Valuation of Taxpayer Companies with NOL Carryforwards

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INDUSTRIAL AND COMMERCIAL taxpayers are typically subject to ad valorem property taxation. The taxpayer's real estate and tangible personal property are often locally assessed using summation valuation methods. Those summation methods assign an individual value to each piece of taxpayer property. The various property values are then summed (therefore the name "summation method") to conclude the total taxable value of the taxpayer property.

For complex, income-producing properties, local assessors sometimes use unit valuation methods to assess the total taxpayer property. The unit valuation methods are conceptually similar to business valuations methods. That is, all of the taxpayer property is valued collectively (or in the aggregate) as part of one going-concern unit (therefore the name "unit method') of operating assets.

Taxpayers in certain industries are often assessed using unit valuation methods. These taxpayers are often centrally assessed (as compared to locally assessed). Such taxpayers often own assets that cross many taxing jurisdictions. Common examples of such taxpayers include telecommunications, transportation, energy, and public utility companies. Even locally assessed taxpayers may be subject to unit valuation assessments. Such taxpayers often own complex and functionally interconnected assets that are more efficiently valued based on unit valuation methods. Common examples of such taxpayers include mine and quarry, water and wastewater, chemical processing, food processing, oil and gas refinery, and cable TV operations.

For such centrally assessed and other unit valuation taxpayers, it is important for the taxing authority to conclude the appropriate total business (or unit) value. Such valuations are difficult enough for an industrial and commercial taxpayer that has a consistent history of operating profits and after-tax income. Such valuations are particularly complicated for an industrial and commercial taxpayer that has a history of operating losses and that has accumulated a net operating loss ("NOL") or similar income tax attribute. And, many centrally assessed taxpayers still have NOL carryforwards related to operating losses generated in the 2008–2010 economic downturn.

Property tax assessors often value such industrial and commercial taxpayers using income approach unit valuation methods. Such income approach valuation methods include the direct capitalization method and the yield capitalization method.[1] For taxpayers that have accumulated an NOL carryforward, some assessors value the taxpayer's total assets by estimating net operating income ("NOI") using a 0 percent income tax rate but applying an after-tax (i.e., tax-affected) capitalization rate. This discussion considers if such a 0 percent tax rate assumption is appropriate in the property tax valuation of an industrial or commercial taxpayer. And, this discussion considers if and how the use of a 0 percent tax rate assumption may overstate both the taxpayer value and the NOL tax attribute component of that taxpayer value.

THE PROPERTY TAX ISSUE • During the last five to ten years, many taxpayer companies have experienced operating losses, at least periodically. This discussion describes how to consider those operating losses—and the associated NOL tax attributes—in valuations performed for property tax purposes.

It is noteworthy that not all taxing jurisdictions tax all categories of taxpayer assets. Some jurisdictions tax real estate only. Some jurisdictions tax tangible personal property only. Many jurisdictions tax tangible assets (i.e., real estate and tangible personal property) but not intangible assets (e.g., intangible personal property). If the taxpayer unit value includes assets that are not subject to ad valorem tax in the subject jurisdiction, then those nontaxable assets should be separately valued and extracted from the concluded total unit value.

This discussion focuses on the tax rate assumption applied in an income approach valuation. In the direct capitalization method, the taxpayer NOI is divided by a direct capitalization rate. This NOI represents income projected for a single future period. The projected NOI is normalized—or stabilized—in order to represent a typical level of expected taxpayer income on a forward-looking basis. This discussion also applies to the yield capitalization method. In the yield capitalization method, the taxpayer net cash flow ("NCF") is present valued at a yield capitalization rate. In the yield capitalization method, the taxpayer value is the sum of the present value of the expected NCF estimated over a discrete projection period plus a residual value (often estimated using the NCF divided by direct capitalization rate formula).

This tax rate assumption issue is relevant because some jurisdictions assume a 0 percent income tax rate for a taxpayer with certain income tax attributes. The jurisdictions that use the 0 percent income tax rate assumption often support this procedure by noting the existence of the taxpayer's NOL carryforward (or similar federal income tax attribute). Often, the taxpayer has accumulated the federal income tax NOL carryforward due to negative operating income earned during the economic downturn of the last several years.

Taxing jurisdictions that apply the 0 percent tax rate assumption often use one of the following two procedures to estimate taxpayer NOI:

- The taxing authority calculates the normalized NOI based on some historical average NOI such as a three-year average or a five-year average; and that historical average NOI includes years where the taxpayer used its NOL (or NOL carryback) to eliminate federal income tax expense; and

- The taxing authority calculates the normalized NOI based on the near-term projected NOI (such as the next fiscal year projected NOI), which may include the assumed use of the NOL carryforward.

In an income approach valuation, taxpayer value is estimated based on the expected future income. Since any income approach valuation method is forward-looking, the 0 percent tax rate assumption indicates that the NOL carryforward (which is also forward-looking), and not the NOL carryback (which is backward-looking), is included in the taxpayer value.

