Valuing a Trained and Assembled Workforce

Michael A. Harter, PhD, and Justin M. Nielsen

Understanding the process of valuing a taxpayer company trained and assembled workforce may be important for ad valorem property taxation. This is because many taxing jurisdictions exclude the value of intangible personal property from the taxpayer's taxable property base. And, an assembled workforce is an intangible personal property that is common to many taxpayer companies

Introduction

Within ad valorem property taxation, a conflict may arise between an industrial or commercial taxpayer corporation (or other types of taxpayer entity) and the taxing authorities with regard to the value of the taxpayer intangible assets. This is because many taxing jurisdictions exclude the value of intangible personal property from the taxpayer's taxable property tax base.

Taxpayers that own property in such jurisdictions have a motivation to recognize the value of their intangible assets and, specifically, the assembled workforce.

The assembled workforce typically falls into a category of intangible assets referred to as "human capital intangible assets." This category also includes the following intangible assets:

1. Contractual agreements with current or former employees, such as employment contracts
2. "Personality" or other entertainment industry contracts
3. Sports player contracts
4. Covenants not to compete and other individual (noninstitutional) noncompete agreements[1]

While all human capital intangible assets can possess measurable value, this discussion only explores the valuation of a typical assembled workforce intangible asset.

The cost approach is often used to estimate the value of an assembled workforce.

This discussion presents the valuation of an assembled workforce using the cost approach, including a brief discussion of the information gathering process and obsolescence considerations.

Valuation of Human Capital Intangible Assets

Certain human capital intangible assets qualify as intellectual property. As presented in *Guide to Property Tax Valuation*, the most common type of human capital intangible asset is the assembled workforce.[2]

The assembled workforce represents the taxpayer's overall expectation that experienced employees will report to work each business day. The taxpayer, as the employer, also expects that the experienced employees:

1. are trained in how to perform their duties and responsibilities,
2. know how to operate any equipment for which they are responsible,
3. are knowledgeable about the goals and protocols of the taxpayer organization, and

4. are experienced working with, and communicating with, each other.[3]

The human capital intangible assets may also include contract-related intangible assets. Contract-related intangible assets include employment agreements, sports or entertainment contracts, and noncompete agreements.

These intangible assets possesses measurable value because they give the taxpayer the right to:

1. receive some benefit in the future (such as for the employment of a professional or athlete) or
2. avoid some problem in the future (such as for competition from a former taxpayer corporation employee).[4]

For this discussion, we will focus on non-contract-related intangible assets, specifically the valuation of an assembled workforce.

Valuation of the Assembled Workforce

In aggregate, the taxpayer employees are often referred to as an assembled workforce. However, the assembled workforce intangible asset has more measurable value than a certain number of employees showing up for work each day at the owner/operator's facility.

The characteristics of an assembled workforce intangible asset include the following:

1. Expectation of employment services. This refers to the taxpayer expectation that employees will report for work and be prepared to perform their respective responsibilities. The taxpayer does not expect to have to locate and train new employees, and the employees do not expect to have to constantly find a new job.
2. Expectation of efficient and effective operations. Not only does the taxpayer expect employees to show up to work, but the taxpayer also expects that the employees (a) know how to do their job well, (b) know the organization's systems and procedures, and (c) know how to work together effectively.

   Importantly, this intangible asset is not just an assembled workforce, but as presented above, is a *trained* and assembled workforce.
3. Information about all employees' experience and expertise. This refers to all the information the taxpayer knows about an employee, most of which is documented in employment files and records.

   For example, the taxpayer knows all the initial and continuing education training for each employee.
4. Information about all employees' compensation and benefits. This information for each employee may include historical salary, rates of salary increase, promotions, bonuses, and other performance indicators.
5. Information about all employees' taxation and other administrative issues.

   Generally, employers need information about employees to comply with various employment filing requirements including the Federal Insurance Contributions Act, Federal Unemployment Tax Act, State Unemployment Tax Act, and other required employment-related taxes.

