BARATELLI INSTITUTE FOUNDATIONS

Mentoring at Scale

How Net Operating Losses Work

Part One of the Baratelli NOL set · the framework

§172 · §382 · the TCJA 80% cap · ASC 740 · credits · CAMT

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The Baratelli Institute

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How Net Operating Losses Work

Part One — the framework *— What a net operating loss is, what limits it, and how the accounting carries it from the tax return to the cash flow statement*

Net operating losses are not a footnote curiosity. They are tax attributes that, applied against future taxable income, deliver cash-tax savings — and the size and the timing of that saving are set by §172, §382, the TCJA 80% cap, state non-conformity, and acquisition history. This Reference is the framework and only the framework. It carries no company balance, no share price, and no equity value, which is exactly what makes it durable.

Most analysts treat the income-tax line as a number to flow through. It is in fact two numbers — the GAAP provision and the cash tax actually paid — and the gap between them is where the NOL shield lives. A reader who opens a 10-K, finds the loss on the income statement, and concludes *that* is the NOL the company can carry forward, has misread the filing. The GAAP loss is a book number. The NOL is a tax number, computed on the tax return, not the income statement. The tax footnote is where the cash shield lives. We always read it.

This is Part One of a two-part set. Part Two — *The Baratelli Brief: Four Companies with Significant Net Operating Losses* — applies everything in these pages to Lyft, Cleveland-Cliffs, SNAP, and General Motors. The two documents share a single numbering space: this Reference is Section 1, and the Brief runs from Section 2 through Section 5. A cross-reference to Section 1.8 in either document points to the same pages of this one. Both are published at baratelliinstitute.com.

Contents

Section 1 builds the framework in the order a practitioner needs it: what the attribute is and what limits it (1.1 through 1.6), then why the book number and the tax number part company (1.7 through 1.9), then the accounting that carries the attribute from the tax return to the balance sheet to the cash flow statement (1.10 through 1.12), then the two things that sit alongside an NOL and behave differently — credits, and the corporate alternative minimum tax (1.13 and 1.14).

How to read this Reference

The Baratelli Institute publishes practitioner research grounded in the income-tax footnote — where the cash shield lives. The Institute's author is a CPA and former public-company CFO with technical accounting depth across ASC 740 deferred taxes, M&A NOL preservation analysis, §382 modeling, valuation-allowance assessment, and state non-conformity. Where matters of substantive tax law arise, the Institute's framework is to engage qualified tax counsel for live transactions; the work product here is educational financial analysis, not a substitute for tax advice.

NOLs are a quiet edge. They sit on the balance sheet of many of the most-followed names in the market, often written down to zero by a valuation allowance, and they go unmodeled by consensus more often than they should. That is not a criticism of any particular reader — it is a working observation about where the income-tax footnote sits in most analyst workflows. The Institute's position is straightforward: read the footnote first, not last. The cash-tax posture is almost always more informative than the headline effective rate.

This Reference is intended for the practitioner audience the Institute serves: family-office investment staff, fund analysts, CFOs and controllers, CPAs in tax practice, M&A counsel, and principals evaluating their own positions. It is written to be handed to a new analyst on the first day and to survive being read a year later. The journal entries are general educational examples of standard accounting under ASC 740, not any company's actual entries.

One convention worth stating up front, because it governs everything in Part Two and most of what a reader will do with Part One. A figure is only as current as the date it was measured, and that date is set by whoever measured it — not by the date on the document quoting it. A cover-page equity value carries the cover-page date. A §382 rate carries its effective month. A carryforward balance carries its fiscal year end. Institute content states those dates next to the figures rather than at the bottom of the page, and a reader building a model from any published analysis should insist on the same. Correctly sourced is not the same as current.

Why the two parts are separate

Everything in Part One is durable. What an NOL is, what §382 does to it, why the GAAP loss is not the tax loss, how the deferred tax asset gets recorded and how the drawdown runs through cash — none of that moves. Everything in Part Two is *measured*: a balance at a fiscal year end, a limitation computed off an equity value on a stated date, a published rate with an effective month. Those figures age on clocks the Institute does not control, they carry their own measurement dates, and they get re-verified when they move. Binding the durable material to the perishable material meant rebuilding and re-checking all of it every time one number changed. Split apart, the framework can be printed and passed along without a shelf life, and the company analysis can be revised on its own schedule.

Section 1 — The NOL Framework, and Book vs. Tax

An honest refresher. Not a tax textbook — the items below are the ones that actually matter when reading a 10-K income-tax footnote with a practitioner's eye. We define the attribute first, then the limits on it, then the accounting that carries it.

1.1 What an NOL is — and why it is not the deferred tax asset

A net operating loss is the excess of allowable tax deductions over gross income in a taxable year, computed on the corporate tax return. The loss carries forward to offset future taxable income. For federal NOLs generated in tax years beginning after December 31, 2017 (TCJA), there is **no expiration** — they carry forward indefinitely. NOLs generated in years ending on or before December 31, 2017 retain the old 20-year expiration. Many large companies carry both vintages on the books.

That definition is worth reading twice, because the single most common error in this whole subject is treating the NOL and the deferred tax asset as the same thing. They are not. **The NOL is a tax attribute. The DTA is an accounting estimate of what that attribute is worth.** The NOL is measured in dollars of *deduction* and lives on the tax return, where no investor ever sees it. The DTA is measured in dollars of *tax* and lives on the balance sheet, where everyone does. One is converted into the other by multiplying it by a rate:

> **THE IDENTITY**
>
> **NOL carryforward × enacted tax rate = deferred tax asset for the NOL**

At the 21% federal statutory rate, a company disclosing a $1.0B federal NOL carryforward carries a gross NOL deferred tax asset of $210M — not $1.0B. It will not save a billion dollars of tax. It will shelter a billion dollars of *income*, which at 21% is $210M of tax. Read a headline NOL balance as a cash benefit and the error is the reciprocal of the tax rate: you will be wrong by roughly five times. (The worked example that runs through Sections 1.7 through 1.12 uses a 25% blended rate to approximate federal plus state; the identity is the same, only the multiplier changes.)

