

**A SINGLE SALES FACTOR APPORTIONMENT
FORMULA FOR THE
CORPORATE NET INCOME TAX**

**ECONOMIC DEVELOPMENT IMPLICATIONS OF
ADOPTION IN PENNSYLVANIA**



Prepared by

**The Pennsylvania Economy League, Inc.
Capital Division**

November, 1997

Table of Contents

Executive Summary	i
Introduction	2
Apportionment Formulas - What Are They and How Do They Work?	3
<i>Three-Factor Equally-Weighted Formula</i>	3
<i>Three-Factor Double-Weighted Sales Formula</i>	4
<i>One-Factor Formula - Sales</i>	4
<i>Hypothetical Examples</i>	5
Other States' Apportionment Factors	7
<i>Current Status</i>	7
<i>Recent Changes</i>	7
Issues Related to Single Sales Factor Apportionment Formulas	10
Impact on Economic Development in Pennsylvania	12
<i>Taxes vs. Business Investment</i>	12
<i>Pennsylvania's Comparative Position on Corporate Income Taxes</i>	13
Impacts on Business Location Decisions	15
Impacts on State Tax Collections	17
Economic Impacts of Adopting a Single Sales Factor Formula on PA's Economy	18
Legal Issues/Constitutionality	20
Summary and Conclusions	22



Executive Summary

Each state requires multi-state corporations to use a formula to apportion corporate income tax liabilities for their companies. The formula is necessary to divide the tax base among the multiple states in an equitable manner. Even though these formulas can be complicated and technical, the potential impact they can have on economic development is significant and not sufficiently appreciated.

Corporate Income Tax Apportionment Formulas

In the past, most states used a three-factor apportionment formula to apportion business income for tax purposes. The formula equally weights the tax payer's proportion of property, payroll, and sales in a state vs. the tax payer's total value of property, payroll and sales. The result of the calculations yields a percentage to be applied to the company's total taxable income.

In recent years, many states, including Pennsylvania, changed the formula to "double-weight" the sales factor. Several states have taken an additional step to more than double-weight the sales factor or to eliminate the property and payroll factors altogether in favor of a "single sales factor formula." Currently, 15 states equally weight the three factors, 24 states double-weight the sales factor, and eight states more than double-weight the sales factor. Of the eight states, four use a sales factor weighting of 60% to 90% and four employ a single sales factor formula. Three states do not levy a corporate net income tax.

Issues Related to Single Sales Factor Formulas

The adoption of a single sales factor formula has implications for changed behavior, especially as the tax system relates to economic development. Most important, a single sales factor formula rewards companies which invest in property and payroll in a state. When eliminating the payroll and property functions from the formula, a company will no longer be penalized simply because of a new investment in plant and employees. This provides an incentive to invest in a state with a single sales factor formula.

In practice, it is difficult to track the actual behavior of businesses in response to tax changes since a company considers a number of elements as part of its decision-making process. However, this study suggests that increases in the weighting of the sales factor in the apportionment formula can have significant positive economic and fiscal impacts for a state.

One study, conducted at the University of Chicago in 1996, assessed the impact on employment in states which increased their sales factor weighting in the past. The study found a high correlation between the tax change and increases in employment when compared to the states not making the change and the nation as a whole. For Illinois, this would translate into a longer term impact of an additional 285,000 jobs, of which 155,000 would be in the manufacturing sector. The economic advantages are reduced as competing states adopt more heavily-weighted sales factor formulas.



A second study in Massachusetts came to a similar conclusion using a completely different approach. Researchers at DRI McGraw-Hill used their econometric model to simulate a change using the single sales factor formula for manufacturers in Massachusetts. Compared with the baseline or no change in formula scenario, the model projected 17,600 new jobs generated in Massachusetts by 2005. The same analysis also projected the generation of over \$800 million in additional personal income in ten years from these new jobs.

Single sales factor formulas encourage exports by actually lowering the apportionment factor as exports increase. These formulas ease administrative compliance for tax payers and state auditing agencies. Finally, by relying solely on sales for apportioning income, the formula represents a closer relationship to profits than does a multi-factor formula. Changes in property and payroll are not usually as good an indication of profit as changes in sales.

A state which changes its apportionment formula to a single sales factor formula will experience a short term reduction in the revenues from corporation income tax collections. The Pennsylvania Department of Revenue estimates a net reduction of \$92.1 million in the first full year of implementation in Pennsylvania. However, this estimated loss is based on a static assessment of the revenue impact and does not take into account either the long term behavior of the corporations paying the tax or the impact the change has on other state and local revenue sources. Economic studies estimate the additional tax revenues resulting from increased economic activity or, retained economic activity which otherwise would have been lost, more than offset the direct cost in lower corporation income taxes after two or three years.

