the number increased more than three-fold. Most of these businesses are small businesses. In 1994, more than four-fifths of the 1,422 computer service businesses employed less than 20 people each.

### **Application of the Tax**

The Commonwealth of Pennsylvania levies the computer sales and use tax on all sales of services described above. The tax applies only to sales for services to be used in Pennsylvania. For example, if a company purchases a computer service from either an out-of-state or in-state vendor for use in Pennsylvania, the service is taxable. If a Pennsylvania vendor provides a computer service to a purchaser for use out of the state, the sale is not taxable in Pennsylvania.

The burden of the tax is borne by purchasers of computer services, primarily businesses operating in Pennsylvania. That cost is absorbed as an additional cost of doing business within the company, passed on to consumers, or a combination of both. To the extent that other states do not impose this tax or levy lower rates, Pennsylvania companies purchasing these services are at a competitive disadvantage in profitability and/or price of product.

This tax will become more significant in the next few years. Most software currently used by many businesses requires costly work to correct problems associated with the turning of the year 2000. The New York Times estimates this work to cost \$600 billion nationwide. Much of this work in Pennsylvania must be completed and will be subject to tax under the provisions of Pennsylvania's sales and use tax law. While this change results in a one-time surge of tax income for the Commonwealth, it will exacerbate the negative economic impact of the tax on many of Pennsylvania's businesses.

#### **Pennsylvania vs. Other States**

Most states apply a sales tax to the purchase of "tangible property," or items which can be seen, touched, etc. Generally, this rule exempts services including computer services. Several states such as Connecticut and Pennsylvania tax only tangible property but specify certain services such as computer services as subject to the tax. A few states, such as Texas, tax most services including computer services, in addition to tangible property.

"Canned" software is considered tangible property and therefore taxed in many states. Canned software is software generally available to more than one user. Many states consider customized software to be a service, and therefore, not taxed. There are several exceptions. For example, Maine specifically taxes computer programming but does not tax other computer services.

The following states apply a sales tax to the provision of most computer services: Connecticut, Hawaii, New Mexico, Pennsylvania, South Dakota, and Texas. Of these states, Connecticut is scheduled to phase out its computer services tax, and Texas and South Dakota do not levy a

corporate net income tax. Also, New Mexico and Hawaii have a corporate net income tax rate of nearly half of Pennsylvania's rate.

In most states that apply the tax to computer services, operations within a company are not taxable. Pennsylvania is an exception. Sales among inter-affiliate companies are taxable even though the affiliates are totally owned by a single parent company. Appendix A summarizes the application of the sales and use tax to computer services in each of the fifty states.

### **Tax Incidence**

Pennsylvania's Department of Revenue provided estimates of tax collections by type of industry to PEL. The amount is spread among the various purchasing industries as follows:

**Table 2**  
**Revenue by Purchasing Industries**  
**Sales Tax for Computer Services - 1996-97**  
**(\$ millions)**

Agriculture, Forestry and Fisheries	0
Construction and Mining	\$0.3
Nondurable Goods Manufacturing	\$3.9
Durable Manufacturing	\$4.6
Transportation	\$2.4
Utilities and Communication	\$5.5
Wholesale and Retail Trade	\$6.3
Finance Insurance and Real Estate	\$6.0
Hotels and Motels	\$0.0
Personal and Other Services	\$1.9
Eating and Drinking Places	\$0.3
Health Services	\$11.1
Business Services	\$42.9
Non-Profit Organizations	\$0.2
Personal Consumption	\$2.7
Total	\$88.2
Less: adjustment for inter-industry sales	(\$5.7)
Total	\$82.5

Source: Pennsylvania Department of Revenue

The above table shows clearly that the burden of the tax is borne primarily by a few sectors of Pennsylvania's economy. In fact, the Department of Revenue estimates that two sectors, health services and business services, pay \$54 million or 65% of the total tax. The business services sector includes the computer services industry. The largest purchaser of computer services is the banking industry. The computer services industry is second largest. However, since much of the computer services purchased by the banking industry are exempt from tax, the computer services industry is the largest payer of the computer sales and use tax.

Coincidentally, these two sectors of Pennsylvania's economy were ranked among the sectors with the highest employment growth rate. From 1991, the year the tax was enacted, through 1995, employment in health services increased by 8.1% and by 18.9% in business services. During that same time period, employment growth in the entire state economy was 3.4%. To illustrate this impact differently, the increase in statewide employment from 1991 to 1995 was 165,945. Almost half (78,053) came as a result of increases in these two industries.