The two figures also move for different reasons, which is why they have to be tracked separately. The NOL balance changes only when the tax return changes — a loss year adds to it, a utilization year draws it down. The DTA changes for all of those reasons *and* for three more that have nothing to do with operations: a change in the enacted tax rate remeasures it overnight, a §382 ownership change reduces the recoverable portion at the source (Section 1.3), and a valuation allowance can write it to zero while the underlying NOL sits fully intact on the return (Section 1.10). A company can report a DTA of nil and still own billions of usable losses. The reverse — a DTA with no NOL behind it — is also possible, because NOLs are only one of several attributes that generate deferred tax assets.

Throughout the Institute's work, per-company tables report both: the gross NOL as the issuer discloses it, and the estimated deferred tax asset it implies. Where the two appear to disagree, the gap is the story — and it is almost always a valuation allowance, a §382 limitation, or income that never entered the U.S. tax base at all.

1.2 The TCJA 80% cap

Post-2017 NOLs can shelter no more than 80% of taxable income in any year (computed before the NOL deduction). This is a timing limit, not a haircut — the unused 20% carries forward. The CARES Act temporarily suspended the cap and re-permitted carrybacks for 2018-2020 NOLs (five-year carryback). That window is closed; the 80% cap is back in force. Pre-2018 NOLs are not subject to the 80% cap but do expire.

1.3 §382 — the ownership-change limitation

§382 is where many readers under-estimate the risk. If a loss corporation undergoes an **ownership change** — more than a 50-percentage-point increase in stock ownership by 5%-or-greater shareholders over a rolling three-year testing period — future use of the pre-change NOLs is capped at an annual amount equal to:

THE FORMULA THAT MATTERS

Annual §382 base limitation = Equity value of the loss corp at the ownership-change date × the IRS long-term tax-exempt rate

The long-term tax-exempt rate is published monthly by the IRS. It has hovered in the 3.0–5.5% range over the last decade and stands at **3.77%** for ownership changes occurring in August 2026 (Rev. Rul. 2026-13, Table 3). Multiplying a $1B equity value by 3.77% gives a $38M annual NOL utilization ceiling — which can render large carryforward stacks economically dead inside the relevant horizon. Always pull the rate for the month of the change date. Substituting a round 5% for the published figure overstates the limitation by roughly a third, and the error compounds through every downstream cash-shield and present-value calculation.

1.4 NUBIG / NUBIL adjustments

If the loss corporation has net unrealized built-in gain (NUBIG) above a threshold at the change date, the recognized portion of that gain in the five-year recognition period increases the annual §382 limit. Conversely, net unrealized built-in loss (NUBIL) recognized in the same period is itself subject to the §382 limit. NUBIG add-ons routinely double or triple the headline base limitation for asset-heavy targets — relevant to several of the examples below.

1.5 §382(l)(5) — the bankruptcy exception

If a loss corporation undergoes an ownership change in Title 11 (bankruptcy), §382(l)(5) waives the annual base limitation entirely — the NOLs survive intact — provided pre-change shareholders and qualified creditors own at least 50% of the reorganized stock. A subsequent ownership change within two years kills the NOLs entirely (so the reorganized debtor must lock the cap table down). Alternatively, the debtor can elect out of §382(l)(5) and take a special §382(l)(6) calculation that uses post-emergence equity value — usually a higher base than pre-petition would have produced.

A caution about the most-cited example. General Motors is routinely described as a §382(l)(5) case. It is not one. GM did not reorganize and emerge — substantially all operating assets were sold under §363 in July 2009 to a new entity, and that purchaser is the public registrant today. §382(l)(5) reaches a corporation that emerges from a title 11 case, so it had no application to the buyer. Preservation there rested on Treasury Notices 2008-76 and 2009-38, which disregarded Treasury's crisis-program stock acquisitions for ownership-change testing. The economics rhymed with an (l)(5) outcome, which is why the shorthand spread — but the authority differs, and so do the consequences: no qualified-creditor test to satisfy and no §382(l)(5)(D) two-year forfeiture cliff to manage. When a filing or a write-up attributes a preserved post-bankruptcy stack to (l)(5), check whether the surviving entity was the debtor or the buyer before relying on it.

1.6 State non-conformity

Federal NOL rules do not bind the states. A few practical examples:

State	NOL treatment summary
California	Indefinite carryforward (post-2019); suspended NOL use 2020-2021 and again 2024-2026 (>$1M income); 20-year cap for older NOLs
New York	Conforms broadly to federal; 80% cap mirrors TCJA; separate prior-net-operating-loss conversion (PNOLC) subtraction
Texas	No corporate income tax — franchise (margin) tax has no NOL concept
Illinois	12-year carryforward; $100K annual deduction cap extended through 2027
New Jersey	20-year carryforward; converted-NOL (PNOL) regime; limited to 100% of entire net income
Florida	No personal income tax; corporate income tax follows federal but limits NOL to taxable income computed without the deduction

Translation: a $5B federal NOL stack does *not* imply $5B of state-equivalent shelter. State NOLs are a separate accounting exercise, and the ratio between the two is company-specific: it turns on the apportionment factors, which states the losses arose in, and whether those states conform to the federal rules at all. There is no reliable rule of thumb here. Read the state line in the deferred-tax schedule and the state valuation allowance against it, because that is the only place the answer is.

1.7 Why the GAAP loss is not the NOL

A reader who opens a 10-K, finds the operating loss on the income statement, and concludes *that* is the loss the company can carry forward, has missed the most important fork in financial reporting. The income statement is computed under U.S. GAAP. The NOL is computed on the federal corporate income-tax return — Form 1120, line 28 (taxable income before the NOL deduction) — and the two numbers reconcile through a long list of permanent and temporary differences. Some of those differences are small. Several are routinely in the hundreds of millions or billions of dollars for a single year for a single company.