The tax reduction alone would have positive effects on Pennsylvania's economy. PEL estimates that injecting these tax dollars back into the private sector would increase total output of goods and services in the state by \$168 million, increase employment by nearly 1,000 jobs and provide \$42 million in new personal income for Pennsylvania residents. Again, these impacts would be over and above the employment gains achieved as a direct result of the formula change itself as indicated by studies conducted in Illinois and Massachusetts.

Finally, the constitutionality of the single sales factor has been raised. The overwhelming judicial precedents on the subject indicate that any future challenges will not be successful.

Conclusion

In conclusion, enactment of a single sales factor formula in Pennsylvania will be an important step forward for business development. The formula change would more directly tie tax reduction for business to investment in Pennsylvania, thereby focusing its effects on employers which have greater latitude in business site location decisions. Pennsylvania is in the unique position of being located in a region of industrial states which has not adopted heavily-weighted sales factor formulas. Enactment of a full single sales factor formula would place Pennsylvania ahead of the curve and at a competitive advantage within the region. For this reason, it is important for a state such as Pennsylvania to move quickly to take advantage of this potential competitive advantage.

Introduction



This report addresses a potentially important aspect of state business tax systems: the formula used to apportion corporate net income tax liabilities to each state for multi-state companies. Many perceive this formula as a complicated and technical aspect of tax administration to be dealt with only by the accountants and tax auditors. As a result, its potential impact on economic development is not sufficiently appreciated.

It is the purpose of this report to explore this aspect of the state tax system by examining its potential for contributing to the economic competitiveness of Pennsylvania as well as the price for taking those steps. The subject has come to light, in part, because of changes in several other states which have sought to take advantage of this opportunity by enacting changes to their apportionment formula. Pennsylvania first moved in this direction in 1995, when it enacted a “double-weighting” of the sales factor in the apportionment formula.

This report will first explain the concept of apportionment formulas, why they are needed and how they work. It will summarize the apportionment formulas in each of the 50 states, including recent actions to make changes. The final several sections analyze a variety of issues related to single sales factor apportionment formulas, culminating in an assessment of appropriateness of a change for Pennsylvania as an incentive for increased investment in the state.



Apportionment Formulas - What Are They and How Do They Work?

Many businesses have operations or sell products to customers in more than one state. The nature of these multi-state businesses makes it nearly impossible to establish the exact amount of income or franchise tax the company should pay to each state. As a result, it is necessary to divide the tax base among the multiple states in an equitable manner. To do this, states require a company to use a formula to apportion a portion of the company's taxable income to their state.

Three-Factor Equally-Weighted Formula

In the past, virtually every state used an equally weighted three-factor formula. That formula apportions business income for tax purposes on the basis of the tax payer's proportion of property, payroll, and sales in a state vs. the tax payer's total value of property, payroll and sales. These three factors were thought to provide an accurate representation of a company's relative presence in a state and therefore represent the portion of tax that should be paid in that state. The following formula and example describes this apportionment method:

$$\text{Apportionment \%} = \left(\frac{\text{property in - state}}{\text{total property}} + \frac{\text{payroll in - state}}{\text{total payroll}} + \frac{\text{sales in - state}}{\text{total sales}} \right) \div 3$$

EXAMPLE

Factor	Percent in Pennsylvania	Weight	Total
Property	80%	1	80%
Payroll	90%	1	90%
Sales	10%	1	10%
Total	N/A	3	180%
Apportionment %			divided by 3 60%

In this example, a company has 80% of its property, 90% of its payroll, and 10% of its sales in-state. Therefore, 60% of its income would be apportioned to this state.

The uniform application of this equally-weighted formula by all states would result in all of a company's income being apportioned proportionately among all of the states in which it operates. Therefore, no state provides a special advantage or disadvantage in terms of apportioning the tax liability.



Three-Factor Double-Weighted Sales Formula

In recent years, in order to encourage additional investment by companies, many states have changed the equally weighted formula to one which “double-weights” the sales factor. Pennsylvania is one of those states.

