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Rebecca N. Morrow
Wake Forest University

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Valuation in Light of Uncertainty: How Stock Option Pricing Models Can Inform More Accurate Valuation Discounts for Built-In Gains

Rebecca N. Morrow¹

INTRODUCTION

How much would you be willing to pay for a closely-held corporation that does not engage in ongoing service activities but owns \$100 million worth of assets that it initially purchased for \$20 million? When a corporation does not engage in ongoing service activities but owns property, its value depends on the value of its property.² Accordingly, some might say that the corporation is worth \$100 million since it could sell its assets for \$100 million and liquidate. Others might say that the corporation is worth \$72 million since it could sell its assets for \$100 million but would be required to pay a \$28 million tax bill (representing a 35% tax rate applied to the \$80 million gain it would recognize upon sale of its assets) before liquidating. Courts and scholars have come to both conclusions, most recently favoring the latter.³ However, a rational purchaser would not buy the corporation for \$100 million and a rational owner would not sell it for \$72 million. The value of the corporation falls between these amounts. This is because, in addition to the option of selling its appreciated assets immediately, the corporation also has the option of selling its assets in five, ten, or more years. By delaying the sale of the appreciated assets, the corporation delays incurring tax and, in present value terms, pays less tax.

¹ Assistant Professor of Law, Wake Forest University, B.S. Santa Clara University, J.D. Yale University, LL.M. Taxation University of Washington. I am grateful to Jennifer Bird-Pollan, John Bogdanski, Don Castleman, Samuel Donaldson, Michael Green, Emily Hammond, E. Lea Johnston, Omri Marian, Tanya Marsh, Robert Nash, Joel Newman, Ajay Patel, Ralph Peeples, Christopher Pietruszkiewicz, Andrew Verstein, and seminar participants at Wake Forest University, Georgia State University, Emory University, the University of Kentucky, Washington & Lee University, and the Southeastern Association of Law Schools for very helpful comments and contributions to this Article. I thank Justin Cook, Allison Cohan, and Aly Kyser for excellent research assistance.

² See Rev. Rul. 59-60 § 5(a)-(b), 1959-1 C.B. 237 (providing that the value of a closely-held investment company depends primarily on the adjusted net worth of the assets it holds); *Estate of Jameson v. Comm'r*, 267 F.3d 366, 371 (5th Cir. 2001); see *infra* note 23. When a corporation engages in ongoing service activities and owns property, its value depends on both its net asset value (which will involve a consideration of built-in gains) and its ability to earn future profits.

³ See *infra* note 142 (noting the existence of a circuit split, with most courts favoring the dollar-for-dollar method); *infra* Part III.B (describing scholarly support for the dollar-for-dollar method).

This Article proposes a new method to calculate the present value of a future tax liability when it is uncertain when that liability will be incurred. Instead of ignoring uncertainties about when a tax will be incurred, this method accounts for them by using weighted probabilities of multiple likely outcomes. This Article's key insight is to adapt stock option valuation techniques, which account for similar uncertainties, to this problem. The resulting approach is both theoretically satisfying and eminently workable and can help determine the value of a corporation like the one described above. In so doing, it attempts to inform potential buyers about how much they should be willing to pay for stocks in these corporations and potential sellers about how much they might expect to receive for them. It also aims to solve a currently unresolved problem in the areas of gift and estate tax law. While taxpayers, IRS officials, and courts must calculate gift or estate taxes based on the values of the assets transferred, they have not agreed on how to value closely-held corporations that primarily hold and manage assets for the benefit of their owners. They must decide whether the value of the corporation (which will be subject to transfer tax) is based on the fair market value of the assets owned by the corporation or whether that fair market value should be discounted to reflect the anticipated tax liability that the corporation will incur when it transfers its appreciated assets. If, as most courts have ruled, some valuation discount is appropriate to reflect the anticipated future tax liability, then it is necessary to determine the amount of the discount. Unfortunately, courts have disagreed about the amount of the discount and the proper method to calculate it and have failed to properly account for uncertainties regarding timing.⁴ Because it is common for closely-held corporations to be transferred by gift or bequest and common for them to hold highly appreciated assets, substantial tax revenue is implicated in the method selected.

The lack of consensus is not surprising. Calculating an appropriate amount of valuation discount, whether for purposes of pricing or tax valuation, is difficult. At the time the price or the gift or estate tax must be calculated, there are many unknowns about the anticipated future tax liability. While it is known what the tax liability would be on the asset appreciation if the corporation fully liquidated immediately (an amount I will call the "imputed current tax liability"),⁵ it is unknown what the actual tax liability will be if the corporation

⁴ See *infra* note 142.

⁵ If the corporation fully liquidated immediately, the tax liability on the asset appreciation would simply be the amount of taxable appreciation times the applicable tax rate. Since this tax would be incurred immediately, there would be no need to account for potential future changes in the tax rate and no need to discount the tax liability to present value. See, e.g., *Estate of Jelke v. Comm'r*, 507 F.3d 1317, 1332–33 (11th Cir. 2007) (explaining that when a tax liability is calculated using the assumption of immediate liquidation, the calculation depends on "only those facts known" on the valuation date so it can be completed with "certainty and finality").

sells the appreciated assets over time or if it liquidates at some point in the future because it is uncertain:

- when the tax liability will be incurred,
- how much the future tax liability should be discounted to reflect its present value (since present value calculations require knowledge of the date the tax will be paid), and
- whether the future tax liability will be higher or lower than the imputed current tax liability based on changes in the applicable tax rate over time.

In the face of these uncertainties, taxpayers, IRS officials, and courts have employed various valuation strategies. Previously, courts and IRS officials denied the discount entirely, finding that anticipated future taxes were too uncertain to influence value.⁶ More recently, they have granted valuation discounts but have disagreed about what amount of discount is appropriate. Some courts grant partial discounts based on splitting the difference between competing expert opinions.⁷ Other courts grant partial discounts based on predictions about the fixed dates on which they believe a corporation will incur tax.⁸ Finally, others grant full discounts equal to the imputed current tax liability.⁹ Unfortunately, none of the methods used by courts and none of the methods previously proposed by scholars account for the uncertainties described above.

This Article proposes that the method for calculating valuation discounts for future tax liabilities can and should reflect uncertainties regarding the timing of when a tax will be incurred and what the tax rate will be at the time it is incurred. Specifically, it argues that the binomial method,¹⁰ which

6 See discussion *infra* Part I.A.2; cases cited *infra* note 39.

7 See discussion *infra* Part I.B.1.

8 See discussion *infra* Part I.B.2; cases cited *infra* notes 88, 103.

9 See discussion *infra* Part I.B.3.

10 The binomial method is a stock option pricing model that divides the time between option acquisition and expiration into set intervals. The starting point for the model (time 0) is the fair market value of the stock minus the strike price. For each later interval, it is assumed that the stock price will go up or down by an amount calculated using the volatility of the stock price. A chart is created (a “binomial tree”) representing the possible paths that the stock price could take during the life of the option. The weighted average of the possible future values at each interval is calculated and then discounted to its present value based on the timing of that interval. The average of the present values for each interval is then taken to determine the value of the option. See, e.g., *Congressional Oversight Panel Reports on TARP Repayments*, Fed. Banking L. Rep. (CCH) ¶ 96–187, at Annex A (July 10, 2009) [hereinafter *Technical Explanation of Warrant Valuation Methods*] (describing the binomial tree); John C. Cox, Stephen A. Ross & Mark Rubinstein, *Option Pricing: A Simplified Approach*, 7 J. FIN. ECON. 229, 232–43 (1979) (providing several example diagrams of the binomial tree). The binomial method is closely related to a more mathematically complex but less flexible option valuation method commonly known as Black–Scholes. *Technical Explanation of Warrant Valuation Methods*, *supra*, n.75 (“Mathematically, Black–Scholes is essentially the limit of the binomial model as the number of steps taken [time intervals] approaches infinity. A binomial valuation,

is used to calculate the present value of an American-style¹¹ stock option,¹² should be used to calculate more accurate valuation discounts. American-style stock options must be valued currently despite uncertainty about when the option will be exercised and what the relevant stock value will be at the time of exercise. The binomial method accounts for these uncertainties. It calculates the value of a stock option as a function of the current value assuming immediate exercise, volatility in the relevant stock price over time, and a discount rate (to approximate the time value of money).¹³ Rather than calculating value based on assumed exercise on a date certain, the binomial method calculates various likely outcomes that could occur on various possible dates of exercise and compiles each of those potential outcomes into a weighted average.

Just as it accounts for uncertainties presented by stock options, a modified version of the binomial method can account for similar uncertainties presented by valuation discounts for future tax liabilities. It can account for uncertainty about when a future tax liability will be incurred and what the applicable tax rate will be at the time it is incurred. It can do this by eschewing reliance on an assumed date certain for the tax liability to be incurred in favor of calculating various likely outcomes that could occur on various possible dates and compiling each of those potential outcomes into a weighted average.

given the same assumptions, thus converges on the Black-Scholes valuation.”) This Article begins with the binomial method since it is more receptive to modification to new uses. Furthermore, because taxes are generally incurred either quarterly or annually (while stock options may be exercised in any split-second between acquisition and expiration), it is more accurate to divide the relevant time period into discrete intervals rather than using a continuous model.

11 Unlike European-style stock options, which may only be exercised on a single set date in the future, American-style stock options may be exercised at any time until an expiration date. *Fed Amends Securities Credit Regulations*, Fed. Banking L. Rep. (CCH) ¶ 91-128 & n.52 (Jan. 16, 1998).

12 I use the term stock option to refer to a call option. A call option is the right to purchase a stock for a set price (the “strike price”). See RONALD J. GILSON & BERNARD S. BLACK, (SOME OF) THE ESSENTIALS OF FINANCE AND INVESTMENT 232 (1993) (“A *call option* is a contract that gives the holder the right to *buy* an underlying asset – for example, a share of common stock – at a fixed price, on or before a specified date. . . . The fixed price for buying or selling . . . is called the option *strike price* or *exercise price*.”). For example, the right to purchase a share of Microsoft stock for the set price of \$27.00 is a call option. The profit resulting from this option will depend on the price of Microsoft stock at the time of exercise. If Microsoft stock is worth \$26.00 at the time of potential exercise, the option will not be exercised and no profit will result. If Microsoft stock is worth \$28.00 at the time of exercise, the option will be exercised and a profit of \$1.00 will result (the stock will be purchased for \$27.00 and can immediately be sold for \$28.00).

13 See *id.* at 238-39 (listing factors that determine option value as: the current value of the underlying asset; the exercise price; the risk-free interest rate, “which tells us the time value of money;” “the variability in the value of the underlying asset, measured by the standard deviation of price;” and “the time remaining until the option expires”); Cox et al., *supra* note 10, at 231-32, 235 (listing factors to determine option value as: S [stock’s current price], K [strike price], n [number of periods remaining until expiration], u [anticipated upward movement in stock price], d [anticipated downward movement in stock price], and r [one plus the risk-free interest rate over one period]).

This Article argues that, using insights borrowed from the binomial method, the present value of a future tax liability should be calculated as a function of the imputed current tax liability, volatility in the relevant tax rate over time, and the long-term applicable federal rate (which approximates the time value of money). Just as economists reject any method that would value a stock option as either worthless or worth the difference between the current stock price and the strike price, market participants, IRS officials, and courts should reject any method of discounting for a future tax liability that would seek to simplify rather than account for relevant uncertainties.

Part I of this Article describes the inconsistent historical treatment of valuation discounts for future tax liabilities, including a currently unresolved circuit split. Part II proposes that such discounts should be calculated through the use of a modified binomial method in order to most accurately account for uncertainties about when future taxes will be incurred and what tax rate will apply at the time they are incurred. Part III anticipates and addresses potential criticisms of this proposal.

A. *What Are Built-In Gains?*

Built-in gains occur frequently in the context of closely-held business interests. A built-in gain is the appreciation that an asset has experienced while that asset has been held by its current owner (a business entity) at a time when ownership of the business entity is changing. Mathematically, it is the excess of the asset's fair market value over the asset's adjusted basis.¹⁴

A *built-in* gain does not occur when an asset is held directly. When an asset is held directly, its gain is realized more frequently since the asset itself must be bought and sold to transfer its ownership. When an appreciated asset is sold, the amount of appreciation is taxed as gain to the seller, and (assuming that the asset was sold for its fair market value) the purchaser's basis in the asset will equal its fair market value on the date of purchase.¹⁵ For example, imagine that I directly own an asset worth \$100 that I purchased for \$20. If I sell the asset for its fair market value of \$100, I realize \$80 of gain and must pay tax on that gain. The purchaser owns the asset with a \$100 basis and has no built-in gain.

When an asset is held indirectly, by a business, its gain is realized less frequently and can become *built-in* gain since the asset itself need not be bought or sold to transfer indirect ownership of it. Rather, the business interest

¹⁴ In general terms, the gain on disposition of an asset is the excess of amount realized (the sum of money received plus the fair market value of property received in the disposition) over adjusted basis. I.R.C. § 1001(a)–(b) (2012). Generally, adjusted basis is a measure of the taxpayer's investment in an asset. When the asset was initially acquired by the taxpayer by purchase, her basis in the asset is the amount for which she initially purchased it. I.R.C. § 1012(a) (2012). Basis is sometimes adjusted—increased to reflect investments in the property occurring after initial purchase or decreased to reflect depreciation deductions as they are taken. I.R.C. § 1011, 1016 (2012).

¹⁵ Technically, the purchaser's basis is the amount she paid for the asset, I.R.C. § 1012(a) (2012), but here it is assumed that she paid fair market value.

(stock or a partnership interest) can be transferred causing the asset to remain directly owned by the same business entity, while becoming indirectly owned by the new business owners. Using the example above, imagine that I indirectly, through a closely-held business (Corporation A), own an asset worth \$100 that was purchased for \$20. To be more precise, imagine that I own 100% of Corporation A, Corporation A owns an asset worth \$100, and Corporation A purchased that asset for \$20. Imagine that I sell 100% of my closely-held corporation. The buyer's basis in Corporation A is what she paid for it. However, direct ownership of the underlying asset is unaffected. Even after Corporation A is sold to a new owner, the underlying asset is still owned by Corporation A. Since the direct ownership of the asset was unaffected, the asset still has a \$100 fair market value and a \$20 basis. Upon sale of Corporation A's stock, the \$80 of appreciation in its asset is not realized and is not taxed, rather it becomes "built-in" gain that will be taxed only when the corporation eventually sells or otherwise disposes of the asset.

B. Why Do We Care About Built-In Gains?

When ownership interests in closely-held businesses with built-in gains are bought and sold, the buyers and sellers care about built-in gains because they make closely-held business interests less valuable.

Similarly, civil litigants and courts care about built-in gains because they affect business valuation disputes in many legal contexts. For example, in a divorce action when one spouse will take liquid assets and the other spouse will take a business with built-in gains, the parties and court must establish the value of the business by accounting for its built-in gains in order to equitably divide the marital assets.¹⁶ Similarly, state laws generally provide that when certain shareholders vote against a merger, they have the right to cash in their shares for fair market value.¹⁷ It is necessary in the context of these dissenting shareholder actions to determine how much the fair market value of the shares

¹⁶ See, e.g., *Wechsler v. Wechsler*, 866 N.Y.S.2d 120, 122, 126–28 (N.Y. App. Div. 2008) (ruling that in a divorce case in which one spouse is awarded a corporation with built-in gains, the value of that corporation should be discounted to reflect its built-in gains using the dollar-for-dollar methodology of *Dunn v. Commissioner*, 301 F.3d 339 (5th Cir. 2002)).

¹⁷ SHANNON PRATT & ALINA V. NICULITA, *THE LAWYER'S BUSINESS VALUATION HANDBOOK: UNDERSTANDING FINANCIAL STATEMENTS, APPRAISAL REPORTS, AND EXPERT TESTIMONY* 291 (2d ed. 2010) ("Virtually all states have dissenting stockholder statutes. Dissenters' rights are triggered by major corporate actions, such as mergers, acquisitions, or liquidations, the criteria for which vary from state to state. Stockholders who dissent may not reverse the corporate action but are entitled to be paid the *fair value* of the shares immediately before the action has been put into effect . . .").

is affected by built-in gains in corporate assets.¹⁸ Business valuations must be completed in a large variety of civil law contexts.¹⁹

Finally, taxpayers, IRS officials, and courts care about built-in gains because they affect the fair market value of a business interest. The fair market value of a business interest is the amount that is subject to gift or estate tax when a business interest is gifted, bequeathed, or inherited.²⁰ Similarly, the fair market value of a business interest is the amount deducted from the donor's gross income when a business interest is donated to a qualified charitable organization.²¹ Treasury Regulations provide that the value of an ownership interest in a closely-held corporation is its fair market value, defined as the amount that a hypothetical willing purchaser and hypothetical willing seller would agree upon for the ownership interest, assuming that both parties were reasonably well informed about the finances of the corporation.²² Because built-in gains affect the amount that hypothetical willing purchasers would be willing to pay

18 See, for example, *Martin v. Martin Bros.*, 241 F. Supp. 2d 815, 817–19 (N.D. Ohio 2003), *reh'g denied*, 266 F. Supp. 2d 715 (N.D. Ohio 2003), *aff'd*, 112 Fed. App'x. 395 (6th Cir. 2004), *cert. denied*, 125 S. Ct. 1590 (2005), for an example of a court making such a determination. There, the court determined an appropriate built-in gain discount in a suit brought by minority shareholders who had voted against a corporate merger. *Id.* at 816, 819. Because they voted against the merger, the corporation was required to purchase their shares for fair market value. *Id.* at 816–17. The corporation argued for a dollar-for-dollar discount for built-in gains in corporate assets while the minority shareholders noted that the corporation had no immediate plans to liquidate and, thus, argued for a partial discount. *Id.* at 817. The court considered the dates on which the corporation's assets likely would be liquidated, projected taxes on those dates, and then discounted the future taxes to their present values as of the valuation date. *Id.* at 819. Notably, the valuation approach in *Martin* is similar to the approach used by the Tax Court in *Jelke* in 2005, which was overturned on appeal to the Eleventh Circuit Court of Appeals in 2007. *Id.*; cf. *Estate of Jelke v. Comm'r*, 507 F.3d 1317, 1331, 1333 (11th Cir. 2007).

19 For example, business valuations are often necessary in actions involving the accuracy of financial statements, in actions involving employee stock ownership plans (ESOPs), and in minority oppressed shareholder actions. See, e.g., IRM 4.72.8.7 (Sept. 1, 2006) (requiring companies that sponsor ESOPs to have them independently appraised at least annually according to requirements set forth in I.R.C. § 401(a)(28)(C) (2012), and Rev. Rul. 80-155, 1980-1 C.B. 84); MODEL BUS. CORP. ACT § 14.34 (2005) (allowing a corporation to elect “to purchase all shares owned by the petitioning shareholder at the fair value of those shares” in response to an action by the petitioning shareholder seeking judicial dissolution of a corporation); John H. Matheson & R. Kevin Maler, *A Simple Statutory Solution to Minority Oppression in the Closely Held Business*, 91 MINN. L. REV. 657, 665 n.32 (noting that about forty states provide for compulsory buyout in minority oppression suits).

20 See Treas. Reg. § 25.2512-3 (1958) (providing that, for purposes of calculating gift taxes, the value of a business interest “is the net amount which a willing purchaser . . . would pay for the interest to a willing seller, neither being under any compulsion to buy or to sell and both having reasonable knowledge of the relevant facts”); Treas. Reg. § 20.2031-3 (1992) (providing that for purposes of calculating estate taxes, the same rule applies).