GAAP and the Internal Revenue Code share most of their machinery but disagree on the timing — and sometimes on the existence — of many income and expense items. Those disagreements sort into two families, and keeping them apart is the single most useful organizing idea in ASC 740. **Temporary differences** are timing items: book and tax eventually recognize the same total amount, just in different periods. Because they reverse, they create deferred tax assets and liabilities on the balance sheet. **Permanent differences** never reverse. An item is income or deduction for one system and simply does not exist for the other, in this period or any period. They create no deferred tax account at all — they move the effective tax rate, and it stays moved. Section 1.8 sets out the temporary differences a practitioner sees most often; Section 1.9 does the same for the permanent ones.

1.8 Temporary differences — the timing items that reverse

Item	Book treatment (GAAP)	Tax treatment (IRC)	Why the difference
Stock-based compensation (SBC)	Expense recognized over the vesting period at the grant-date fair value (ASC 718).	Deduction at exercise/vesting equal to the ordinary income recognized by the employee — which depends on the stock price at that date.	Book SBC expense is a fixed accounting number; the tax deduction tracks the actual realized award value. The two can differ by hundreds of millions in a single year and create a deferred tax asset (or windfall) in either direction.
Depreciation	Straight-line over the GAAP useful life of the asset.	MACRS (Modified Accelerated Cost Recovery System) under §168, with bonus depreciation under §168(k) and §179 expensing where eligible.	Tax depreciation is materially faster than book in early years of an asset's life. For capital-heavy industries (steel, autos, rail, energy) the annual delta is a large recurring book-tax timing difference and is the primary driver of a deferred tax liability on PP&E.
Amortization of intangibles	Per ASC 350 — finite-lived intangibles amortized over the useful life; indefinite-lived (incl. goodwill) impairment-tested annually, not amortized.	§197 — purchased intangibles (including goodwill from an asset acquisition) amortized straight-line over 15 years.	Book and tax can diverge sharply for goodwill: no book amortization, 15-year tax amortization. This produces a deferred tax liability that often dwarfs the annual book number.
Insurance reserves / loss accruals	Estimated ultimate losses accrued via reserve account when the event occurs (incurred-but-not-paid + incurred-but-not-reported).	Deductible when paid — the IRS generally requires economic performance under §461. Most casualty insurance reserves are effectively on a cash basis for tax.	For a captive insurance subsidiary or self-insured operating company the gap is meaningful and persistent — the book reserve runs ahead of the tax deduction, creating a deferred tax asset that tracks the reserve balance. The Institute's Lyft entry in Part Two walks the live example.

Item	Book treatment (GAAP)	Tax treatment (IRC)	Why the difference
R&D expenses (post-TCJA §174)	Expensed in the period incurred under ASC 730.	Capitalized and amortized over five years (domestic) or fifteen years (foreign) per §174 as amended by TCJA — effective for tax years beginning after 2021.	A large current-period book-tax difference for any R&D-heavy issuer (technology, biotech, automotive). The amortization runoff creates a deferred tax asset that unwinds over five years. The *One Big Beautiful Bill Act* of 2025 made modifications to the §174 regime — readers should confirm the current treatment in each issuer's post-2025 footnote.
Bad-debt reserves	Estimated allowance for doubtful accounts (ASC 326 — current expected credit loss model for most receivables).	Direct write-off method — deduction allowed when the specific receivable becomes worthless (§166).	Book accrues forward-looking; tax waits for actual worthlessness. Creates a deferred tax asset equal to the allowance balance × the applicable rate.
Warranty reserves	Accrued at the time of sale based on historical experience.	Deductible when paid (or fixed and determinable per §461 economic-performance rules).	Same pattern as bad debt and insurance reserves — book runs ahead of cash; deferred tax asset tracks the reserve.
Deferred revenue	Recognized as revenue over the service period per ASC 606.	Generally taxable when received (constructive receipt; §451 with limited exceptions for advance payments).	Reverses the direction — tax recognizes income earlier than book. Creates a deferred tax asset (book liability not yet income; tax income already realized).

Each of these items appears in the deferred-tax-asset and deferred-tax-liability schedule inside the income-tax footnote of every 10-K we have ever opened. The schedule is one of the most informative half-pages in the filing. Every item above earns a line on that schedule precisely *because* it reverses. The items in the next section will not appear there at all.

1.9 Permanent differences — the items that never reverse

A permanent difference is not a question of *when*. It is a question of *whether*. The item is recognized by one system and never by the other, so there is nothing to unwind in a later year and nothing to park on the balance sheet. The practical consequence is that permanent differences are invisible in the deferred-tax schedule — the disclosure most readers go to first — and visible only in the reconciliation of the federal statutory rate to the reported effective rate. General Motors, profiled in Part Two, turns on one of the items in the table below.

Item	Book treatment (GAAP)	Tax treatment (IRC)	Why it never reverses
Qualified shipping income (§883)	Full income recognized in consolidated GAAP results, wherever earned and whatever entity earns it.	Income of a qualifying foreign corporation from the international operation of ships is exempt from U.S. federal income tax under §883, subject to an equivalent-exemption (reciprocity) test and a stock-ownership test.	The income never enters the U.S. tax base in any period, so there is no timing element and no deferred tax account. It is also why a §883 issuer can post large GAAP losses and still carry almost no federal NOL — a loss measured on exempt income is not a deductible loss.
Tax-exempt interest (§103) and the §265 mirror	Interest income recognized as earned, like any other interest.	Interest on qualifying state and local obligations is excluded from gross income under §103. Under §265, interest expense allocable to carrying those obligations is disallowed.	Permanently favorable in one direction and permanently unfavorable in the other. Both legs land in the rate reconciliation and neither generates a DTA or DTL. Material for insurance subsidiaries and any issuer running a municipal portfolio inside the treasury function.
Executive compensation above $1M (§162(m))	Full compensation expense recognized for every officer, cash and equity alike, under ASC 710 and ASC 718.	Deduction capped at $1M per covered employee per year. ARPA expanded the covered-employee group from five to ten for tax years beginning after 2026.	The excess above the cap is never deductible in any year. For a large-cap issuer with heavy equity compensation this is a material permanent addback — and it sits inside the *same* award population that generates the SBC temporary difference in Section 1.8. Separating the two is real work, not a rounding exercise.