The following formula and example describe this apportionment method:

$$\text{Apportionment \%} = \left(\frac{\text{property in - state}}{\text{total property}} + \frac{\text{payroll in - state}}{\text{total payroll}} + 2 \left(\frac{\text{sales in - state}}{\text{total sales}} \right) \right) / 4$$

EXAMPLE

Factor	Percent in Pennsylvania	Weight	Total
Property	80%	1	80%
Payroll	90%	1	90%
Sales	10%	2	20%
Total	N/A	4	190%
Apportionment %			divided by 4 = 47.5%

In this example, using the same ratios, property is 80%, payroll is 90%, and sales is 20%. In this case, 47.5% of the company’s income is apportioned to this state.

One-Factor Formula - Sales

Finally, a third methodology used in several states more than doubles the weighting of the sales factor, and in several cases eliminates the property and payroll factors entirely. In the latter case the formula is as simple as:

$$\text{Apportionment \%} = \frac{\text{in - state sales}}{\text{total sales}}$$

EXAMPLE

Factor	Percent in Pennsylvania	Weight	Total
Property	80%	0	0%
Payroll	90%	0	0%
Sales	10%	1	10%
Total	N/A	1	10%
Apportionment %			10%



The final example using the same company shows that a single sales factor formula eliminates the property and payroll functions altogether. The apportionment percentage results solely from the ratio of in-state sales to total sales of the company and is 10%. Some states continue to use a variation of this formula by retaining the property and payroll functions, but increasing the weighting of the sales factor beyond double-weighting, thereby significantly reducing the value of property and payroll in the formula.

Hypothetical Examples

The following tables illustrate the differences in tax liability for two hypothetical companies in each of three states, each using a different apportionment formula. One example, company A, represents a company with a strong property and payroll presence but smaller in-state sales. Company B has only a small amount of property and payroll but a larger portion of its sales in-state. The examples assume that each company has a company-wide taxable income of \$500,000. The state income tax rate in each state is 7%.

Company A - Hypothetical Tax Burdens

State	Factors			Apportionment Percentage	Tax Liability
	Property	Payroll	Sales		
state with a 3-factor, simple average formula	70%	65%	30%	55%	\$19,250
state with a 3-factor, double-weighted sales formula	70%	65%	30%	48.75%	\$17,063
state with a 1-factor, single sales formula	70%	65%	30%	30%	\$10,500

The above table shows that Company A's large in-state operations would produce the highest tax liability in a state that equally weights the three factors and the lowest tax liability in a state that employs the single sales factor apportionment formula. The table below shows how the three formulas have just the opposite effect for a company with the same proportion of sales, but a smaller proportion of its operations located in the state.

Company B - Hypothetical Tax Burdens

State	Factors			Apportionment Percentage	Tax Liability
	Property	Payroll	Sales		
state with a 3-factor, simple average formula	10%	10%	30%	16.67%	\$5,835
state with a 3-factor, double-weighted sales formula	10%	10%	30%	20%	\$7,000
state with a 1-factor, single sales formula	10%	10%	30%	30%	\$10,500



The examples illustrate the different impacts the three formulas have on a company's tax liability. The actual effect the three formulas have on any one company will vary based on the property, payroll and sales ratios of that company. In general, the more heavily weighted sales factor's formulas result in lower tax liabilities for companies with a larger portion of their property and payroll in the taxing state, and are beneficial to companies which add or create jobs in that state. It should be noted that changes in apportionment formulas generally have no effect on taxes paid by companies engaged in business activity solely in one state.



Other States' Apportionment Factors

As noted earlier, most states employ a three factor formula to determine the amount of corporate income for tax purposes for multi-state companies. The weightings of these factors vary from state to state and have changed over time. The map on the next page summarizes the current status of apportionment factors for each of the 50 states. Appendix A enumerates the specific factors for each of the states. The use of the factors cited on the map always applies to manufacturers, although in most states the factors apply to most other corporations as well.

Current Status

The map shows that 15 states use a basic three-factor formula which equally weights payroll, property, and sales. Most of these states have a relatively small manufacturing sector in their economy.

A total of 24 states, including Pennsylvania, now utilize a formula which uses the same three factors but double-weights the sales factor. Eight states have taken the additional step to weight the sales factor more than half of the total. Three states do not levy a corporate income tax.

Of the eight states that more than double-weight the sales factor, four (Iowa, Massachusetts, Nebraska, and Texas) eliminated the property and payroll factors entirely, at least for manufacturers, resulting in a 100% weighting of the sales factor. Michigan will virtually eliminate the payroll and property factors (5% each) by 1999. Minnesota maintains a 70% sales weighting and Ohio will move to a 60% sales weighting beginning in 1999. Missouri allows companies the option of a simple three-factor, equally weighted formula or a single sales factor.