21 See Treas. Reg. § 1.170A-1(c)(1) (as amended in 2008) (“If a [charitable] contribution is made in property other than money, the amount of the [charitable contribution] deduction is determined by the fair market value of the property at the time of the contribution.”).

22 Treas. Reg. § 20.2031-2(h), (f) (as amended in 1992); Treas. Reg. § 20.2031-3 (1992).

for a business interest, they must also affect how tax law values these interests.²³ Indeed, in valuation disputes regarding closely-held business interests, the taxpayers involved, the IRS, and courts care deeply about calculating built-in gain discounts because these discounts often implicate millions of dollars.

For example, as will be described in more detail below, in *Estate of Jelke v. Commissioner* (an estate tax valuation case), the Eleventh Circuit Court of Appeals granted a “dollar-for-dollar” built-in gain discount when determining the value of bequeathed stock.²⁴ A dollar-for-dollar discount is calculated by assuming that the corporation being valued will liquidate its assets immediately, even when the corporation has no plans to liquidate.²⁵ The tax on built-in gains is therefore calculated as though it is incurred immediately, even though it might instead be delayed for several years. In the simple example above, if a dollar-for-dollar built-in gain discount were applied to Corporation A, it would be valued at \$72 (reflecting its \$100 of assets minus the full amount of its \$28 imputed current tax liability on \$80 of built-in gains). A dollar-for-dollar discount is extremely generous to the taxpayer and extremely problematic because it does not reflect economic reality. It ignores the possibility that the

23 It is not necessary for courts or the IRS to calculate built-in gain discounts when valuing ownership interests in publicly-traded businesses. When business interests are publicly-traded, the market determines their fair market value. *See, e.g.*, Treas. Reg. § 20.2031-2(b)(1) (as amended in 2006) (“In general, if there is a market for stocks or bonds . . . the mean between the highest and lowest quoted selling prices on the valuation date is the fair market value per share or bond.”). Unfortunately, when closely-held business interests are transferred, reliable market pricing is not available. Instead, the value of the business interest is based on the amount of the interest (i.e., 40% of the company), the total value of the company, and any valuation discounts (i.e. minority interest discounts, lack of marketability discounts). *See, e.g.*, Treas. Reg. § 20.2031-2(f) (as amended in 2006) (providing a list of factors to use when determining the price of an interest when the selling or bid prices are unavailable). Even when valuing closely-held businesses, it is not always necessary for the courts or the IRS to calculate built-in gain discounts. When a company primarily performs services for pay, for example, it often makes sense to determine company value based on factors like goodwill and cash flow. Treas. Reg. § 20.2031-2(f) (as amended in 2006). However, when a company does not actively engage in business, and instead primarily or exclusively holds and manages assets on behalf of its owners, it often makes sense to determine company value based on the net value of the assets that the company holds. *See Estate of Jameson v. Comm’r*, 267 F.3d 366, 371 (5th Cir. 2001) (“The IRS has typically applied an asset approach when a closely held corporation functions as a holding company, and earnings are relatively low in comparison to the fair market value of the underlying assets.”); Rev. Rul. 59-60 § 5(a)-(b), 1959-1 C.B. 237 (instructing appraisers of closely-held investment or real estate holding companies to determine fair market value based on the assets of the company, since “adjusted net worth [of the company’s assets] should be accorded greater weight in valuing the stock of a closely held investment or real estate holding company, whether or not family owned, than any other customary yardsticks of appraisal, such as earnings or dividend paying capacity.”). Similarly, when a company both holds and manages assets on behalf of its owners and engages in active business, the company’s value is often measured by considering both its net asset value (which will involve a consideration of built-in gains) and its ability to earn future profits.

24 *Estate of Jelke v. Comm’r*, 507 F.3d 1317, 1333 (11th Cir. 2007).

25 *See, e.g., id.* at 1332 (acknowledging that the dollar-for-dollar method relies on “the arbitrary assumption that all assets are sold in liquidation on the valuation date, and 100% of the built-in capital gains tax liability is offset against the fair market value of the stock, dollar-for-dollar”).

corporation will delay incurring tax and, in present value terms, pay less tax. *Jelke* is an example of the dollars at stake in these valuation disputes. By granting a dollar-for-dollar discount, the Eleventh Circuit agreed with the taxpayer that the corporation being valued was worth \$51 million less than its net asset value as a result of built-in gains in its assets. If the court had instead calculated the discount using the method advocated in this Article, the built-in gain discount would have been approximately \$34 million.²⁶

The *Jelke* case is not unusual. “[A]mounts in controversy are often in the millions of dollars”²⁷ when a court is determining the appropriate amount of built-in gain discount. Given the significant tax revenue at stake in the dispute over built-in gains, the IRS sought Supreme Court review of the Eleventh Circuit’s opinion. In its Petition for Certiorari, the IRS argued that the Supreme Court should hear the case because of the revenue at stake. It explained:

The specific question of how to calculate the appropriate discount for capital gains tax liability when valuing a company with appreciated assets is . . . important in its own right. The rule adopted [in *Jelke*] by the [Eleventh Circuit] court of appeals would be likely to result in a significant loss of tax revenue for the government. The court’s rule would, in numerous cases, give taxpayers the windfall of a dollar-for-dollar discount on the taxable value of their property based on an immediate capital gains tax that they almost certainly would not incur. The consequent loss in tax revenue would likely be substantial because there has been a tremendous amount of appreciation in the value of assets over the last thirty years.²⁸

Despite the IRS request, however, or perhaps because the alternative methods for calculating built-in gain discounts available at the time were also problematic for reasons described below, the Supreme Court denied certiorari in October 2008.²⁹

26 The method advocated in this Article would have resulted in a \$34,140,657.63 built-in gain discount from the corporation’s net asset value, based on the 6.45% long-term applicable federal rate at the time of valuation and application of the other assumptions detailed in Part II.A, *infra*.

27 Brent B. Nicholson, *Of Rocks and Hard Places: Opting for Arbitrariness or Speculation in the Built-In Capital Gains Tax Discount in the Valuation of Closely Held Businesses for Estate and Gift Tax Purposes*, 10 TRANSACTIONS: TENN. J. BUS. L. 175, 197 (2009); see also *Estate of Simplot v. Comm’r*, 112 T.C. 133 (1999), *rev’d and remanded on separate issue*, 249 F.3d 1191 (9th Cir. 2001) (involving a dispute over a corporation with more than \$176.4 million in built-in gains); *Estate of Litchfield v. Comm’r*, 97 T.C.M. (CCH) 1079, at *3, *8 (2009) (involving a dispute over one corporation with \$28 million in built-in gains and a second corporation with almost \$39 million in built-in gains); *Estate of Jameson v. Comm’r*, 77 T.C.M. (CCH) 1383, at *4 (1999) (involving a dispute over a corporation with \$4.91 million in built-in gains).

28 Petition for Writ of Certiorari at 23–24, *Comm’r v. Estate of Jelke*, 129 S. Ct. 168 (2008) (No. 07–1582, 2008 WL 2472932) (recommending rejection of the rule that the Eleventh Circuit adopted in *Jelke*, 507 F.3d 1317).

29 *Jelke*, 507 F.3d 1317, *cert. denied*, *Comm’r v. Jelke*, 129 S. Ct. 168 (2008).

I. COURT AND IRS TREATMENT OF BUILT-IN GAINS

The dispute over valuation discounts for built-in gains is not new. Courts and IRS officials have long struggled over whether to grant a discount when valuing a closely-held corporation based on built-in gains in the corporation's assets, and if so, how to calculate that discount.

A prior solution, commonly relied upon by courts before 1986 and advocated by the IRS until at least 1991,³⁰ was to determine whether a corporation had imminent plans to liquidate. If the corporation did not have imminent plans to liquidate, then courts would refuse to award a valuation discount, finding that future tax liabilities were too speculative and remote to justify current valuation discounts.³¹ This approach resulted in the denial of many taxpayer requests for valuation discounts. After a change in the law in 1986,³² the courts eventually rejected this approach based on the reasoning that while the *amount* of future taxes on built-in gains was speculative, the existence of such taxes was certain. Thus, courts began granting a discount of some amount. However, a circuit split emerged regarding the proper amount of discount and proper method for calculating the discount and that split remains unresolved today. Indeed, even the IRS's own position advanced in litigation has varied from case to case.³³

A. General Utilities and the Denial of Any Built-In Gain Discount

In 1935, in *General Utilities & Operating Co. v. Helvering*, the United States Supreme Court held that a corporation did not recognize taxable gain at the entity level upon the distribution of appreciated property to its shareholders.³⁴

³⁰ See, e.g., I.R.S. Tech. Adv. Memo. 91-50-001 (Dec. 13, 1991) (demonstrating that well after the repeal of the *General Utilities* doctrine the IRS maintained its position that, in determining the value of stock based on net asset value, no discount should be allowed for potential taxes that would be incurred by the corporation upon its liquidation and disposition of appreciated assets when there is no evidence of immediate liquidation plans).

³¹ See discussion *infra* Part I.A.2 and cases cited *infra* note 38, especially *Estate of Jelke v. Comm'r*, 507 F.3d 1317, 1322 (11th Cir. 2007) (reflecting courts' prior reluctance to grant valuation discounts if corporations did not have plans to liquidate immediately).

³² See discussion *infra* Part I.A.3 and note 40.

³³ For example, in *Estate of Davis v. Commissioner*, 110 T.C. 530, 552-54 (1998), the IRS's own expert discounted the net asset value of the relevant corporation by 15% to reflect built-in gains, forcing the IRS to argue against its own expert. In the appeal of *Estate of Dunn v. Commissioner*, the IRS argued for a built-in gain discount that was different from the discount it had advocated at the Tax Court level. *Estate of Dunn v. Comm'r*, 301 F.3d 339, 352 (5th Cir. 2002). The Fifth Circuit Court of Appeals took issue with the IRS's inconsistency, noting that "the Commissioner's abrupt change of position on appeal is so inconsistent and unreconcilable [sic] with his pretrial and trial positions that all of his urgings to us are rendered highly suspect." *Id.* at 350.

³⁴ *Gen. Utils. & Operating Co. v. Helvering*, 296 U.S. 200, 206-07 (1935) (holding that General Utilities did not incur an entity-level tax upon the distribution to its shareholders of common stock in another corporation which General Utilities had purchased for ten cents per share but which had grown to a value of \$56.125 per share at the time it was distributed to General Utilities

1. *The General Utilities Doctrine.*—Following the Supreme Court’s holding in *General Utilities*, Congress codified the Court’s ruling.³⁵ It enacted Code § 311(a), providing that “no gain or loss shall be recognized to a corporation upon the distribution (not in complete liquidation) with respect to its stock of – (1) its stock . . . or, (2) property.”³⁶ It also enacted Code § 336, providing that “no gain or loss shall be recognized to a corporation on the distribution of property in complete liquidation” as long as the liquidation was completed within twelve months of adoption of a liquidation plan.³⁷ Taken together, §§ 311 and 336 allowed corporations to make both non-liquidating and liquidating distributions of appreciated property without incurring any entity-level tax on the appreciation. As a result of the *General Utilities* decision and the statutory enactments reflecting and expanding it, corporations holding assets with built-in gains could avoid an entity-level tax on those gains by distributing the built-in gain assets to their shareholders.

2. *Courts Applying General Utilities Usually Denied the Discount Unless Liquidation Was Imminent.*—In the fifty-one years from 1935 (when *General Utilities* was decided) until 1986 (when the *General Utilities* doctrine was legislatively overturned in connection with a major revision of the Tax Code), courts almost universally³⁸ denied all valuation discounts for built-in gains unless the taxpayer could prove that the corporation had imminent plans to liquidate and would incur entity-level tax upon liquidation. While taxpayers

shareholders).

35 Estate of Jelke v. Comm’r, 507 F.3d 1317, 1322 n.15 (11th Cir. 2007) (citing the former I.R.C. § 311(a) (1954)).

36 I.R.C. § 311(a) (2012) (originally enacted as Internal Revenue Code of 1954, Pub. L. No. 83–591, § 311(a), 68A Stat. 3, 134).

37 Internal Revenue Code of 1954, Pub. L. No. 83–591, § 336(a), 68A Stat. 3, 146 (current version at I.R.C. § 336(a) (2012)); § 337(a), 68A Stat. at 146 (current version at I.R.C. § 337(a) (2012)) (“If, within the 12 month period beginning on the date on which a corporation adopts a plan of complete liquidation, all of the assets of the corporation are distributed in complete liquidation . . . then no gain or loss shall be recognized to such corporation from the sale or exchange by it of property within such 12 month period.”).

38 “With one exception during this fifty-one year period [from 1935 to 1986], case law did not allow a discount for built-in capital gains tax liability when a sale or liquidation was neither planned nor imminent, as it was deemed by the courts to be too uncertain, remote or speculative.” *Jelke*, 507 F.3d at 1322; “The exception was *Obermer v. United States*, 238 F. Supp. 29 (D. Haw. 1964), where a capital gains discount was permitted when the taxpayer established that the assets were required to be sold by the corporation to meet the terms of a restrictive agreement. Therefore, liquidation was proved by the taxpayer to be imminent and not speculative.” *Id.* at 1322 n.16. In *Obermer*, the district court granted a built-in gain discount as part of an overall 33 and 1/3 % discount from the corporation’s net asset value after the taxpayer established that the corporation’s value was negatively impacted by its obligation to routinely sell appreciated assets and incur “substantial capital gains taxes” upon such sales in order to satisfy its contractual obligation with debenture holders to retire a minimum amount of debentures each year. *Obermer v. United States*, 238 F. Supp. 29, 33, 36 (D. Haw. 1964). *But see* I.R.S. Tech. Adv. Memo. 81–49–011 (Aug. 31, 1981) (stating that the IRS will not follow *Obermer*).

claimed that built-in gains in assets owned by closely-held corporations decreased the value of those corporations, courts rejected the argument. Instead, courts reasoned that because it was uncertain when the tax liabilities on those gains would be incurred and whether they would be incurred at the corporate level or avoided by a *General Utilities* sanctioned distribution of appreciated assets to shareholders, these potential liabilities were too speculative to justify a valuation discount.³⁹

3. *The Repeal of the General Utilities Doctrine.*—The *General Utilities* doctrine was repealed by the Tax Reform Act of 1986.⁴⁰ Section 336 now provides for the recognition of gain at the corporate level upon the distribution of appreciated property by the corporation to its shareholders in connection with a corporate liquidation,⁴¹ and § 311(b) now provides for recognition upon non-liquidating distributions.⁴² In each instance, the amount of gain recognized by the corporation is equal to the difference between the corporation's basis in the asset and the asset's fair market value at distribution.⁴³

39 See, e.g., *Estate of Andrews v. Comm'r*, 79 T.C. 938, 942 (1982), *superseded by statute*, Tax Reform Act of 1986, Pub. L. No. 99-514, 100 Stat. 2085 (codified as amended in scattered sections of 16 U.S.C., 19 U.S.C., 25 U.S.C., 26 U.S.C., 28 U.S.C., 29 U.S.C., 42 U.S.C., 46 U.S.C., and 49 U.S.C.); *Estate of Piper v. Comm'r*, 72 T.C. 1062, 1081-82 (1979), *action on dec.*, 1980-46 (Apr. 4, 1980), *superseded by statute*, Tax Reform Act of 1986, Pub. L. No. 99-514, 100 Stat. 2085; *McTighe v. Comm'r*, 36 T.C.M. (CCH) 1655 (1977); *Gallun v. Comm'r*, 33 T.C.M. (CCH) 1316 (1974) (rejecting request for built-in gain discount when liquidation was not imminent); *Estate of Thalmeier v. Comm'r*, 33 T.C.M. (CCH) 877 (1974), *aff'd in part and remanded*, 532 F.2d 751 (4th Cir. 1976), *action on dec.*, 1974-203 (Feb. 24, 1975); *Estate of Cruikshank v. Comm'r*, 9 T.C. 162, 165 (1947) (denying built-in gain discount for a corporation with \$100,792.73 built-in gains and stating that "a hypothetical and suppositious liability for taxes on sales not made nor projected" should not be treated as "a necessary impairment of existing value" and would not justify a valuation discount); *Estate of Huntington v. Comm'r*, 36 B.T.A. 698, 706 (1937) (rejecting estate's request to discount the value of a corporation to reflect the carrying charges, taxes, and other expenses it would incur upon the sale of its real estate holdings, and expressing concern that "an attempt on [its] part to arrive at values based upon any specific percentage of discount would constitute a mere guess").

40 See Tax Reform Act of 1986, Pub. L. No. 99-514, § 631, 100 Stat. 2085 (codified as amended in scattered sections of 16 U.S.C., 19 U.S.C., 25 U.S.C., 26 U.S.C., 28 U.S.C., 29 U.S.C., 42 U.S.C., 46 U.S.C., and 49 U.S.C.).

41 I.R.C. § 336(a) (2012) ("Except as otherwise provided in this section or section 337, gain or loss shall be recognized to a liquidating corporation on the distribution of property in complete liquidation as if such property were sold to the distributee at its fair market value.").

42 See I.R.C. § 311(b)(1) (2012) ("If a corporation distributes property . . . to a shareholder in a distribution to which subpart A applies [including a regular dividend], and the fair market value of such property exceeds its adjusted basis (in the hands of the distributing corporation), then gain shall be recognized to the distributing corporation as if such property were sold to the distributee at its fair market value.").

43 See I.R.C. § 336(a) (2012) (providing that amount of gain is "as if such property were sold to the distributee at its fair market value"); I.R.C. § 337 (2012) (providing for nonrecognition of gain in certain situations when property is distributed to a parent entity in complete liquidation of a subsidiary entity).

B. A Circuit Split Following Repeal of the General Utilities Doctrine

For many years following the repeal of the *General Utilities* doctrine, courts and the IRS continued to apply pre-repeal precedents to deny any amount of built-in gain discount when valuing corporations that did not have immediate plans to liquidate.⁴⁴

Estate of Davis v. Commissioner,⁴⁵ decided approximately twelve years after the repeal of the *General Utilities* doctrine, was the first Tax Court case to abandon the requirement that a corporation must have immediate plans to liquidate in order to qualify for a built-in gain discount. The decedent in *Davis* “was one of the founders of Winn-Dixie Stores, Inc.”⁴⁶ Through a trust, he owned all of the stock of a closely-held corporation.⁴⁷ That corporation held various assets, including over \$70 million worth of Winn-Dixie stock.⁴⁸ Prior to his death, the decedent had gifted 25% of the corporation’s stock to each of his sons⁴⁹ and filed gift tax returns claiming that each gift was worth approximately \$7.5 million.⁵⁰ In reaching this value, the taxpayer (the decedent’s estate) claimed a built-in gain discount, even though the closely-held corporation had no plans to liquidate or to sell the highly appreciated Winn-Dixie stock.⁵¹ The IRS challenged the valuation, claiming that each gift was worth more than \$12 million.⁵²

Although the Tax Court had previously denied valuation discounts for built-in gains except when liquidation of the closely-held corporation was imminent, the IRS’s ability to oppose even a partial discount “was likely undermined by its own expert, who had included some discount for the tax effect [of built-in gains] as part of the [conceded] marketability discount.”⁵³ Thus,

44 See, e.g., *Estate of Luton v. Comm’r*, 68 T.C.M. (CCH) 1044, at *8 (1994) (citing cases decided prior to the repeal of the *General Utilities* doctrine and applying pre-repeal reasoning to deny built-in gain discount); *Estate of Ford v. Comm’r*, 66 T.C.M. (CCH) 1507, at *15 (1993) (citing cases decided prior to the repeal of the *General Utilities* doctrine for the proposition that liquidation costs, “including taxes,” are not accounted for in a “valuation where the prospect of liquidation is merely speculative”), *aff’d*, 53 F.3d 924 (8th Cir. 1995).