First, this discussion defines an NOL carryforward and an NOL carryback. Second, this discussion explores whether an NOL carryforward (or, for that matter, any income tax attribute) should be categorized as tangible property (and would, therefore, be subject to ad valorem taxation in many jurisdictions). Third, this discussion analyzes the use of the 0 percent tax rate assumption in a valuation intended to conclude a market value estimate. Fourth, this discussion considers applying an after-tax capitalization rate to a pretax income stream. Fifth, this discussion describes the statutory limitations on the use of a NOL carryforward and the implications of incorporating an NOL carryforward in a direct capitalization method valuation. Finally, this discussion summarizes the factors that affect the market value of an NOL carryforward.

For illustrative purposes only, this discussion considers the NOL carryforward position of a hypothetical taxpayer company ("LossCo"). For illustrative purposes, LossCo is an industrial or commercial company with a recent history of operating losses. In this illustrative example, LossCo:

- Reported a $10 million NOL carryforward as of December 31, 2014, in its audited financial statements;
- Reported $4 million as the NOL component of its deferred federal income tax ("DFIT") asset account;
- Reported a net deferred income tax asset (liability) account as a liability (or credit balance) of $1 million; and
- Projected that its taxable income will equal $1 million in 2015.

Even though the NOL carryforward component of the LossCo DFIT asset was positive, LossCo's reported net DFIT asset (liability) account was negative (i.e., a liability balance) as of December 31, 2014.

DEFINITION OF AN NOL • An NOL occurs for tax purposes in a year when tax-deductible expenses exceed taxable revenues. An inequitable tax burden would result if companies were taxed during profitable periods, without receiving any tax relief during periods of net operating losses. Under certain circumstance, therefore, the federal tax laws permit taxpayers to use the losses of one year to offset the income of other years.

Companies accomplish this income-averaging provision through the carryback and carryforward of net operating losses. Under this provision, a company pays no income taxes for a year in which it incurs a net operating loss.[2]

Accordingly, if a taxpayer reports a taxable loss in a given year, it will not pay income taxes in the year that it generated the taxable loss (i.e., the net operating loss). The taxpayer may (1) carry that NOL back two years and receive a refund for the amount of income taxes paid in those prior years and, if any NOL remains after the two-year carryback period, (2) carry any remaining unused net operating loss forward for up to 20 years to offset future taxable income.

The ability of the taxpayer to apply the NOL to prior years is known as the NOL carryback. And, the ability of the taxpayer to use the NOL to offset future taxable income is known as the NOL carryforward.

Like most income tax attributes, an NOL carryforward is not recorded as a separate asset on a taxpayer's financial statements prepared in accordance with U.S. generally accepted accounting principles ("GAAP"). Rather, an NOL carryforward is a tax attribute that is included as one component in the overall calculation of the deferred income tax asset (or liability) account on a GAAP-basis balance sheet.

In addition to an NOL carryforward, differences between a company's pretax income (reported in accordance with GAAP) and taxable income (reported in accordance with the Internal Revenue Code) also give rise to a deferred income tax asset or liability. The deferred income tax account is often recorded on the balance sheet as DFIT.

According to the Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") topic 740-10-10-3, "Conceptually, a deferred tax liability or asset represents the increase or decrease in taxes payable or refundable in future years as a result of temporary differences and carryforwards at the end of the current year."

These temporary (or timing) differences result in either taxable amounts (i.e., increases in taxable income) or deductible amounts (i.e., decreases in taxable income) in future years. Table 1 presents examples of temporary differences recognized in the typical company's DFIT account.

Jurisdictions that use the 0 percent tax rate assumption typically do not attempt to value, and assess property tax on, all of the tax attributes that comprise the DFIT account. Rather, the 0 percent tax rate assumption only concludes the value of, and assesses property tax on, the NOL carryforward tax attribute.

AN NOL CARRYFORWARD INCOME TAX ATTRIBUTE IS NOT TANGIBLE PROPERTY • Based on individual state statutes, property tax may be assessed on real property (i.e., real estate), personal property, or both categories of property. Depending on the jurisdiction, the tax may be levied on the value of the taxpayer's (1) tangible property only (with intangible property being exempt from taxation), (2) tangible property and certain intangible property, or (3) all tangible property and all intangible property. In addition, a jurisdiction may specifically designate a particular asset as being exempt from property tax.

For purposes of this discussion, let's first assume that the taxpayer operates in a jurisdiction that taxes real estate and tangible personal property, but not intangible personal property. Since this hypothetical jurisdiction only assesses property tax on real estate and tangible personal property, we will analyze the NOL tax attribute to determine if it is appropriately categorized as either of these two property types. Next, we will define the relevant types of property in our hypothetical jurisdiction.

The following property type definitions are presented from the *Dictionary of Real Estate Appraisal*:

- Real estate is "an identified parcel or tract of land, including improvements, if any;"[3]
- Personal property includes "identifiable tangible objects that are considered by the general public as being 'personal'—for example, furnishings, artwork, antiques, gems and jewelry, collectibles, machinery and equipment; all tangible property that is not classified as real estate;"[4]
- Tangible property is "property that can be perceived with the senses; includes land, fixed improvements, furnishing, merchandise, cash, and other items of working capital used in an enterprise."[5]

The *Dictionary of Real Estate Appraisal* does not specifically define tangible personal property. And, the *Dictionary of Real Estate Appraisal* definition of tangible property includes both real estate and personal property. Together, the above three definitions provide a helpful understanding of what is—and what is not—real estate and tangible personal property.