## Economic Impact of the Computer Services Industry in Pennsylvania

The objective of this section is to illustrate quantitatively the impact of the computer services industry on Pennsylvania's economy. This estimate puts into perspective the importance of the industry to Pennsylvania's economy.

Based on those estimates, the computer software development and services industry makes significant contributions to Pennsylvania's economy. The following table summarizes the results of the analysis:

**Table 3**  
**Estimated Economic Impacts of the Computer**  
**Services Industry in Pennsylvania in 1997**  
**(\$ in billions)**

<u>Type of Impact</u>	<u>Direct Impact</u>	<u>Indirect Impact</u>	<u>Total Impact</u>
Total Output (production of goods and services)	\$3.8	\$3.7	\$7.5
Employment	38,598	47,476	86,074
Personal Income	\$2.0	\$1.4	\$3.4
Value Added	\$2.5	\$2.2	\$4.7
Employee Compensation (wages and benefits)	\$1.5	\$1.2	\$2.7
Proprietary Income (self-employed income)	\$0.5	\$0.2	\$0.7

This analysis defines the industry as those companies that report as part of Standard Industrial Classification Codes (SIC) 7371, 7373, 7374, 7375, 7376, and 7379. The selection of these codes is based on a description of the subjects of taxation found in current law and in the background section of this report. Any identical impacts created by companies not reported as part of these classifications is excluded. For example, if a company engages in software development as a secondary activity but presents itself as part of another type of business, its contribution will not be counted in the above totals. Therefore, PEL believes that these estimates are very conservative.

## **Direct Impacts**

Direct impact is the economic impact which accrues within this industry itself, before any of these impacts are spent in other parts of the economy. For example, the industry employs 38,598 people.

The significance of the industry and the quality of jobs it provides is further illustrated by its contribution on a per employee basis. Industry employees and proprietors receive \$1.5 billion in wages and benefits and an additional \$.5 billion in proprietary income. Therefore, these people each receive an average of nearly \$52,000 in compensation and benefits. This is significantly above the average for most other industries.

## **Indirect Impacts**

Indirect impacts are the “ripple” effects generated throughout the state’s economy by the industry’s direct impact. These economic benefits are generated through spending on goods and services by computer service companies and through the wages and salaries of the employees in the computer services industry. As the above table shows, these impacts are significant. For example, PEL estimates that 47,476 additional jobs in other industries exist as a result of the spending generated by the computer services industry. That is, for every one job created in the computer services industry, 1.23 jobs result in other industries in the economy. These jobs and their associated economic impacts are dispersed throughout the economy into industries such as eating and drinking establishments, retail stores, health care institutions, food stores, wholesale trade establishments, and educational institutions.

## **Total Impact**

Pennsylvania’s computer services industry provides \$7.5 billion in total direct and indirect output, i.e. total production of goods and services. This represents 1.4% of all output in the

economy. Similarly, total direct and indirect employment of 86,074 is 1.8% of employment in Pennsylvania.

## **Economic Impact of the Computer Services Sales and Use Tax on Pennsylvania's Economy**

This section provides policy makers with a better understanding of the significance of the impact of the computer sales and use tax on Pennsylvania's economy as a whole. While the tax does provide the Commonwealth with valuable income, there are economic consequences. Taxes collected by government in effect removes that money from the private sector and dampens economic growth. This section estimates that impact or negative economic consequence of the tax on Pennsylvania's economy. The analysis does not account for economic stimulation received as a result of state government expenditures of the amount received in taxation.

As noted earlier, the Pennsylvania Department of Revenue estimates that the total collection of the computer sales and use tax is \$82.5 million for 1996-97. The following table summarizes the economic impact of the tax using a variety of economic impact factors.

**Table 4**  
**Estimated Economic Impacts of the Computer**  
**Services Tax on Pennsylvania's Economy in 1997**  
**(\$ in millions)**

<u>Type of Impact</u>	<u>Direct Impact</u>	<u>Indirect Impact</u>	<u>Total Impact</u>
Total Output (production of goods and services)	\$82.5	\$85.5	\$167.9
Employment	1,378.6	1,093.5	2,472
Personal Income	\$37.5	\$31.0	\$68.6
Value Added	\$54.0	\$49.0	\$103
Employee Compensation (wages and benefits)	\$31.0	\$26.8	\$57.9
Proprietary Income (self-employed income)	\$6.6	\$4.2	\$10.8

Note: Numbers may not add to totals due to rounding.