45 110 T.C. 530 (1998).

46 *Id.* at 531.

47 See *id.* (stating that all of the stock in ADDI&C, the closely-held corporation, was owned by a trust for the benefit of decedent).

48 See *id.* at 532–33 (noting that ADDI&C owned various assets, including 1,020,666 shares of Winn-Dixie stock and providing a table of ADDI&C’s assets, which shows that its Winn-Dixie stock was worth \$70,043,204 and had a cost basis of \$338,283 as of the valuation date).

49 *Id.* at 531 (stating that each gift to a son represented 25.77% of ADDI&C stock).

50 *Id.* at 534. The taxpayer later modified its valuation downwards to \$6,904,886. *Id.* at 535.

51 See *id.* at 534 (“On the valuation date, ADDI&C had not adopted a formal plan of liquidation, nor was there any intention by that corporation or decedent to liquidate ADDI&C or to dispose of its Winn-Dixie stock.”).

52 *Id.* The IRS later modified its valuation upwards to \$13,518,500 but did not claim an additional gift tax deficiency. *Id.* at 535 & n.2.

53 Nicholson, *supra* note 27, at 180–81; see also *Davis*, 110 T.C. at 539 (proposing a \$10,578,516

for the first time, the Tax Court ordered that a partial built-in gain discount was appropriate even in the absence of imminent liquidation plans.⁵⁴ The court reasoned that cases decided prior to the repeal of the *General Utilities* doctrine no longer applied⁵⁵ and recognized the practical reality that hypothetical willing and informed buyers and sellers would agree to a lower price for corporate stock given built-in gains in the corporation's assets.⁵⁶ It held that a built-in gain discount should be awarded as part of a broader lack-of-marketability discount regardless of whether a corporation plans to liquidate.⁵⁷

After approving a partial discount, the *Davis* court was then faced with the difficult task of determining what amount of built-in gain discount should be granted. The taxpayer, supported by its first expert, argued that the full amount of its imputed current tax liability (\$25,395,109) should be granted as a valuation discount.⁵⁸ The court rejected the taxpayer's argument, holding that, "where no liquidation of" the closely-held corporation being valued "or sale of its assets was planned or contemplated on the valuation date, the full amount of" imputed current "tax may not be taken as a discount."⁵⁹ Rather, the court calculated a partial discount.⁶⁰ While the combined state and federal tax rate at the time of valuation was 37.63%,⁶¹ the court held that the partial discount should be determined not by applying the full tax rate to the built-in gains, but instead by applying a hypothetical 15% tax rate.⁶² Noting that "valuation is necessarily an approximation and a matter of judgment, rather than of mathematics, on which the petitioner [i.e. the taxpayer] has the burden of proof," the court granted a \$9 million built-in gain discount as a component of the lack-of-marketability discount.⁶³ This was only approximately 35% of

discount attributable to the closely-held corporation's built-in gains tax liability).

54 *Davis*, 110 T.C. at 550.

55 *See id.* at 551-52 ("Except for *Estate of Luton* . . . and *Estate of Ford* . . . , the other cases on which [the IRS] relies . . . involved valuation dates that preceded the repeal of the *General Utilities* doctrine.").

56 *Id.* at 550.

57 *See id.* at 553 ("[W]e find that on the valuation date there was even less of a ready market for . . . [ownership interests in ADDI&C] because of ADDI&C's built-in capital gains tax than there would have been . . . without such a tax. We thus also agree . . . that a discount or adjustment for some amount of ADDI&C's built-in capital gains tax should be taken into account in valuing each block of stock at issue and that such a discount or adjustment should be part of the marketability discount . . .").

58 *Id.* at 539.

59 *Id.* at 552-53.

60 *Id.* at 553-54.

61 *Id.* at 549 n.14.

62 *See id.* at 553-54 (accepting the approach of two experts—one on behalf of the taxpayer and one on behalf of the IRS—who had concluded that a 15% discount for ADDI&C's built-in capital gains tax should be included as part of the lack-of-marketability discounts that they determined).

63 *Id.* at 554.

the dollar-for-dollar discount requested by the taxpayer.⁶⁴ Nonetheless, it was a significant win for the taxpayer in that some amount of built-in gain discount was allowed.

While *Davis* marked the turning point for the Tax Court, *Eisenberg v. Commissioner*,⁶⁵ decided just a couple of months after *Davis*, marked the turning point for the Second Circuit Court of Appeals. By its later acquiescence in *Eisenberg*, the IRS would eventually concede that built-in gain discounts should be provided to corporations even when they do not have immediate liquidation plans.

In *Eisenberg*, the taxpayer owned stock in a closely-held C-Corporation that owned a commercial building.⁶⁶ Each year for three years, the taxpayer gifted shares in the C-Corporation to her child and grandchildren and reported gift values based on the appraised value of the building minus the full amount of tax that would be incurred if the building were sold immediately.⁶⁷ Meanwhile, the taxpayer conceded that there were no plans to sell the building.⁶⁸ The IRS disputed these gift tax valuations and argued that the taxpayer was not entitled to any built-in gain discount.⁶⁹ Unfortunately for the IRS, while it won at the Tax Court level,⁷⁰ the Second Circuit Court of Appeals vacated the Tax Court opinion and held that at least a partial built-in gain discount was appropriate.⁷¹ The Second Circuit reasoned that prior cases denying built-in gain discounts were inapplicable following the repeal of the *General Utilities* doctrine⁷² and that *Davis* was persuasive.⁷³ It noted that fair market value depends on how a hypothetical buyer and seller would price an asset.⁷⁴ Since a hypothetical buyer

64 A dollar-for-dollar discount would have been \$26,686,614 (reflecting net built-in gains multiplied by the combined federal and state tax rate of 37.63%). *Id.* at 549 & n.14. A partial discount of \$9,000,000 (33.7% of \$26,686,614) was granted. *Id.* at 554.

65 155 F.3d 50 (2d Cir. 1998).

66 *Id.* at 51–52.

67 *Id.* at 52.

68 *Id.*

69 *Eisenberg v. Comm'r*, 74 T.C.M. (CCH) 1046, at *3 (1997), *vacated*, 155 F.3d 50 (2d Cir. 1998).

70 *Id.* at *4 (“We agree with [the IRS] that a discount for capital gain taxes does not apply here.”). Even after fully considering the implications of the repeal of the *General Utilities* doctrine, the Tax Court in *Eisenberg* held that “it is inapposite to apply a discount for potential capital gain taxes when the recognition event itself [i.e., the liquidation of the corporation or the disposition of built-in gain assets] is purely speculative.” *Id.* at *4–5.

71 *Eisenberg*, 155 F.3d at 59.

72 *Id.* at 57 (“Now that the TRA [Tax Reform Act of 1986] has effectively closed the option to avoid capital gains tax at the corporate level, reliance on these cases in the post-TRA environment should, in our view, no longer continue.”).

73 *Id.* at 58.

74 *Id.* at 57 (“Our concern in this case is not whether or when the donees will sell, distribute or liquidate the property at issue, but what a hypothetical buyer would take into account in computing fair market value of the stock. We believe it is common business practice and not mere speculation to conclude a hypothetical willing buyer, having reasonable knowledge of the relevant facts, would take some account of the tax consequences of contingent built-in capital gains on the sole asset

would demand a discount on the price of the corporation's stock given the existence of a built-in tax liability, the court reasoned that tax law must also recognize such a discount.⁷⁵ The Second Circuit remanded the case to the Tax Court to determine the appropriate amount of discount.⁷⁶ While the Second Circuit disapproved of a dollar-for-dollar discount,⁷⁷ it did not provide the Tax Court with any specific method for calculating the built-in gain discount. Given that there is no reported decision from the remand of *Eisenberg*, it is likely that the parties settled the case after the appeal.

In 1999, the IRS formally acquiesced in the *Eisenberg* ruling, indicating that it would allow at least partial built-in gain discounts.⁷⁸ However, by allowing built-in gain discounts for companies with no immediate plans to liquidate, the courts and the IRS set the stage for a dispute over what amount of built-in gain discount should be granted. That dispute remains unresolved.

1. Courts Granting Partial Discounts By Splitting the Difference Between Appraisals.—As is noted above, the earliest cases granting built-in gain discounts, *Davis* and *Eisenberg*, granted partial discounts but either failed to specify a methodology to calculate the discount or relied on rough approximations.

In an unreported case, *Estate of Welch v. Commissioner*,⁷⁹ the Sixth Circuit joined the Second Circuit and the Tax Court in upholding built-in gain discounts while ruling that they should be partial rather than dollar-for-dollar. The *Welch* court remanded the case to the Tax Court with instructions that “[w]hile petitioners may not be entitled to deduct the full amount of [the

of the Corporation at issue in making a sound valuation of the property. . . . The issue is not what a hypothetical willing buyer plans to do with the property, but what considerations affect the fair market value of the property he considers buying.”)

75 See *id.* at 57–58 (citing John Gilbert, *After the Repeal of General Utilities: Business Valuations and Contingent Income Taxes on Appreciated Assets*, MONT. LAW, Nov. 1995, at 5) (“[T]here is simply no evidence to dispute the fact that a hypothetical willing buyer today would likely pay less for the shares of a corporation because of the buyer’s inability to eliminate the contingent tax liability.”).

76 *Id.* at 59.

77 See *Estate of Jelke v. Comm’r*, 507 F.3d 1317, 1326 (11th Cir. 2007) (citing *Eisenberg*, 155 F.3d at 58 n.15) (“There is dicta in *Eisenberg* to suggest . . . that it would be incorrect to conclude that the full amount of the potential capital gains tax should be used.”). In footnote fifteen, the *Eisenberg* court provided an example of a calculation that would be used to determine a dollar-for-dollar built-in gain discount and cautioned as follows: “One might conclude from this example that the full amount of the potential capital gains tax should be subtracted from what would otherwise be the fair market value of the real estate. That would not be a correct conclusion.” *Eisenberg*, 155 F.3d at 58 n.15.

78 *Eisenberg*, 155 F.3d 50 (2d Cir. 1998), *acq.*, 1999–01 (Jan. 28, 1999) (“We acquiesce in [*Eisenberg*] to the extent that it holds that there is no legal prohibition against such a [built-in gain] discount. The applicability of such a discount, as well as its amount, will hereafter be treated as factual matters to be determined by competent expert testimony based upon the circumstances of each case and generally applicable valuation principles.”); see also I.R.S. Announcement Relating to Court Decisions, 1999–4 I.R.B. 4 (Jan. 25, 1999).

79 No. 98–2007, 2000 WL 263309 (6th Cir. Mar. 1, 2000).

built-in gains tax] liability . . . they should be given the opportunity to present evidence of the appropriate amount that the hypothetical willing buyer and seller would consider as a discount”⁸⁰

Later cases have also granted partial built-in gain discounts based on unspecified methods or by splitting the difference between competing expert opinions. For example, in *Estate of Borgatello*,⁸¹ the taxpayer’s expert argued for a dollar-for-dollar built-in gain discount (which would have resulted in a 32.3% discount to net asset value),⁸² while the IRS’s expert argued that the built-in gain tax liability would be incurred in the future and, thus, needed to be discounted to its present value. In performing the present value calculation, the IRS’s expert assumed that the built-in gain assets would be held for ten years, assumed that the assets would experience 2% annual appreciation, and applied an 8.3% discount rate (reflecting the long-term applicable federal rate plus a 2% risk premium).⁸³ These calculations would have resulted in a 20.5% discount to net asset value.⁸⁴

After hearing from the experts, the Tax Court reasoned that applying a dollar-for-dollar discount “to the net asset value is unrealistic because it does not account for any holding period for the [built-in gain] assets. The estate’s expert concedes that there would be some period of tax deferral although he did not articulate how long the period of deferral would be.”⁸⁵ After faulting the taxpayer’s expert for failing to account for a period of deferral, the Tax Court also rejected the IRS’s assumption that the tax would be deferred for ten years. It stated, “[a]lthough there is no evidence that a willing buyer . . . would immediately liquidate the assets, there is also not much support for respondent’s contention that a buyer would wait 10 years before liquidating the assets.”⁸⁶ Using the discount requested by the taxpayer (32.3%) and the discount proposed by the IRS (20.5%) to set the “range of discount values,” the court reached a “middle ground” and awarded a 24% discount.⁸⁷ Unfortunately, the method of splitting the difference between appraisals undermines the predictability of tax law, fosters judicial inconsistency, and invites costly and protracted battles of the experts.

2. Courts Granting Partial Discounts Based on Present Value Calculations and the Assumption that a Corporation’s Historical Pattern of Asset Sales Will Continue.— Although the Tax Court’s decision in *Jelke* was not the first decision to grant a partial built-in gain discount based on present value calculations and the

⁸⁰ *Id.* at *6.

⁸¹ 80 T.C.M. (CCH) 260 (2000).

⁸² *Id.* at *10.

⁸³ *Id.*

⁸⁴ *Id.*

⁸⁵ *Id.*

⁸⁶ *Id.* at *11.

⁸⁷ *Id.*

assumption that a corporation's historical pattern of asset sales will continue,⁸⁸ it is the decision that explains the method in the most detail.⁸⁹ Further, of the various methods for calculating built-in gain discounts currently used by courts, this method, explained by Judge Joel Gerber, then Chief Judge of the Tax Court, most closely approximates economic reality.

While both experts in *Jelke* agreed that some amount of built-in gain discount was appropriate, approximately \$30 million was at stake in their dispute over the proper method to calculate the built-in gain discount.⁹⁰ The decedent's gross estate included a 6.44% interest in a closely-held C-Corporation (Commercial Chemical Co.), which held and managed assets, primarily consisting of marketable securities, on behalf of its shareholders.⁹¹ Ignoring anticipated tax liabilities due to built-in gains, the net asset value of the corporation was approximately \$188 million.⁹² If all assets were liquidated on the valuation date, however, a built-in gain tax liability of approximately

88 For example, see *Estate of Jameson v. Commissioner*, 77 T.C.M. (CCH) 1383, *17 (1999), *rev'd and remanded*, 267 F.3d 366 (5th Cir. 2001), where the Tax Court performed a calculation of the present value of future tax liabilities assuming that built-in gains would be realized ratably over the nine years following valuation. The nine-year estimate was not based on the historical asset turnover rate of the corporation; rather, it was based on a related concept, the historical rate of timber harvest by the corporation. *Id.* Because the corporation had made a valid election under I.R.C. § 631(a), it was taxed on the built-in gains in its timber when the timber was harvested. *Id.* at *3, *16. Since it was projected that the timber with built-in gains would be harvested over the next nine years, the Tax Court projected ratable realization of gains over those years, employing an anticipated 4% rate of inflation, 34% tax rate, and 20% discount rate. This would have resulted in an \$85,462 discount for built-in gains, rather than the \$1,870,000 dollar-for-dollar discount requested by the taxpayers. *Estate of Jameson* was reversed and remanded by the Fifth Circuit Court of Appeals because the Tax Court's analysis contained contradictory assumptions and assumed that a hypothetical willing buyer would engage in economically irrational behavior. See *Estate of Jameson v. Comm'r*, 267 F.3d 366 (5th Cir. 2001). Specifically, the Fifth Circuit found that a hypothetical willing buyer would not continue to operate a business that offered a 14% rate of return (the rate identified by the Tax Court) if the discount rate was 20% (the discount rate employed by the Tax Court in its present value calculations). *Id.* at 372. If these numbers were accurate, "[i]nstead, the investor would liquidate [the closely held company] quickly and reinvest the proceeds" in an investment that fetched a rate of return greater than the discount rate. *Id.* at 372. For another example of where a court granted partial built-in gain discounts based on present value calculations and the assumption that the corporation's historical pattern of asset sales would continue, see *Estate of Bailey v. Commissioner*, 83 T.C.M. (CCH) 1862 (2002). There, the IRS's expert proposed a present value calculation that assumed a five-year holding period, included anticipated appreciation on the assets at a rate of 2% annually, assumed selling expenses of 7%, and assumed a 8% discount rate. *Id.* at *10. This method was rejected by the Tax Court for several reasons including that in its deficiency notice, the IRS had already effectively agreed to the total 50% valuation discount requested by the taxpayer. *Id.* at *11-12.

89 *Estate of Jelke v. Comm'r*, 89 T.C.M. (CCH) 1397 (2005), *vacated and remanded*, 507 F.3d 1317 (11th Cir. 2007).

90 *Id.* at *6, *8-9. The taxpayer's expert argued for a dollar-for-dollar discount for built-in gain of \$51 million. The IRS's expert argued that the \$51 million built-in gain would be realized over an approximately sixteen-year period, and that discounting for present value meant that the built-in gain discount should be \$21 million.

91 *Id.* at *1.

92 *Id.* at *3.

\$51 million would have been incurred.⁹³ The corporation had no plans to liquidate on the valuation date.⁹⁴ Indeed, it rarely sold assets.⁹⁵

Instead of granting the dollar-for-dollar discount requested by the taxpayer, Judge Gerber employed a present value approach advocated by the IRS's expert. First, the expert computed the percentage of its total assets the corporation sold in the average year (finding an average annual asset turnover rate of 5.95%). The expert divided 100% of the assets by the 5.95% annual turnover rate and concluded that the corporation would sell all assets and therefore realize all built-in gains ratably over a 16.8-year period.⁹⁶ Apportioning the \$51 million total tax liability on built-in gains ratably over 16 years, the expert concluded that \$3,226,680 in tax on built-in gains would be incurred each year.⁹⁷ Applying a 13.2% discount rate (based on the average rate of return for large-cap stocks),⁹⁸ the discounted present value of a \$3,226,680 liability incurred in each of the next 16 years was approximately \$21 million.⁹⁹ Based on these calculations, Judge Gerber granted an approximately \$21 million built-in gain discount rather than the \$51 million dollar-for-dollar discount requested by the taxpayer.¹⁰⁰

While Judge Gerber's method was rejected by the Eleventh Circuit when that court reversed *Jelke* on appeal and granted a dollar-for-dollar discount,¹⁰¹ it won the support of dissenting appellate Judge Carnes.¹⁰² Additionally, even in cases decided after the Eleventh Circuit's decision in *Jelke*, the Tax Court continues to employ a present value method for calculating built-in gain discounts, apparently believing that circuits other than the Eleventh, the Fifth, and possibly the Ninth (which have all favored dollar-for-dollar discounts) might be receptive to partial built-in gain discounts based on present value

93 See *id.* at *3. The estate attempted to reduce CCC's \$188,635,833 net asset value by \$51,626,884 for the tax liability on its built-in gains. *Id.*

94 *Id.* at *2.

95 See *id.* at *8 ("Using that data, [the IRS's expert] computed a 5.95-percent average annual turnover [rate] derived from the parties' stipulated asset turnover rates for 1994-98.").

96 *Id.* at *8.

97 *Id.* at *9.

98 Note that this factor was high. Generally, discount factors for present value calculations are based on the risk-free rate of return (often measured by the rate of return on Treasury bills, for example) rather than a risk-inclusive measure such as the rate of return for large-cap stocks.

