

RECALCULATING “LOSS” IN SECURITIES FRAUD

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ABSTRACT

*Quantifying the amount of actual loss within securities fraud cases is crucial to criminal sentencing. The United States Sentencing Guidelines recently adopted a “modified rescissory method,” whereby loss is measured by comparing average stock prices during and after the fraud. This paper argues that the Guidelines imprudently opt for ease of judicial application over precise culpability. The new law’s arithmetic suffers from a number of serious flaws, including upward bias with respect to the number of damaged shares and skewed sentencing disparity (both upward and downward) due to the inclusion of extrinsic factors wholly unrelated to a defendant’s conduct. This paper instead proposes conforming criminal sentencing for securities fraud with its civil counterpart, as promulgated by the Supreme Court in *Dura Pharmaceuticals, Inc. v. Broudo*. A “market-adjusted method,” which focuses on normalized change in a damaged security’s value, is a more precise way to calculate actual loss. And such precision need not come at the expense of ease of application.*

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INTRODUCTION

The estimate of loss in securities and commodities fraud cases "is a critical determinant of the length of a defendant's sentence"¹ and often "the single most important factor in the application of the Sentencing Guidelines."² The amount of loss calculated can result in an increase of up to 30 offense levels,³ which can translate into "a guidelines calculation either calling for or approaching lifetime imprisonment"⁴ for "any officer or director of virtually any public corporation who has committed securities fraud."⁵ Not only can the calculation of loss under § 2B1.1 of the U.S. Sentencing Guidelines (the "Guidelines") quickly raise a defendant's sentence from "modest to substantial,"⁶ the calculation of loss also affects a large number of defendants. In fiscal year 2012 (October 1, 2011 through September 30, 2012) alone, 9,388 defendants were sentenced under § 2B1.1, representing 11.1% of *all* defendants sentenced and making § 2B1.1 the third most applied Guideline.⁷

The Guidelines play a "key role"⁸ in federal sentencing despite the fact that they are no longer mandatory under *United States v. Booker*.⁹ The prime desideratum of the Guidelines is the promotion of uniformity in sentencing.¹⁰ Until recently, the Guidelines did not expressly provide for any method of

¹ *United States v. Rutkoske*, 506 F.3d 170, 179 (2d Cir. 2007).

² Peter J. Henning, *White Collar Crime Sentences After Booker: Was the Sentencing of Bernie Ebbers Too Harsh?*, 37 McGEORGE L. REV. 757, 767 (2006).

³ U.S. SENTENCING GUIDELINES MANUAL § 2B1.1(b)(1) (2012).

⁴ *United States v. Parris*, 573 F. Supp. 2d 744, 754 (E.D.N.Y. 2008) (declining to apply the Guidelines); *see also* *United States v. Adelson*, 441 F. Supp. 2d 506, 507 (S.D.N.Y. 2006) (imposing sentence of 42 months in securities fraud case where guideline range was life imprisonment).

⁵ *Parris*, 573 F. Supp. 2d at 754.

⁶ Brief of Law Professors & National Ass'n of Criminal Defense Lawyers as Amici Curiae Supporting Petitioners at 6, *Rigas v. United States*, U.S. 2010 WL 2691596 (2010) (No. 09-1456) (citing Peter J. Henning, *White Collar Crime Sentences After Booker: Was the Sentencing of Bernie Ebbers Too Harsh?*, 37 McGEORGE L. REV. 757, 767 (2006)) [hereinafter Brief of Law Professors].

⁷ *See* U.S. SENTENCING COMM'N, SOURCEBOOK OF FED. SENT. STAT. tbl. 17 (2012), available at http://www.ussc.gov/Data_and_Statistics/Annual_Reports_and_Sourcebooks/2012/Table17.pdf. Only §2L1.2 (Immigration) and §2D1.1 (controlled substances) were involved in more sentences in fiscal year 2012.

⁸ *Kimbrough v. United States*, 552 U.S. 85, 101 (2007); *see also* *Gall v. United States*, 552 U.S. 38, 49 (2007) ("As a matter of administration and to secure nationwide consistency, the Guidelines should be the starting point and the initial benchmark.").

⁹ *See* 543 U.S. 220, 245 (2005) (holding that held that mandatory sentencing guidelines violated the Sixth Amendment right to a jury trial thereby rendering the Guidelines "effectively advisory" for district courts).

¹⁰ *See id.*

loss calculation that a court must use in securities or commodities cases.¹¹ The limited guidance was that a “court need only make a reasonable estimate of the loss” and that “[t]he estimate of the loss shall be based on available information.”¹²

The lack of a clear arithmetic formula resulted in confusion and disagreement among the courts,¹³ a variety of calculations,¹⁴ and divergent sentences often disconnected from culpability.¹⁵ Consequently, the United States Sentencing Commission (the “Commission”) sought comment in early 2012 on whether it should amend the Guidelines to set forth a method for calculating loss in securities fraud cases.¹⁶ To curb capricious sentences resulting from the multiplicity of loss calculations, the Commission promulgated a special rule for quantifying actual loss in cases involving the fraudulent inflation or deflation in the value of a publicly traded security or commodity.¹⁷ The Commission’s proposed arithmetic became effective by operation of law on November 1, 2012.¹⁸

Given the extraordinary importance of the loss calculation, coupled with the desire to resolve unwarranted disparities in sentencing, one would think the Commission would have set forth a formula that yields consistent calculations tethered to economic theory and a defendant’s culpability. In-

¹¹ Brief of Law Professors, *supra* note 6, at 6 (quoting Samuel W. Buell, *Reforming Punishment of Financial Reporting Fraud*, 28 CARDOZO L. REV. 1611, 1628 (2007) (“Congress and the Sentencing Commission have been no help to courts faced with the task of determining loss in cases of financial reporting fraud.”)).