Recent Changes

The Pennsylvania Economy League conducted a similar survey of apportionment formulas in 1994. That survey showed that 21 states used the simple three factor equally weighted formula, 20 states double-weighted the sales factor, and five states employed a formula which more than double weighted the sales factor.

Since then, nine states have revised their apportionment formulas. Exhibit I on page 8 contains the specific changes made by each of the states. Six of the nine states eliminated their three-factor simple average formula in favor of a formula which double-weights sales. These states were Arkansas, Georgia, New Jersey, New Mexico, Pennsylvania, and South Carolina. The other three (Ohio, Michigan and Massachusetts) opted to incorporate a formula which more than double-weights sales. In the case of Massachusetts, the legislature enacted a single sales factor formula for manufacturers to be phased in by the year 2000.

As of 1997 virtually every major manufacturing state, including Pennsylvania, now at least double-weights the sales factor in its apportionment formula. The only exception is Virginia.



INSERT MAP



Exhibit I
States Changing Apportionment Formulas Since 1994

State	1994 Formula	New Formula
Arkansas	3-factor, simple average	3-factor, double-weight sales
Georgia	3-factor, simple average	3-factor, double-weight sales
Massachusetts	3-factor, double-weight sales	1- factor, sales (manuf. by 2000)
Michigan	3-factor, double-weight sales	3-factor, sales weighted 90% (1999)
New Jersey	3-factor, simple average	3-factor, double-weight sales
New Mexico	3-factor, simple average	3-factor, double-weight sales
Ohio	3-factor, double-weight sales	3-factor, sales weighted 60%
Pennsylvania	3-factor, simple average	3-factor, double-weight sales
South Carolina	3-factor, simple average	3-factor, double-weight sales

Findings:

- 1. States employing apportionment formulas which at least double-weight the sales factor are in the majority and increasing in number. This is particularly evident for states with economies heavily driven by manufacturers. States such as Pennsylvania which recently adopted this measure are merely catching up with the competition and, therefore, have no advantage over competing states.**
- 2. Although only a few states presently use apportionment formulas which more than double-weight the sales factor, a trend toward these formulas is emerging.**



Issues Related to Single Sales Factor Apportionment Formulas

The adoption of a single sales factor formula, or any other factor formula which heavily weights sales has implications for changed behavior, especially as the tax system relates to economic development. The exact character and degree of changed behavior are difficult to prove in practice due to the complicated nature of business decision making and the influence of a number of factors on a single outcome. The following reviews the theoretical issues that should be carefully thought about when considering adoption of a single sales factor formula. These issues are explored further in later sections of this report.

- A single sales factor formula rewards companies that invest in property and payroll in a state. When eliminating the payroll and property functions from the formula, a company will no longer be penalized simply because of a new investment in plant and employees. When compared to other states which use the three-factor formula, this provides an incentive to invest in a state with a single sales factor formula.
- A single sales factor formula encourages companies to increase exports (outside of the state and country). In fact, increases in sales to customers outside of the state will lower the apportionment percentage to a greater extent than the traditional three-factor formula.
- A single sales factor formula eases administrative compliance and auditing in three ways:
 - * A one-factor formula reduces the taxpayers' cost of compliance. Taxpayers must analyze more information when using a three-factor formula than when reporting only one factor. The calculations of the property and payroll ratios raise a number of issues to be resolved. Many of these issues require extensive man-hours to gather specific information.
 - * A single sales factor formula reduces the cost of auditing by state agencies for reasons described above.
 - * A single sales factor formula enhances compliance with state laws. There is considerably less incentive or opportunity for a company to artificially shift property and payroll to a lower tax state since the property and payroll factors would no longer be part of the formula.
- Relying solely on sales for apportioning income represents a closer relationship to profits than a multi-factor formula. Changes in property and payroll are not always as good an indication of profit as changes in sales.
- States making a change from a three-factor formula to a single sales factor formula will experience an initial net loss of tax revenue. Companies with significant plant and payroll will pay less. This tax loss will be partially offset by companies with high sales but little property and payroll in a state. Initial revenue losses due to a change in the formula to a single sales



factor will be temporary as investments and payrolls increase, and other state and local tax bases increase. These include personal income, sales and property taxes, as well as new profits which are subject to corporate income taxes.

- The constitutionality of a single sales factor has been raised. Some companies in other states have challenged the constitutionality of the formula based on provisions in either the state or U.S. Constitution. As explained later in this report, the U.S. Supreme Court has upheld the formula.