99 Estate of *Jelke v. Comm'r*, 89 T.C.M. (CCH) 1397, at *9 (2005), *vacated and remanded*, 507 F.3d 1317 (11th Cir. 2007); Jordan D. Taylor, *What's the BIG Deal? Why Taxpayers, the Courts and the IRS Disagree About a Discount for Built-In Gains*, 34 ACTEC J. 187, 194 (2008).

100 *Jelke*, 89 T.C.M. (CCH) at *1, *12 (noting that taxpayer requested a dollar-for-dollar discount of approximately \$51 million, but granting a discount of \$21,082,226).

101 Estate of *Jelke v. Comm'r*, 507 F.3d 1317, 1333 (11th Cir. 2007) (vacating the Tax Court decision by Judge Gerber and remanding the case with instructions to grant a dollar-for-dollar discount).

102 *Id.* at 1335 (Carnes, J., dissenting) (supporting the Tax Court decision by Judge Gerber because it "produces a more accurate result" than the dollar-for-dollar method).

calculations.¹⁰³ The method likely remains appealing because it is the most economically accurate of any current option. It avoids the overvaluation inherent in denying a built-in gain discount and the undervaluation inherent in granting a dollar-for-dollar built-in gain discount. However, it has a significant theoretical and an even more significant practical limitation.

a. This Method Violates the Definition of Fair Market Value by
Focusing on the Current Owner's Behavior
Rather than a Hypothetical Willing Buyer and Seller.

Even Judge Gerber's highly sophisticated method of calculating built-in gain discounts is problematic because it conflicts with regulatory definitions of fair market value. Estate and gift tax regulations define the fair market value of an asset as "the price at which the property would change hands between a willing buyer and a willing seller, neither being under any compulsion to buy or to sell and both having reasonable knowledge of relevant facts."¹⁰⁴ Discounted

¹⁰³ JOHN A. BOGDANSKI, *FEDERAL TAX VALUATION*, ¶ 6.03[6][c] (2013) [hereinafter *FEDERAL TAX VALUATION*] ("for cases not appealable to the Fifth or Eleventh Circuits, the IRS and the Tax Court have so far shown no signs of abandoning the present-value approach . . ."); see *Golsen v. Comm'r*, 54 T.C. 742, 757 (1970), *aff'd*, 445 F.2d 985 (10th Cir. 1971) (holding that the Tax Court must follow "a Court of Appeals decision which is squarely in point where appeal from [its] decision lies to that Court of Appeals and to that court alone," but noting that it may give effect to its "own views in cases appealable to courts whose views have not yet been expressed" on a particular subject). For an example of the Tax Court employing present value calculations for built-in gain discounts even after the Eleventh Circuit Court's decision in *Jelke*, see *Estate of Litchfield v. Commissioner*, 97 T.C.M. (CCH) 1079 (2009). *Litchfield* is a somewhat unusual case in that it involved the Tax Court's a valuation of two business entities (LRC and LSC) that had, approximately a year and a half before the valuation date, converted from closely-held C-Corporations into S-Corporations. *Id.* at *1-3. Perhaps in light of the possibility that the recently-converted S-Corporations could have avoided entity-level taxes on their built-in gains simply by retaining their built-in gain assets for at least eight years following the valuation date, *id.* at *2-3, the taxpayer in *Litchfield* did not seek a dollar-for-dollar discount. Rather, the taxpayer's expert performed a present value calculation that assumed projected appreciation on the assets (and therefore, projected increases in the gains subject to tax) and applied "a projected average asset holding period of 5 years" for LRC's assets and of eight years for LSC's assets. *Id.* at *9. The Tax Court adopted the calculations proposed by the taxpayer's expert. Interestingly, the 5-year and 8-year projected asset holding periods did not reflect LRC's or LSC's historical rates of asset turnover (which would have resulted in holding periods of 53.76 years and 29 years, respectively). *Id.* at *11-12. Instead, the projected asset holding periods were future projections based on interviews with current board members and a review of corporate minutes. For another example of the Tax Court employing present value calculations for built-in gain discounts even after the Eleventh Circuit Court's decision in *Jelke*, see *Estate of Jensen v. Commissioner*, 100 T.C.M. (CCH) 138 (2010), in which the Tax Court awarded a dollar-for-dollar built-in gain discount, but only after performing present value calculations that assumed that the assets would be sold at the end of their remaining "average useful or depreciable" lives, that the assets would appreciate at a rate of 5% or 7.5% annually, and that the discount rate for present value calculations would equal the rate of appreciation (meaning that assumed asset appreciation would cancel out discounting for present value).

¹⁰⁴ Treas. Reg. § 20.2031-1(b) (as amended in 1965); Treas. Reg. § 25.2512-1 (as amended in 1992).

present value calculations that assume that a corporation's historical asset turnover rate will continue focus on the behavior of the current owners of a corporation, rather than its hypothetical willing buyers.

For example, Judge Gerber's calculations were based on the assumption that CCC (the corporation being valued) would continue to sell its marketable securities at a rate of 5.95% annually, consistent with its historical practice. However, fair market value does not ask what the current owners of an asset plan to do with the asset or have done with the asset in the past.¹⁰⁵ Rather, fair market value depends on what a hypothetical purchaser would pay to purchase the asset from its current owners.

As the Fifth Circuit noted in *Estate of Jameson*, “[t]he hypothetical willing buyer/willing seller test substitutes evidence of the actual owner’s or purchaser’s intent with the most economically rational analysis of a sale.”¹⁰⁶ By focusing on evidence of the actual owner’s historical behavior and intent regarding the asset rather than focusing on a hypothetical purchaser, any method that assumes that historical asset turnover rates will continue is inconsistent with the definition of fair market value.

b. For Practical Purposes, This Method Is Limited and
May Only Be Used When the Owner Has a
Historical Pattern of Asset Sales That Is Likely to Continue.

Second and more importantly, any method of calculating built-in gain discounts based on the assumption that a corporation's historical rate of asset turnover will continue is practically limited.¹⁰⁷ This method may only be used

¹⁰⁵ See, e.g., *Morrissey v. Comm’r*, 243 F.3d 1145, 1148 (9th Cir. 2001) (citation omitted) (internal quotation marks omitted) (rejecting the Tax Court’s speculation about who would be a likely buyer for the asset subject to valuation, reasoning that, “[a]s the Tax Court itself has held, the [IRS] cannot tailor ‘hypothetical’ so that the willing seller and willing buyer were seen as the particular persons who would most likely undertake the transaction”).

¹⁰⁶ *Estate of Jameson v. Comm’r*, 267 F.3d 366, 372 (5th Cir. 2001); see also *Estate of Jelke v. Comm’r*, 507 F.3d 1317, 1321 n.11 (11th Cir. 2007) (citing *Newhouse v. Comm’r*, 94 T.C. 193, 218 (1990)) (“The buyer and seller are hypothetical, not actual persons.”); *Estate of Simplot v. Comm’r*, 249 F.3d 1191, 1195 (9th Cir. 2001) (taking issue with the Tax Court for speculating about who a hypothetical willing buyer might be and how they might act); *Propstra v. United States*, 680 F.2d 1248, 1251–52 (9th Cir. 1982) (citation omitted) (“Defining fair market value with reference to hypothetical willing-buyers and willing-sellers provides an objective standard by which to measure value. The use of an objective standard avoids the uncertainties that would otherwise be inherent if valuation methods attempted to account for . . . the feelings, attitudes, and anticipated behavior of [buyers and sellers of] the property in question”); *Estate of Jameson v. Comm’r*, 77 T.C.M. (CCH) 1383, *8 (1999), *rev’d*, 267 F.3d 366, 370 (5th Cir. 2001) (citing *Newhouse v. Comm’r*, 94 T.C. 193, 218 (1990)) (“The buyer and seller are hypothetical, not actual persons.”); *Estate of Luton v. Comm’r*, 68 T.C.M. (CCH) 1044, *4 (1994) (same).

¹⁰⁷ FEDERAL TAX VALUATION, *supra* note 103, at ¶ 6.03[6][c] (2013) (“In some cases, an established pattern by the subject corporation of selling off assets may lend an aura of reliability to the tax projections; where no such actual track record exists, however, the projections may seem quite uncertain, which is one reason why the Fifth and Eleventh Circuits have adopted the dollar-for-

when the closely-held corporation being valued has a historical asset turnover rate and when that historical rate is a reasonable prediction of the future rate.¹⁰⁸ It is quite common that a closely-held corporation owns a single piece of property¹⁰⁹ or a small number of properties.¹¹⁰ Indeed, many of the cases discussed in this Article involved closely-held corporations with a small number of highly valuable and highly appreciated assets that did not have a historical pattern of asset sales. It is also common that a closely-held corporation holds unrelated assets in a single business entity,¹¹¹ meaning that some types of assets might be sold routinely while other types of assets might be retained. In such cases, historical rates of asset turnover are either not available or not reasonably predictive of future asset turnover. In these cases, the method of calculating built-in gain discounts based on discounted present value calculations and the assumption that a corporation's historical asset turnover rate will continue is simply unavailable. If that method is used only for closely-held corporations holding numerous assets and not for those holding few assets, inequities are likely to result.

3. Courts Granting Full Discounts Based on the Assumption of Immediate Liquidation.—Currently, the predominant method used by courts to calculate built-in gain discounts is the dollar-for-dollar method.¹¹² Although it did not contain much discussion of the built-in gain discount, *Estate of Simplot v. Commissioner*,¹¹³ decided in 1999, was the first circuit court case to adopt the dollar-for-dollar method. Just as the IRS “was likely undermined by its own expert” in *Davis*,¹¹⁴ the IRS was likely undermined by its own expert in *Simplot*.

dollar approach. Even where a pattern of past sales of assets by the corporation is present, it may not represent a reliable projection of future asset sales.”).

¹⁰⁸ *Id.*

¹⁰⁹ See, e.g., *Eisenberg v. Comm’r*, 155 F.3d 50, 52 (2d Cir. 1998) (discussing that the sole asset of the closely-held corporation was a single appreciated commercial building located in Brooklyn).

¹¹⁰ See, e.g., *Estate of Bailey v. Comm’r*, 83 T.C.M. (CCH) 1862 (2002) (noting that the assets of the closely-held corporation primarily consisted of a motel in Arkansas worth approximately \$2.4 million and a motel in California worth approximately \$1.4 million); *Estate of Borgatello v. Comm’r*, 80 T.C.M. (CCH) 260 (2000) (discussing that the assets of the closely-held corporation primarily consisted of a shopping center worth \$9.6 million and another shopping center worth \$5.68 million).

¹¹¹ See, e.g., *Estate of Davis v. Comm’r*, 110 T.C. 530, 531–32 (1998) (observing that the closely-held corporation owned feeder cattle, breeding cattle, Winn-Dixie stock, and equipment).

¹¹² See *infra* note 142 (noting a circuit split with the majority of the courts favoring a dollar-for-dollar method of calculating built-in gain discounts).

¹¹³ *Estate of Simplot v. Comm’r*, 112 T.C. 130, 166 n.22 (1999), *rev’d in part and remanded on separate issue*, 249 F.3d 1191 (9th Cir. 2001).

¹¹⁴ *Nicholson*, *supra* note 27, at 180–81 (noting that after the IRS’s expert conceded a partial built-in gain discount, *Davis* became the first Tax Court case in which a partial built-in gain discount was granted in the absence of immediate liquidation plans); see also *Estate of Davis v. Comm’r*, 110 T.C. 530, 539 (1998) (explaining that the IRS’s expert proposed a \$10,578,516 discount

Simplot involved an estate tax valuation dispute regarding shares in a closely-held corporation, J.R. Simplot Co., a major food processing and agribusiness chemical company that, among other things, pioneered a technique for producing frozen French fried potatoes.¹¹⁵ At the time of valuation, the largest customer for its “potatoes” was McDonald’s.¹¹⁶ The corporation was hugely valuable¹¹⁷ and held at least one asset, Micron Technology stock, with \$176.4 million built-in gains.¹¹⁸ Unfortunately for the IRS, even its own expert had reduced the appraised value of the corporation by an amount equal to the built-in gains times the then-applicable corporate income tax rate of 40% without accounting for the possibility that the tax might be deferred.¹¹⁹ When the Tax Court adopted the IRS’s expert’s appraisal and the Ninth Circuit reversed and remanded the case based only on a separate issue, the dollar-for-dollar built-in gain discount was approved.¹²⁰

Estate of Dunn v. Commissioner,¹²¹ decided by the Fifth Circuit, was the second circuit court case to endorse a dollar-for-dollar built-in gain discount. Unlike *Simplot*, it did so despite strong objection by the IRS, which had sought a complete denial of the discount.¹²² In *Dunn*, the Tax Court granted a partial built-in gain discount reflecting “5 percent of the built-in gains.”¹²³ On appeal, the Fifth Circuit reversed the Tax Court and remanded *Dunn* with instructions

attributable to the closely-held corporation’s built-in gains tax liability).

115 *Simplot*, 112 T.C. at 133.

116 *Id.* at 135.

117 *Id.* at 175 (“[A]lthough we believe the equity value of the [J.R. Simplot] Company may be greater than \$830 million, we adopt [the IRS’s expert’s] \$830 million equity value.”).

118 *Id.* at 158–59 (estimating that if J.R. Simplot Co. sold its Micron Technology stock, it would realize \$176.4 million gains).

119 *Id.* at 159 (stating that the taxpayer’s expert applied a tax rate of 40%); *id.* at 166 n.22 (stating that the IRS’s expert applied a tax rate of 40%).

120 The references to the dollar-for-dollar discount in the Tax Court opinion are sparse. As the Tax Court explained, in determining the value of J.R. Simplot Co.’s Micron Technology stock, the IRS’s expert “multiplied Micron Technology’s share price on June 24, 1993 (\$34.63) by the number of shares J.R. Simplot Co. owned (5,259,800) and arrived at \$110,269,092.” *Id.* at 166. A careful reader will quickly observe that the multiplication of the specified share price and the specified number of shares does not result in the specified value. Only by consulting a footnote does a careful reader see that the IRS’s expert deducted a dollar-for-dollar discount prior to arriving at the specified value. It notes that the IRS’s expert deducted “estimated taxes of 40 percent attributable to the appreciation in value of the Micron Technology shares” before arriving at the value. *Id.* at 166 n.22.

121 301 F.3d 339 (5th Cir. 2002).

122 *Estate of Dunn v. Comm’r*, 79 T.C.M. (CCH) 1337 (2000), *rev’d*, 301 F.3d 339 (5th Cir. 2002) (considering argument by the IRS that no reduction for built-in gains should be granted because liquidation was not imminent). The IRS’s effort to have the built-in gain discount denied in its entirety may have been viewed with suspicion given its prior acquiescence in *Eisenberg* and associated concession that the absence of liquidation plans did not act as a “legal prohibition” against a built-in gain discount. *Eisenberg v. Comm’r*, 155 F.3d 50 (2d Cir. 1998), *acq.*, 1999–4 I.R.B. 4, *action on dec.*, 1999–01 (Jan. 28, 1999).

123 *Dunn*, 79 T.C.M. (CCH) 1337.

that a full dollar-for-dollar discount should be granted “as a matter of law”¹²⁴ on the more than \$7.1 million of built-in gains in assets held by the corporation being valued.¹²⁵ The Fifth Circuit based its holding on its view that asset-based valuations necessarily assume immediate liquidation,¹²⁶ and its contention that a hypothetical willing buyer¹²⁷ would insist “that all (or essentially all) of the latent tax liability” of a corporation must be reflected in the price of its stock.¹²⁸ After noting that the dollar-for-dollar “methodology we employ today may well be viewed by some . . . as unsophisticated, dogmatic, overly simplistic, or just plain wrong . . . [W]e observe that on the end of the methodology spectrum opposite *oversimplification* lies *over-engineering*.”¹²⁹ In a bright-line rule, the Fifth Circuit adopted a dollar-for-dollar discount for built-in gains.

While apparently seeing more bases for reservation or legitimate disagreement, the Eleventh Circuit also adopted a bright-line rule granting dollar-for-dollar discounts for built-in gains when it heard the appeal of *Jelke*.¹³⁰ As was described previously, the Tax Court decision in *Jelke* had granted a partial built-in gain discount based on present value calculations and the assumption that the corporation’s historical pattern of asset sales would

124 *Dunn*, 301 F.3d at 352–53, 359.

125 *Id.* at 354 n.27.

126 *See id.* at 353 (“[T]he hypothetical assumption that the assets will be sold is a foregone conclusion – a given – for purposes of the asset-based test. . . . When the starting point [for asset-based valuation] is the assumption of sale, the ‘likelihood’ is 100%!”). As authority for the proposition that an asset-based valuation necessarily assumes immediate liquidation, the Fifth Circuit cites SHANNON PRATT ET AL., *VALUING A BUSINESS: THE ANALYSIS AND APPRAISAL OF CLOSELY HELD COMPANIES* 34, 45, 47 (4th ed. 2000). None of the court’s citations, however, appear to establish this proposition. *See Dunn*, 301 F.3d at 353 nn.24–25. Indeed, as Jordan D. Taylor observed, “Dr. Shannon Pratt, a pre-eminent authority on the valuation of closely-held businesses[,] . . . warns that some appraisers confuse the use of the net asset value approach with a ‘liquidation premise of value’ and explains that the net asset value method may be used with *all* premises of value, including the valuation of a going concern.” Taylor, *supra* note 99, at 188–89.

127 The *Dunn* court appears to take the position that for purposes of asset-based valuations, it must be assumed that a hypothetical willing buyer is purchasing the entity solely for its assets and will value the entity based on implicit plans to immediately liquidate those assets. *See Dunn*, 301 F.3d at 352 (“The Tax Court’s fundamental error . . . is reflected in its statement that – for purposes of an asset-based analysis of corporate value – a fully-informed willing buyer of *corporate shares* . . . would *not* seek a substantial price reduction for built-in tax liability, absent that buyer’s intent to liquidate. This is simply wrong: It is inconceivable that, since the abolition of the *General Utilities* doctrine . . . any reasonably informed, fully taxable buyer (1) of an operational-control majority block of stock in a corporation (2) *for the purpose of acquiring its assets*, has not insisted that all (or essentially all) of the latent tax liability of the assets held in corporate solution be reflected in the purchase price of stock.”).

128 *Id.* at 352.

129 *Id.* at 358 n.36.