   Employers also need information to comply with federal and state employer reporting requirements.[5]

As a result of the inherent characteristics presented above, an assembled workforce has measurable value according to several relevant judicial decisions.

For example, in the judicial decision *Burlington Northern Railroad Co. v. Bair*, an ad valorem property tax case involving Burlington Northern Railroad, a federal district court allowed an ad valorem tax exemption with regard to the value of the railroad's assembled workforce intangible asset.[6]

This ruling allowed for a reduction in the value of the overall taxable unit value, or business enterprise value, by the estimated value of the assembled workforce.

Clearly, a taxpayer assembled workforce has fundamental value. However, it is the job of the valuation analyst to use objective and replicable intangible asset approaches, methods, and procedures in order to quantify the assembled workforce value within an ad valorem property tax context.

As such, the initial task of the analyst is to gather the data and information necessary to perform a valuation of an assembled workforce.

Data Collection and Information Gathering

In estimating the value of a assembled workforce, the first step in the valuation process is to collect the data and information necessary to complete the valuation.

The analyst should identify, gather, confirm (through due diligence interviews with relevant company management), and analyze the data and information provided by the taxpayer with regard to the intangible asset.

The data and information typically required to complete a workforce valuation includes the following:

1. Total number of company personnel (i.e., total employees)
2. Base salary of company personnel
3. Bonus/incentive/commission of company personnel
4. Payroll taxes and benefits expense attributable to company personnel (which often may be a percentage of base salary for company personnel and can be referred to as "the full absorption overhead allocation rate")
5. Tenure of company personnel
6. Weeks of on-going training of company personnel on an annual basis
7. Weeks of new-hire training of company personnel
8. Employee recruiting and hiring costs of company personnel
9. Annual turnover or retirement of company personnel
10. Length of time from initial hire until company personnel is fully proficient

Depending on the size of a company's workforce, it may be appropriate for personnel to be grouped by department, function, or experience (i.e., sales, finance, legal, information technology, executive management, etc.). This allows the analyst to obtain and organize data where larger groups of individuals share similar characteristics and comparative value.

Once the analyst has obtained and analyzed the assembled workforce-specific data and information discussed above, the next step involves applying generally accepted valuation approaches and methods, and specifically the cost approach—replacement cost new less depreciation (RCNLD) method, in order to estimate the value of the assembled workforce.

Assembled Workforce Valuation Methods

Similar to estimating the value of other intangible assets, there are three generally accepted approaches for valuing human capital intangible assets, such as a workforce. The individual valuation methods are incorporated within the following three generally accepted approaches:

1. The market approach
2. The income approach
3. The cost approach

Market Approach

The market approach is founded on the related economic principles of competition and equilibrium. These economic principles indicate that in a free and unrestricted market, supply and demand factors will adjust the price of an intangible asset to a point of equilibrium.

The principle of substitution also influences the market approach to valuing an intangible asset. This is because analysis of equilibrium prices for substitute intangible assets will provide meaningful evidence with regard to the indicated value of the intangible asset.

The market approach often has limitations when used to estimate the value of an assembled workforce, largely due to the lack of an "assembled workforce market," or the economic environment where arm's-length transactions of similar intangible assets

occur between unrelated parties. As such, the market approach is less commonly used than other valuation approaches in the workforce valuation.

Income Approach

The income approach is founded on the principle of expectation of future income. In this approach, the value of an intangible asset is calculated as the present value of the expected future economic income derived from the "ownership" of the intangible asset.

Within the income approach, the owner/operator anticipates the expected economic income to be earned from the intangible asset. The expectation of future economic income is then converted to a present value—or an indicated value of the intangible asset.

In calculating the present value, the analyst estimates the taxpayer required rate of return on the intangible asset generating the prospective economic income. This estimated rate of return is then applied to the expectation of future economic income attributable to the intangible asset in order to arrive at an indicated value.