Item	Book treatment (GAAP)	Tax treatment (IRC)	Why it never reverses
Fines, penalties, and government settlements (§162(f))	Accrued as expense when a loss is probable and reasonably estimable under ASC 450.	No deduction for amounts paid to, or at the direction of, a government for the violation of law — except restitution and amounts paid to come into compliance, and then only if specifically identified as such in the order or agreement.	Permanently nondeductible. Relevant to any issuer with an active regulatory or litigation posture, and the identified-restitution carve-out is won or lost in the drafting of the settlement document, not in the tax return.
Meals and entertainment (§274)	Expensed as incurred.	Entertainment fully disallowed post-TCJA; business meals generally 50% deductible, with narrow full-deduction exceptions.	The disallowed portion never becomes deductible. Individually small, but it is the most common permanent line in a mid-cap issuer's rate reconciliation and the one a reader will recognize on sight.
Corporate-owned life insurance (§264 / §101(a))	Premiums expensed; increases in cash surrender value and death benefits received recorded as income.	Premiums nondeductible under §264; death benefits excluded from gross income under §101(a).	Permanent in both directions — a nondeductible expense and a nontaxable receipt. Common in key-man arrangements, deferred compensation funding, and closely held and family-controlled structures.
Nondeductible goodwill impairment	Impairment charge recognized when the reporting unit fails the ASC 350 test. Book goodwill is not amortized.	In a stock acquisition, historic tax basis carries over and there is no §197 goodwill to amortize or write off. The impairment produces no tax deduction, then or ever.	The contrast with the §197 row in Section 1.8 is the point. §197 amortization is a genuine timing difference, but it only exists where the transaction was an asset acquisition or a §338 election. Read the deal structure before you assume the goodwill is deductible.

Item	Book treatment (GAAP)	Tax treatment (IRC)	Why it never reverses
General business credits (§38) — R&D, foreign tax, IRA production	Recognized as a reduction of income tax expense in the period earned (certain investment-type credits are deferred and amortized).	Reduce the tax liability itself, dollar-for-dollar, subject to the §38 limitation. Unused credits carry back one year and forward twenty.	Strictly, a credit is not a book-tax difference at all — it does not change taxable income, it changes the tax. We include it here because it behaves like a permanent item in the rate reconciliation and because the arithmetic is the trap: a dollar of credit is worth a dollar, while a dollar of NOL is worth the statutory rate. Unused credits do sit on the balance sheet, but as a separate attribute-carryforward DTA alongside the NOL DTA — not as a temporary difference. **General Motors** in Part Two is the case where reading the NOL line instead of the credit line gives the wrong answer by roughly an order of magnitude.

READING THE TWO SCHEDULES TOGETHER

Temporary differences build the balance sheet. Permanent differences move the rate. That single sentence tells you which disclosure to open. Timing items land in the deferred-tax-asset and deferred-tax-liability schedule, where they sit until they reverse. Permanent items land in the other required disclosure — the reconciliation of the federal statutory rate to the reported effective rate — and they never leave it. Read the two schedules as a pair. The rate reconciliation tells you which items permanently changed the price of the company's income. The deferred schedule tells you which items merely moved that income between years, and how much is still on the balance sheet waiting to unwind. A reader who opens only one of the two will misjudge either the cash-tax posture or its durability.

One caution before leaving the taxonomy. The line between the two families is drawn by the tax law, and the tax law moves. The TCJA converted a slice of research spending from an immediate deduction into a five-year amortization — a permanent-feeling change that is in fact a large temporary difference. The *One Big Beautiful Bill Act* of 2025 moved it again. Classification is a filing-year question, and the footnote, not memory, is the authority.

1.10 ASC 740 — DTA vs. valuation allowance

Under ASC 740 a company books a deferred-tax asset for the future tax benefit of an NOL, then evaluates whether a valuation allowance is required. A valuation allowance is recorded when it is **more likely than not** (>50%) that some or all of the DTA will not be realized. Three points the footnote will telegraph:

Cumulative pre-tax losses in the recent three-year period

Strong negative evidence — typically forces a full valuation allowance. The DTA is on the balance sheet at gross, then written down to zero.

Return to sustained profitability

When positive evidence outweighs negative, the valuation allowance reverses. Reversals run through the income statement as a tax benefit. **Lyft's** 2025 release of approximately $2.4B is the freshest live example — addressed in Part Two.

§382 limitation on NOL use

Reduces the DTA at the source, not via valuation allowance — the company recognizes only the §382-allowed portion as a recoverable asset.

1.11 How deferred taxes for an NOL get recorded

The mechanics are best shown with a small worked example. Assume a company has a $100 GAAP loss equal to a $100 tax loss in Year 1 (no permanent or temporary differences), and a 25% blended federal-and-state tax rate.

Year 1 entry — recording the NOL deferred tax asset

Account	Debit	Credit
Deferred Tax Asset — NOL	$25	—
Income Tax Benefit (P&L)	—	$25

The DTA goes on the balance sheet at $25. If management cannot conclude it is more-likely-than-not that the DTA will be realized — for example because the company has cumulative recent losses — ASC 740 requires a valuation allowance that writes the DTA down to zero (or to the portion that is realizable). The journal entry for a full valuation allowance is:

Account	Debit	Credit
Income Tax Expense (P&L)	$25	—
Valuation Allowance (contra-DTA)	—	$25

Net effect on the balance sheet: DTA $25 minus Valuation Allowance $25 equals zero. The gross NOL is still disclosed in the footnote — it has not gone away — it is simply written down for GAAP purposes pending evidence that the company will use it.

Years 2–5 — the DTA roll-forward

Per the Institute's May 2026 review: a reduction implies a beginning balance. The cleanest way to teach the DTA mechanics is a roll-forward table that shows the asset accumulating over multiple loss years and then drawing down in the profitable year. Assume the company runs additional $100 GAAP losses in Years 2 and 3 (same facts), achieves break-even in Year 4, and turns profitable in Year 5 with $200 of pre-tax book income. We continue to use a 25% blended federal-plus-state rate. To isolate the NOL mechanics, assume tax depreciation matches book, no other temporary differences, and that the company has now concluded sustained profitability supports realization — so the prior valuation allowance is fully released.

