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Due Process and State Taxation of Stock Options

by Michael I. Lurie, Paul E. Melniczak, and Kyle O. Sollie

Michael I. Lurie

Paul E. Melniczak

Kyle O. Sollie

Michael I. Lurie is an associate, Paul E. Melniczak is a partner, and Kyle O. Sollie is a partner at Reed Smith LLP in Philadelphia.

In this article, the authors argue that while the Ohio Supreme Court's *Willacy* ruling regarding the statutory treatment of stock options went against the taxpayer, a dissenting opinion in *Willacy* and financial modeling techniques may pave the way for future due process challenges to the taxation of stock options.

In *Willacy v. Cleveland Board of Income Tax Review*, the Ohio Supreme Court allowed the city of Cleveland to tax stock options granted by an employer to an employee who worked in the city at the time of the grant, even though the employee moved to Florida years before exercising the option.[1] The city's tax was measured by the value of the underlying stock when the option was exercised.

Cleveland's treatment of the option is consistent with the rules in several other jurisdictions, such as New Jersey and Pennsylvania.[2] While this treatment is widespread, it may run afoul of the due process clause of the U.S. Constitution when applied to some fact patterns, as recognized by the dissenting opinion in *Willacy*.[3]

As this article will explain, a state or local tax on options imposed on a person who does not work or reside in a jurisdiction at the time the option is exercised, and is measured by the value of the underlying stock at the time the option is exercised, can run afoul of the due process requirement that the tax "be rationally related to 'values connected with the taxing'" jurisdiction.[4]

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[1] No. 2018-0794, 2020-Ohio-314 (Ohio Feb. 4, 2020).

[2] *See, e.g.*, Pennsylvania Department of Revenue, "Pennsylvania Personal Income Tax Guide, Gross Compensation" (last visited Apr. 27, 2020) ("the exercise of a stock option is 'compensation' in the form of intangible property. . . . The difference between the fair market value of the stock on the date of exercise and the amount paid by the employee to obtain the option, if any, is the amount subject to Pennsylvania tax").

See also Gross Income Tax, 34 *N.J. State Tax News* 11 (Fall 2005):

> Nonqualified stock options are taxable as compensation in the same manner as prescribed for Federal purposes. Taxpayers, however, will not realize a taxable gain until the options are exercised. The gain is then measured by the difference between the fair market value of the options at the time of exercise and the taxpayer's exercise price. Nonresidents are subject to tax on income earned from sources within New Jersey. Included in the definition of New Jersey source income is income earned in connection with a trade, profession, or occupation carried on in this State or for the rendition of personal services performed in this State. Regardless of the taxpayer's current residence, the stock options the taxpayer received while working in New Jersey, or for a New Jersey company, will be taxable as New Jersey source income when exercised.

See generally Timothy P. Noonan and Paul R. Comeau, "Multistate Taxation of Stock Option Income – Time for a National Solution?" *Tax Notes State*, June 30, 2008, p. 1063 (surveying state taxation of options).

[3] *Willacy*, *supra* note 1 (Fischer, J., dissenting).

[4] *Moorman Manufacturing Co. v. Bair*, 437 U.S. 267, 273 (1978) (internal citations omitted).

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Employees who have exercised stock options while residing in a different jurisdiction than where they worked or resided at the time they were granted the options should closely examine their facts to determine if the statutory treatment of the options is consistent with due process.

Options and the Black-Scholes Pricing Model

By way of background, an option provides a contractual right — but not obligation — to buy stock (or something else) in the future at a specified strike price.[5] Obviously, the value of the option fluctuates with the price of the underlying stock; for example, an option that is "out of the money" (that is, the strike price is less than fair market value) should be worth less than a similar option that is "in the money." The value also fluctuates with time to expiration; for example, an option that is out of the money and close to expiration should be worth less than a similar option that is far from expiration (and thus has time to gain intrinsic value).[6] Finally, the value of an option varies with the volatility of the underlying stock.[7]

The effect of each of these factors on the value of an option was revealed in two groundbreaking papers: one by Fischer Black and Myron Scholes,[8] and another by Robert Merton.[9] Published in 1973, these papers derived a formula that allows an option to be valued by inputting (1) strike price, (2) underlying stock price, (3) time to expiration, (4) risk-free interest rate, and (5) volatility.[10]

This might all sound a bit wonky, and it is. But that doesn't mean that Black-Scholes is just some fancy math for college kids and nerds in MBA school. Generally accepted accounting principles require public companies to use Black-Scholes (or another option pricing model) to determine the FMV of stock options,[11] and federal courts have acknowledged that Black-Scholes is part of "economic reality."[12]

Next we'll demonstrate how this pricing model could have been used to address the due process concerns in the *Willacy* case.