¹² U.S. SENTENCING GUIDELINES MANUAL § 2B1.1 cmt. n.3(C) (2012).

¹³ See *infra* Section I.

¹⁴ *Compare, e.g.*, United States v. Grabske, 260 F. Supp. 2d 866, 872–73 (N.D. Cal. 2002) (employing “a simple rescissory method” under which loss is based upon the price that the victim paid for the security and the price of the security as it existed after the fraud was disclosed), with United States v. Bakhit, 218 F. Supp. 2d 1232 (C.D. Cal. 2002) (using a “a modified rescissory method” under which loss is based upon the average price of the security during the period that the fraud occurred and the average price of the security during a set period after the fraud was disclosed to the market), with United States v. Moskowitz, 215 F.3d 265, 272 (2d Cir. 2000), *abrogated on other grounds by* Crawford v. Washington, 541 U.S. 36, 64 (2002) (employing a “market capitalization method” under which loss is based upon the price of the security shortly before the disclosure and the price of the security shortly after the disclosure), with United States v. Olis, 429 F.3d 540, 546 (5th Cir. 2005) (using a market-adjusted method under which loss is based upon the change in value of the security, but excluding changes in value that were caused by external market forces).

¹⁵ For the avoidance of doubt, the use of the term “culpability” herein relates solely to the offensive conduct, without regard to a defendant’s intent.

¹⁶ Sentencing Guidelines for United States Courts, Notice of Public Hearing, 77 Fed. Reg. 2,778–795 (Jan. 19, 2012). In the Dodd-Frank Act, Congress instructed the Commission to “review and, if appropriate, amend the Federal Sentencing Guidelines and policy statements applicable to persons convicted of offenses relating to securities fraud or any other similar provision of law.” Pub. L. No. 111-203, § 1079A(a)(1)(A) (2010).

¹⁷ See Submission to Congress of Amendments to the Federal Sentencing Guidelines, 77 Fed. Reg. 28,227 (May 11, 2012).

¹⁸ See U.S. SENTENCING GUIDELINES MANUAL § 2B1.1(b)(1); see also 77 Fed. Reg. 28,226 (May 11, 2012) (“The Commission held a public hearing on the proposed amendments in Washington, D.C., on March 14, 2012. On April 30, 2012, the Commission submitted these amendments to Congress and specified an effective date of November 1, 2012.”).

stead, the Commission mandated an imprecise measure of loss, one which: (i) is incompatible with the basic tenets of financial economics, (ii) fails to adequately account for extrinsic factors such as market conditions that can affect stock price, (iii) incorrectly assumes that all shares outstanding incurred harm, and (iv) inappropriately places the burden of proof on defendants rather than the prosecution.¹⁹

Part I provides a synopsis of the loss calculation methods employed by courts, focusing on the Circuit Court split over whether loss should be calculated using (i) the modified rescissory method²⁰ or (ii) the market-adjusted method.²¹ Part II introduces the new formula that the Commission has directed courts to use to compute loss. Part III examines the new law's arithmetic and demonstrates several fatal flaws including upward bias regarding the number of damaged shares and unresolved issues of sentencing disparity (both upward and downward) resulting from extrinsic factors wholly unrelated to a defendant's conduct. Part IV explains further why the Commission erred and suggests that the principles laid out by the Supreme Court in *Dura Pharmaceuticals, Inc. v. Broudo*²² should apply just as they do in civil securities fraud cases. The Conclusion notes that precision and ease of application are not mutually exclusive. The analysis ultimately suggests that the Commission made the wrong choice. Worse, the new law's arithmetic can cause calculations antithetical to the Commission's goal of curing unwarranted sentencing disparities. The "market-adjusted method" is the more accurate method because it actually measures the loss *caused* by a defendant's fraud.

I. CIRCUIT SPLIT ON THE CALCULATION OF LOSS AND THE APPLICATION OF LOSS CAUSATION PRINCIPLES OF *DURA PHARMACEUTICALS, INC. V. BROUDO*

In its request for comment in January 2012,²³ the Commission identified four methods of loss calculation used by various federal courts: (i) the simple rescissory method;²⁴ (ii) the modified rescissory method;²⁵ (iii) the mar-

¹⁹ See David F. Marcus, Greg Eastman & Marina Martynova, *An Imprecise Measure Of Loss—At Best*, LAW 360 (June 26, 2012), <http://www.law360.com/articles/353974/an-imprecise-measure-of-loss-at-best> [hereinafter *An Imprecise Measure*].