*Before the balance-sheet view, the income-statement and tax-return view. The roll-forward below tracks a **stock** — the deferred tax asset. This table tracks the **flows** that produce it: what the company earned for book, what it owed on the return, and the gap between the two. Every figure in the roll-forward is derived from a line in this table.*

Pre-tax income and taxes	Year 1	Year 2	Year 3	Year 4	Year 5
Pre-tax book income (loss)	($100)	($100)	($100)	$0	$200
Taxable income (loss) before NOL deduction	($100)	($100)	($100)	$0	$200
NOL deduction used (80% cap on $200)	—	—	—	—	($160)
= Taxable income after NOL	**—**	**—**	**—**	**$0**	**$40**
Cash tax actually due (25% of taxable income after NOL)	$0	$0	$0	$0	$10
GAAP tax provision / (benefit) at 25% of book	($25)	($25)	($25)	$0	$50
Cash-tax shield delivered by the NOL	**—**	**—**	**—**	**—**	**$40**

Provision is shown gross of any valuation allowance, to match the roll-forward below. Read the last two rows together: the company reports $50 of tax expense in Year 5 and writes a $10 check. The $40 difference is not an accounting artifact — it is cash that stayed in the business, and it is the same $40 that comes off the deferred tax asset.

NOL and DTA roll-forward (gross of valuation allowance)	Year 1	Year 2	Year 3	Year 4	Year 5
The net operating loss itself — in loss dollars					
Beginning NOL carryforward	$0	$100	$200	$300	$300
+ Current-year tax loss added	$100	$100	$100	$0	$0
– NOL used against taxable income (80% of $200)	$0	$0	$0	$0	($160)
= Ending NOL carryforward	**$100**	**$200**	**$300**	**$300**	**$140**
The deferred tax asset it produces — the NOL × 25%					
Beginning balance	$0	$25	$50	$75	$75
+ Addition: current-year NOL × 25% rate	$25	$25	$25	$0	$0
– Reduction: NOL used × 25% rate	$0	$0	$0	$0	($40)
= Ending balance	**$25**	**$50**	**$75**	**$75**	**$35**

Activity rationale — Years 1–3: $100 tax loss each year, so $100 onto the NOL and $25 onto the DTA; Year 4: break-even, no activity; Year 5: $200 of pre-tax book income, against which the 80% cap allows $160 of NOL, so $160 comes off the carryforward and $40 comes off the asset. The two bands tie at every column: the ending NOL times 25% is the ending DTA, and $140 × 25% = $35.

For teaching simplicity we apply the post-TCJA 80% cap to the 25% blended rate; in practice the 80% cap is a federal-only rule and state NOL availability varies by jurisdiction (see Section 1.6 on state non-conformity).

Reading the roll-forward. The Year-5 reduction of $40 is not coming out of nowhere — it is drawn down against a $75 beginning balance that was built up over three years of $25 additions. That is the practical answer to a reader who asks ‘how can the company reduce a deferred tax asset by $40 if it just created the asset for $25 this period?’ The asset is a stock, not a flow; the period activity is two flows (additions and reductions) that combine to produce the ending stock.

When the NOL moves the provision, and when it only moves cash

There is a rule buried in the two tables above, and it is worth stating plainly because it is the single most common source of confusion in this whole area.

Once the deferred tax asset is carried on the balance sheet at full value, using the NOL does not change the total tax provision. It changes the composition of the provision and it changes the cash. The current tax expense falls, because the return shows less taxable income. The deferred tax expense rises by exactly the same amount, because the asset is coming off the balance sheet. The two moves cancel. Total provision stays at the statutory rate times book income, the effective tax rate looks ordinary, and net income is untouched. The benefit is real, but it is visible only in cash taxes paid — which is why the cash flow statement, not the income statement, is where an NOL shield is found.

That rule has one large exception, and it runs the other way. While a full valuation allowance is in place, the asset is already written down to zero, so there is nothing to draw down. Using the NOL still cuts the cash tax, but the deferred expense from the DTA drawdown is offset by an equal benefit from releasing the allowance that stood against it. Nothing cancels the current-expense reduction. The total provision falls, and the effective tax rate collapses.

Run Year 5 under both regimes and one number moves and one number does not. The total income tax provision moves — $50 under one regime, $10 under the other, a factor of five on identical operations. The cash tax paid does not move at all. It is $10 in both columns, because the company sent the Treasury the same check either way. The right-hand column of the table below says, line by line, which is which.

Year 5, run under two valuation-allowance regimes	DTA carried at full value	Full valuation allowance in place	Does it move between the two?
Current tax expense (25% of $40 taxable after NOL)	$10	$10	No — same in both
Deferred tax expense — DTA drawdown	$40	$40	No — same in both
Deferred tax benefit — valuation-allowance release	—	($40)	Appears only under the allowance regime
Total income tax provision	**$50**	**$10**	**YES — this is the line that moves**
Effective tax rate on $200 of book income	25%	5%	Yes — it follows the provision
Cash tax actually paid — the check to the Treasury	**$10**	**$10**	**NO — identical either way**

THE PROVISION MOVED. THE CASH DID NOT.

The navy row is the one to trust. Cash tax paid is $10 in both columns. It is the same company, the same taxable income, and the same check to the Treasury. Nothing operational differs between the two columns at all.

The gold row is the one that fooled you, and it fools everybody. The reported provision differs by a factor of five and the effective tax rate differs by twenty points, purely because of whether the deferred tax asset happened to be on the books when the NOL got used. That is an accounting artifact, not an economic event. If you were reading the income statement to find the NOL benefit, this is the line that misled you — and the reason the benefit has to be read off the cash flow statement instead.

This is why the sequence matters as much as the arithmetic. A company emerging from losses typically travels through both columns in order: full valuation allowance first, then a release, then the ordinary regime. Its effective tax rate will look bizarre on the way through and unremarkable afterward, while the cash tax line does nothing dramatic at all. General Motors is the worked example — it carried a full allowance through 2012, released it in the fourth quarter of that year, and has been in the left-hand column ever since. Part Two walks the sixteen years.