Willacy

In *Willacy*, the taxpayer received stock options from her employer in 2007 as compensation for work performed in Cleveland. The price of the employer's stock was $63 at that time, and the options gave her the right to purchase stock at that price (the strike price).[13]

In 2009 the taxpayer retired and moved to Florida. In 2014 she exercised the options and immediately sold the stock.[14] The employer's stock price had risen from $63 in 2007 to $192 in 2014, so the taxpayer had a significant profit from the sale. Consistent with Cleveland's ordinances, the employer withheld tax on the taxpayer's $129 gain on the sale of stock (that is, the difference between the $192 value at the time the options were exercised and the $63 strike price for the options).

The taxpayer filed a refund claim, raising both statutory and due process arguments. On statutory grounds, the taxpayer argued that recent financial developments, such as the Black-Scholes model,[15] allowed the FMV of stock options to be determined at the time of the grant even if there was not a liquid market for the options. The taxpayer asserted that Cleveland's ordinances should be interpreted to impose tax only on the FMV of the options. The Ohio Supreme Court rejected this argument, concluding that this type of policy consideration was reserved for the legislature, not the courts.

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[5] "Option," *Black's Law Dictionary* (11th ed. 2019).

[6] *See generally* Phelim Boyle and Feidhlim Boyle, *Derivatives: The Tools That Changed Finance* 71–84 (2001). Relatedly, options price also varies based on interest rate.

[7] This is related to the intuition that high volatility results in an asymmetric situation for an owner of an option. If an option is out of the money, it isn't as important how much it is out of the money. However, if an option is in the money, it makes a big difference how much it is in the money. *See generally* Boyle, *supra* note 6.

[8] Fischer Black and Myron Scholes, "The Pricing of Options and Corporate Liabilities," 81 *J. Pol. Econ.* 637 (1973).

[9] Robert Merton, "Theory of Rational Option Pricing," 4 *Bell J. Econ.* 141 (1973).

[10] Ajay Shah, "Black, Merton & Scholes: Their Work and Its Consequences," 32 *Econ. and Pol. Weekly* 13 (1997).

[11] Financial Accounting Standards Board, "Statement of Financial Accounting Standards No. 123: Accounting for Stock-Based Compensation" (1995).

[12] *E.g.*, *Estate of McKelvey v. Commissioner*, 906 F.3d 26, 38–39 (2d Cir. 2018).

[13] *Willacy*, *supra* note 1, at 3, 40.

[14] *Id.* at 4.

[15] For more information about the Black-Scholes model, see text accompanying footnotes 8 through 12.

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On due process grounds, the taxpayer argued that Cleveland's tax had extraterritorial effect "by classifying income received by nonresidents who no longer worked in Cleveland as if it were income received by those who were either still employed in Cleveland or Cleveland residents."[16] The court quickly disposed of this argument, finding that the taxpayer's gain "came from work she performed in Cleveland" and that "all the stock-option income is fairly attributable to her activity in Cleveland."[17] The court also noted that the city's treatment of the options was identical to the treatment under federal tax law,[18] without acknowledging that the due process clause does not impose similar constraints on federal taxes as it does on state taxes.[19]

Justice Patrick F. Fischer dissented from the court's opinion. Fischer emphasized the substantial gap in time between the 2007 grant of the stock options and the 2014 imposition of tax. He pointed to several cases that held that the imposition of a municipality's tax should occur as close in time as possible to the taxpayer's enjoyment of benefits and protections afforded by that jurisdiction; based on these cases, Fischer reasoned that Cleveland's tax — imposed years after the taxpayer no longer had any connection with the city — violated due process.

Why Does Black-Scholes Matter?

We thought you would never ask. The taxpayer in *Willacy* brought up two excellent points:

- the Black-Scholes model allows an option to be valued at the time of grant even if there is not a liquid market for the option; and
- taxing an option based solely on the price of the underlying stock at the time of exercise can violate due process.

Unfortunately, the taxpayer did not synthesize these two points to reach their logical extension: that empirical models (such as the Black-Scholes model) can be used to provide a benchmark to show when a tax on an option violates due process.

Analytically, it is helpful to consider the value of an option throughout its lifecycle, especially at its birth (the time of grant) and death (the time of exercise or expiration). At the time of grant, the value is the stock's FMV. The grant value can be determined either by actual market price (for options with a liquid market)[20] or by using Black-Scholes or a similar option pricing model (for options without a liquid market). If an option expires without being exercised, its value is zero; if exercised, its value should roughly be the FMV of the underlying stock at the time of exercise less the strike price.