130 *Estate of Jelke v. Comm’r*, 507 F.3d 1317, 1332–33 (11th Cir. 2007). *Jelke* is particularly interesting because, while the Eleventh Circuit relied on the assumption of immediate liquidation inherent in the dollar-for-dollar method of calculating the built-in gain discount, the corporation (CCC) that it was valuing as of March 4, 1999 was in fact “precluded from liquidation until 2019.” *Id.* at 1330.

continue.¹³¹ After the Eleventh Circuit noted the circuit court split, in which some courts granted a dollar-for-dollar discount while others favored partial built-in gain discounts,¹³² it lamented that “in the more than twenty years since the [Taxpayer Relief Act of] 1986 was enacted, none of [the partial built-in gain] cases provide any precise rules for calculating the downward adjustment with any specificity, nor give guidance to tax practitioners in future cases.”¹³³ Further, it expressed concern that the use of partial discounts “requires us to either gaze into a crystal ball, flip a coin, or, at the very least, split the difference between the present value calculation projections of the taxpayers on the one hand, and the present value calculations of the Commissioner, on the other.”¹³⁴ Faced with an apparent choice between certainty and uncertainty, the Eleventh Circuit ruled that dollar-for-dollar built-in gain discounts should be granted and took solace that “[t]his 100% approach settles the issue as a matter of law, and provides certainty that is typically missing in the valuation arena.”¹³⁵

In dissent, Judge Carnes ably identified the weaknesses of the dollar-for-dollar method of calculating built-in gain discounts.¹³⁶ Dollar-for-dollar built-in gain discounts conflict with regulatory guidance. Regulations provide that when assets are valued the “fair market value of a particular item of property . . . is not to be determined by a forced sale price;”¹³⁷ yet the dollar-for-dollar approach assumes immediate liquidation of all assets. Further, regulations provide that fair market value depends on the price that would be agreed upon by both a hypothetical willing buyer and a hypothetical willing seller.¹³⁸ As Judge Carnes noted, while a hypothetical buyer might request a dollar-for-dollar discount to reflect future tax liabilities, “the buyer could not reasonably expect the seller to agree to a price that ignored completely the time value of money.”¹³⁹ “No rational seller,” Judge Carnes explained, “would accept a price that subtracted the entire amount of the future tax liability as though it were due immediately, when that liability will be almost certainly spread out

131 *Id.* at 1320 (“Instead of a \$51 million reduction, the Tax Court’s present value application to net asset value resulted in a \$21 million tax discount reduction, and a net deficiency in estate tax of \$1 million.”).

132 The circuit split was at that time between the Fifth Circuit on one side and the Second Circuit, Sixth Circuit, and Tax Court on the other side. *Id.* at 1332. The Fifth Circuit in *Dunn* granted a dollar-for-dollar discount while the Second Circuit in *Eisenberg*, the Sixth Circuit in *Welch*, and the Tax Court in *Davis* all favored partial built-in gain discounts. *Id.*

133 *Id.*

134 *Id.*

135 *Id.* at 1333.

136 *Id.* at 1333–40 (Carnes, J., dissenting).

137 Treas. Reg. § 20.2031-1(b) (as amended in 1965) (estate tax); see also Treas. Reg. § 25.2512-1 (as amended in 1992) (gift tax) (“The value of a particular item of property is not the price that a forced sale of the property would produce.”); *Estate of Luton v. Comm’r.*, 68 T.C.M. (CCH) 1044, 1048 (1994) (citing Treas. Reg. § 20.2031-1(b) (as amended in 1965)).

138 See *supra* notes 104–106 and accompanying text.

139 *Jelke*, 507 F.3d at 1336. (Carnes, J., dissenting).

over future years instead¹⁴⁰ Rather, hypothetical willing buyers and sellers would eventually be forced to settle on a price that reflected a partial, but not dollar-for-dollar, built-in gain discount. While conceding that methods of calculating partial built-in gain discounts are more complicated, the dissent argued that they produce “a more accurate result than the arbitrary assumption method.”¹⁴¹

Despite the shortcomings of the dollar-for-dollar method, it is currently the method used by most courts to calculate built-in gain discounts.¹⁴²

II. CALCULATING BUILT-IN GAIN DISCOUNTS BASED ON A MODIFIED BINOMIAL METHOD

As is described above, while courts have used and scholars have suggested various approaches to calculate built-in gain discounts, currently none of these approaches account for changes in tax rates over time or for uncertainty about when a corporation will sell its appreciated assets and incur tax on their built-in gains. This Article suggests that instead of ignoring these uncertainties, market participants, IRS officials, and courts can and should value future tax liabilities in a way that accounts for them. These uncertainties can be addressed by calculating various likely outcomes that could occur on various possible dates and by compiling each of these potential outcomes into a weighted average. This Part notes that the binomial method, which is currently used to calculate the present value of stock options, accounts for similar uncertainties. It proposes the use of a new method, a modified binomial method, to calculate the present value of anticipated future tax liabilities.

Before turning to the details of the proposal, it is worthwhile to take a moment to explore the analogy between stock options and built-in gain taxes: how the financial concepts are similar, how they are different, and what insights from stock option pricing models can inform more accurate calculations of built-in gain discounts.

While they are dissimilar in some ways, stock options and built-in gains share key similarities. Most importantly, they are similar in what values are

¹⁴⁰ *Id.*; see also *Estate of Jameson v. Comm’r*, 77 T.C.M. (CCH) 1383, at *14 (1999) *rev’d and remanded* 267 F.3d 366 (5th Cir. 2001) (reasoning that a dollar-for-dollar discount is inappropriate for companies that do not have immediate plans to liquidate since the “taxation of the built-in capital gains could be postponed indefinitely”).

¹⁴¹ *Jelke*, 507 F.3d at 1335.

¹⁴² The dollar-for-dollar method has been adopted by the Eleventh Circuit, *Jelke*, 507 F.3d at 1319, the Fifth Circuit, *Estate of Dunn v. Comm’r*, 301 F.3d 339, 352–53 (5th Cir. 2002), and the Ninth Circuit, *Estate of Simplot*, 249 F.3d 1191, 1194–96 (9th Cir. 2001). Note, however, that since the IRS’s own expert in *Simplot* included a dollar-for-dollar built-in gain discount in the appraisal, *Simplot*, 249 F.3d at 1194, it is unknown how the Ninth Circuit would treat competing appraisals. The dollar-for-dollar method has been rejected in favor of partial discounts by the Second Circuit, *Eisenberg v. Comm’r*, 153 F.3d 50, 59 (2d Cir. 1998), and the Sixth Circuit, see *Jelke*, 507 F.3d at 1326–27 (discussing the Sixth Circuit’s similar approach to that of the Second Circuit’s decision in *Eisenberg*).

known and what values are uncertain. For example, it is known what amount of profit an owner would realize if she exercised her stock option immediately upon acquiring it.¹⁴³ Similarly, it is known what amount of tax a taxpayer would incur if she liquidated her built-in gain assets immediately upon the valuation date.¹⁴⁴ While it is uncertain how the price of a stock will change in the future, it is known how the price of that same stock has fluctuated in the past. Similarly, while it is uncertain how the applicable tax rate will change in the future, it is known how that same rate has fluctuated in the past. Finally, while it is uncertain when the owner of a stock option will exercise that option, it is known that future exercises will result in profits that must be discounted to their present values. Similarly, while it is uncertain when a taxpayer will liquidate built-in gain assets, it is known that future liquidations will result in tax liabilities that must be discounted to their present values.¹⁴⁵

Faced with these certainties and uncertainties, the binomial stock option pricing model has developed several insights. First, the binomial option pricing model recognizes that when it is uncertain whether a value will go up or down, it can be futile to rely on a single guess. Rather than guessing, valuation models can simply calculate one possible outcome in the event that the value goes up, calculate a second possible outcome in the event that the value goes down, and then compile a weighted average of those outcomes.¹⁴⁶ If calculations are performed for multiple periods, it is reasonable to assume that upward movements in value can be followed by downward movements and vice versa. Thus, later possible outcomes depend on the projected ups and downs from earlier possible outcomes.

Second, the binomial method recognizes that when there is uncertainty about the amount that a value will go up or down during a set period, a reasonable assumption is that the rate of change in that period will reflect the historical volatility in value, measured by standard deviation (σ). Standard deviation “is a rough measure of how far away from the expected outcome you will end up in a typical actual trial.”¹⁴⁷ For example, if a stock has historically been stable, it is more reasonable to assume that it will remain stable than to anticipate that it will spike or plummet in the upcoming period. Similarly, while one cannot be certain what the average effective corporate tax rate will be one

143 The profit assuming immediate exercise is simply the excess of the current fair market value of the stock over the strike price.

144 The tax assuming immediate liquidation is simply the amount of built-in gains times the current applicable tax rate.

145 It is also possible that a stock price will drop to such an extent that the stock option will not be exercised because its exercise would not result in a profit. Similarly, it is possible that an asset will depreciate to such an extent that the built-in gain will be eliminated and will not result in tax.

146 See, e.g., Cox et al., *supra* note 10, at 232 (“The rate of return on the stock over each period can have two possible values: $u[p]$. . . with probability q , or $d[\text{own}]$. . . with probability $1-q$. Thus, if the current stock price is S , the stock price at the end of the period will either be uS or dS .”).

147 GILSON & BLACK, *supra* note 12, at 92.

year from today, it is more reasonable to assume that it will be near 12.1%¹⁴⁸ (given that, historically, changes to the average effective corporate tax rates have been gradual) than it is to assume that it will spike to 30% or plummet to 0%.

Third, the binomial method recognizes that when there is uncertainty about when a financial event will occur, a reasonable solution is to calculate the weighted average of possible outcomes for each possible date of occurrence, discount the weighted average for each possible date to its present value, and then average those discounted present values.¹⁴⁹ In so doing, the binomial method addresses uncertainty about when a financial event will occur by treating it as equally likely that it will occur on each possible future date and then averaging the possible outcomes for those dates.

By employing these insights, the binomial method compiles a present value calculation for a future financial event even though it is uncertain when that event will occur, even though the profit resulting from the future occurrence likely will be different from the profit resulting from immediate occurrence, and even though the profit resulting from the future occurrence must be discounted to its present value. Because these insights have allowed market participants to compute present values for stock options despite important uncertainties about what amount of profit these options will eventually produce and when, they offer hope for computing present values for built-in gain tax liabilities despite similar uncertainties about what amount of tax will eventually be incurred and when.

A. Using a Modified Binomial Method to Calculate a Built-In Gain Discount

Instead of continuing to ignore uncertainties about what amount of future tax will be incurred on built-in gains and when it will be incurred, courts should value a future tax liability in a way that accounts for these uncertainties by taking advantage of the insights of the binomial method. In order to direct and guide taxpayers and courts in these calculations, Revenue Ruling 59-60, which sets forth guidelines for valuing the stock of closely-held corporations and “corporations where market quotations are not available,”¹⁵⁰ should be modified to require courts and taxpayers to use the modified binomial method to calculate the proper discount for built-in gains.¹⁵¹

148 According to the Congressional Budget Office, the average effective corporate tax rate in 2011 (the most recent year on which it had actual data rather than projections) was 12.1%. CONG. BUDGET OFFICE, THE BUDGET AND ECONOMIC OUTLOOK: FISCAL YEARS 2012 TO 2022, at 89 fig. 4-3 (2012), available at http://www.cbo.gov/sites/default/files/cbofiles/attachments/01-31-2012_Outlook.pdf.

149 See Cox et al., *supra* note 10, at 230 (“Indeed, the theory applies to a very general class of economic problems—the valuation of contracts where the outcome to each party depends on a quantifiable uncertain future event.”).

150 Rev. Rul. 59-60, 1959-1 C.B. 237 (valuing closely-held stock for estate tax purposes).

151 Specifically, Rev. Rul. 59-60 § 5(b) should be amended as follows:

Using insights provided by the binomial method, the built-in gain discount should be calculated by starting with the imputed current tax liability, measuring the standard deviation in the relevant tax rate, treating it as equally likely¹⁵² that assets will be sold at any interval between now and the expiration of the corporation,¹⁵³ calculating the possible outcomes on future intervals between now and expiration based on tax rate volatility, creating a weighted average of those outcomes, discounting the weighted average outcome on each possible date of tax incurrence to its present value, and then averaging those present values.

Just as the market refuses to value a stock option as worthless, worth the difference between the current stock price and the strike price, or worth some

(b) The value of the stock of a closely held investment or real estate holding company, whether or not family owned, is closely related to the value of the assets underlying the stock. For companies of this type the appraiser should determine the fair market values of the assets of the company. Operating expenses of such a company and [*Replace 'the cost of liquidating it' with 'the costs and expenses that likely will be incurred when the assets of the company are disposed and when the company is liquidated'*], if any, merit consideration when appraising the relative values of the stock and the underlying assets. The market values of the underlying assets give due weight to potential earnings and dividends of the particular items of property underlying the stock, capitalized at rates deemed proper by the investing public at the date of appraisal. [*Add 'When the assets of the company have combined fair market values in excess of their combined bases, the total value of the assets should be discounted to reflect a present value calculation of the anticipated future tax liability that is likely to be incurred on these built-in gains. The amount of the discount is properly calculated using a binomial method, in which the starting value for the calculation is the current tax liability assuming immediate liquidation of the assets, the average annual change is based on the standard deviation in the applicable tax rate, the anticipated time frame is fifteen years, and the discount rate for present value calculations is the long-term applicable federal rate.'*].

152 The binomial method is flexible enough to allow assumptions other than the assumption that it is equally likely that the assets will be sold at any interval between now and an expiration date. For example, by placing different weights on possible future outcomes that will then be averaged, the method can accommodate the assumption that it is 70% likely that the assets will be sold within one year and only 30% likely that they will be sold in more than one year. See Alvin C. Warren, Jr., *Taxation of Options on the Issuer's Stock*, 4 J. TAX'N FIN. PRODUCTS 5, 10 (2003) (explaining that the binomial option-pricing model "has the considerable advantage of illustrating the operation of an option with simple arithmetic").

153 In order to complete a binomial calculation, it is necessary to assume an "expiration date" for the corporation. For reasons described in Part II.A.3, *infra*, namely that assumptions must be made about the date range within which a tax liability on built-in gains will be incurred in order to calculate the present value of that liability, I assume that a corporation can reasonably be expected to liquidate or sell its assets at some point within the fifteen years following valuation. See *infra* Part II.A.3. This assumption is certainly subject to challenge, however, assuming that assets will be sold at some point within fifteen years following valuation is preferable to the more arbitrary assumptions currently made by the courts, including, for example, the assumption that the corporation will liquidate immediately.

arbitrary amount between these values,¹⁵⁴ courts should refuse to continue calculating valuation discounts for built-in gains in ways that assume away uncertainty.

1. Starting Value Is the Current Tax Liability Assuming Immediate Liquidation.—Just as a person valuing a stock option knows what amount of profit the option would produce if it was exercised immediately, a person calculating a built-in gain discount knows what amount of tax the built-in gains would cause to be incurred if the built-in gain assets were liquidated immediately upon the valuation date. While this Article argues that courts should not assume that built-in gain assets will be liquidated immediately upon the valuation date (i.e. it argues that dollar-for-dollar discounts are inappropriate), it is at least possible that built-in gain assets might be liquidated immediately. Immediate liquidation is one of the possible outcomes that should be averaged with other possible outcomes in order to calculate a more economically accurate built-in gain discount. From the starting point of the known imputed current tax liability, other future possibilities may be calculated.

2. Average Annual Change Is Based on Historical Volatility in the Corporate Tax Rate.—Just as one cannot know with certainty whether a stock price will go up or down, one cannot know with certainty whether the tax rate that will apply to built-in gains will go up or down. Further, just as one cannot know how much a stock price will increase or decrease, one cannot know how much a tax rate will increase or decrease. Despite these uncertainties, not all possible future outcomes are equally likely. For example, a stock whose value has historically experienced gradual change is much more likely to continue experiencing gradual change than to spike or collapse.¹⁵⁵ Similarly, a tax rate that has historically experienced gradual change is much more likely to continue experiencing gradual change than to spike or plummet.¹⁵⁶

¹⁵⁴ See, e.g., *Technical Explanation of Warrant Valuation Methods*, *supra* note 10, at 47–48 (noting that the intrinsic value (stock price – strike price) “says very little” about a warrant’s value since it “ignores the value of future stock movement” meaning that warrants “must be worth more than their intrinsic value”). The same is true of options since a warrant is an option that grants the holder the right to buy stock from the company itself. *Id.* at 47 (explaining that the binomial option pricing model relies on many of the ideas set forth in the Black–Scholes method, the most prominent warrant valuation model).

¹⁵⁵ *Id.* (“There are two main ways to estimate the future volatility of a stock. The first is to calculate it from historical prices.”).

¹⁵⁶ Note that option pricing models frequently rely on predictions of future stock price volatility, rather than simple measures of historical volatility. In the context of built-in gain valuation discounts, this might invite a battle of the experts and undermine predictability. Accordingly, this Article recommends reliance on a simple measure of historical volatility. See generally Claude Brown, *Weighing up the Options*, 14 INT’L FIN. L. REV., Aug. 1995, at 37, 38 (“The seller’s view on the future price action of the underlying asset may be obscured by the fact that the price of the underlying asset has been subject to significant fluctuations in the past. This is called historical volatility.”).

Corporations that hold assets with built-in gains generally are subject to tax based on the corporate tax rate times the amount of built-in gains.¹⁵⁷ Thus, when considering what amount of tax might be incurred on corporate built-in gains in the future, it is appropriate to account for how the corporate tax rate changes over time. Historically, the standard deviation in the average effective corporate tax rate has been 6.407487%.¹⁵⁸ Thus, it is reasonable to anticipate

¹⁵⁷ Gains incurred by a corporation will be taxed at the entity level based on the corporate tax rate. I.R.C. § 11 (2012).

¹⁵⁸ Standard deviation in the average effective corporate tax rate is measured from 1972–2011, using data from CONG. BUDGET OFFICE, *supra* note 148, at 89 fig.4–3.

Although they are not the focus of this Article, partnerships and S-Corporations also experience built-in gains. In contrast to C-Corporations, when partnerships and S-Corporations sell their built-in gain assets, the gain generally is not taxed at the entity level. Rather, it flows through to individual owners.

It is important to note, however, that the appropriate built-in gain discount, if any, for a partnership or S-Corporation depends on several factors in addition to the anticipated future tax liability. When an owner in a partnership or S-Corporation pays tax on her share of built-in gains, she is permitted to increase her basis in her ownership interest by the amount of gain on which she paid tax. *See* I.R.C. § 705(a)(1)(A) (2012) (increasing basis in a partnership interest to reflect a partner's distributive share of the partnership's taxable income); I.R.C. § 1367(a)(1)(A) (2012) (increasing basis in S-Corporation stock to reflect a shareholder's share of the S-Corporation's items of income). Thus, when the partnership or S-Corporation liquidates, she enjoys a loss that offsets the gain. If the partnership or S-Corporation disposes of built-in gain assets and liquidates in the same year, generally, the losses will fully offset the gains. If the partnership or S-Corporation disposes of built-in gain assets and then liquidates in a later year, the offset might not be complete.

However, additional strategies (such as a § 754 election) can, in many circumstances, address this timing mismatch. While the valuation approach proposed in this Article can help calculate the present value of the future tax liability of a partnership or S-Corporation, additional methods are necessary to calculate the present value of the future offset. For a detailed discussion of whether and when partnerships and S-Corporations should receive built-in gain discounts, see FEDERAL TAX VALUATION, *supra* note 103, at ¶ 6.03[6][e][iv] (discussing whether S-Corporations should qualify for built-in gain discounts); *id.* at ¶ 6.03[6][f] (arguing that partnerships should not qualify for built-in gain discounts since a partner who buys a partnership interest may have her share of the basis in partnership assets stepped up through the partnership's use of a § 754 election); James J. Reto, *Are S Corporations Entitled to Valuation Discounts for Embedded Capital Gains?*, 3 VALUATION STRATEGIES 6 (2000) (arguing that majority shareholders in S-Corporations should not qualify for built-in gain discounts because they can force the S-Corporation to liquidate in the same year it disposes of its built-in gain assets but that minority shareholders should qualify for some amount of built-in gain discounts because they face the risk that they might be forced to pay tax on built-in gains before recognizing a loss at liquidation). *See also* Temple v. United States, 423 F. Supp. 2d 605, 622 (E.D. Tex. 2006) (denying a built-in gain discount because the court "[was] confident that a hypothetical willing buyer and willing seller would resolve the § 754 issue before completing the transaction, making a built-in capital gains discount inapplicable"); Estate of Jones v. Comm'r, 116 TC 121, 138 (2001) (denying a built-in gain discount because the court was persuaded that "the buyer and seller of the partnership interest would negotiate with the understanding that an election would be made [pursuant to § 754, which would increase the new partner's share of the basis in the appreciated assets] and the price agreed upon would not reflect a discount for built-in gains"); Estate of Dailey v. Comm'r, 82 T.C.M. (CCH) 710, at *2–3 (2001) (apparently granting a built-in gain discount for interests in a family limited partnership after the taxpayer's expert argued for such a discount and the IRS's expert conceded that "unrealized capital gains are 'an important source of discounts'").

that a future year's average effective corporate tax rate will increase or decrease by this standard deviation.