Let's consider the common legal definitions of various categories of property. The following legal definitions are presented from *Black's Law Dictionary*:

- Real property is "Land and anything growing on, attached to, or erected on it, excluding anything that may be severed without injury to the land;"[6]
- Personal property is "any movable or intangible thing that subject to ownership and not classified as real property;"[7]
- Tangible property is "Property that has physical form and characteristics."[8]

These property definitions are consistent with the property definitions included in the *Dictionary of Real Estate Appraisal*.

Based on the above definitions, an NOL carryforward is clearly not real estate. An NOL carryforward is not land or a land improvement.

Likewise, an NOL carryforward is not tangible personal property. The *Dictionary of Real Estate Appraisal* definition of tangible property broadly includes cash and "other items of working capital." However, financial assets such as these are not typically regarded as tangible personal property. For example, the valuation textbook *Guide to Intangible Asset Valuation* ("GIAV") considers cash and other financial assets to be a component of intangible personal property.[9]

Even considering the broad definition of tangible property presented in the *Dictionary of Real Estate Appraisal*, an NOL carryforward would not be tangible property. The above definition of tangible property is limited to property that can be perceived by the senses. There is no physical attribute associated with an NOL. That is, an NOL carryforward cannot be seen or touched, unlike a dollar bill (for example), which can be seen and touched.

Based on the above considerations, an NOL carryforward tax attribute should not be classified as either tangible real property (i.e., real estate) or tangible personal property.

An understanding of how an NOL carryforward is categorized for financial accounting purposes may be useful to determine if the NOL tax attribute should be subject to property tax in our hypothetical jurisdiction.

For example, if real estate and tangible personal property are the only categories of property subject to taxation in a jurisdiction, then the assessment should not include the value of the NOL carryforward (or any other individual income tax attributes).

Also, if all categories of property are subject to taxation in a jurisdiction, then it is noteworthy that an NOL carryforward as an individual tax attribute is not a separately reported property (or asset) of the taxpayer. Rather, an NOL carryforward is just one component of the calculation for the taxpayer's DFIT asset or liability account.

While the DFIT account would be classified as property, it may have a positive value or a negative value. Depending on the interplay of all of the taxpayer's income tax attributes, the DFIT account may be an asset (i.e., have a debit balance) or a liability (i.e., have a credit balance).

THE ZERO PERCENT TAX RATE ASSUMPTION RESULTS IN INVESTMENT VALUE—NOT MARKET VALUE • Many states assess ad valorem tax based on the property's fair cash value, market value, true value, or some other similar market-derived standard of value. "All of these definitions have come to mean the price at which a property will sell from a willing seller to a willing buyer, both cognizant of all pertinent facts and neither being under duress."[10] This value definition is similar to the typical fair market value definition used for many other valuation purposes, such as valuations prepared for federal income tax, federal gift or estate tax, bankruptcy, or commercial financing purposes.

On the other hand, the standard of value called investment value is defined as "The value of a property interest to a particular investor or class of investors based on the investor's specific requirements. Investment value may be different from market value because it depends on a set of investment criteria that are not necessarily typical of the market."[11]

When a valuation is performed using the market value standard of value (or some other similar standard of value), the valuation variables (e.g., income and expense, discount rate and capitalization rate) should represent the requirements of the typical market participants. That is, the market-derived valuation variables should not be the actual financial figures associated with the subject taxpayer or with the subject property.

If a jurisdiction seeks to estimate the market value of a taxpayer, then the NOI subject to capitalization should incorporate a market-derived tax rate. The appropriate market-derived income tax rate is often measured as the typical market participant's marginal income tax rate (e.g., 35 to 40 percent)—or the industry-average tax rate (again, e.g., 35 to 40 percent).

However, the tax rate should not be the taxpayer's actual income tax rate, particularly if that actual tax rate is extreme such as 0 percent or 50 percent. A market-derived tax rate is the appropriate rate to use to estimate NOI in a market value valuation. Such a market-derived rate represents the tax rate that market participants would use to estimate the NOI of the taxpayer assets.

According to the textbook *Appraisal of Real Estate,* "If an opinion of market value is sought, the income forecast should reflect the expectation of market participants. In an assignment to develop an opinion of investment value, the appraiser may base the income forecasts on the specific ownership or management requirements of the investor."[12]

As further explained below, a market-derived income tax rate should be used to estimate the after-tax discount rate or capitalization rate. The selection of both a market-derived NOI estimate and capitalization rate (both calculated from a market-derived income tax rate) are necessary if the valuation objective is market value.

A second concern related to using either a temporary or company-specific income tax rate for property tax purposes is that it does not treat all taxpayers equally.

According to *Property Taxation*, "Taxes are said to be 'equal and uniform' when no person or class of persons in the taxing district, whether it be a state, county, city, town or village is taxed at a rate different from other persons in the same district upon the same value or the same thing, and where the objects of taxation are the same, by whomsoever owned or whatsoever they may be."[13]

The process of applying different income tax rates for different taxpayers (to calculate either NOI or a capitalization rate) results in (1) values that are not uniformly or consistently estimated and (2) property tax assessments that are not performed in an equal and uniform manner among taxpayers. The desire for consistency and uniformity is why the generally accepted procedure used to estimate the taxpayer normalized NOI (and the capitalization rate) is to apply a consistent market-derived income tax rate for all similarly situated taxpayers in the jurisdiction.