Typically, the rate of return of the intangible asset will be a function of several economic variables, including the risk or uncertainty associated with the expected future economic income of the intangible asset.

However, the income approach may be used less often to estimate the value of an assembled workforce. This is because it may be difficult to approximate the economic income that would be generated by each specific taxpayer employee.

Cost Approach

The cost approach is founded on the economic principle of substitution. The substitution principle indicates that an owner/operator will pay no more for a fungible intangible asset than the cost to obtain an intangible asset of equal utility (i.e., obtain through either purchase or construct).

The availability, and associated cost, of a substitute intangible asset, such as a assembled workforce, is directly affected by changes in the supply and demand functions with regard to the universe of substitute intangible assets.

While the analyst should consider all intangible asset valuation approaches, this discussion focuses on the application of the cost approach in estimating the value of a workforce. The cost approach is commonly used to value a workforce.

This is likely due to the relevance of the principle of substitution presented above, as the analyst is

estimating the value of the assembled workforce for its current owner (i.e., under the premise of value in continued use). In other words, if the owner did not have the in-use assembled workforce, the owner would then have to create a substitute assembled workforce in its place. Therefore, the owner would have to pay (i.e., expend costs) to create the workforce intangible asset.

The cost approach is also often used to value an assembled workforce because of the difficulties in applying both the market approach and the income approach to value a workforce.

Cost Approach Valuation Methods

In applying the cost approach, there are several methods that can be applied. These cost approach methods include:

1. reproduction cost new less depreciation (RPCNLD) method and
2. replacement cost new less depreciation (RCNLD) method.

These cost approach methods are discussed below.

Reproduction Cost New less Depreciation Method

Reproduction cost new considers the construction of an exact replica of the subject intangible asset.

Reproduction cost new is the total cost, at current prices, to construct an exact duplicate or replica of the subject intangible asset. The duplicate intangible asset would be created using the same materials, standards, design, layout, and quality of workmanship used to create the original intangible asset.

In the case of an assembled workforce, reproduction cost new estimates the current cost to create an exact duplicate of the taxpayer workforce.

Reproduction cost new considers:

1. the same number of employees of the subject assembled workforce and
2. employees with exactly the same levels of experience, expertise, and education as the subject assembled workforce.

One method that may be used to estimate reproduction cost new is to restate the actual historical development costs of the assembled workforce in terms of current dollars. This procedure provides an estimate of the costs that would be incurred to reproduce the subject workforce.

This procedure is particularly applicable if the company maintains detailed accounting information with regard to the historical costs incurred to recruit, hire, and train the current workforce since each employee was hired.

Replacement Cost New

Replacement cost new considers the cost to recreate the functionality or utility of the intangible asset. In form or appearance, the replacement intangible asset may be quite different from the subject intangible asset. However, similar to reproduction cost new, replacement cost new is based on current (i.e., valuation date) costs.

A replacement-cost-new-based valuation method analysis considers the efficiency and effectiveness of the subject workforce—not the quantity and quality of the workforce. While the replacement workforce performs the same task as the subject workforce, the replacement workforce many times is superior in some way when compared to the subject workforce.

As such, while the replacement analysis attempts to replace the efficiency and effectiveness of the subject workforce, the replacement workforce many times may provide more utility than the subject workforce. If this is in fact the case, the analyst should consider this increased utility by potentially incorporating an obsolescence adjustment in the replacement cost analysis.

To the extent that a subject intangible asset is less useful than an ideal replacement asset, it may be appropriate to adjust the subject intangible asset cost.

As such, the cost of the replacement asset may be adjusted for losses in value due to:

1. physical depreciation,
2. functional obsolescence, and
3. external (and particularly economic) obsolescence.

Each of these types of obsolescence associated with the replacement analysis are presented later in this discussion.