3. *For Tax Valuations, Anticipated Time Frame Is Fifteen Years.*—This Article proposes the use of a modified binomial method to value built-in gain discounts. It also aims to provide concrete examples of how the method can work. While it includes a set of starting point assumptions and uses them in its illustrations and examples, it must be acknowledged that in certain circumstances, different assumptions may prove more accurate. Indeed, different assumptions will often be more accurate for buyers and sellers of business interests based on unique information available to these market participants. For example, a buyer of a particular business interest is very likely to have better information about the date range within which the particular business might liquidate than the uniform assumption used in this Article. When market participants have specific information about a particular business, they should use particularized assumptions based on that information in the modified binomial method to establish an appropriate built-in gain discount.

However, tax law benefits from uniformity. When tax law uses a uniform assumption, rather than looking into the particulars of each and every business, it reduces the cost of enforcement, provides predictability to taxpayers, and avoids costly and protracted battles of the experts.¹⁵⁹ Thus, this Article proposes a uniform starting point assumption, for purposes of tax law, regarding the probable date range within which a tax liability is likely to be incurred. This assumption, while the most problematic assumption included in this Article, is both useful and grounded in tax law. For purposes of tax law, the starting point assumption should be that a corporation being valued should be treated as equally likely to incur tax on its built-in gains in any year within the fifteen years following valuation, but not after.

The binomial method only works if some set date range is selected. For stock options, the selection of a date range is easy and uncontroversial. A stock option may be exercised at any time until its expiration date but at no time after it has expired.¹⁶⁰ In contrast, the selection of a date range is difficult and potentially controversial in the context of built-in gain discounts. In reality, there is no expiration date before which a corporation must incur tax liabilities on its built-in gains. Tax liabilities on built-in gains could be incurred twenty years after the valuation, fifty years after the valuation, or more. In these cases, the

¹⁵⁹ See, e.g., H.R. REP. NO. 103-III, at 760 (1993), reprinted in 1993 U.S.C.A.N. 378, 991 (noting that the selection of a single method and period for recovering the cost of most acquired intangible assets will eliminate extensive controversy between taxpayers and IRS officials and increase predictability); Louis Kaplow, *Rules Versus Standards: An Economic Analysis*, 42 DUKE L.J. 557, 560, 577 (1992) (noting that rules, including a 55 mile per hour speed limit, are less costly to enforce than standards, including a prohibition on driving at an excessive speed).

¹⁶⁰ See GILSON & BLACK, *supra* note 12, at 232, 243-44 (explaining that a call option is the right to buy stock for a fixed price "on or before a specified date" and explaining how time remaining until expiration affects option value).

valuation method proposed by this Article will overstate the present value of that future liability and will grant an unnecessarily generous valuation discount. However, although the assumption that a tax liability will be incurred sometime within the fifteen years following valuation is problematic, it is much less problematic than the gratuitous assumptions currently used by courts to calculate built-in gain discounts, including the assumption of immediate liquidation. Given that some assumption must be made about the date range within which a tax liability on built-in gains will be incurred in order to use a binomial method to calculate the present value of that liability, it is appropriate to use fifteen years.

One might be tempted to determine a date range within which a tax liability should be expected to be incurred on the basis of the specific asset that has the built-in gain. For example, if a corporation has a stand of mature timber with built-in gains,¹⁶¹ it should be expected that the tax on those gains will be incurred soon after valuation while the tax on gains in a portfolio of marketable securities might be delayed far into the future. This temptation might cause one to set different date ranges for different categories of assets, based perhaps on the remaining useful lives of the specific assets with built-in gains at the time of valuation.¹⁶² However, while this approach would offer a good amount of economic accuracy and likely should be used by buyers and sellers of business interests, in the context of tax valuations, its advantages are outweighed by its disadvantages. In addition to being difficult to implement and predict,¹⁶³ this approach would have the significant disadvantage of making it extremely difficult to offset built-in gains by built-in losses.¹⁶⁴ Valuation discounts should not be provided to companies that have more than enough built-in losses to offset their built-in gains since these companies will not incur taxes on the liquidation of their assets. Rather, built-in gain discounts should only be provided (and have only been provided) to companies with *net* built-in gains.¹⁶⁵

The netting of built-in gains and built-in losses is aided by the selection of a single date range within which a corporation can reasonably be expected to

161 See, e.g., *Estate of Jameson v. Comm'r*, 77 T.C.M. (CCH) 1383 (1999), *vacated and remanded*, 267 F.3d 366 (5th Cir. 2001) (addressing built-in gains on timber stand).

162 See, e.g., *How to Depreciate Property*, I.R.S. Publication No. 946 app. B at 98 (2012).

163 For example, taxpayers will not be able to plan for what amount of useful life an asset will have remaining at the time an owner of a corporation dies or decides to gift stock in the corporation.

164 It is mathematically possible to net the present value of anticipated taxes on built-in gains against the anticipated tax benefits of built-in losses using different holding periods for different assets. However, such a calculation would be extremely detailed and difficult for companies holding diverse assets.

165 The effect of netting is to offset any built-in gains against built-in losses. It is beyond the scope of this Article to consider whether valuations of ownership interests in closely-held companies with *net* built-in losses should include valuation premiums to account for the anticipated future tax benefits of having those losses realized. However, this Article does advocate that only companies with *net* built-in gains should receive valuation discounts.

liquidate all of its built-in gain and built-in loss assets. Because the Tax Code currently provides a simple default rule that an intangible asset acquired from another should be amortized over the fifteen years following acquisition,¹⁶⁶ it is appropriate to follow this simple default rule in the context of built-in gains. Just as current tax law assumes that acquired intangible assets are to be enjoyed over the fifteen years following acquisition, it is reasonable to assume that a taxpayer will suffer acquired intangible liabilities (such as anticipated future taxes on built-in gains) over the fifteen years following acquisition.

4. Discount Rate for Present Value Calculations Is the Long-Term Applicable Federal Rate.—Stock option valuations must account for the time value of money. A profit received from the exercise of an option one year in the future is worth less in present value terms than a profit received immediately. Similarly, tax valuations must account for the time value of money. A tax liability incurred one year in the future costs less in present value terms than a liability incurred immediately. While again there is room for healthy disagreement over what discount rate should be applied,¹⁶⁷ this Article proposes the use of the long-term applicable federal rate as the discount rate. While the long-term applicable federal rate is a conservative estimate of the time value of money (leading to generous valuation discounts for taxpayers), it is widely available, routinely updated, reasonably protected against the risk of potential manipulation, and its use in this context will be consistent with its existing use in other contexts.¹⁶⁸

Further, while use of the long-term applicable federal rate as the discount rate to calculate the present value of an anticipated future tax liability is generous to the taxpayer,¹⁶⁹ it is also fair to the government. When a taxpayer receives a full valuation discount immediately (and therefore pays less estate or gift tax immediately), while delaying paying tax on the built-in gains associated

¹⁶⁶ I.R.C. § 197 (2012). See H.R. REP. NO. 103-111 (1993), reprinted in 1993 U.S.C.A.N. 378 (addressing the proposed Omnibus Budget Reconciliation Act of 1993, Pub. Law No. 103-66, 107 Stat. 467 and indicating that § 197 reflects a legislative notion that potential controversy regarding amortization of acquired intangibles is best “eliminated by specifying a single method and period”).

¹⁶⁷ Even in court cases using present valuation calculations of built-in gain discounts, different discount rates have been applied. See, e.g., *Estate of Jensen v. Comm’r*, 100 T.C.M. (CCH) 138 (2010) (assuming that the discount rate would equal the rate of asset appreciation); *Estate of Jelke v. Comm’r*, 89 T.C.M. (CCH) 1397 (2005) (applying a 13.2% discount rate based on the average rate of return for large-cap stocks); *Estate of Bailey v. Comm’r*, 83 T.C.M. (CCH) 1862 at *10 (2002) (applying 8% discount rate); *Estate of Jameson v. Comm’r*, 77 T.C.M. (CCH) 1383 (1999) (applying 20% discount rate).

¹⁶⁸ For example, applicable federal rates are used to determine the present value of a life estate, a term of years, or a remainder interest for purposes of gift or estate tax computations, I.R.C. § 7520 (2012); to determine imputed interest for a below market loan, I.R.C. § 1274(d) (2012); and in application of original issue discount rules, I.R.C. § 1288(b) (2012).

¹⁶⁹ An individual’s time value of money is almost always greater than the applicable federal rate. For example, when a discount rate is applied to determine the present value of a life estate, a term of years, or a remainder interest for purposes of gift or estate tax computations, it is 120% of the federal midterm rate. I.R.C. § 7520(a)(2) (2012).

with that discount, the taxpayer is unfairly advantaged and the Treasury is unfairly disadvantaged. The taxpayer is unfairly advantaged because it receives both a full valuation discount and the benefit of the use of the foregone tax¹⁷⁰ during the period of deferral. The Treasury is unfairly disadvantaged because it suffers both a full discount and the harm of not being able to use the foregone tax during the period of deferral. The discount rate aims to avoid these unfair advantages and disadvantages. Since the Treasury foregoes tax revenue during the period of deferral (i.e. the period from the time it grants the valuation discount until it receives the tax on built-in gains), the Treasury can be made whole only if it is able to borrow an amount equal to the foregone tax revenue during the period of deferral. The Treasury can borrow money by issuing bonds. However, it may only issue bonds if it agrees to pay interest on those bonds. The long-term applicable federal rate is the interest rate that the Treasury pays on its long-term bonds.¹⁷¹ It is a measure of the government's cost to borrow money.¹⁷² Thus, the use of the long-term applicable federal rate as the discount rate accurately compensates the Treasury for its time value of money since it enables the Treasury to borrow the foregone tax during the period of deferral. Accordingly, use of the long-term applicable federal rate as the discount rate appropriately protects the public fisc.

5. Discount for Built-In Gains Is the Weighted Average of Potential Future Outcomes, Each Discounted to Its Present Value.—As is described above, one of the key advantages offered by a modified binomial method as compared with existing valuation methods for built-in gains is its ability to project and weigh various potential future outcomes rather than rely on the gratuitous assumption of a single outcome.

A method for calculating built-in gains based on binomial projections could, for example, assume that the tax liability on the built-in gains might be incurred in any of the fifteen years following valuation. For each year, the tax liability might be higher or lower than the imputed current tax liability depending on whether the applicable tax rate had increased or decreased. The projected probable outcomes for each year would be compiled into a weighted

¹⁷⁰ The foregone tax is the difference between the gift or estate tax that would be owed in the absence of a valuation discount and the gift or estate tax that is owed following application of a valuation discount.

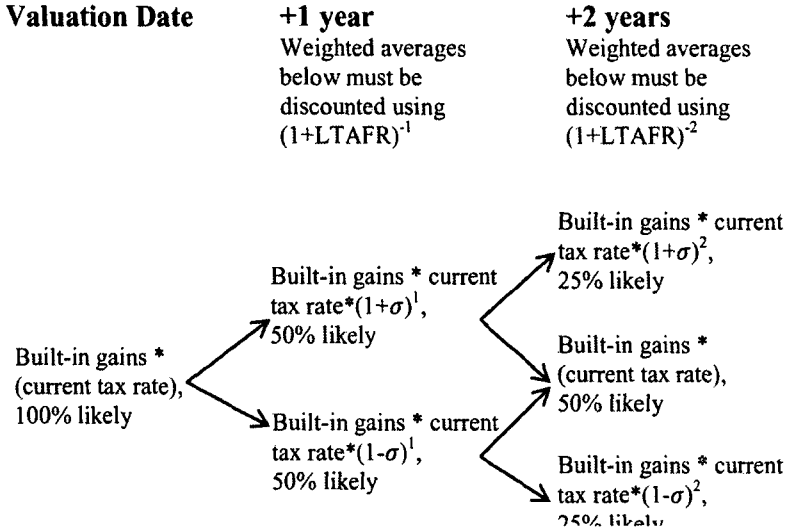
¹⁷¹ See I.R.C. § 1274(d)(1)(A)–(C)(ii) (2012) (defining the long-term applicable federal rate as “based on the average market yield . . . on outstanding marketable obligations of the United States with remaining periods to maturity of” more than nine years).

¹⁷² The applicable federal rate is based on the average market yield on outstanding marketable obligations of the United States. I.R.C. § 1274(d)(1)(C) (2012). Since the Department of Treasury must pay this market yield rate to bondholders and others, it represents the Treasury's cost of borrowing money. The long-term applicable federal rate is the average market yield on outstanding marketable obligations of the United States with remaining periods to maturity of nine years or more. I.R.C. § 1274(d)(1)(A) (2012). Accordingly, the long-term applicable federal rate represents the Treasury's cost of borrowing money for nine years or more.

average for that year. Those weighted averages would each be discounted to their present values, and then the average of the present values would form the built-in gain discount.

The following is an illustration of the method proposed above:

Illustration 1: Assumes Complete Uncertainty About Future Tax Rates



Using the method illustrated above and extrapolating it out fifteen years from the valuation date, one can calculate, for example, that assuming the current applicable tax rate is 15%, the standard deviation in the applicable tax rate is 6.407487%, the long-term applicable federal rate is 3.56%,¹⁷³ and it is equally likely that the applicable tax rate will increase as decrease in each of the next fifteen years, an appropriate built-in gain discount for \$10,000,000 worth of built-in gains would be \$1,187,670. It will often be appropriate to employ a similar method (updated with the relevant amount of built-in gains, the applicable tax rate, the updated measure of standard deviation, and the current long-term applicable federal rate) to compute a built-in gain discount.

While the example above assumes that it is equally likely that the relevant tax rate will increase as decrease in the coming years, in certain circumstances, it may be more appropriate to value built-in gain discounts based on a different assumption. For example, at various times, one might anticipate that it is 70% likely that the applicable tax rate will go up in the year following valuation and

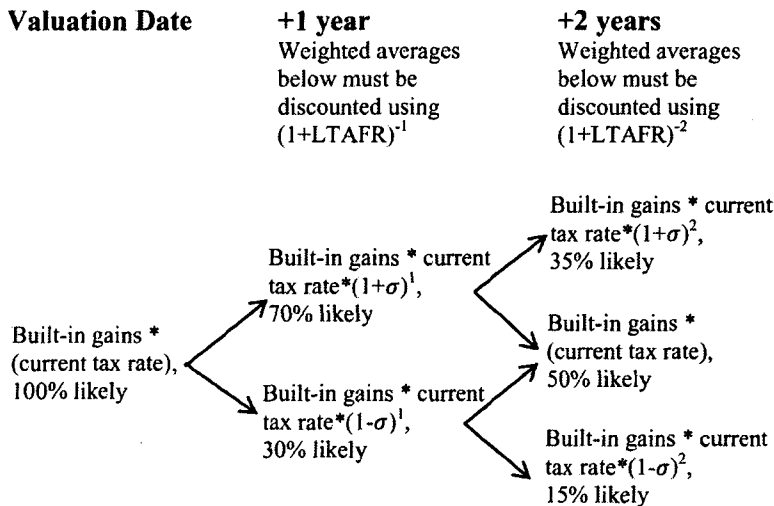
¹⁷³ The standard deviation in the applicable rate is measured as described Part II.A.2, *supra*. The Long-Term Applicable Federal Rate for February 2014 is used and is set forth in Rev. Rul. 2014-6, 2014-7 I.R.B. tbl.1.

only 30% likely that it will go down. At these times, Treasury could publish Revenue Rulings providing projections for taxpayers and courts to use when calculating built-in gain discounts.

Fortunately, the binomial method is flexible and does not require users to assume that tax increases and decreases are equally likely. For example, the method can account for likely (but uncertain) increases simply by modifying the weight given to various possible outcomes on various future dates, including by giving 70% weight to a future projection based on a tax increase and only 30% weight to a future projection based on a tax decrease and by adjusting the weight of later projections accordingly.

The following is an illustration of this method:

Illustration 2: Assumes 70% Likely Increase in Tax Rates in Year One



Using the method illustrated above and extrapolating it out fifteen years from the valuation date, one can calculate, for example, that assuming the current applicable tax rate is 15%, the standard deviation in the applicable tax rate is 6.407487%, the long-term applicable federal rate is 3.56%,¹⁷⁴ and it is 70% likely that the applicable tax rate will increase in the year following valuation and only 30% likely that it will decrease, an appropriate built-in gain discount for \$10,000,000 worth of built-in gains would be \$1,215,546. One can imagine many scenarios in which the ability to predict likely but uncertain

¹⁷⁴ The standard deviation in the applicable rate is measured as described in Part II.A.2, *supra*. The Long-Term Applicable Federal Rate for February 2014 is used and is set forth in Rev. Ruling 2014-6, 2014-7 I.R.B. tbl.1.

future changes to tax rates will add to the accuracy of built-in gain discounts. A major advantage of the modified binomial method over current methods for valuing built-in gain discounts is its ability to account for uncertainty.

6. *Anticipated Asset Appreciation Should Not Be Considered.*—Some courts using present value calculations for built-in gain discounts assume a level of anticipated appreciation in the asset.¹⁷⁵ These courts reason that since the tax on built-in gains will be realized in the future, the then-applicable tax rate will be multiplied by the excess of the asset's fair market value at the time of sale (rather than at the time of valuation) over its basis. For example, as the taxpayer's expert argued in the Tax Court case of *Jelke*,¹⁷⁶ "[i]f the stock [or other asset] appreciates, the capital gains tax liability will appreciate commensurate [with the asset appreciation]."¹⁷⁷ While this observation is correct, courts should not incorporate estimates of anticipated asset appreciation into their present value calculations, even when using the method advocated by this Article. The incorporation of anticipated asset appreciation results in unfairly positive treatment of companies with built-in gains as compared to companies without such gains.¹⁷⁸

This issue is explained and supported in *Discounts for 'Built-In' Gain Taxes: The Litchfield Fallacy*.¹⁷⁹ As Professor John Bogdanski explains, while hypothetical buyers¹⁸⁰ of stocks of corporations holding built-in gain assets

175 See, e.g., *Estate of Jensen v. Comm'r*, 100 T.C.M. (CCH) 138 (2010) (assuming that the asset would appreciate at a rate equal to the discount rate used in the Court's present value calculation); *Estate of Litchfield v. Comm'r*, 97 T.C.M. (CCH) 1079, at *15 n.12 (2009) (noting that even one of the IRS's own experts "in another case acknowledges that he would also take into account holding-period asset appreciation in calculating appropriate valuation discounts to net asset value," and noting that asset appreciation has factored into the calculation of the built-in gain discount in several other cases); *id.* at *15 (discussing the Tax Court's approval of the built-in gain discount calculated by taxpayer's expert which had included anticipated appreciation on the assets during the projected holding period, and the court's faulting of the IRS's expert because he did "not take into account appreciation during the holding period that also likely will occur and that will be subject to taxes at the corporate level"); *Estate of Borgatello v. Comm'r*, 80 T.C.M. (CCH) 260, at *10 (2000) (explaining that the IRS's expert assumed a 2% asset appreciation rate); see also *Estate of Bailey v. Comm'r*, 83 T.C.M. (CCH) 1862 (2002) (discussing the court's rejection of IRS's expert proposed present value calculation that included anticipated appreciation on the asset at a rate of 2% annually on several reasons including that in its deficiency notice, the IRS had already effectively agreed to the total 50% valuation discount requested by the taxpayer).