The use of a 0 percent tax rate assumption (to calculate either the normalized NOI or the capitalization rate) results in an investment value for the taxpayer. That taxpayer-specific tax rate assumption results in the value of that taxpayer to that taxpayer.

A taxpayer-specific tax rate assumption does not result in the value of that taxpayer to a typical market participant. The use of a taxpayer-specific (instead of a market-derived) tax rate assumption does not result in the market value of the taxpayer.

MISMATCHING THE INCOME STREAM AND THE CAPITALIZATION RATE • When applying the direct capitalization method, the capitalization rate and the NOI should be stated on the same income tax basis. Both valuation variables in this analysis should be stated on either a pretax basis or an after-tax basis.

Based on the 0 percent tax rate assumption, the income that is capitalized (i.e., the normalized NOI) is effectively a pretax income measure. However, the direct capitalization rate is calculated as an after tax rate of return. Therefore, using a 0 percent tax rate assumption for the NOI but not for the capitalization rate, the pretax NOI that is capitalized is mismatched to the selected after-tax capitalization rate. It is not appropriate to capitalize a pretax income stream using an after-tax capitalization rate.[14] The resulting mathematical conclusion is not a meaningful value indication.

According to the textbook *Cost of Capital, Applications and Examples*, "A very common type of error in applying the income approach to valuation is to use a discount or capitalization rate that is not appropriate for the definition of economic income being discounted or capitalized. . . . If the entity being valued is subject to entity-level income taxes, then it is inappropriate to apply the cost of capital estimated by those methods to pretax return flows."[15]

This error—mismatching the tax level of the NOI and of the capitalization rate—overstates the value of the taxpayer NOI and, consequently, overstates the taxpayer value. The value overstatement approximately equals the market-derived tax rate that is appropriate to estimate the NOI. That is, if the appropriate tax rate is 35 percent, then (1) the taxpayer NOI will be overstated by 35 percent and (2) the concluded taxpayer value will also be overstated by 35 percent.

NOL CARRYFORWARD RISK FACTORS • An NOL carryforward (or any similar income tax attribute) may not be subject to property tax in a jurisdiction that only assesses real estate and tangible personal property. However, if a jurisdiction does assess property tax on a taxpayer's NOL carryforward (or similar tax attribute), that jurisdiction should consider all of the risk factors that influence the market value of the NOL.

Estimating the value of an NOL carryforward based on the above market value definition requires consideration of the expected sale price of the NOL in a hypothetical transaction. The first step in such an analysis is to consider the feasibility of a sale of the NOL carryforward.

Although an NOL carryforward is not transferable by itself, an NOL may be one component of a sale of a target company's stock. According to *Don't Ignore a Target's NOLs; The price and structure of your deal can depend on them*, "NOL carryforwards may be of significant value to certain buyers."[16] This journal article suggests, however, that "if the issue [of NOLs] does arise in price negotiations, buyers often argue that the market price for NOLs is 'pennies on the dollar.'"[17]

Three risk factors that may cause the taxpayer company buyer to discount the price of an NOL carryforward are: (1) regulatory restrictions such as the Internal Revenue Code Section 382 ("Section 382") limitation, (2) the amount and timing of the NOL carryforward economic benefit, and (3) the accuracy of the amount of the reported NOL carryforward.[18] Each of these factors increases the risk that the target company buyer will not be able to entirely benefit from the NOL.

Factor 1—Regulatory Restrictions

There are several circumstances where a company may not be able to fully use its NOL carryforward. The following list includes four restrictions on the use of the carryforward that are described in

Net Operating Losses: How Much Are These "Assets" Really Worth?:[19]

- Section 269. This section disallows the corporate acquirer's use of an NOL carryforward when an acquisition's principal purpose is income tax avoidance.
- Separate Return Limitation Year (SRLY) Limitations. The SRLY limitations restrict which entity can use the company's NOL carryforward. Generally, the SRLY limitations prevent profitable corporate acquirers from using the NOL carryforward of a loss target company acquires.
- Section 382. This section imposes an annual limitation amount on the corporate acquirer's use of the target NOL carryforward. The Section 382 NOL use limitation is triggered by ownership changes in the loss target corporation.
- Section 384. This section limits a corporate acquirer from offsetting its NOL against any taxable gain of a target company acquiree.

These four restrictions relate to the uncertainty surrounding the eventual economic benefit associated with the use of an NOL carryforward based on statutory provisions included in the Internal Revenue Code and associated Treasury Regulations. As a result of these restrictions, NOL carryforwards "represent the **potential** future tax savings as the result of past operations and, thus, **may** provide future cash flow benefits in the form of lower future tax costs. However, realization of deferred tax assets is subject to considerable **uncertainty** [emphases added]."[20]

Two of these statutory provisions are particularly relevant in a market value analysis of an NOL carryforward for property tax purposes: (1) the SRLY rules and (2) the Section 382 limitation.

The SRLY Rules

The SRLY rules apply if a corporation with an NOL carryforward is acquired by, and becomes a member of, a consolidated group. In general, "the SRLY rules limit the consolidated group's use of separate return limitation year losses to the amount of income generated by the acquired corporation after it becomes a member of the group (the SRLY limitation)."[21]

This SRLY limitation controls how the corporate acquirer can use the target's NOL carryforward with respect to the acquirer's other subsidiaries. This SRLY restriction decreases the value that the corporate acquirer of the loss company would place on the target's NOL carryforward.