Impact on Economic Development in Pennsylvania

The influence of taxes as an economic development policy on the competitiveness of states is often a topic of discussion in state legislatures and governors' offices. Since the apportionment formula for corporate net income taxes is treated as an economic development incentive in many states, this section briefly describes that role and provides some general indication of Pennsylvania's competitiveness in terms of corporate net income tax burdens with other similar and competing states.

Taxes vs. Business Investment

Business taxes play a role in facility location decisions of business, and are important to the economic development strategies for business attraction and retention in most states.

The nationally known business-location consulting firm PHH Fantus described the importance of tax policy in its February, 1996 report to Pennsylvania's Department of Commerce. That report noted "because the tax burden is strongly related to the overall business climate, its importance in understanding how businesses decide to invest should not be underestimated." The report elaborates on how taxes affect investment decisions. It cites the following tax factors or policies as important:

- Businesses prefer locations that have a reasonable and stable tax environment.
- Conversely, businesses tend to shy away from locations that are perceived to enhance their revenue base on the backs of business.
- Businesses also look for features in the state tax code that can be particularly meaningful to their growth.

A report completed by DRI/McGraw-Hill, an econometric modeling firm in Lexington, Massachusetts, (described in the next section of this report) qualifies the importance of taxes when it states that "A reduction in (Massachusetts) corporate taxes will stimulate additional investment in Massachusetts by lowering the cost of capital and increasing the rate of return on investment."

The importance of taxes is supported by surveys of businesses in Pennsylvania which consistently rank business taxes as a major concern. For example, the Pennsylvania Chamber of Business and Industry's Annual Economic survey ranks business taxes as the top concern for Pennsylvania businesses in 1997. It ranked as the top concern in two of the previous four years as well.

The actual impact of apportionment formulas on investment decisions is very difficult to measure. However, research cited in a University of Chicago study (discussed in the next section) concludes that "Most studies have found significant impacts from corporate tax rates and other tax factors on investment." Research cited in the University of Chicago study suggests that a 10% cut in taxes increases investment in a state by 3-8%.



Pennsylvania's Comparative Position on Corporate Income Taxes

Pennsylvania has a reputation for high corporate income taxes. This reputation continues despite a recent reduction in the rate of tax from 12.25% to 9.99%. Even with the reduction in the rate, Pennsylvania still has the fourth highest corporate income tax rate in the nation.

A higher tax rate and a larger tax base translate to higher corporate net income taxes. Exhibit II summarizes Pennsylvania's position compared to the other major competing states and the United States average. The exhibit uses corporation income tax collections per employee in each state as a basis for comparison.

Exhibit II
Corporation Taxes per Employee in 1996
Pennsylvania, Selected States and the U.S. Average

State	Corporate Income Taxes Per Employee	Rank in U.S. (1=highest taxes)
Virginia	\$115.91	45
Maryland	\$149.85	37
Ohio	\$152.46	35
U.S. Average	\$248.03	-
North Carolina	\$264.60	16
Illinois	\$285.64	15
New Jersey	\$317.38	12
Pennsylvania	\$321.34	9
New York	\$344.80	7
Massachusetts	\$404.38	6*
Michigan	\$503.97	2*

* Collections for Massachusetts and Michigan do not include recently adopted sales factor apportionment formula changes for their corporation net income taxes which will not take full effect until after 1996. Massachusetts is phasing to a single sales factor for manufacturers by the year 2000 and Michigan is phasing to a 90% sales factor for all industries in 1999.

Source: U. S. Department of Commerce

Exhibit II shows that Pennsylvania corporate net income tax collections per employee are ninth highest in the nation and 29.5% higher than the national average.



Findings:

- 1. Business taxes are a significant factor in a business's investment decisions, especially for manufacturers and other property and payroll intensive industries.**
- 2. The present rate of Pennsylvania's corporate net income tax results in a competitive disadvantage for locating or increasing investment in Pennsylvania.**



Impacts on Business Location Decisions

The change from a three-factor double-weighted sales apportionment formula to a single sales factor formula will produce change in a variety of positive and negative ways. Prediction of the direction and magnitude of changed behavior resulting from a proposed change is an inexact science. Experience in other states and existing research does provide significant guidance.

As noted in an earlier section, application of a single sales factor apportionment formula provides a strong incentive for companies to locate their property and payroll in that state when compared to other states that use the more traditional three-factor formula. The degree of incentive varies from company to company. Also, the tax advantage of a single sales factor formula is just one of several considerations for a company when considering retaining or expanding a plant at a location, moving a plant to another location, or building a new plant. Therefore, isolating the impact of a tax change and estimating its aggregate impact statewide can be very difficult to accomplish.