Year 5 journal entry — using the NOL against taxable income

In Year 5, GAAP pre-tax book income of $200 is fully taxable. The post-2018 NOL can shelter 80% × $200 = $160. We carry the 25% blended rate through the journal entry (federal-only equivalent on the residual $40 at 21% would be $8.40): GAAP tax provision = $50; cash tax = $10; the remaining $40 of provision is the NOL coming off the balance sheet.

Account	Debit	Credit
Income Tax Expense (P&L) — GAAP provision at 25% blended on $200	$50.00	—
Income Taxes Payable (actual cash tax due)	—	$10.00
Deferred Tax Asset — NOL (drawdown of attribute)	—	$40.00

Tie-out: the P&L still carries the full $50 tax expense at the blended rate (so EPS looks ‘normal’). But only $10 of that is cash — the other $40 is the NOL coming off the balance sheet. The deferred tax asset has just paid for itself.

The check to the Treasury — where cash actually moves

The provision entry above never touches cash. It debits an expense and credits two balance-sheet accounts. Cash moves in a second, separate entry, when the company settles the liability it just recorded:

Account	Debit	Credit
Income Taxes Payable (settling the Year 5 liability)	$10.00	—
Cash (estimated payments and final settlement to the Treasury)	—	$10.00

Ten dollars leaves the building. Not fifty. To see what the deferred tax asset was worth, run the same year twice — once with the NOL and once without it, changing nothing else.

Year 5, run twice	Without the NOL	With the NOL
Pre-tax book income	$200	$200
NOL deduction applied (80% cap)	—	($160)
Taxable income on the return	**$200**	**$40**
Cash tax paid to the Treasury (25%)	**$50**	**$10**
GAAP tax provision reported on the P&L	$50	$50
Reported net income	$150	$150
Deferred tax asset consumed	—	$40
Cash retained in the business	**—**	**$40**

WHY THE $40 IS REAL MONEY

The two columns are identical everywhere a reader normally looks. Same revenue, same pre-tax income, same $50 tax provision, same $150 of net income, same earnings per share. A screen built on the income statement cannot tell these two companies apart. The only line that moves is the check: $50 without the NOL, $10 with it. The $40 difference is the entire economic content of the deferred tax asset, and it shows up nowhere on the income statement — it shows up in the bank account, and then in the operating section of the cash flow statement, which Section 1.12 walks next. This is the whole argument for reading the tax footnote. A deferred tax asset for an NOL is not an accounting abstraction. It is prepaid tax. The company paid for it years ago by losing money, and in Year 5 it collects — not as income, but as cash it does not have to send to the Treasury.

1.12 How NOL utilization runs through the cash flow statement

The drawdown is invisible on the income statement, but it is the headline event in the operating section of the cash flow statement.

Section 1.11 recorded two separate entries. The provision entry credited Income Taxes Payable $10 — the liability. The settlement entry debited that payable and credited Cash $10 — the check. Whether that check clears before the balance sheet date or after it changes the operating section, so the table below runs the same year twice. Note what does *not* change between the two columns.

Cash Flow Statement — Operating Section	Accrued and paid in Year 5	Accrued, unpaid at year-end
Net income (from P&L, after $50 tax expense)	$150.00	$150.00
Adjustments to reconcile to cash from operations:		
Decrease in deferred income taxes (drawdown of the NOL DTA)	$40.00	$40.00
Increase / (decrease) in income taxes payable (working-capital movement)	—	$10.00
Cash from operations	**$190.00**	**$200.00**
Memo — supplemental disclosure: cash income taxes paid	*$10.00*	—

Tie-out — paid column: $200 of pre-tax income less the $10 check to the Treasury = $190. Unpaid column: $200 of pre-tax income and no check yet = $200. In both columns the company kept $40 it would otherwise have paid; the NOL did that, and the payable line did not.

THE PRACTITIONER'S READ

The deferred line is the NOL. It is $40.00 in both columns. It does not care when the check clears, it is the balance-sheet drawdown of an asset the company built in Years 1–3, and it never comes back — that $40 of shelter has now been spent. This is the line to hunt for in a real filing.

The payable line is not the NOL. It is ordinary working capital: the timing gap between accruing the $10 and writing the $10 check. It reverses next period with the opposite sign, it would exist in exactly the same form at a company with no NOL at all, and it shelters nothing. A reader who folds the two lines together and calls the sum a tax shield will overstate the shield by the payable movement, and will do it again in the other direction the following year.

Three practical notes. First: the ‘deferred income taxes’ line in the operating section of the cash flow statement is the single most useful field for spotting NOL drawdown in real time. A large decrease in the DTA (a positive number on this line under the indirect method) during a year of GAAP

profitability almost always indicates the company is sheltering cash taxes with prior-year NOLs. Second: the disclosure of ‘cash income taxes paid’ in the supplemental schedule at the bottom of the cash flow statement (or in the income-tax footnote) is the cleanest read on what the company is actually sending to the Treasury — and it is what tells you which of the two columns above you are looking at. Third: no issuer prints those two columns. In a real filing the payable movement and the deferred movement sit side by side in the same list of adjustments, with nothing on the page marking one as a durable attribute and the other as a timing wiggle. Separating them is the reader's job.

1.13 Credits are not NOLs — and they have their own limits

The 80% cap in Section 1.2 is a net-operating-loss rule. It lives in IRC §172(a)(2) and it constrains the NOL deduction. It does not reach tax credits, and a reader who assumes credits are capped at 80% of anything is applying the wrong statute.

That is not the same as saying credits are unlimited. They are limited — by different provisions, on a different base, with different carryover periods. The table sets the three regimes side by side.