Treasury Regulation 1.1502-21 states that the SRLY limitation does not apply if the consolidated group is subject to the Section 382 limitation (discussed below). Therefore, in an acquisition of 100 percent of a target company stock (which would trigger the Section 382 limitation), a corporate acquirer would be more concerned with the application of the Section 382 limitation than with the SRLY rules.

Section 382 Limitation

The Section 382 limitation reduces the value an acquirer would place on a target's NOL carryforward. "In general, the Section 382 limitation limits the extent to which a target company that experiences an 'ownership change' may offset taxable income in any post-change taxable year by pre-ownership change NOLs."[22]

The Section 382 NOL use limitations applies after an "ownership change." There are two types of ownership change that can trigger the Section 382 NOL income offset limitation: (1) an ownership change involving one or more 5 percent loss company shareholders and (2) any tax-free reorganization of the loss company (with a few exceptions).

In either case, a 5 percent shareholder must have increased his or her ownership percentage in the loss company by more than 50 percent (over his or her lowest pre-change ownership percentage) within three years of the ownership change event.

When an ownership change occurs, the Section 382 limitation equals (1) the fair market value of the old loss company multiplied by (2) the long-term federal tax exempt rate. This limitation on the use of an NOL carryforward applies to any post-change year.

Let's return to our illustrative taxpayer. Let's assume that 100 percent of the LossCo common stock was sold on the January 1, 2015, assessment date. Let's also assume that (1) the LossCo common stock equity equals $12 million on the ownership change date and (2) the long-term federal tax exempt rate equals 2.3 percent.[23]

Based on these assumptions and the Section 382 limitation, the maximum amount of the acquirer's annual income that could be offset in any post-change year is $280,000 ($12 million multiplied by 2.3 percent).

Since an NOL carryforward has a maximum 20-year carryforward period, no more than $5.6 million (calculated as $280,000 multiplied by 20 years) of the LossCo NOL carryforward would be available for use after an ownership change. This $5.6 million figure represents a $4.4 million permanent reduction compared to the total reported amount of the LossCo NOL carryforward.

However, the NOL carryforward amount that is not ultimately used in this example could exceed $4.4 million due to the time value of money. This is because the annual limitations would force the corporate acquirer to delay the use of the LossCo carryforward. The following example illustrates this point.

Let's modify the above scenario and assume that (1) 100 percent of the LossCo common stock was sold for $22 million (instead of $12 million); (2) the Section 382 limitation equals $500,000 (based on the modified sale price); and (3) all other facts are unchanged.

As noted above, the projected 2015 LossCo taxable income is $1 million. Assuming an ownership change did not occur and the Section 382 limitation did not apply, LossCo could use its existing carryforward to reduce all of the projected 2015 taxable income.[24]

If an ownership change took place and the Section 382 limitation did apply (a hypothetical sale is an assumption in the market value standard of value), then LossCo could only reduce $500,000 ($22 million multiplied by 2.3 percent, rounded) of the projected taxable income—instead of the $1 million without the Section 382 limitation.

Based on these assumptions, (1) without being subject to a Section 382 limitation, LossCo could use $1 million of its carryforward each year for 10 years or (2) if an ownership change occurred and triggered the Section 382 limitation, LossCo could use $500,000 of its NOL limitation each year for 20 years.

Given these two alternative income shelter scenarios, the $1 million/10-year income shelter use is more valuable than the $500,000/20-year income shelter use. The difference between these two income shelter scenarios is that the loss company is moving $500,000 of NOL use from year 1 to year 11, $500,000 of NOL use from year 2 to year 12, and so on until $500,000 of the NOL use is moved from year 10 to year 20.

The $1 million/10-year income shelter is more valuable because an investor/corporate acquirer would always prefer to receive a dollar in year 1 over a dollar received in year 11.

The risk that a loss company will benefit from its existing NOL carryforward is not limited to the existing Treasury Regulations. The loss company also faces the risk of future statutory, judicial, or administrative changes in the Internal Revenue Code and regulations. Such changes could alter how a current NOL carryforward balance may be used in the future.

Factor 2—Amount and Timing of Projected Economic Benefit of the NOL

"Perhaps the most significant factor impacting the value of NOL carryforwards is the probable amount and timing of future taxable income."[25] When analyzing this factor, the acquirer will consider the target company (i.e., the loss company) projected taxable income. This amount of taxable income projection will inform the acquirer as to if and when the NOL carryforward may be used.

This taxable income analysis performed by the acquirer will also consider the target's projected taxable income subsequent to the acquisition transaction. This analysis may include consideration of buyer-specific post-acquisition synergies (which may not be relevant in a fair market value analysis) or other buyer-specific projections related to the target company.

For example, the acquirer may consider if the target company will sell certain operating assets after the transaction, or if the target company is expected to be more profitable as a result of the transaction. These factors will affect the acquirer's ability to realize a benefit from the target's NOL carryforward after a transaction.

Because of the time value of money, an NOL carryforward is more valuable the sooner it can be used. If the target is not expected to earn a meaningful amount of taxable income for several years after the transaction date, or if the amount of future income is highly uncertain, then the acquirer may not place much value on its ability to benefit from the target's NOL carryforward.