PEL's research identified two studies in other states which estimate the impact on business's investment decisions and the subsequent impact on employment. The results of those studies can be applied generally to Pennsylvania. Both studies arrived at similar conclusions using significantly different methodologies.

University of Chicago Study (1996)

In December 1996, Professors Austan Goolsbee and Edward Maydew of the Graduate School of Business of the University of Chicago completed their study titled "The Economic Impact of Single Factor Sales Apportionment for the State of Illinois: Job Creation and Tax Revenue." This study presents the first econometric evidence using data on the actual employment experiences of states that increased sales factor apportionment, i.e. it reflects what has actually happened to employment in states that increased the sales factor over the last 20 years.

One purpose of the study is to use the employment trends in other states which adopted apportionment formula changes to provide a basis for estimating future employment increases in Illinois if the single sales factor formula becomes law. The study found that if Illinois converted its current three-factor, double-weighted sales apportionment formula to a single sales factor formula, total employment would increase by 4.8% and possibly as high as 5.6%. For Illinois, this translates into a longer term impact of an additional 285,000 jobs, of which 155,000 would be in the manufacturing sector.

This analysis provides clear and significant evidence that increasing the sales weight in the apportionment formula (and therefore lowering the weight on property and payroll) does indeed increase employment in the state. This conclusion must be tempered by the fact that as other states increase their weighting on the sales factor, the effect is reduced as the incentives to increase investment in a state are offset by similar incentives being added in competing states.



DRI/McGraw-Hill Massachusetts Model (1995)

DRI/McGraw-Hill conducted a different type of economic analysis of the then proposed single sales factor for manufacturers for Massachusetts in 1995. The study titled "Competitive Economic Choices for the Commonwealth of Massachusetts" employs a dynamic model of the Massachusetts economy as a mechanism to evaluate the economic changes likely to result from a new formula and project results. The DRI model evaluated the economic impact of changing to a single sales factor formula for manufacturers only in Massachusetts. The researchers indicated that manufacturers are especially sensitive to corporate tax rates in their investment decisions.

The results of the analysis showed that the enactment of the single sales factor for manufacturers in Massachusetts would save jobs that are at risk today while creating a substantial number of new jobs. The benefits of the tax change stretch out over seven years, reflecting time lags in planning and execution of manufacturing investments. Compared with the baseline or no change in formula scenario, the model projected 17,600 new jobs generated in Massachusetts by 2005. The same analysis also projected the generation of over \$800 million in additional personal income in ten years from these new jobs. In addition, the model projects significant numbers of jobs retained that would have been lost to other states, especially in the defense industry.

Findings:

- 1. Studies show that a single sales factor formula has resulted in a significant increase in employment in states adopting formulas which increase the weight of the sales factor. The increases in employment are especially evident in the higher paying manufacturing sector. The results of the Illinois study have particular relevance to Pennsylvania due to its similar size and economic make-up.**
- 2. The increase is tempered by competition from other states adopting single sales factor or higher sales factor provisions in their tax codes. Ohio (60%) is the only one of Pennsylvania's neighboring states to adopt a formula which weights sales greater than 50%. For this reason, it is important for a state such as Pennsylvania to move quickly to take advantage of this competitive edge.**
- 3. Based on the work of the Massachusetts model, the single sales factor formula is also an important element of a business retention strategy. It provides a strong incentive for companies to keep existing plants operating.**
- 4. The overall impact in terms of increased employment, personal income, etc. on the economy of a state would be large by most any measure. The impact grows significantly after the first year of implementation.**



Impacts on State Tax Collections

As noted earlier, a state that changes its apportionment formula to a single sales factor formula will experience a short term reduction in the revenues from corporation income tax collections. However, this estimated loss is based on a static assessment of the revenue impact and does not take into account either the longer term behavior of the corporations paying the tax or the impact the change has on other state and local revenue sources.

While Pennsylvania's Department of Revenue's estimate for reductions in tax collections in the corporate net income tax for the first year of implementation is \$92.1 million, this estimate does not provide a complete revenue picture. Increases in economic activity, including additional employment cited as a positive result in an earlier section of this report, will result in new revenues in the corporation income, sales and personal income and other taxes. Estimating amounts of expected increases is difficult. However, studies in other states suggest that the additional revenues will be significant.