Understanding the difference between reproduction cost new (RPCN) and replacement cost new (RCN) is important when applying the cost approach. Next, we discuss the RCNLD method.

Replacement Cost New less Depreciation

RCN estimates the cost to recreate the functionality of a assembled workforce. RCN is based on costs as of the valuation date. However, an RCN analysis attempts to replace the efficiency and effectiveness of the subject assembled workforce, but not the quantity and quality of the assembled workforce.

In an RCN analysis, the hypothetical assembled workforce may differ significantly from the actual workforce. For example, the hypothetical workforce may have fewer—but more qualified—employees. The expected production of the replacement workforce would be the same as the current workforce, but the composition (number, age, experience, education, etc.) of the replacement workforce could be quite different from the current workforce.

In other words, while the replacement workforce performs the same task as the subject workforce, the replacement workforce is often superior in some way compared to the subject workforce.

To the extent that an intangible asset is less useful than an ideal replacement asset, the subject intangible asset may require an adjustment. The RCN may be adjusted for losses in value due to:

1. physical depreciation,
2. functional obsolescence,
3. technological obsolescence, and
4. economic obsolescence.

As discussed, the replacement cost of an intangible asset is the total cost to create, at current prices, an asset having equal utility to the subject intangible asset. Importantly, the replacement intangible asset would be created using modern methods and assembled according to current standards.

Therefore, the replacement intangible asset may have greater utility than the subject intangible asset.

When applying the RCNLD method, the analyst needs to consider the recruiting and hiring costs discussed previously (i.e., the RCNLD method is the RCN method, adjusted for appropriate depreciation).

In the RCNLD method, the estimated costs to recruit, hire, and train are expressed as a percentage of total compensation for employees. Depending on discussions with management and how the company identifies its employees internally, often times it may be appropriate to separate the costs to recruit, hire, and train employees by their employee department, level, function, or years of experience.

The estimated costs to recruit, hire, and train are then multiplied by the historical total compensation for the different employee levels, which results in an estimated workforce value.

The formula for estimating the intangible asset value using the RCNLD method is:

$$RCN - PD - FTO - EO = Value$$

where:

RCN = Replacement cost new
PD = Physical depreciation
FTO = Incurable functional and technological obsolescence
EO = Economic obsolescence

The RCNLD formula assumes that any curable functional or technological obsolescence has been removed from the replacement workforce. Identifying and removing all forms of obsolescence is important because the RCNLD should represent the ideal collection of replacement employees.

In other words, identifying and removing all forms of obsolescence from the RCN indicates the current value of the workforce. Three common types of obsolescence used in the RCNLD method are discussed below.

Types of Obsolescence

In applying the RCNLD method, the analyst should consider an adjustment for certain types of obsolescence.

Physical Depreciation

Physical depreciation represents the reduction in value of an asset due to physical wear and tear resulting from continued use. While an intangible asset does not typically experience physical depreciation, it is possible for an assembled workforce to experience physical depreciation. The analyst should consider this concept in a RCNLD method analysis.

For example, the functionality of the subject workforce may be recreated by a replacement workforce composed of employees with lesser years of experience. While the replacement assembled workforce are therefore compensated less due to fewer years of service, they still possess the same skill set required to perform the job requirements of the subject workforce.

When the analyst is presented with this situation, the analyst should consider a reduction to the estimated value of the subject workforce related to the additional costs not incurred by recreating the functionality of the subject workforce with a "lower cost" replacement.

In other words, the value of the subject workforce may appropriately be decreased as the cost to replace the subject workforce does not require the recreation of the additional subject employee experience (and associated additional compensation costs).

Functional Obsolescence

Functional obsolescence is the reduction in the value of an asset due to its inability to perform the function for which it was originally designed.

For purposes of a workforce intangible asset, functional obsolescence is relevant when a company has more employees on the payroll than would be necessary to operate the ideal replacement workforce.