The acquirer will also consider if it can use the target's NOL carryforward to reduce the income of its other subsidiaries or lines of business. In certain situations, "tax law permits the NOLs of the target corporation . . . to be used to offset the future taxable income of not only the target corporation, but also the future taxable income of other members of its consolidated group of corporations (even if they were not consolidated at the time that the loss was originally incurred)."[26]

The SRLY rules discussed above limit how the acquirer consolidated group subsidiaries can use the NOL carryforward of an acquired loss company.

Factor 3—Accuracy of the Reported NOL Balance

The third factor that a hypothetical acquirer of a loss company would be concerned with is the amount and accuracy of the reported NOL carryforward balance. The amount of confidence that the corporate acquirer places in the accuracy of the reported NOL carryforward balance varies with the amount of (1) the acquirer's due diligence and (2) the loss company's seller representations. Both of these factors necessarily include some risk of being inaccurate.

The risk of reported NOL carryforward balance accuracy is due to the fact that the acquirer will have limited time and resources to conduct its due diligence. The loss company seller will not be willing to absorb all of the risk related to the accuracy of the reported NOL balance. An NOL carryforward has up to a 20-year carryforward period, and the loss company seller will not want to be exposed to transaction-related liability for that long of a time period).

The acquirer's confidence in the accuracy of the reported NOL will be related to the value it places on the carryforward. That is, the more confident the acquirer is in the quality of the reported NOL balance, the more the acquirer will be willing to pay to acquire the loss corporation. This uncertainty risk of the amount of the carryforward balance is mitigated (but not eliminated) when the loss company provides audited financial statements.

This uncertainty risk is not eliminated with audited financial statements. This is because the loss company is still subject to an Internal Revenue Service audit. Upon audit, the Internal Revenue Service may propose adjustments to the amount of the NOL carryforward.

PERPETUITY ASSUMPTION FOR THE NOL CARRYFORWARD • All three above-mentioned factors affect the market value of the carryforward and all three factors should be considered in any valuation of the NOL-related expected economic benefit.

None of those three factors are specific to the valuation method used to assess the company's total value (which may include any value attributed to the NOL carryforward). If the taxpayer value is estimated using an income approach valuation method that incorporates the 0 percent tax rate assumption, the analyst should also consider if and how the tax rate used to estimate the NOI accounts for the NOL balance.

In the direct capitalization method, (1) the NOI represents normalized income in the period following the valuation date and (2) the direct capitalization rate is typically measured as the discount rate minus the NOI expected long-term growth rate of the NOI. This valuation method assumes that the NOI will increase or decrease in perpetuity at a constant rate of change.[27]

If an income stream based on a 0 percent tax rate is capitalized, the analyst is assuming (either implicitly or explicitly) that the economic benefit of the carryforward will be available in perpetuity.

The actual maximum NOL carryforward is 20 years. Therefore, an NOL carryforward (and the associated economic benefit) has a finite life, and not an infinite life.

The direct capitalization method is a perpetual life formula. And, the economic benefit of an NOL carryforward simply does not have a perpetual life. Therefore, it inappropriate to capitalize the economic benefit associated with the carryforward when performing the direct capitalization procedure. It is an error to incorporate a limited life economic benefit stream (of any nature) into a direct capitalization method analysis.

By definition, the direct capitalization method treats any economic benefit as a perpetuity. To the extent there is any limited life benefit, that benefit should be valued separately (based on a yield capitalization analysis) and then added to (or subtracted from) the direct capitalization analysis (that was calculated without the specific economic benefit).

Alternatively, the analyst could simply use the yield capitalization method to value the construction company. In that yield capitalization analysis, the analyst could consider the specific finite life of each of the entity's economic benefits.

This error of including a limited life economic benefit in a perpetuity valuation model is demonstrated in *Cost of Capital: Application and Examples*:

When using a constant growth (i.e., Gordon Growth) model to estimate terminal value at the end of the discrete projection period, the formula calls for the normalized net cash flow in the terminal year to be grown at the expected long-term growth rate and divided by the capitalization rate. ". . . Because the constant growth model assumes growth in perpetuity, any elements of the net cash flow that will not be growing over time or have a **finite life** need to be removed from the net cash flow and **valued separately**. Examples of such finite life items include . . . **Tax-loss carryforwards** [emphases added]."[28]

The valuation guidance provided in the above-mentioned textbook is based on the fact that income or expense items that will not continue into perpetuity (such as an NOL economic benefit) should not be capitalized as a perpetuity. Rather, such a limited life benefit should be valued separately from the company's unlimited life economic benefits.

Furthermore, according to the textbook *Investment Valuation*, "It is good practice to assume that the tax rate used in perpetuity to compute the terminal value will be the marginal tax rate. . . . To the extent that tax planning or deferral caused this payment [of income taxes] to be very low (low effective tax rates) or very high (high effective tax rates), we run the risk of assuming that the firm can continue to do this in the future if we do not adjust the net income for changes in the tax rates in future years."[29]

The economic benefit that a taxpayer will enjoy from its NOL carryforward is temporary. It is inappropriate for an analyst to assume that any loss company will benefit from its carryforward into perpetuity.