The University of Chicago study cited earlier addressed this issue as it pertains to Illinois. In 1996, the Illinois Department of Revenue estimated a reduction of \$46 million to the state's treasury through reduced corporation income tax collections. Based on positive impacts in the Illinois economy due to a changed apportionment formula, collections in other taxes, especially personal income taxes, would increase dramatically. After three years, the additional revenue from newly created jobs would be about \$200 million. The study indicates the proposed change to be a revenue raiser after the first year, even if the additional tax collections are significantly lower than anticipated in the study.

Similarly, the DRI/McGraw-Hill Massachusetts study assessed the dynamic fiscal impact for a similar proposal in Massachusetts, but only for the manufacturing sector. The model forecasted a net revenue loss of \$101 million in the first year (1996) to decline to \$35 million ten years later. If the job retention effects are taken into account, the break even point in budgetary impact is reached within three years and is positive in the following years.

Findings:

- 1. A state adopting a single sales factor formula will likely experience a net loss of revenues in the first year or two.**
- 2. Studies indicate that in the longer term, the economic benefits of new employment and retained employment that would have otherwise left the state will result in a net increase in revenues over time, especially from personal income taxes.**



Economic Impacts of Adopting a Single Sales Factor Formula on PA's Economy

This section illustrates quantitatively the impact that a tax reduction associated with the adoption of the single sales factor formula would have on Pennsylvania's economy. The impacts estimated in this section will occur over and above the employment and state revenue gains anticipated in earlier sections of this report. These impacts result from the economic stimulation of adding resources to Pennsylvania's economy through lower tax payments by affected companies.

The Pennsylvania Economy League utilized an econometric model to derive the estimates of the economic impacts of the tax. The economic impacts include both direct and indirect effects. Direct impact is the economic impact which accrues within the beneficiaries of the tax reduction, before any of these impacts are spent in other parts of the economy. Indirect impacts are the "ripple" effects generated throughout the state's economy as a result of the direct impact being spent. This analysis does not account for economic stimulation received as a result of state government expenditures made possible from the additional amounts received in taxation.

The model produced the following increases in measures of Pennsylvania's economy:

- Total Output (increase in the total production of goods and services in the economy) + \$168.3 million
- Employment (number of people employed as a result of injecting additional money into the economy) + 954
- Personal Income (new income from all sources for Pennsylvania's residents) + \$42.2 million

The results show that the taxes now levied to maintain a double-weighted sales factor formula versus a single sales factor formula extract \$168 million from the production of goods and services in Pennsylvania's economy. In addition, a change in formula would add nearly 1,000 jobs and \$42 million in personal income.

The estimates of the economic impacts significantly understate the actual impact due to the nature of the apportionment formula. The \$92.1 million first year business tax reduction used to generate economic impacts is the net of positive tax benefits to Pennsylvania based companies offset by increased taxes or negative tax benefits experienced by non-Pennsylvania based companies. In practice, Pennsylvania's economy will not suffer from those increases in tax burdens since most will affect the economies of other states. Therefore, the actual impact on the state's economy will be much larger since the tax savings for Pennsylvania based companies are much larger than the estimated total net tax reduction.



Finding:

- 1. The conservatively estimated economic stimulation induced by a \$92.1 million tax reduction is significant. The major increases in the total production of goods and services, employment and personal income, due in large part to the driving force of the manufacturing sector, would impact many areas of the economy.**



Legal Issues/Constitutionality

The single sales factor formula and other apportionment formulas used for determining an interstate business' income for tax purposes have been challenged over the years. The cases on this subject indicate that challengers to the statutory formulas carry a heavy burden in proving that they are unconstitutional. Furthermore, the courts have stated that only Congress, under its legislative power granted by the Commerce Clause of the U.S. Constitution, can require uniformity among the states in the apportionment of income for tax purposes.

The leading case is *Moorman Manufacturing Company v. G. D. Bair*, 437 U.S. 267 (1978), which specifically addressed the Iowa statutory single sales factor formula. The U. S. Supreme Court held that the formula did not violate the federal due process clause and commerce clause and therefore was constitutional. The application of the formula to an Illinois corporation that sold animal feed it manufactured in Illinois to Iowa customers through Iowa salesmen and warehouses in Iowa was valid.

In his dissent in the *Moorman* case, Justice Powell relied heavily on the fact that Iowa at that time was the only state using the single sales factor formula and thus he argued that the formula discriminated against all out-of-state sellers. Had other states used the same formula, there might have been no basis for Justice Powell's reasoning. Today, other states use the formula.