As shown on Table 4, PEL estimates that the computer services sales and use tax extracts nearly \$168 million in total output from Pennsylvania's economy. This tax also results in an estimated

loss of 2,472 jobs. In addition to these losses, state and local governments experience reduced tax collections. For example, lost personal income reduces state income tax collections and local wage tax collections. Similarly, taxes paid by businesses in all industries affected by the tax result in a lower level of profit. This reduces state tax collections from the corporate net income and personal income taxes. The time and scope limitations of this study do not permit a definitive estimate of these tax losses.

The impact of the tax on the economy is best illustrated by examining in greater detail the effect the tax has on employment. The following table estimates the job reductions in several sectors of Pennsylvania's economy.

**Table 5**  
**Estimates of Reduced Employment Due to**  
**Pennsylvania's Computer Sales and Use Tax**

Industry	Direct Impact	Indirect Impact	Total Impact
Agriculture, Forestry and Fisheries	0	23	23
Construction and Mining	3	55	58
Nondurable Goods Manufacturing	20	65	85
Durable Manufacturing	29	21	50
Transportation	26	37	63
Utilities and Communication	20	21	40
Wholesale and Retail Trade	177	217	394
Finance Insurance and Real Estate	33	83	116
Hotels and Motels	0	16	16
Personal and Other Services	37	202	239
Eating and Drinking Places	9	79	88
Health Services	184	120	304
Business Services	835	105	940
All Others	7	51	58
<b>Total</b>	<b>1,377</b>	<b>1,094</b>	<b>2,472</b>

Note: Numbers may not add to totals due to rounding.

The table shows that a variety of industrial sectors in Pennsylvania's economy suffer job losses due to the computer sales and use tax. The industries with the largest impacts are business

services (includes computer service companies), wholesale and retail trade, health services, and personal and other services. The loss of jobs in the business and health services sectors is due in large part to the substantial amount of tax paid by companies in those industries. A large portion of job losses in the wholesale and retail trade and personal and other services sectors are indirect jobs. This is due to the effect of lost spending in other sectors which ripples through the economy.

## **Impacts on Competitiveness**

As noted in previous sections, the real impact of the tax is on the firms purchasing services. Since this is a tax levied in only a few other states, Pennsylvania companies purchasing computer services are at a cost disadvantage in their markets when compared to their competitors in other states, and even in other countries. The extent of disadvantage varies from industry to industry and company to company.

To begin to gauge the degree of impact on competitiveness, the Pennsylvania Economy League contacted a sample of Pennsylvania businesses in a variety of industries identified as significant payers of the tax. The results of this telephone survey support the contention that Pennsylvania's computer services sales and use tax has an impact on the competitiveness of many of Pennsylvania's employers.

The findings of the survey are summarized in the following three sections.

### **Impact of the Tax on the Company**

Most companies reported that they were very much aware of the tax. Three types of internal impacts were reported. First, administration of the tax is viewed as a significant problem. Comments include disagreements in the interpretation of exemptions such as the application to banking services and specific definitions of taxable services.

Second, for larger companies, taxation of services provided by inter-affiliates is a major issue. More specifically, computer services developed by a wholly-owned subsidiary within a company for operations in other parts of the parent company are taxed in Pennsylvania. Pennsylvania is viewed as one of a few, if not the only state that treats inter-affiliate transactions in this manner. As a result, several of the contacted companies reported restructuring their operations to overcome this problem.

Third, there is concern that compliance with paying the tax is weak, especially by firms located in other states doing business in Pennsylvania. There appears to be a misunderstanding about the application of the tax in Pennsylvania, due in large part to the uniqueness of the tax and its provisions in Pennsylvania.

### **Ultimate Payers of the Tax**

A consensus of those surveyed agreed that most of the tax was passed on to purchasers of their goods and services, making their products somewhat more expensive. The amount is insignificant in some industries, but larger in others, depending on the portion of computer services required to be purchased. A secondary impact is lower sales, especially for vendors of computer services. Purchasers are likely to buy fewer services if the cost is 6% or 7% higher. Lower sales have an impact on the companies' bottom line.