	Net operating loss carryforward	General business credit (R&D, IRA production credits)	Foreign tax credit
What it reduces	Taxable income	Tax liability	Tax liability
Value of one dollar of the attribute	$0.21 (the statutory rate)	$1.00	$1.00
Governing annual limit	IRC §172(a)(2) — 80% of taxable income computed before the deduction	IRC §38(c) — net income tax less the greater of the tentative minimum tax or 25% of net regular tax above $25,000	IRC §904 — U.S. tax on foreign-source income, computed separately in each basket
Can it take the liability to zero?	No — 20% of taxable income remains exposed for post-2017 vintages	No — the 25% prong protects a slice of regular tax above $25,000	Within a basket, yes — but only against tax on foreign-source income
Sensitive to a change in the statutory rate?	Yes — the deferred tax asset is rate times loss	No — denominated in tax dollars	No — denominated in tax dollars
Carryback	None for losses arising after 2020	1 year	1 year
Carryforward	Indefinite (post-2017); 20 years (pre-2018)	20 years	10 years; the GILTI basket has no carryover at all
Exposure on an ownership change	IRC §382 limitation	IRC §383 limitation	IRC §383 limitation

The ordering matters, and it is the part most models get backwards. The two attributes do not compete for the same space on the return; they operate at different stages of it. Losses come first: the NOL deduction reduces taxable income, subject to the 80% cap. The statutory rate is then applied to what survives. Credits come last, reducing the resulting tax dollar for dollar, subject to their own limits. A company can therefore be constrained by the 80% cap and by §38(c) in the same year, on different bases, and the two constraints do not net against each other.

A DOLLAR OF CREDIT IS NOT A DOLLAR OF NOL

The exchange rate between the two attributes is the statutory rate. One dollar of credit is worth one dollar of tax. One dollar of NOL is worth twenty-one cents. A credit carryforward is therefore worth roughly **4.76 times** an NOL carryforward of the same face amount — and unlike an NOL, its value does not fall when Congress cuts the rate.

Three consequences. First, a footnote that reports NOL carryforwards and credit carryforwards in the same table, in the same units, is reporting two things that are not comparable; adding them is an error. Second, a company whose attribute stack has shifted from losses toward credits has quietly become harder to model, because the shelter no longer scales with the rate. Third — and this is the reason §383 exists — credits are just as exposed to an ownership change as losses are. The §383 limitation converts the §382 dollar limitation into a tax-liability limitation by multiplying it by the highest applicable rate. Buying a credit-rich loss corporation does not escape the §382 machinery; it just runs the same arithmetic through a different section.

One modern wrinkle worth flagging. Several of the Inflation Reduction Act energy and manufacturing credits are transferable under IRC §6418 or eligible for elective payment under IRC §6417. Where those provisions apply, a credit a company cannot currently use is not stranded — it can be sold to an unrelated buyer for cash, typically at a discount to face. That converts a limitation problem into a pricing problem, and it means the §38(c) cap is a weaker constraint on the transferable subset of the credit stack than it is on ordinary research credits. It also means the credit carryforward line in a footnote may understate what the company has already monetized.

1.14 The corporate alternative minimum tax — a floor under the whole framework

Everything in this Reference up to this point describes the regular corporate tax. Since 2023 there has been a second calculation running alongside it for the largest companies, and it is built on book income rather than taxable income — which makes it the one provision capable of reaching straight past an NOL and a credit stack alike.

What it is. The Inflation Reduction Act of 2022 added a corporate alternative minimum tax at IRC §55(b)(2): 15% of adjusted financial statement income, reduced by the CAMT foreign tax credit, imposed as an add-on to the extent it exceeds regular tax plus BEAT. It applies to tax years beginning after December 31, 2022. An *applicable corporation* is one with average annual AFSI above $1B over the three prior tax years; a foreign-parented group faces a $1B group test plus a separate $100M U.S. test. Status is sticky — once a corporation is an applicable corporation it generally remains one, even if income later falls below the threshold.

Why it was enacted. The political motivation is not in dispute and is worth stating plainly, because it explains the design. Legislators objected to large, plainly profitable companies reporting substantial income to shareholders while reporting little or no federal tax expense. The remedy was to tax the number those companies show investors rather than the number they show the Treasury. Adjusted financial statement income starts from net income on the applicable financial statement — the GAAP figure — and adjusts from there.

THE DEPRECIATION CARVE-OUT — A CORRECTION WORTH MAKING

A common misreading: that CAMT undid accelerated depreciation. It did not. The intuition is reasonable — if the tax is levied on book income, and bonus depreciation is precisely a book-tax difference, then taxing book income ought to claw the deduction back. Congress saw the problem and carved it out.

IRC §56A(c)(13) is the carve-out. In computing AFSI for property to which §168 applies, the taxpayer *subtracts tax depreciation* — MACRS, including bonus — and *disregards the book depreciation* recorded on the financial statements. The accelerated capital-equipment deduction therefore survives CAMT completely intact. In the early years of an asset's life, when tax depreciation exceeds book, the substitution makes AFSI *lower* than book income. Comparable treatment applies to qualified wireless spectrum under §197.

So the capital-investment incentive was preserved on purpose. What CAMT does reach is the rest of the book-tax gap: the differences Congress did not carve out. Depreciation is the single largest book-tax difference at most capital-intensive companies, and it is the one that was deliberately left alone. Anyone modeling CAMT exposure by starting from the book-tax gap and forgetting this adjustment will overstate the liability at an industrial or utility company by a wide margin.

Where the 80% cap reappears — and it is a different 80%. CAMT has its own loss carryforward, and it is not the §172 NOL. IRC §56A(d) allows AFSI to be reduced by a *financial statement net operating loss* carryover — a book loss, not a tax loss — limited to 80% of AFSI computed before the deduction. Only book losses from tax years ending after December 31, 2019 create FSNOL, so the attribute has a hard start date and no pre-2020 history. It carries forward indefinitely. A company can therefore hold billions of §172 NOLs and have no FSNOL at all, or the reverse. They are separate accounts, tracked separately, and a footnote that discloses one says nothing about the other.

Credits against CAMT, and CAMT credits against regular tax. General business credits remain available against the CAMT liability, and the CAMT foreign tax credit is built into the rate calculation, so a credit-heavy attribute stack is markedly more CAMT-durable than a loss-heavy one. Running the other direction, CAMT paid in a year generates a minimum tax credit carried forward indefinitely and usable against regular tax in later years. For a company that expects to return to a regular-tax position, CAMT is therefore closer to a prepayment than to a permanent increase — a timing cost and a cash-flow cost, not necessarily a rate cost. That distinction is invisible in the effective tax rate and visible only in the cash-tax line and the deferred-tax rollforward.