As a matter of due process, a jurisdiction's tax must "be rationally related to 'values connected with the taxing'" jurisdiction.[21] Due process precedent does not provide an exact answer regarding when a tax is not rationally related, but the U.S. Supreme Court has provided some guideposts. While this precedent involves apportionment of corporate income and gross receipts, the underlying due process principles should apply with equal force to taxes on individuals.[22] For example, in *Hans Rees*, the Court held that a state tax on 80 percent of the taxpayer's income when only 17 percent of that income was actually earned in the state (or 4.7 times the actual value) was unreasonable and arbitrary.[23] Similarly, in *Norfolk & Western Railway*, the Court voided a

[16] *Willacy*, *supra* note 1 (quoting Appellant's Merit Br. at 32).

[17] *Id.* at 27.

[18] *Id.* at 19.

[19] *Compare Brushaber v. Union Pacific Railroad Co.*, 240 U.S. 1, 24 (1916) ("The due process clause . . . is not a limitation upon the taxing power conferred upon Congress by the Constitution . . . ") *with Moorman*, *supra* note 4, at 272–73 ("The Due Process Clause places two restrictions on a State's power to tax income generated by the activities of an interstate business").

See also Willacy, *supra* note 1, at 54 (Fischer, J., dissenting):

Neither *Smith* nor *LoBue* addressed the timing of the tax under the Due Process Clause in holding that it was proper for the government to tax the difference in value between the option price and the share price at the time the options were exercised. This makes sense since the issue in those cases was the imposition of the federal income tax and jurisdiction was a given because the federal government's jurisdiction is nationwide. In this case, however, the jurisdiction of the municipality was not a given, so the timing of the tax necessarily matters for due-process purposes.

[20] For example, some employers have created markets for their options to provide liquidity and flexibility to their employees. *See* Google Transferable Stock Options Program (2006).

[21] *Moorman*, *supra* note 4, at 273 (internal citations omitted).

[22] As Chief Justice William Rehnquist succinctly put it: "There is, after all, only one Due Process Clause in the Fourteenth Amendment." *McMillan v. Pennsylvania*, 477 U.S. 79, 91 (1986).

[23] *Hans Rees' Sons v. North Carolina*, 283 U.S. 123, 135 (1931).

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tax imposed on over 8 percent of a taxpayer's property even though less than 4 percent of its property was in the state (over two times the in-state value).[24]

A typical problem with applying the due process clause to state taxes is determining the appropriate benchmark to ascertain the amount of distortion. Using the corporate income tax as an example, should the baseline be separate accounting?[25] Three-factor formulary apportionment?[26] Does it depend on the specifics of the taxpayer's business?[27]

In the context of stock options, though, there is no problem in determining the appropriate benchmark: Black-Scholes cuts through the noise by providing an objective, mathematically derived and empirically tested value for an option.[28]

With this in mind, it is then a relatively straightforward process to apply due process precedent to employee stock options. Initially, some of the option's value must be attributable to the jurisdiction where a nonresident employee undertook the work performed in exchange for the grant of the option. At a minimum, due process should not prevent a jurisdiction where the employee performed the work from taxing the full grant value of the option, as this approximates taxing cash that the employer paid to the taxpayer to buy options on an open market.[29]

The real question is: How much of a nonresident's exercise value should the workplace jurisdiction be allowed to tax? One answer would be to allow the workplace jurisdiction to tax none of the exercise value; this gives a clear rule and will always comport with due process. Another answer would be to tax the value of the option according to Black-Scholes at the time the taxpayer left the jurisdiction. A third answer would be to apportion the exercise value based on the count of days between grant and exercise that the taxpayer spent in the jurisdiction, although this might be difficult to administer as a practical matter.[30]

Cleveland had a fourth answer: It elected to tax all the exercise value. While this answer is the easiest to administer and audit,[31] it also likely violates due process when applied to common fact patterns. For at least some taxpayers — such as those who are granted stock as part of a retirement package and immediately move to another jurisdiction — Cleveland has an insufficient connection to allow it to tax any of the increase in value between the date of the grant and the date of exercise.[32]

Returning to *Willacy*

This brings us back to the *Willacy* case. As a matter of due process, the key facts in *Willacy* were that the value of the taxpayer's option at the time of the grant was known, and it was only worth about 10 percent of the amount that Cleveland taxed! The taxpayer's employer was a public company, so it was required to use Black-Scholes to value the options it granted to the

[24] *Norfolk & Western Railway Co. v. Missouri State Tax Commission*, 390 U.S. 317, 326 (1968). In *Norfolk*, the Court held that a state could not impose a tax on a railroad that was apportioned by track mileage when the railroad had significantly higher traffic per track mile and more expensive, specialized rolling stock in states with coal operations than in other states. *Id.*

[25] *See Exxon Corp. v. Wisconsin DOR*, 447 U.S. 207, 221 (1980) ("As this Court has on several occasions recognized, a company's internal accounting techniques are not binding on a State for tax purposes").