The existence of too many employees could be attributed to labor work rules, managerial procedures, collective bargaining agreements, or if employees are unable to report to work but are still on the payroll. Importantly, unlike physical depreciation, functional obsolescence cannot necessarily be seen by the analyst.

Technological obsolescence, a form of functional obsolescence, indicates that the underlying function of a subject intangible asset has become obsolete to some degree. The subject intangible asset still performs the tasks it was originally created for, however a replacement intangible asset would likely perform the tasks in an improved, or more efficient manner.

It is important to note that the analyst should recognize the distinctions and not erroneously double count functional obsolescence and technological obsolescence.

Economic Obsolescence

Economic obsolescence is a decrease in value due to the effects, events, or conditions that are external to—and not controlled by—the subject intangible asset's current use or condition. The existence of economic obsolescence can be identified by analyzing whether the subject intangible asset can generate a fair rate of return to the owner based on an unadjusted value indication.

If the intangible asset can generate an adequate rate of return over its expected remaining useful life (RUL), which is the duration by which the intangible asset will be useful to a business, then there is no economic obsolescence. If the intangible asset cannot generate an adequate rate of return based on this unadjusted value indication, then economic obsolescence exists.

Additional Cost Components Consideration

In estimating the value of a subject workforce, the RCNLD method should also consider additional relevant direct costs and indirect costs. After calculating the result using the RCNLD formula presented above, the analyst should take into consideration the motivation and potential profitability required by the intangible asset developer.

The RCNLD method used to estimate the value of a subject workforce should, therefore, consider the following additional costs:

1. The workforce developer's profit, which is the expected profit margin on the direct and indirect costs of investment. For example, a company owner of an intangible asset developer expects to earn a reasonable profit on the direct and indirect costs associated with the creation of the intangible asset.
2. The workforce developer's entrepreneurial incentive, which is the fair rate of return on the time and money investment in the workforce to economically motive the development process.

These costs are important to consider because the developer of an intangible asset expects a return of all of the direct and indirect costs related to the development of the intangible asset. Without an expected return, there is no incentive for a taxpayer to develop an intangible asset.

The following simplified example demonstrates how these methods may be applied.

Assembled Workforce Illustrative Valuation Example

This example uses the concepts and information discussed previously to value the workforce of Alpha Company as of January 1, 2016.

The purpose of the analysis is to provide an independent opinion to assist Alpha management with its ad valorem property tax assessment. Exhibits 1 through 4 present a simplified example of the valuation of Alpha workforce.

In this example, the value of the Alpha workforce is estimated using the RCNLD method. As presented previously, in applying the RCNLD method, the valuation analyst should obtain the relevant subject workforce data, including the cost to recruit, hire, and train new employees of comparable experience as the actual Alpha employees.

In this example, we estimated these costs as a percent of total compensation for employees based on their years of service.

As their years of service increase, the compensation level of Alpha employees increases as presented in Exhibit 1.

As presented in Exhibit 1, the specific component costs associated with the subject workforce should be identified. These costs include employee base compensation, the total cost of employee benefits (including fringe benefits and payroll taxes),

Exhibit 1
Alpha Company
Fair Market Value of the Assembled Workforce
Current Employee Compensation Data
As of January 1, 2016

Years of Service	Total Number of Employees	Employee Base Compensation	Cost of Employee Benefits	Bonuses and Additional Compensation	Total Direct and Indirect Compensation	Average Total Compensation per Employee
0-5	50	$ 1,500,000	$ 375,000	$ -	$ 1,875,000	$ 37,500
6-10	150	6,000,000	1,500,000	150,000	7,650,000	51,000
11-15	200	10,000,000	2,500,000	200,000	12,700,000	63,500
15-20	250	17,500,000	4,375,000	250,000	22,125,000	88,500
20+	300	27,000,000	6,750,000	300,000	34,050,000	113,500
Totals	950	$62,000,000	$15,500,000	$900,000	$78,400,000	$70,800

overhead costs such as rent, and any bonuses and additional compensation. The total direct and indirect compensation and average total compensation per employee may then be calculated as presented in Exhibit 1.