176 *Estate of Jelke v. Comm'r*, 89 T.C.M. (CCH) 1397, at *10 (2005).

177 *Id.*

178 See John A. Bogdanski, *Discounts for 'Built-In' Gain Taxes: The Litchfield Fallacy*, 37 *Est. PLAN.*, June, 2010, at 37, 40 ("Because all corporations would be liable for such a tax [on future asset appreciation], there is no reason for applying a discount attributable to the future appreciation only to those corporations with current appreciation as of the valuation date.").

179 *Id.*

180 Consideration of the hypothetical buyer is appropriate because the fair market value of an asset depends on the "net amount which a [hypothetical] willing purchaser whether an individual or a corporation, would pay for the interest to a [hypothetical] willing seller, neither being under

would be concerned about the tax on potential future appreciation of the built-in gain assets, hypothetical buyers of stocks of corporations holding non-built-in-gain assets would be similarly concerned about the tax on potential future appreciation.¹⁸¹

An example proves the point. Imagine that Corporation A owns Blackacre (a property in which Corporation A has a \$20 basis, which is currently worth \$100, and is projected to appreciate at a rate of 5% per year).¹⁸² Corporation A has an \$80 built-in gain in Blackacre. Now imagine that Corporation B owns Whiteacre (a property in which Corporation B has a \$100 basis, which is also currently worth \$100, and is also projected to appreciate at a rate of 5% per year).¹⁸³ Corporation B has no built-in gain. Finally, assume that gains will be taxed at a rate of 40%.¹⁸⁴

Since Corporation A and Corporation B will be similarly affected by the 5% appreciation on their assets and the tax on that appreciation, the built-in gain discount awarded to Corporation A for Blackacre should not be increased to reflect appreciation that will similarly affect both entities. Professor Bogdanski illustrates the phenomenon with the following table:¹⁸⁵

Years Between Valuation and Sale	FMV of Property Given 5% Annual Appreciation	Corp A's Basis	Corp A's Gain	Corp A's Tax on Gain	FMV of Property Given 5% Annual Appreciation	Corp B's Basis	Corp B's Gain	Corp B's Tax on Gain	Excess of Corp A's Tax Over Corp B's Tax
0	100	20	80	32	100	100	0	0	32
1	105	20	85	34	105	100	5	2	32
2	110.25	20	90.25	36.1	110.25	100	10.25	4.1	32
3	115.76	20	95.76	38.3	115.76	100	15.76	6.3	32
4	121.55	20	101.55	40.62	121.55	100	21.55	8.62	32
5	127.63	20	107.63	43.05	127.63	100	27.63	11.05	32*

*Even after the asset has experienced five years of appreciation at a rate of 5% each year, the excess of Corporation A's tax on gain (\$43.05) over Corporation B's tax on gain (\$11.05) remains \$32.00.

any compulsion to buy or sell and both having reasonable knowledge of relevant facts."Treas. Reg. § 20.2031-3 (1992). Thus, the fair market value of an asset will depend on what a hypothetical buyer would pay for that asset.

181 Bogdanski, *supra* note 178, at 37-38 ("Litchfield missed the boat in failing to recognize that although buyers of the stocks in question would be concerned about potential future appreciation of the subject corporations' assets, so too would buyers of the stock of *any* corporation—even one whose assets currently had values exactly equal to, or even less than, their tax bases. Any holder of assets that are expected to appreciate prior to sale faces the prospect of taxes attributable to the future appreciation.").

182 *Id.* at 38.

183 *Id.* Note that I use the term Whiteacre, in contrast to Professor Bogdanski's assumption that both corporations owned the same property (Blackacre), for ease of comparison.

184 *Id.*

185 *See id.* This table is the work of Professor Bogdanski and is only slightly modified in this reprinting of it.

In any given year, Corporation A's taxes will be \$32 higher than Corporation B's taxes regardless of the amount of appreciation in the asset. Since courts do not grant built-in gain discounts to corporations like Corporation B that have no built-in gains, the calculation of Corporation A's built-in gain discount should be based solely on the excess of Corporation A's taxes over Corporation B's taxes. The built-in gain discount should not be affected by anticipated appreciation in the asset, even when the built-in gain discount is calculated using the method advocated by this Article.

Having illustrated how the modified binomial method can apply to valuation discounts granted for built-in gains, it is useful to next explore why the modified binomial method is better than existing methods.

B. While the Binomial Method Requires Certain Assumptions, It Avoids the More Problematic Assumptions Used by Existing Methods

Prior scholarship regarding built-in gain discounts relies on assumptions that are unnecessarily arbitrary and likely incorrect. Scholars have advocated various valuation methods that assume a set holding period for built-in gain assets, based either on the assumption that these assets will be liquidated immediately,¹⁸⁶ that they will be sold after a specified holding period,¹⁸⁷ or that they will be sold at a rate equal to the corporation's historical asset turnover rate.¹⁸⁸

For good reason, some courts are reluctant to assume that built-in gain assets will be sold immediately upon the valuation date of the corporation. They recognize that dollar-for-dollar discounts are unrealistic and overly generous because such discounts ignore the likelihood that built-in gain assets will be

¹⁸⁶ See, e.g., Matt Ribitzki, *Notorious BIG: No Harmony Between the Service, Tax Court, and Fifth Circuit on How to Account for Built-In Gains When Valuing Closely-Held C Corporations for Estate and Gift Tax Purposes*, 32 S.U. L. REV. 35, 60-62 (2004) (advocating the immediate liquidation assumption of *Dunn* on the basis that it avoids a costly battle of the experts, provides certainty, is easily applicable, and "allows estates to adequately prepare for the estate tax").

¹⁸⁷ See, e.g., Scott Andrew Bowman, *Built-In Gain Discounts for Transfer Tax Valuation: A Resolution for the BIG Debate*, 24 AKRON TAX J. 117, 146-47 (2009). Bowman uses a method that requires a HWB to "determine the rate at which the corporation's assets are appreciating and the rate that the market would provide for an investment of similar risk and duration," "project a [fixed] holding period for which the assets or proceeds [from the sale of the assets] will be invested," and "apply the corporate and individual rates at which gains on these assets would be taxed" to "calculate the net future cash value of the investment as of the end of the holding period" before comparing whether sale of the asset or retention of the asset by the corporation would lead to a superior economic outcome and then calculating the built-in gain discount based on its impact on the net future cash value of the HWB's most economically advantageous decision. *Id.* at 146-47. Because the Bowman model cannot accommodate a gradual asset sale over time, it "uses a projected holding period [based on] the mean of the projected holding periods." *Id.* at 160 n.314.

¹⁸⁸ See, e.g., Taylor, *supra* note 99, at 199 ("[E]conomic realities, the regulations and the Service's long-held position on the issue all lead to the conclusion that a present value BIG discount is more appropriate than dollar-for-dollar . . .").

held for an unknown period of time following valuation and thus, tax on the gain will be delayed.¹⁸⁹ However, also with good reason, some courts are reluctant to believe that exact holding periods for built-in gain assets can reasonably be predicted.¹⁹⁰ Use of the binomial method can solve this dilemma by replacing predictions of holding periods for built-in gain assets with weighted averages reflecting multiple possible holding periods. Thus, while use of the binomial method itself requires certain assumptions,¹⁹¹ it avoids the more problematic and arbitrary assumptions currently in use. By avoiding these problematic assumptions, more accurate built-in gain discounts are likely to result.¹⁹²

C. *The Binomial Method Is Faithful to the Definition of Fair Market Value*

Each method currently used by a court to calculate the amount of a built-in gain discount violates the definition of fair market value. The definition of fair market value requires that the discount be the amount that a hypothetical willing buyer and hypothetical willing seller would agree upon if each were reasonably informed.¹⁹³ While courts granting dollar-for-dollar

189 See, e.g., *Estate of Borgatello v. Comm'r*, 80 T.C.M. (CCH) 260, at *10 (2000) (“[A dollar-for-dollar] discount to the net asset value is unrealistic because it does not account for any holding period for the [built-in gain] assets. The estate’s expert concedes that there would be some period of tax deferral although he did not articulate how long the period of deferral would be.”).

190 See, e.g., *Estate of Bailey v. Comm'r*, 83 T.C.M. (CCH) 1862, at *10-11 (2002) (finding little support for assumed five-year holding period included in IRS expert’s present value calculation for built-in gain discount); *Borgatello*, 80 T.C.M. (CCH), at *11 (“Although there is no evidence that a willing buyer . . . would immediately liquidate the assets, there is also not much support for respondent’s contention that a buyer would wait 10 years before liquidating the assets.”).

191 See, e.g., *supra* Parts II.A.2-4.

192 While an empirical analysis of market treatment of built-in gain discounts is beyond the scope of this Article, an empirical study of built-in gain discounts cited in *Eisenberg v. Commissioner*, 155 F.3d 50, 57-58 (2d Cir. 1998), generally supports the method and assumptions proposed by this Article:

A 1994 study performed by the National Association of Certified Valuation Analysts (NACVA) and ValueNomics Research, Inc. of Cupertino, California, analyzed the impact of a contingent tax liability on a buyer of a private, closely-held corporation. Surveyed were CPA valuation experts, attorneys involved in business transactions, and business brokers. The inescapable conclusion was that a large majority of buyers will discount the stock price of a closely-held corporation due to the existence of a contingent tax liability on appreciated property. When asked directly if the lack of increase in tax basis would affect the price a buyer would pay, every survey respondent indicated that this would cause the buyer to negotiate the price lower The average discount the respondents would take was 63 percent of the contingent tax liability.

John Gilbert, *After the Repeal of General Utilities: Business Valuations and Contingent Income Taxes on Appreciated Assets*, MONT. LAW., Nov. 1995, at 5. This result is notable because it is far less than the 100% discount currently granted by the majority of courts. Interestingly, when a binomial method calculation is completed using the assumptions detailed in Parts II.A.2-4, *supra* (equal likelihood of tax increase as decrease, fifteen-year timeframe, and present value discounting according to the long-term applicable federal rate (the average long-term applicable federal rate for 1994 was 7.25833%)), the binomial calculation results in a discount that is 64.08% of the “contingent tax liability” (close to the 63% discount deemed appropriate by CPAs, on average).

193 See *supra* notes 104-106 and accompanying text.

discounts are correct that hypothetical willing buyers of ownership interests in closely-held companies would gladly agree to prices that gave dollar-for-dollar credit for future tax liabilities, hypothetical willing sellers would not agree to such prices.¹⁹⁴ Courts granting partial discounts based on splitting the difference between expert appraisers dodge the question of whether they have violated the definition of fair market value simply by failing to provide a specified methodology that can be evaluated against that definition.¹⁹⁵ Finally, while coming closest to satisfying the definition of fair market value, courts granting partial discounts based on present value calculations and the assumption that a corporation's historical pattern of asset sales will continue also violate the definition of fair market value by focusing on what the current owners are likely to do with their assets. The definition of fair market value requires focus on what a hypothetical willing buyer of ownership interests in the corporation would do with the corporation's assets.¹⁹⁶

In contrast to the current methods, the binomial method of computing built-in gain discounts better satisfies the definition of fair market value¹⁹⁷ by recognizing that hypothetical willing buyers and sellers would agree that anticipated future tax liabilities justify some amount of discount, but not a discount equal to the full tax liability as though it was incurred immediately. Rather than erroneously relying on assumptions about what current owners are likely to do with a corporation's assets, the binomial method simply recognizes that such predictions cannot accurately be made, assumes that exercise might occur on many possible dates in the future, and averages the resulting outcomes. In so doing, the binomial method most faithfully applies the definition of fair market value when calculating built-in gain discounts.

D. *The Binomial Method Is Available in All Cases*

As is described above, the current method for calculating built-in gain discounts that most closely approximates economic reality is the method used by Judge Gerber in the Tax Court opinion in *Jelke*.¹⁹⁸ That method grants a partial

194 *Estate of Jelke v. Comm'r*, 507 F.3d 1317, 1336 (11th Cir. 2007) (Carnes, J., dissenting).

195 *Id.* at 1327 (expressing concern that, while *Eisenberg* and *Welch* rejected dollar-for-dollar built-in gain discounts, "neither court prescribed a specific alternative approach either as to the amount of the reduction or a method by which to calculate it").

196 *See supra* notes 104-106 and accompanying text.

197 Because the binomial method satisfies the definition of fair market value provided in existing regulations, it may be implemented without regulatory change simply through the modification of Revenue Ruling 59-60. A reasonable argument could be made, however, that given that this modification would conflict with a majority of circuit court decisions interpreting the definition of fair market value in the context of built-in gain discounts, the change might better be implemented by a more democratic and formal legislative or regulatory change.

198 *See, e.g., Jelke*, 507 F.3d at 1335 (Carnes, J., dissenting) (referring to Judge Gerber's method of calculating the built-in gain discount in *Jelke* as the "real value approach" and arguing that it "produces a result closer to the actual value of the company's assets" than the dollar-for-dollar ap-

built-in gain discount based on present value calculations and the assumption that a corporation's historical pattern of asset sales will continue.¹⁹⁹ However, that method is not available in many valuation cases, including cases in which the corporation being valued holds only one asset, holds a small number of assets, holds assets with different rates of historical sales, or otherwise holds assets for which historical patterns of asset sales are not available or are not reasonably predictive of future sales.²⁰⁰ In contrast, because the binomial method does not rely on the assumption that a corporation's historical rate of asset sales will continue, it is available in all cases. A method that can be used in all cases facilitates consistent treatment of built-in gain discounts.

E. The Binomial Method Is Flexible

The binomial model is both powerful and flexible.²⁰¹ As a result, its use can avoid many of the pitfalls of current valuation techniques.

1. Can Account for Scheduled Future Changes in the Tax Rate.—The binomial method can account for known increases and known decreases in future tax rates. For example, if it is known that the applicable tax rate will increase from 15% on the valuation date to 20% in the year following the valuation date, the binomial model can simply incorporate those certainties and account for the uncertainties that follow them.

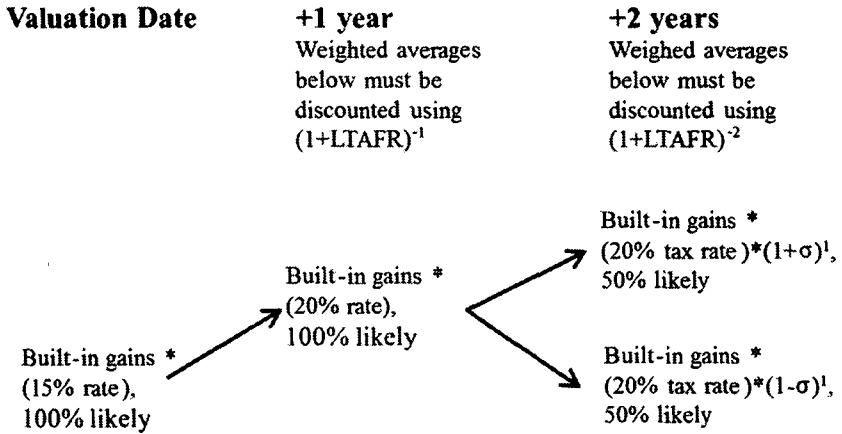
proach); Mark Siegel, *Recognizing Asset Value and Tax Basis Disparities to Value Closely-Held Stock*, 58 BAYLOR L. REV. 861, 888 (2006) (describing Judge Gerber's method of calculating the built-in gain discount in *Jelke* as offering "a more realistic calculation by not telescoping the entire tax liability into the valuation date as is the case with the complete liquidation approach").

199 *Estate of Jelke v. Comm'r*, 89 T.C.M. (CCH) 1397, at *11 (2005) (discounting the built-in gain tax liability to reflect that it will be incurred after the valuation date and assuming that it will be incurred gradually, consistent with the corporation's historical rate of asset turnover).

200 See *supra* notes 107–111 and accompanying text.

201 See Robert M. Conroy, *Binomial Option Pricing* 12 (2003) (unpublished manuscript) (on file with the University of Virginia Darden Graduate School of Business Administration), available at http://faculty.darden.virginia.edu/conroyb/derivatives/Binomial%20Option%20Pricing%20_f-0943_.pdf ("Given the emphasis on the Black-Scholes model it may seem strange but most sophisticated option pricing models use some form of the Binomial Option Pricing model and not the Black-Scholes model. The approach is to estimate the price processes of the underlying asset over the maturity of the option and then overlay the option payoffs given the values of the underlying asset The primary reason that the Binomial model is used is its flexibility").

Illustration 3: Assumes Scheduled Increase in Future Tax Rates



The binomial method’s ability to account for known future changes in tax rates is helpful, for example, when valuation occurs after a scheduled tax rate increase or decrease has been announced.

2. *Can Account for Uncertain but Likely Future Changes in the Tax Rate.*— Finally, as has been described previously, the binomial method offers greater economic accuracy than existing valuation methods because it can account for uncertain but likely future changes in the applicable tax rate. In many cases, Treasury may rely on a default assumption that the tax rate is equally likely to increase as to decrease, in which case calculations will be based on the model in Illustration 1. However, Treasury may also project likely increases or decreases. The binomial model can account for likely but uncertain changes simply by changing the weight given to various likely outcomes. The probability of a tax rate increase (P_i) can be multiplied by the amount of tax given that increase and the probability of a tax rate decrease ($1-P_i$) can be multiplied by the amount of tax given that decrease²⁰² in order to improve the economic accuracy of built-in gain discounts. Illustration 2 shows how the binomial method can account for uncertain but likely future changes in the tax rate.

²⁰² The naming convention P_i is borrowed from Robert M. Conroy, *supra* note 201, at 10.

III. CRITICISMS

A. Criticism 1: The Method Advocated Deviates from the Binomial Method

While the binomial method is flexible and allows users to vary a whole host of assumptions and inputs, it is more accurate to characterize this Article as an attempt to take advantage of many of the insights of the binomial method to value built-in gain tax liabilities, rather than an attempt to directly apply the binomial method. The binomial method has several key attributes, when used in its native world of stock option pricing, that are not applicable when its insights are applied to built-in gains.

First, it is common that when a stock price goes down, the profit resulting from an option to purchase that stock becomes \$0.²⁰³ For example, if I bought an option that allowed me to purchase Microsoft stock for \$50 at a time when Microsoft stock was trading for \$52, my option would have been worth more than \$2 at the time I bought it. However, if Microsoft stock then dropped in price to \$48, no profit would result from me exercising the option at that time, I would not exercise the option, and the resulting profit as of that time would be \$0. Further, if Microsoft stock then dropped again in price to \$44, no profit would result from me exercising the option at that time, I would not exercise the option, and the resulting profit as of that time would be \$0. While binomial pricing models in the option context include weighted averages of many potential future outcomes where the profit is \$0, that same phenomenon does not occur when considering potential future tax liabilities. More importantly, in the stock option context, the binomial method must account for “differences between the payoff to the holder of a call option and the payoff to the holder of the underlying asset;”²⁰⁴ in the example above, the drop in the price of Microsoft stock did not equal the drop in the potential payoff to the holder of a call option—both a \$4 and a \$8 drop in the price of Microsoft stock would lead to a \$0 payoff for an option holder. However, such differences do not occur in the method of valuing built-in gain discounts advocated in this Article. Each change in the tax rate is reflected by an equal change in the tax liability. In this way, the method for valuing built-in gains advocated in this Article, though based on insights of the binomial method, is mathematically simpler than applications of the binomial method for stock option valuations.