An income approach method that capitalizes the entire economic benefit related to an NOL (i.e., a method that assumes a 0 percent tax rate) is not reasonable based on the limited life of any carryforward. This valuation error overstates the taxpayer's NOI. Therefore, this valuation error overstates both the concluded taxpayer value and the value of any tax attributes (such as an NOL carryforward).

VALUATION OF THE NOL CARRYFORWARD • In the valuation of the loss company (i.e., and not just of the loss company's real estate or tangible personal property), the carryforward value is often estimated using one of two methods.

Using the first method, the loss company is first valued without any consideration of the NOL carryforward. Second, the value of the tax attribute is separately estimated. Third, the loss company concluded value equals the sum of the step one value and the step two value.[30]

Using the second method, the loss company is first valued using an income approach yield capitalization method. In this analysis, the estimated income tax rate changes over the income projection period until the NOL carryforward is no longer available.[31]

A detailed explanation of these two NOL valuation methods is beyond the scope of this discussion. However, there is no valuation textbook, journal article, judicial decision, or conference presentation, or other support for the use of the 0 percent tax rate assumption to value a loss company's NOL carryforward.

The LossCo NOL Carryforward Economic Benefit

Let's consider the impact (if any) of the NOL carryforward economic benefit on the value of LossCo. As previously discussed, the market value of a loss company NOL carryforward is limited by at least three factors: (1) the expected timing and amount of future taxable income, (2) statutory NOL use restrictions, and (3) the risk related to the amount and accuracy of the reported carryforward balance. A hypothetical acquirer of the LossCo common stock would consider each of these three limitations when determining the value attributable to the carryforward.

If the LossCo value is estimated using (1) an income approach direct capitalization method, (2) after-tax NOI based on a 0 percent tax rate (due to the NOL carryforward), and (3) an after-tax direct capitalization rate, then the value will represent the value of all of the operating assets, both tangible and intangible.

In addition, the value conclusion will include a perpetuity value attributed to the LossCo NOL carryforward. In fact, this concluded value will also overstate the value attributed to the NOL. This is because the value increment does not consider the risk factors or the erroneous perpetuity assumption discussed herein.

Let's assume that (1) the LossCo after-tax NOI is estimated at $1 million, (2) the NOI is calculated assuming a 0 percent tax rate (i.e., pretax NOI and after-tax NOI are the same in this example), and (3) the capitalization rate is estimated at 12 percent. Using these assumed variables, the LossCo value is $8.3 million, which is calculated as $1 million divided by 12 percent.

Let's further assume that the same hypothetical valuation variables, except that the LossCo after-tax NOI is estimated using a 35 percent income tax rate. Using these revised valuation variables, the LossCo value is now $5.4 million. This revised value is calculated as $1 million multiplied by (one minus the 35 percent income tax rate) divided by 12 percent.

The value difference between using the 0 percent tax rate assumption and the 35 percent income tax rate assumption is $2.9 million (or a 35 percent unit value difference). This $2.9 million value component represents the implied LossCo value attributed to the NOL carryforward. Based on this value increment, over one-third of the LossCo total value is created by the carryforward.

Using the direct capitalization valuation method, the amount of the value attributed to the NOL carryforward will equal the difference between (1) the normalized income tax rate without the NOL and (2) the normalized income tax rate with the impact of the NOL.

The 0 percent tax rate assumption also ignores the other deferred income tax assets and liabilities that may affect the future LossCo income tax expense. As noted above, an NOL carryforward is just one component of the net deferred income tax asset (or liability) account. When all other components of this balance sheet account are considered in the aggregate—including the NOL carryforward—LossCo actually reported a net deferred income tax liability of $1 million as of December 31, 2014. A deferred income tax liability "represents the increase in taxes payable in future years as a result of taxable temporary differences existing at the end of the current year."[32]

Based on the December 31, 2014, LossCo net deferred income tax liability position, the company may actually receive little or no economic benefit from its NOL carryforward. And, the future LossCo income tax expense may be greater than what would be calculated based on its marginal income tax rate. This risk factor, which is caused by the interaction of all of the LossCo tax attributes (in addition to the NOL carryforward), is not considered by using the 0 percent tax rate assumption.

Using a 0 percent tax rate assumption to estimate the LossCo value results in a substantial value increment being created by the NOL carryforward. This value increment represents over one-third of the total company value in the above direct capitalization method example.

This LossCo value is overstated because (1) it does not consider the tax attribute risk factors described above and (2) it incorrectly assumes that the NOL carryforward has a perpetual life.

Accordingly, in a jurisdiction that assesses real estate and tangible personal property, the component of a taxpayers company's value that is attributed to an NOL should not be included among the taxable assets.

CONCLUSION • Based on the analyses summarized in this discussion:

- A taxpayer company's NOL (and any other individual income tax attribute) should not be subject to property tax in a jurisdiction that assesses real estate and tangible personal property;
- A taxpayer company's NOL is one of many individual income tax components that comprise the company's deferred income tax asset or liability account; only this deferred income tax account in its entirety should be considered in the company valuation in a jurisdiction that assesses all taxpayer assets—both tangible and intangible;
- The use of the 0 percent tax rate assumption results in the investment value of the taxpayer company, and not the market value of the company. Such a taxpayer-specific tax rate assumption is not market-derived;
- The use of the 0 percent tax rate assumption inappropriately capitalizes a pretax income stream by reference to an after-tax direct capitalization rate;

- The use of the 0 percent tax rate assumption inappropriately concludes that the company's NOL carryforward has an independent market value equal to the expected future reduction in the company's income tax expense;
- The use of the 0 percent tax rate assumption inappropriately assumes that the taxpayer company will never pay any income taxes at any time in the future.