In 1996 the Texas Court of Appeals reaffirmed the constitutionality of the Texas single sales factor formula. *General Dynamics Corp. v. Sharp*, 919 S.W.2d 861. Application for writ of error was denied on September 4, 1997. Motion for rehearing is pending. *Texas Supreme Court, Docket Number 96-0509*. The formula was applied to the Texas franchise tax base of earned surplus, which is similar to an income tax base. The Texas court cited the *Moorman* case and noted that the U.S. Supreme Court has repeatedly held that states are entitled to great latitude in devising formulas to apportion their tax bases.

Under *Moorman* and other cases, to prove that an apportionment formula is unconstitutional, the taxpayer must prove by "clear and cogent evidence" that the income attributed to that state is in fact "out of all reasonable proportion to the business transacted" or has "led to a grossly distorted result."

Two earlier cases that have been cited by opponents of the single sales factor formula and which found apportionment formulas unconstitutional are distinguishable. Neither involved the single sales factor formula. *Hans Rees' Sons v. North Carolina*, 283 U.S. 123 (1931) and *Norfolk & Western Railway Co. et al v. Missouri State Tax Commission, et al*, 390 U.S. 317 (1968).

In the *Hans Rees' Sons* case, which involved the valuation of tangible property in North Carolina, the court concluded that proof that the formula produced a tax on 83% of the taxpayer's income when only 17% of that income actually had its source in the state was enough to find the application of the formula unconstitutional. The *Western & Western Railway* case involved a mileage formula for determining the amount of rolling stock of an interstate railroad in Missouri. The railroad company showed that the tax assessment was more than twice the value of its rolling



stock in Missouri. The court held that the application of the mileage formula violated the due process and commerce clauses of the U.S. Constitution.

Finding:

- 1. Although opponents to a single sales factor formula may challenge the constitutionality of the apportionment formula, the overwhelming judicial precedents on the subject indicate that they will not be successful. The only cases that have held the application of a single factor formula (not sales) to be unconstitutional have included facts that led to grossly distorted results, unlike the application of a single sales factor formula in Iowa and Texas.**



Summary and Conclusions

The formula for apportioning the income of multi-state corporations appears to be a necessary, but complicated aspect of a state's tax code. Its overall purpose is clear. Up to now, considerably less attention has been paid to the implications the formula has for promoting economic development. This report addresses several aspects of the formula, particularly as it relates to providing incentives which can alter business behavior.

An increasing number of states, including Pennsylvania, have switched to a formula which double-weights the sales factor in the formula. Those states making the switch sought to gain a competitive advantage or in Pennsylvania's case, to level the playing field. As more states adopt double-weighted formulas and formulas which eliminate the property and payroll factors (single sales factor), the competitive advantage diminishes.

An analysis of the implications of adopting a single sales factor formula reveals evidence which suggests that there are many factors which support such a change. The most compelling are:

- Since Pennsylvania already has a high corporate net income tax rate, a single sales factor formula would help to alleviate the effects of the high rate for most companies that have elected to invest in Pennsylvania and raise taxes for companies that have elected to invest elsewhere. This would act to reinforce a commitment to a state strategy which emphasizes business retention as well as attraction.
- Studies project a significant increase in employment, which grows as time passes. This is especially true for the highly sought after manufacturing sector employers. Today, companies are penalized by the existing tax formula simply by adding additional investment and employees in Pennsylvania. With this change, this penalty will be eliminated.
- A single sales factor formula promotes exports. Additional export sales by a company do not increase the percentage of taxable income allocable to the state. In fact, export sales actually reduce the apportionment percentage when compared to a traditional three-factor formula.
- After an initial short term revenue loss for the state, a single sales factor formula will be a net revenue producer for Pennsylvania, if the legislature acts promptly. It will also aid in retention of existing taxpayers.

In conclusion, enactment of a single sales factor formula in Pennsylvania can be an important step forward for business development in Pennsylvania. On a cost-benefit basis, the economic benefits accrued would be greater than from an across the board corporate tax cut by more directly tying tax reduction to business investment and job creation in Pennsylvania. Specifically, the single sales factor formula change would target tax relief more efficiently by focusing its effects on employers which have greater latitude in business site location decisions. Alternatively, across-the-board rate reductions, in part, reward behavior which would have already taken place without a rate change.



The opportunity to gain this competitive advantage is at its highest now. While other states have taken this step or are considering a change, Pennsylvania is in the unique position of being located in a region of states which has not adopted heavily-weighted sales factor formulas. Only Ohio with its 60% sales factor has taken action. Enactment of a full single sales factor formula would place Pennsylvania ahead of the curve and at a competitive advantage.

Pennsylvania Economy League
Capital Division
600 North Third Street
Harrisburg, Pennsylvania 17101
(717) 234-3151