Second, the binomial option pricing model generally calculates an option price in a different way than this Article suggests for calculating built-in gain discounts. The option pricing model finds and forms “a risk-free hedge,”²⁰⁵

203 See GILSON & BLACK, *supra* note 12, at 232 (“[A] call option [possible profit assuming immediate exercise] is worth zero whenever the the [sic] underlying asset is worth less than the exercise price . . .”).

204 *Id.* at 240.

205 A hedge in which the owner acquires a stock and writes a call option on that same stock such that she will have equal payoff in the event that the stock price goes up as in the event that

assumes that this risk-free hedge will earn the risk-free rate of return, “and then price[s] the option off of that risk-free hedge.”²⁰⁶ This Article does not propose use of that method for valuing built-in gain tax liabilities. Rather, it proposes that built-in gain tax liabilities may be reduced to their present values by projecting likely future outcomes based on the volatility in the relevant tax rate, creating weighted averages of those likely future outcomes, and discounting them to their present values. It makes use of the binomial tree and does not make use of the risk-free hedge pricing method.

When used in its native application to stock options, the binomial method can account for complexities not present when it is applied to built-in gain discounts.²⁰⁷ However, its insights regarding how to value assets and liabilities in light of uncertainty can help inform more accurate built-in gain discounts.

B. Criticism 2: Less Certain than a Dollar-for-Dollar Discount

Many scholars both concede the inaccuracy of a dollar-for-dollar built-in gain discount and advocate its continued and expanded use in order to avoid the use of methodologies they see as more speculative and less predictable.²⁰⁸ For example, Brent Nicholson argues that “[w]hen courts deviate from a valuation methodology that assumes date-of-[valuation] liquidation and a fully discountable capital gains tax, they are heading into speculative territory.”²⁰⁹ He points out, for example, that no person involved in the *Jelke* case could have known whether the Tax Court’s complicated and assumption-heavy discounted present value approach would result in a calculation of the anticipated tax liability on built-in gains that was closer to the actual liability eventually incurred than the simple and straight forward dollar-for-dollar discount granted by the Eleventh Circuit’s majority.²¹⁰ Nicholson argues that since neither a complicated nor a simple approach can accurately predict the future, a simple approach should be employed. “[T]he

it goes down.

²⁰⁶ Conroy, *supra* note 201, at 3.

²⁰⁷ See, e.g., Cox et al., *supra* note 10 (dealing with the complexity that when a call is out-of-the-money, meaning that its strike price is greater than the stock price, the potential profit from immediate exercise is zero regardless of whether it is far out-of-the-money or close to being in the money).

²⁰⁸ See, e.g., Estate of Jelke v. Comm’r, 507 F.3d 1317, 1332 (11th Cir. 2007) (adopting dollar-for-dollar method while admitting that it begins with an “arbitrary assumption that all assets are sold in liquidation on the valuation date”); Dunn v. Comm’r, 301 F.3d 339, 358 n.36 (5th Cir. 2002) (employing dollar-for-dollar method while admitting that critics would say the method is economically “just plain wrong”); Nicholson, *supra* note 27, at 195 (advocating the dollar-for-dollar approach while conceding that the approach is “admittedly rather arbitrary”).

²⁰⁹ Nicholson, *supra* note 27, at 195. Of course, the assumption that a corporation will liquidate on the valuation date is itself “speculative territory” and almost always involves a speculated event that is known to be untrue.

²¹⁰ *Id.*

virtues of certainty, clarity, consistency, simplicity, and finality,” he says, “should not be denigrated.”²¹¹

While Nicholson’s reasoning appropriately recognizes that no estimate of a future tax liability can get it exactly right, this does not justify reliance on unnecessary and often inaccurate assumptions, like the immediate liquidation assumption employed by dollar-for-dollar calculations. For example, by this logic, since one cannot know for sure what stock option price will prove to be closer to the actual profit resulting from exercise of the option, the option price should simply equal the current stock price minus the option’s strike price. This logic fails to recognize uncertainties as to when the option might be exercised or how the amount of profit might have changed by the time it is exercised. Hypothetical willing buyers (in this case the millions of investors in the derivatives markets) act contrary to this simplifying logic.²¹² Indeed, millions of hypothetical willing sellers and buyers together tell us that the value of an option can and should account for uncertainties regarding when the option might be exercised and how the profit might have changed by the time it is exercised. The dollar-for-dollar method unnecessarily sacrifices accuracy for simplicity.²¹³

While exact predictions of future values are not possible, a binomial method of calculating built-in gain discounts offers more accuracy than the dollar-for-dollar method while still offering a good amount of predictability and consistency. Indeed, because the imputed current tax liability is known as of the valuation date and the long-term applicable federal rate is routinely updated, published, and relied on for tax planning, the Treasury Department need only modify Revenue Ruling 59-60 to require use of the binomial method in order to allow taxpayers to predict with a high level of certainty what valuation discount will result from application of the binomial method. Thus, the binomial method is fairly easy to implement, offers a good amount of predictability, and provides more economic accuracy than existing methods.²¹⁴

²¹¹ *Id.*

²¹² For example, as of January 29, 2014, the price (i.e. the market’s estimate of present value) of an option to buy Microsoft stock (at that time worth \$36.71) for a strike price of \$35.00 exercisable at any time between Jan. 29, 2014 and Jan. 15, 2016 was \$5.10. *Microsoft Option Chain*, NASDAQ.COM (Jan. 29 2014 3:42 PM), <http://www.nasdaq.com/symbol/msft/option-chain/160115C00035000-msft-call>. The immediate liquidation assumption would have said that the option was worth only \$1.71.

²¹³ See *Estate of Jelke v. Comm’r*, 507 F.3d 1317, 1334 (11th Cir. 2007) (Carnes, J., dissenting) (criticizing the dollar-for-dollar approach adopted by the majority and suggesting that “[t]o avoid the effort, labor, and toil that is required for a more accurate calculation of the estate tax due, the majority simply assumes a result that we all know is wrong”).

²¹⁴ Additionally, certainty in the dollar-for-dollar method is undermined because, likely due to its economic inaccuracy, some courts have refused to adopt the dollar-for-dollar method. In contrast, this Article proposes nationwide adoption, through modification to Revenue Ruling 59-60, of the modified binomial method. Adoption of that proposal would increase predictability by establishing and identifying the valuation rule that will apply even for taxpayers with cases outside of the Fifth and Eleventh Circuits.

C. Criticism 3: Too Complicated for Courts to Implement

When compared with the dollar-for-dollar method of calculating built-in gain discounts, the binomial method is slightly more complicated. However, when compared with valuation methods consistently and successfully employed by valuation experts, courts, and the IRS in other areas of valuation (including the common method of valuing closely-held operating companies by capitalizing their excess earnings), the binomial method of calculating built-in gain discounts is simple. Further, courts and the IRS are assisted in performing valuation calculations by expert appraisers.²¹⁵ Competing experts check each other's work.²¹⁶ Often, courts are sophisticated enough to identify errors in the work of experts.²¹⁷ Because the binomial method is mathematically straightforward,²¹⁸ and because the application proposed in this Article primarily relies on known inputs,²¹⁹ it would be easier for taxpayers, courts, and IRS officials to implement than many of the much more difficult valuation techniques they currently employ in other areas of valuation.²²⁰

D. Criticism 4: Fails to Account for Reduced Cash Flow Due to Lower Depreciation/Amortization

As is explained in detail by Mark Siegel in *Recognizing Asset Value and Tax Basis Disparities to Value Closely-Held Stock*,²²¹ hypothetical willing buyers of

215 See, e.g., *Estate of Borgatello v. Comm'r*, 80 T.C.M. (CCH) 260, at *8 (2000) (noting customary practice of relying on valuation experts); *Estate of Jameson v. Comm'r*, 77 T.C.M. (CCH) 1383, at *9 (1999) (noting that in most valuation cases, the parties rely extensively on expert opinions to support their valuations); *Estate of Ford v. Comm'r*, 66 T.C.M. (CCH) 1507, at *5 (1993) (same).

216 See, e.g., *Estate of Bailey v. Comm'r*, 83 T.C.M. (CCH) 1862, at *5-6 (2002). After Respondent's expert valued stock as though the corporation owned 100% of a parcel of land, the Petitioner's expert proposed that the valuation should be reduced to reflect that the corporation owned half of that parcel. *Id.*

217 See, e.g., *Estate of Davis v. Comm'r*, 110 T.C. 530, 550 (1998) (discussing the court's recalculation of the requested dollar-for-dollar built-in gain discount to correct error of appraiser after an appraiser failed to offset built-in gains by net operating loss carry forwards that were available to the corporation at the time of valuation).

218 Conroy, *supra* note 202, at 1 ("In contrast to the Black-Scholes and other complex option-pricing models that require solutions to stochastic differential equations, the binomial option-pricing model . . . is mathematically simple.").

219 See, e.g., *supra* Parts II.A.1 (discussing that the starting value is the current tax liability assuming immediate liquidation), II.A.3 (suggesting that the anticipated timeframe is fifteen years), II.A.4 (establishing that the discount rate is the long-term applicable federal rate), and II.A.6 (noting that the anticipated asset appreciation should not be considered).

220 See, e.g., *Estate of Simplot v. Comm'r*, 112 T.C. 130, 158 (1999) (considering discount for blockage, "referring to the market's ability to absorb an individual block of stock without an adverse impact on market price" and performing quite complicated calculations to estimate the economic impact of blockage); *Davis*, 110 T.C. at 540-41 (considering discounts for blockage and "the volume limitation on sale of . . . stock prescribed by SEC rule 144(e)(1)").

221 Siegel, *supra* note 198.

ownership interests in closely-held companies owning assets with built-in gains have a complicated analysis to determine the actual economic impact of those built-in gains.²²² One impact of built-in gains is that the buyer will eventually have a larger tax bill upon sale of the asset.²²³ That impact is discussed in detail and accounted for in the analysis above. However, a second impact is that, for depreciable and amortizable assets, the buyer will have lower annual tax deductions.²²⁴

To illustrate this impact, it is helpful to return to a simple example of a corporation with built-in gains. Imagine that closely-held Corporation A owns an asset currently worth \$100 that it purchased for \$20. Corporation A is less valuable than it would be in the absence of the \$80 built-in gain in its asset because current owners and potential purchasers of Corporation A must anticipate paying tax²²⁵ on the \$80 worth of built-in gains when the Corporation disposes of the built-in gain asset. However, Siegel focuses on another reason that the built-in gain asset makes Corporation A less valuable than it would be in the absence of the built-in gain. He correctly notes that, if the asset with built-in gain is a depreciable asset, Corporation A's depreciation deductions will be lower because of the built-in gain.²²⁶ Simplifying matters to a significant extent, depreciation deductions depend on the basis of the asset.²²⁷ Often, the basis of an asset is the amount for which the current owner

222 See, e.g., *id.* at 887–88 (providing complex tables to show the lost annual tax savings attributable to lower depreciation deductions due to built-in gains, noting that these lost annual tax savings must be adjusted to reflect time value of money principles, employing an arbitrary assumption that assets will be held for five years following valuation, and failing to account for possible changes in future tax savings due to changes in depreciation rules, applicable tax rates, or the corporation's marginal tax rate); *id.* at 891 ("Few would question the valuation difficulties attendant to a corporation owning low basis assets.")

223 See Bogdanski, *supra* note 178, at 37–38 (documenting higher tax bill upon disposition of asset with built-in gains).

224 See Siegel, *supra* note 198, at 864 (explaining that a buyer will demand a lower price for closely-held stock because of her recognition that assets with built-in gains have an adjusted basis below fair market value and explaining that a "lower basis figure will produce a smaller income tax deduction amount. A buyer will be paying more in taxes due to the inability to properly claim Accelerated Cost Recovery System (ACRS) [i.e. depreciation deductions] or amortization deductions on the higher basis amount pegged to fair market value."); *id.* at 888 ("The total discount, the amount subtracted from the underlying asset value, is comprised of two parts: (1) the discounted value attributable to calculating tax deductible amounts on the difference between a fair market value adjusted basis over a historic adjusted basis; and (2) the terminal benefit amount computed at the end of the five year [assumed holding] period.")

225 If the company is a C-Corporation, it will pay tax based on the corporate tax rate in I.R.C. § 11. If the company is a partnership, the partners generally will pay tax at the ordinary income rates in I.R.C. § 1 or, if the asset is a capital asset held for more than one year, at the preferential rate applicable to long term capital gains in I.R.C. § 1(h).

226 See Siegel, *supra* note 198.

227 I.R.C. § 167(c)(1) (2012). The basis for determining depreciation deductions is the adjusted basis of an asset.

purchased it.²²⁸ In our example, Corporation A's basis in the built-in gain asset is \$20, the amount for which Corporation A purchased the asset. Imagining that the asset was ratably depreciable over a 10-year period, Corporation A would get a depreciation deduction of \$2 each year for the 10-year depreciation period.

Comparing Corporation A again to Corporation B, this depreciation deduction effect evidences another reason to discount the value of Corporation A. Imagine that Corporation B also owns an asset worth \$100, but it purchased the asset for \$100. If Corporation B ratably depreciates the same asset over a 10-year period, Corporation B gets a depreciation deduction each year of \$10 for the 10-year depreciation period. Because Corporation B's taxes will be less than Corporation A's taxes in every year during the depreciation period, Corporation B enjoys the benefit of greater cash flow, even in the years that it continues to own the built-in gain asset. Siegel argues that the value of Corporation A (and other businesses with built-in gain assets) should be discounted to reflect its diminished cash flow resulting from diminished depreciation and amortization deductions.²²⁹

As to depreciable or amortizable assets, Siegel's insight is a good one. While he likely is correct that sophisticated hypothetical willing buyers will consider the impact of a diminished cash flow resulting from diminished depreciation deductions when buying ownership interests in companies holding built-in gain assets, he proposes a method for calculating the present value of this impact that relies on problematic assumptions. First, it assumes that built-in gain assets will be held for five years, that the diminished cash flow will be experienced for five years, and that (precisely at the five-year mark) all assets will be sold and the corporation will be liquidated. Just as the *Dunn*²³⁰ court's assumption of immediate liquidation is arbitrary, the assumption that liquidation will certainly occur at the five-year mark is unnecessarily arbitrary. Second, it appears that his method of calculation assumes that all assets are brand new on the valuation date. Siegel must make this assumption because otherwise, it would not be possible to calculate the impact of the lower basis. For example, an asset that has already been in use at the time of valuation might have only a couple years of depreciation deductions left, not the full five years assumed in Siegel's model. Unfortunately, that an asset has significant built-in gains often reflects that it is not newly acquired by the corporation, has long been owned by the corporation, and therefore has long appreciated in the hands of the corporation.

Thus, while Siegel's insight—that built-in gains not only create a larger tax upon the sale of appreciated assets, they also create a reduced cash flow resulting

228 See I.R.C. § 1012(a) (2012) ("The basis of property shall be the cost of such property.").

229 See Siegel, *supra* note 198, at 864 ("With [lower depreciation deductions and therefore] more cash being paid to the government there is a reduction in cash flow to the owner of the stock.").

230 *Estate of Dunn v. Comm'r*, 301 F.3d 339 (5th Cir. 2002).

from a diminished stream of depreciation and amortization deductions during the life of a corporation—is accurate,²³¹ and while this impact ideally should be reflected in the calculation of a built-in gain discount for depreciable or amortizable assets, this author knows of no way to calculate that impact without relying on assumptions that are unnecessarily arbitrary or likely incorrect. Further, inclusion of this consideration is only appropriate for assets that have built-in gains and are also being depreciated or amortized.²³² The binomial method of calculating built-in gain discounts advocated in this Article aims to avoid those problematic assumptions. For persons wishing to reflect the decreased cash flow resulting from reduced depreciation and amortization deductions in the built-in gain discount, Siegel's method can be combined with the binomial method advocated in this Article (which reflects the increased tax burden incurred upon sale of the appreciated assets) to calculate a total discount. For others, the binomial method can be used independently.²³³

CONCLUSION

The Tax Court has warned that, in the context of valuation, “[t]he lure of the convenience of mathematical precision . . . must be shunned if the result is an erroneous or unrealistic valuation.”²³⁴ One might worry that the mathematical model advocated in this Article obscures uncertainty with apparent precision and merely replaces one set of assumptions with another. However, when the value of a corporation depends on the value of its assets and when those

231 While purchasers of a corporation with built-in gains might experience a diminished cash flow resulting from lower depreciation deductions on the built-in gain assets, they receive a potentially offsetting benefit of higher leverage in these assets. Returning to our simple example, if a purchaser of Corporation A is able to pay less than \$100 for a Corporation with \$100 of assets because the price reflects a discount for the Corporation's built-in gains, the amount of price reduction will be money that the purchase is free to spend on other investments. The initial purchase price will result in increased cash for a purchaser of Corporation A as compared to a purchaser of Corporation B (who will have to pay a full \$100 for the entity because it has no built-in gains). The later cash flow differential resulting from lower depreciation deductions in Corporation A versus Corporation B appears, therefore, to be offset by the fact that purchasers of Corporation A paid less for the entity due to its built-in gains and enjoy greater leverage in the underlying \$100 worth of assets.

232 I.R.C. § 167 provides depreciation deductions for assets that are subject to “exhaustion, wear and tear [and obsolescence]” if these assets are used in a taxpayer's trade or business or are held for the production of income. I.R.C. § 167(c)(1) (2012). Assets that are not subject to exhaustion, wear, tear, or obsolescence (including land, marketable securities, and art) are not depreciable. Even for depreciable assets, depreciation deductions may not be taken if the taxpayer elected to currently expense the cost of the depreciable asset in the year it was acquired according to I.R.C. §§ 168(k), 179 (2012).

233 A combined method would need to address the fact that the adjusted basis on depreciable assets is reduced over time through depreciation deductions, thus affecting the eventual amount of gain realized on disposition of the depreciated asset.

234 FEDERAL TAX VALUATION, *supra* note 103, at ¶ 3.05(1)(a) (quoting *Estate of Obering v. Comm'r*, 48 T.C.M. (CCH) 733 (1984)).

assets have built-in appreciation at the time of valuation, it is necessary to determine the present value of the future tax liability that will be incurred on the appreciation even when it is uncertain when that liability will be incurred. Buyers and sellers of business interests must calculate these present values in order to arrive at appropriate prices for business interests. Taxpayers, IRS officials, and courts must calculate these present values in order to determine the estate or gift taxes owed on gratuitous transfers of business interests. Methods for computing these present values can either eschew math entirely (resulting in inconsistency, unpredictability, and apparent illegitimacy); rely on simple dollar-for-dollar computations (resulting in economic inaccuracy); or they can adapt computational techniques from stock option pricing models that can better account for the uncertainties inherent in valuing future liabilities. The modified binomial method advocated in this Article offers a mathematical model for calculating built-in gain discounts that balances consistency, predictability, and legitimacy with a high level of economic accuracy.