The interaction most models miss. The general business credit limitation at §38(c) caps the credit at net income tax less the greater of the tentative minimum tax or 25% of net regular tax liability above $25,000. From 2018 through 2022 that first prong was dormant, because a corporation was deemed to have a tentative minimum tax of zero. The Inflation Reduction Act narrowed that deeming rule so that it now reaches only corporations that are *not* applicable corporations. For an applicable corporation, CAMT is the tentative minimum tax, and the first prong of the §38(c) limitation is live again for the first time since the TCJA. The practical effect is that CAMT does not merely add a floor — for the largest credit-rich taxpayers it can also compress how much of the credit stack is usable in the year. This is a genuinely technical corner and it is worth naming rather than assuming away.

Where the law actually stands as of this Reference. CAMT has been administered largely through interim guidance rather than final regulations. Treasury and the IRS issued Notices 2023-7, 2023-20, 2023-64 and 2024-10, published proposed regulations in September 2024, and have continued issuing interim guidance since, including Notice 2026-7, released February 18, 2026. Notices are numbered in the order they are assigned, not the order they are released, so a higher number can carry an earlier date — Notice 2026-15, cited in Part Two, is dated February 12, 2026. Final regulations have not been issued as of August 2026. A practitioner should treat the specifics below the statutory level as provisional and check the current guidance before relying on any particular adjustment. This is the least settled area covered anywhere in this Reference.

THE FLOOR UNDER THE SHIELD

Why CAMT belongs in a brief about NOLs. Every valuation argument in Part Two rests on the same premise: that a preserved loss or credit carryforward converts into cash the company does not send to the Treasury. CAMT is the one provision that can break that link at the largest companies. An applicable corporation can be fully sheltered for regular-tax purposes — NOL absorbing taxable income, credits absorbing the residual liability — and still write a check for 15% of AFSI.

The screen is a size test, so it is easy to apply. Below $1B of average AFSI the question does not arise, which disposes of most of the loss corporations a reader will encounter. Above it, the cash-tax shield claimed for an NOL stack has to be tested against the CAMT floor before it can be underwritten. Of the four names in Part Two, General Motors is the one plainly inside the size test, and it is also the one whose shelter is now credit-dominated rather than loss-dominated — which, as above, is the more CAMT-durable of the two shapes.

Where this framework gets applied

A framework is only worth the reading if it changes what a practitioner does with a filing. Part Two takes every rule above and runs it against four live positions.

Lyft — the pattern completed.

A venture-funded company that accumulated losses through the private years, carried a full valuation allowance through the IPO and beyond, and then released it. Section 1.10 in the abstract; a multi-billion-dollar non-cash benefit running through the income statement in the filing. The insurance-reserve temporary difference from Section 1.8 is visible in the same cash flow statement, and it is widening rather than reversing.

Cleveland-Cliffs — the acquisition history.

Attributes assembled through a sequence of transactions rather than accumulated organically. This is where Sections 1.3 through 1.5 stop being abstract: separate acquired stacks, separate potential change dates, separate limitations, and a foreign carryforward governed by another country's statute entirely. It is also the case that shows how little of the §382 arithmetic a reader can actually reconstruct from what gets disclosed.

SNAP — the pattern still loaded.

A large preserved carryforward, a full valuation allowance, and the §382 exposure still ahead of it rather than behind. The cap arithmetic of Section 1.3 is worked as an explicit hypothetical, on a current equity value carrying its own measurement date, with the 80% cap of Section 1.2 applied on top.

General Motors — sixteen filed years of the attribute actually working.

The one case in the set where a reader can watch the shield operate across a full cycle: a full valuation allowance, its release, and then more than a decade of a provision near statutory while the cash tax ran far below it — exactly the two-regime behavior Section 1.11 describes. It is also the case where the shelter is now credit-dominated rather than loss-dominated, which is what makes Sections 1.13 and 1.14 operative rather than academic.

THE COMPANION DOCUMENT

Part Two — *The Baratelli Brief: Four Companies with Significant Net Operating Losses.* Published at baratelliinstitute.com. Every figure in it is sourced to a filed document and carries the date on which it was measured.

Cross-reference inside the Institute library. The Institute publishes free educational case studies and modeling tools alongside this Reference. Readers working an NOL position in practice generally want the deferred-tax and stock-compensation material next; readers coordinating advisers around one want the family-office and controller material. All of it is indexed at baratelliinstitute.com.

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Educational purpose

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No tax or legal advice

Federal and state tax treatment of net operating losses depends on facts and circumstances specific to each taxpayer. The framework here is general and educational. Practitioners and principals should consult their own qualified tax counsel and certified public accountants before acting on any matter discussed. Application of §382, ASC 740 valuation allowances, state non-conformity, the TCJA 80% cap, the §38(c) and §904 credit limitations, and the corporate alternative minimum tax in any specific transaction requires a current technical analysis on the specific facts. The journal entries and worked figures in these pages are general illustrations of standard accounting under ASC 740 and are not any company's actual entries.

Currency of the material

Tax-code references are to the Internal Revenue Code as in effect on the publication date shown on the cover. The framework is durable but the statute is not permanent: the 80% limitation, the carryforward period, the §382(l)(5) provisions, and the corporate alternative minimum tax are all creatures of statute and have been amended before. The corporate alternative minimum tax discussion in Section 1.14 reflects the statute and the interim guidance in effect at the publication date; final regulations had not been issued. Where this Reference names a company by way of illustration, the underlying figure is developed and dated in Part Two rather than here, which is the point of the split.

Positions held by the author

This Reference recommends no security and analyzes none. The author owns the stock in two of the securities discussed in the companion Part Two: **LYFT** (Lyft, Inc.) and **CLF** (Cleveland-Cliffs Inc.), and those positions are disclosed there as well. The author has not received compensation from any issuer named in either document and holds no material non-public information regarding any of them. The Institute's full conflicts policy is published at baratelliinstitute.com.

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Educational framework. Not investment, tax, or legal advice. The author owns the stock in LYFT and CLF, both discussed in Part Two.

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