[26] *See General Motors Corp. v. District of Columbia*, 380 U.S. 553, 561 (1965) ("The standard three-factor formula can be justified as a rough, practical approximation of the distribution of either a corporation's sources of income or the social costs which it generates. By contrast, the geographic distribution of a corporation's sales is, by itself, of dubious significance in indicating the locus of either factor").

[27] *See Wallace v. Hines*, 253 U.S. 66, 69-70 (1920) (striking down a North Dakota tax because of the unusual impact of North Dakota's geography and market characteristics on the taxpayer's business).

[28] Of course, just like every valuation method, Black-Scholes is not perfect.

[29] *See Shaffer v. Carter*, 252 U.S. 37, 57 (1920).

[30] This option could also pose due process concerns in edge cases, such as when an option decreases in value while a taxpayer lives in one state and then increases in value while the taxpayer lives in another state.

[31] Cleveland's treatment does not require any estimation or valuation since it waits for realization.

[32] *See Shaffer*, *supra* note 28 (a state's power to tax nonresidents "extends only to their property owned within the State and their business, trade, or profession carried on therein"). *But see Allen v. Commissioner of Revenue Services*, 152 A.3d 488, 508 and n.27 (Conn. 2016):

> Due process does not demand that compensation be taxed by the application of a formula that utilizes economic values that are ascertainable only contemporaneously with the performance of services in the taxing state. Rather, it is sufficient to satisfy due process requirements that, for a state to impose a tax on the compensation of a nonresident, the taxpayer has performed the services in the taxing state.

In *Allen*, the taxpayer conceded that the options "did not have a readily ascertainable fair market value" at the time they were granted. *Id.* at note 4. However, this concession seems to have been based on the federal definition of "readily ascertainable" for purposes of section 83(a). *See* Treas. reg. section 1.83-7(b)(2).

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taxpayer.[33] At the time the options were granted, they were worth about $16 each, according to Black-Scholes.[34] Cleveland taxed the taxpayer on the $129 gain — nearly eight times more than the actual value of the options.

The distortion in this case is more severe than the distortion in *Hans Rees* (over four times) and *Norfolk and Western Railway* (over two times). Therefore, as a matter of due process, Cleveland should not have been able to impose tax on the taxpayer's full $129 gain from the sale of stock. Instead, the city should have been allowed to tax the $16 of grant value, and only a portion of the additional $113 of exercise value at most.[35]

Practical Takeaways

There are a few practical takeaways from the foregoing analysis.

First, some state and local taxes on options are vulnerable to an as-applied due process challenge. If an employee exercises a stock option in a different jurisdiction than where they worked or resided when they were granted the option, they can compare the grant value to the exercise value to determine how much distortion results from taxing the full exercise value. For employees of publicly traded companies, this information should be available in the employer's financials. If there is significant distortion, an employee should consider filing a refund claim.

Second, states and localities may want to revisit how they tax options for nonresidents. Imposing tax on the full exercise value of an option might maximize the amount of revenue collected as long as it is not subject to challenge, but it also fails due process scrutiny as applied to common fact patterns. Allowing taxpayers to apportion exercise value is more likely to pass due process scrutiny.

Third, Fischer's dissent in *Willacy* paves the way for future due process challenges to state and local taxes on options.[36] Although the majority in *Willacy* upheld Cleveland's tax, other taxpayers can now turn to the justice's dissent for guidance and support. ■

[33] *Willacy*, *supra* note 1 (citing Appellant's Merit Br. at 4).

[34] *Id.* at 7. The taxpayer in *Willacy* cited her employer's financial statements as evidence of the grant value of the options. Strictly speaking, this might not be admissible as evidence of the grant value of the options. *See Ohio R. Evid*. 802. Regardless, the valuation of options using the Black-Scholes model would almost certainly be an appropriate subject for expert testimony. *See Ohio R. Evid*. 702; *see, e.g., R.A. Mackie & Co. L.P. v. PetroCorp Inc.*, 329 F. Supp. 2d 477, 514 (S.D.N.Y 2004).

[35] The "Practical Takeaways" section explains an alternative method that could be used to determine how much of the additional gain Cleveland should have been allowed to tax.

[36] *See* Vanessa Baird and Tonja Jacobi, "How the Dissent Becomes the Majority: Using Federalism to Transform Coalitions in the U.S. Supreme Court," 59 *Duke L.J.* 183, 186 ("some dissents may be explained as signals from judges to litigants about how to frame future similar cases to increase the chance of success for the argument the dissenting judge supports").

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