Exhibit 2 presents the expected costs to recruit, hire, and train employees categorized by years of service. The replacement costs are derived from discussions with Alpha management, who estimated these expenses for employees based on their years of service.

To quantify the total expenses associated with recruiting, hiring, and training, the analyst may calculate these costs as a percent of total compensation as presented in Exhibit 2.

To assess whether the employee costs provided by management are reasonable, the analyst may compare whether the estimated costs are in line with historical costs.

After quantifying the total costs associated with each phase of the recruiting, hiring, and training process, a comparison can be made between:

1. the expected recruiting, hiring, and training cost and
2. the total amount of employee compensation paid.

This comparison results in a ratio (or percentage of compensation) which may be used in the analysis.

Exhibit 3 calculates the RCN of the Alpha workforce before making any reductions for depreciation or obsolescence. The RCN of the workforce is estimated by multiplying (1) the total expected cost to recruit, hire, and train replacement employees by (2) the total compensation paid to employees of varying years of service.

Based on the estimated costs, the indicated direct and indirect cost related to Alpha workforce, as of January 1, 2016, is $31.7 million (rounded).

After considering developer's profit and entrepreneurial incentive, the total RCN of the Alpha workforce, as of January 1, 2016, is $36.4 million (rounded).

Exhibit 4 estimates the Alpha workforce RCNLD. The RCNLD takes into consideration physical depreciation, functional obsolescence, and technological obsolescence.

Exhibit 2
Alpha Company
Estimated Cost to Recruit, Hire, and Train Replacement Employees
As of January 1, 2016

Employee Years of Service	Estimated Cost to Recruit	Estimated Cost to Hire	Estimated Cost to Train	Total Estimated Cost to Recruit, Hire, and Train Replacement Employees
0-5	2.5%	5.0%	20.0%	27.5%
6-10	2.5%	5.0%	25.0%	32.5%
11-15	2.5%	5.0%	25.0%	32.5%
15-20	3.5%	5.0%	30.0%	38.5%
20+	4.0%	8.0%	35.0%	47.0%

Exhibit 3
Alpha Company
Fair Market Value of the Assembled Workforce
Summary of Current Compensation Data and
Costs to Recruit, Hire, and Train Replacement Employees
As of January 1, 2016

Employee Years of Service	Total Direct and Indirect Compensation	Total Cost to Recruit, Hire, and Train Replacement Employees	Replacement Cost New of the Assembled Workforce
0-5	$1,875,000	28%	$515,625
6-10	7,650,000	33%	2,486,250
11-15	12,700,000	33%	4,127,500
15-20	22,125,000	39%	8,518,125
20+	34,050,000	47%	16,003,500
	78,400,000		
Direct and indirect cost component of the assembled workforce			31,651,000
Plus: Developer's profit (based on industry average 10% profit margin × direct and indirect cost of $31,651,000)			3,165,100
Plus: Entrepreneurial incentive based on (1) 10% cost of capital, (2) estimated 1-year workforce replacement period, and (3) an average direct and indirect replacemnt cost investment of $15.8 million (i.e., $31,651,000/2) through the one-year assemblage period (i.e., $15.8 million × 10% = $1,582,550)			1,582,550
Equals: Replacement cost new (rounded)			**$36,400,000**

The amount of physical depreciation is based on the recognition that the ideal replacement workforce likely would have a different composition than the current workforce of 750 employees. Based on due diligence involving conversations with management, the 750 employees with over 11 years of experience were assumed to be replaced with employees that had 6 to 10 years of experience.

In other words, the additional costs associated with the recruiting, hiring, and training the 750 employees with over 11 years of experience would represent a form of physical depreciation (i.e., the replacement workforce would not cost as much to create as the subject workforce due to lower costs to recruit, hire, and train the replacement employees.)