### **Impact on Future Expansion**

Several respondents noted that the cost of the computer services sales and use tax in Pennsylvania is a factor to be considered in plans to expand facilities or locate new facilities. Clearly it is not the only factor, but it is one that contributes to an overall decision, particularly in information intensive industries. In fact, one respondent noted that states such as Delaware and Maryland use the Pennsylvania tax as part of their sales pitch for attracting new business to their state.



## **Summary and Conclusions**

This report examines a number of issues related to the computer services sales and use tax in Pennsylvania. The following summarizes findings which resulted from this investigation:

- Pennsylvania's computer sales and use tax is broad based in that it is applied to most computer services rendered in the Commonwealth.
- The computer services industry, while small when compared to several other industries, provides a significant number of jobs. When compared to most other industries, these jobs are high paying.
- Pennsylvania is one of only a few states which levy this tax. Of those that do, most do not compete with Pennsylvania for economic development opportunities and/or levy no corporate income tax or levy a corporate income tax at a rate well below Pennsylvania's rate.
- Pennsylvania's tax is borne primarily by only a few information-intensive industries led by business services and health care which are two of Pennsylvania's fastest growing industries.
- Pennsylvania's computer services industry is a significant contributor to the growth of Pennsylvania's economy, providing \$7.5 billion in total output and over 86,000 direct and indirect jobs.
- The computer services sales and use tax collection of \$82.5 million reduces total output in Pennsylvania's economy by nearly \$168 million. This results in the loss of 2,472 jobs in a variety of industries. Since the computer services industry itself is one of the largest purchasers of computer services, it also pays a significant portion of the tax and experiences a large portion of the economic effects of the tax.
- Pennsylvania's computer services sales and use tax imposes administrative burdens and compliance problems for taxpayers and is often a factor in facility location decisions, especially for information intensive industries.

Based on the above findings, it is clear that Pennsylvania's computer sales and use tax places a burden on Pennsylvania's economy not found in most other states, especially those competing

with Pennsylvania for economic development opportunities and job growth. For companies that pay the tax, the result is a competitive disadvantage for many of Pennsylvania's existing employers, many of which are in some of the fastest growing sectors of the economy. While the impact of the tax is only one of several business climate factors, this disadvantage can play a role in decisions to locate new facilities, expand existing facilities or maintain an operation in the Commonwealth.

Indirect economic losses affect many service sector employers that serve companies that pay the tax. As the effect of the tax multiplies through the economy, employers in the retail and wholesale trade and service sectors receive less business and their success is affected accordingly.

In summary, this report provides a variety of economic arguments against retaining the computer sales and use tax in Pennsylvania. However, public policy makers must weigh these and other arguments against the public benefits received through the expenditure of these taxes for state programs and services.

**Appendix A**  
**Computer Services Sales and Use Tax**  
**Pennsylvania vs. Other States**

State	Computer Programming <sup>1</sup>	Integrated System Design <sup>2</sup>	Data Processing	Information Retrieval	Computer Facilities Mgt.
Alaska					
Arizona					
Arkansas					
California					
Colorado					
Connecticut <sup>3</sup>	X	X	X	X	X
Delaware					
Florida					
Georgia					
Hawaii	X	X	X	X	X
Idaho					
Illinois					
Indiana					
Iowa					
Kansas					
Kentucky					
Louisiana					
Maine	X	X			
Maryland					
Massachusetts					
Michigan					
Minnesota					
Mississippi					
Missouri					
Montana					
Nebraska					
Nevada					
New Hampshire					
New Jersey					
New Mexico	X	X	X	X	X
New York					
North Carolina					
North Dakota					
Ohio	X	X	X	X	
Oklahoma					
Oregon					
Pennsylvania	X	X	X	X	X
Rhode Island					
South Carolina					
South Dakota	X	X	X	X	X
Tennessee	X	X			
Texas	X	X	X	X	X
Utah					
Vermont					
Virginia					
Washington					
West Virginia	X	X			X
Wisconsin					
Wyoming					

## **Notes to Appendix A**

1. **Computer Programming is defined as customized software. Canned software is considered tangible property and therefore is subject to the sales and use tax in every state that has a sales and use tax.**
2. **Integrated System Design applies only to customized programs. See #1.**
3. **Connecticut's tax is scheduled to be phased out over six years beginning July, 1997.**
4. **Source: Commerce Clearing House, State Tax Guide**