The effect of these procedural and conceptual errors, taken individually or cumulatively, is to (1) overstate the industrial or commercial taxpayer value and (2) overstate the value of the NOL carryforward.

Based on these observations, analysts (and taxing authorities) should exclude the NOL carryforward from the unit value conclusion. This exclusion is particularly appropriate in a jurisdiction that only assesses real estate and tangible personal property.

In order to exclude the value of the carryforward from an income approach valuation, the analyst (and the taxing authority) should calculate the company's NOI based on a market-derived tax rate rather than using the 0 percent tax rate assumption. Often, a market-derived tax rate is the typical market participant's marginal tax rate or an industry average effective tax rate. However, in a market value analysis, taxpayer NOI should not be estimated based on a taxpayer-specific tax rate (particularly if the taxpayer-specific tax rate is aberrational—such as 0 percent).

Alternatively, if the NOL carryforward is subject to property tax in the jurisdiction and the company's unit value is estimated using an income approach valuation method, then (1) the NOI should be calculated using a market-derived tax rate (e.g., 35 percent) in order to estimate the market value of the unit excluding the value of the carryforward and (2) the NOL should be separately valued based on a generally accepted NOL valuation method that considers the tax attribute risk factors and finite carryforward life discussed above.

Even in a jurisdiction that assesses all taxpayer assets, no one individual tax attribute should disproportionately influence the company's value. Rather, the analyst (and the taxing authority) should consider the entirety of the company's tax attributes. The interaction of all tax attributes determines the balance in the company's deferred income tax asset (or liability) account. And, such a deferred income tax asset (or liability) account balance is already presented on the company's GAAP-based balance sheet.

Notes:

1. See, for example, Robert Reilly and Robert Schweihs, *Guide to Property Tax Valuation,* 23-24 (Willamette Management Associates Partners, 2008).

2. Donald E. Kieso, Jerry J. Weygandt, and Terry D. Warfield, *Intermediate Accounting,* 1139 (15th ed. 2013).

3. *Dictionary of Real Estate Appraisal* (Chicago: The Appraisal Institute, 2010), 159.

4. *Id.* at 145-146.

5. *Id.* at 193.

6. *Black's Law Dictionary* (10th ed. 2014).

7. *Id.*

8. *Id.*

9. We note that many valuation textbooks consider cash and other financial assets to be a component of intangible personal property. See, for example, Robert F. Reilly and Robert P. Schweihs, *Guide to Intangible Asset Valuation* 15 (rev. ed. 2015).
10. *Property Taxation*, 113 (3d ed. 2013).
11. *Dictionary of Real Estate Appraisal*, 105.
12. *The Appraisal of Real Estate*, 14th ed. 464 (14th ed. 2013).
13. *Property Taxation*, 1, 2 (4th ed. 2014).
14. Shannon P. Pratt and Roger J. Grabowski, *Cost of Capital: Applications and Examples*, 1188 (4th ed. 2014).
15. *Id*. at 1187–88.
16. Thomas W. Bottomlee, Jason S. Bazar, and Arthur C. Walker, "Don't Ignore a Target's NOLs; The price and structure of your deal can depend on them," 9 M&A J. 19 ()ct. 2009).
17. *Id.*
18. *Id.*
19. Anthony H. Catanach Jr. and Shelley C. Rhoads-Catanach, "Net Operating Losses: How Much Are These "Assets" Really Worth?" 21 Comm. Lending Rev. 9, 14 (July-Aug. 2006).
20. *Id*. at 18.
21. Mary Fung, "Calculating the Section 382 Annual Limitation: A More Relevant Task for Consolidated Groups," http://www.us.kpmg.com/microsite/tax/ma_insider/2001-1/stories/article04.htm.
22. *Id.*
23. The long-term tax exempt rate as of May 2015, as stated in Rev. Rul. 2015-8.
24. This example makes the simplifying assumption that the NOL could be used as a deduction for the entire projected LossCo taxable income. The actual amount of the NOL that could be used as an income shelter could be different due to difference between book and tax income, income that cannot be offset by an NOL, or other factors.
25. Thomas W. Bottomlee, Jason S. Bazar, and Arthur C. Walker, "Don't Ignore a Target's NOLs; The price and structure of your deal can depend on them," supra, note 16.
26. *Id.*
27. For a discussion of the direct capitalization method valuation formula, see *Cost of Capital: Applications and Examples, s*upra, note 14, at Part 1: Cost of Capital Basics.
28.*Cost of Capital: Applications and Examples*, supra, note 14, at 1196.
29. Aswath Damodarin, *Investment Valuation: Tools and Techniques for Determining the Value of Any Asset,* 252 (3d ed. 2012).
30. Tim Koller, Marc Goedhart, and David Wessels, *Valuation, Measuring and Managing the Value of Companies*, 337-338 (4th ed. 2005).
31. *Investment Valuation,* supra, note 29, at 252–255.
32. *Intermediate Accounting*, supra, note 2, at 1120.