As presented in Exhibit 4, we also estimated the functional obsolescence associated with Alpha workforce. As discussed, functional obsolescence is present when a company has an excess number of employees compared to its estimated ideal replacement workforce.

To estimate the amount of functional obsolescence in a workforce, the analyst may (1) estimate the percentage of the total workforce that is superadequate and (2) apply the percentage to the RCNLD.

In most instances, management should recognize whether the company's workforce requirements are met and whether the company has excess employees. Management can typically provide:

1. information on constraints in the production process and the required level of employees to address those constraints and
2. an understanding of company staffing issues resulting from labor agreements.

In this example, we estimated that 2 percent of Alpha employees were above the necessary workforce requirements ("excess employees"). The functional/technological obsolescence adjustment of the excess employees is estimated to be $479,375. It is subtracted from the RCNLD to arrive at an Alpha workforce fair market value of $23.5 million (rounded).

Conclusion

Understanding the process of valuing a workforce is important for ad valorem property taxation. This is because many states exclude the value of intangible assets from the property base.

This discussion described a process of valuing an assembled workforce by:

1. presenting the data gathering process appropriate to complete a valuation of a workforce,
2. describing various generally accepted cost approach methods used to value a workforce,
3. identifying and discussing certain obsolescence adjustments that should be considered by the analyst in estimating the value of a workforce using the cost approach, and
4. providing a simplified example of a workforce valuation.

In applying the cost approach, and specifically the RCNLD method, the analyst should identify, gather, confirm (through due diligence interviews with relevant taxpayer management), and analyze the data and information with regard to the workforce intangible asset.

Further, in estimating the value of a workforce, the analyst should consider (1) the potential obsolescence adjustments relevant to the subject workforce and (2) other cost considerations associated with the subject workforce such as the developer's profit and entrepreneurial incentive.

Notes:

1. Robert F. Reilly and Robert P. Schweihs, *Guide to Property Tax Valuation* (Chicago, Illinois: Willamette Management Associates, 2008), 427.
2. Ibid., 428
3. Ibid.
4. Ibid. Another type of a contract-related human capital intangible asset is a professional license, such as a license to practice accountancy, law, medicine, dentistry, and other various professions. Generally, these type of contract-related human capital intangible assets (1) are assigned to specific individuals, (2) are issued by a government or other regulatory agency, (3) are obtained by demonstrating specific professional competencies, and (4) generally increase the earning capacity of the licensee.
5. Robert F. Reilly and Robert P. Schweihs, *Guide to Intangible Asset Valuation* (New York: American Institute of Certified Public Accountants, 2014), 629.
6. Burlington Northern R.R. Co. v. Bair, 815 F.Supp. 1223 (S.D. Iowa, 1993) aff'd 60 F.3d 410 (8th Cir. 1995).

Michael A. Harter is an associate in our Portland, Oregon, practice office. He can be reached at (503) 243-501 or at maharter@willamette.com.

Justin Nielsen is a vice president in our Portland, Oregon, practice office. He can be reached at jmnielsen@willamette.com or at (503) 243-7515.

Exhibit 4
Alpha Company
Fair Market Value of the Assembled Workforce
Replacement Cost New less Depreciation Method
As of January 1, 2016

Replacement Cost New (RCN)	$36,400,000
Less: Functional Obsolescence	
(equals the RCN of all 750 employees with over 11 years of experience when compared to the RCN of the same 750 employees if they were in the 6-10 years of service category)	12,431,250
Equals: Replacement Cost New less Functional Obsolescence	23,968,750
Less: Functional/technological obsolescence based on 2 percent excess number of current employees (i.e., $23,968,750 × 2% excess workforce = $479,375)	479,375
Equals: Replacement Cost New less Depreciation (RCNLD)	$23,489,375
Indicated Fair Market Value of the Assembled Workforce (rounded)	**$23,490,000**