²⁰ See, e.g., *United States v. Bakhit*, 218 F. Supp. 2d 1232, 1241 (C.D. Cal. 2002) (loss is based upon the average price of the security during the period that the fraud occurred and the average price of the security during a set period after the fraud was disclosed to the market).

²¹ See, e.g., *United States v. Olis*, 429 F.3d 540, 546–47 (5th Cir. 2005) (using a market-adjusted method under which loss is based upon the change in value of the security, but excluding changes in value that were caused by external market forces).

²² 544 U.S. 336 (2005).

²³ Proposed Amendments to Federal Sentencing Guidelines, Policy Statements, and Commentary, 77 Fed. Reg. 2,778 (Jan. 19, 2012) (comment period closed March 19, 2012).

²⁴ See, e.g., *United States v. Grabske*, 260 F. Supp. 2d 866, 872–73 (N.D. Cal. 2002) (loss is based upon the price that the victim paid for the security and the price of the security as it existed after the fraud was disclosed).

ket capitalization method;²⁶ and (iv) the market-adjusted method.²⁷ The Circuit Courts of Appeal have, however, most fundamentally split on whether to calculate loss as (A) the difference in the average price of the security during the fraud and the average price of the security after the fraud was disclosed, or the “modified rescissory method,”²⁸ or (B) the change in the value of the security, excluding changes in value caused by external market forces, or the “market-adjusted method” that the Supreme Court requires in civil cases.²⁹

A. *The Modified Rescissory Method*

The modified rescissory method, or at least forms of it, have been adopted by the Third³⁰ and Eleventh Circuits.³¹ Under the modified rescissory method a court determines loss by: (i) calculating the average stock price of the shares during the life of the fraud, then (ii) calculating the average stock price during a set period after the fraud was disclosed and (iii) multiplying the difference between (i) and (ii) by the number of harmed shares.³² Courts have employed varying periods of time after a corrective disclosure to calculate the average stock price, which has had a considerable effect on the calculation of loss.³³

²⁵ See, e.g., *Bakhit*, 218 F. Supp. 2d at 1241 (loss is based upon the average price of the security during the period that the fraud occurred and the average price of the security during a set period after the fraud was disclosed to the market).

²⁶ See, e.g., *United States v. Moskowitz*, 215 F.3d 265, 272 (2d Cir. 2000) (employing a market capitalization method under which loss is based upon the price of the security shortly before the disclosure and the price of the security shortly after the disclosure).

²⁷ See, e.g., *United Staes v. Olis*, 429 F.3d 540, 546 (5th Cir. 2005) (using a market-adjusted method under which loss is based upon the change in value of the security, but excluding changes in value that were caused by external market forces).

²⁸ See *United States v. Brown*, 595 F.3d 535 (3d Cir. 2010), *cert. denied*, 131 S. Ct. 903 (2011); *Bakhit*, 218 F. Supp. 2d at 1241.

²⁹ See, e.g., *United States v. Rutkoske*, 506 F.3d 170, 179 (2d Cir. 2007); *Olis*, 429 F.3d at 546.

³⁰ See *Brown*, 595 F.3d at 524 (the Third Circuit explained the district court’s use of the “average selling price methodology”—a method that “attempts to estimate the effect inflated earnings had upon the value of the company’s shares by comparing the average selling price of the stock during the lifetime of the fraud to the average selling price after the fraud was disclosed or corrected via a restatement”—for determining the amount of shareholder loss that resulted from defendant’s fraud, noting that other courts had sanctioned this method of loss calculation in recent accounting fraud decisions).

³¹ See *United States v. Snyder*, 291 F.3d 1291, 1296 (11th Cir. 2002) (calculating loss by taking difference between average price of stock of defendant’s company during fraud and after disclosure of fraud to determine average loss per victim, then multiplying that figure by total number of victims).

³² *Bakhit*, 218 F. Supp. 2d at 1241–42 (following *Snyder*, 291 F.3d 1291); see also *Brown*, 595 F.3d at 524 (3d Cir. 2010) (citing *Bakhit*, 218 F. Supp. 2d at 1240–42, in support of its explanation of the rescissory or modified rescissory approach).

³³ Compare *Bakhit*, 218 F. Supp. 2d at 1241–42 (determining the relevant period for average price during the fraud as from the date of the IPO to the date of the auditor’s resignation and the period for average price after the fraud as from the resumption of trading to the next

The modified rescissory method permits a court to “calculate the loss based upon readily available information,” “without the aid of expert testimony or an extensive factual debate.”³⁴ The advantage of the modified rescissory method is its ease of application. “The calculation is based upon objective trading data, easily obtained, which minimizes the speculation found in other proffered calculations.”³⁵ It arguably “eliminates, or at least reduces, the complexity, uncertainty, and expense inherent in attempting to determine out-of-pocket losses on a case-by-case basis.”³⁶ This method, however, “sacrifices some precision.”³⁷ Averaging stock prices during extended periods of time invariably considers factors other than the fraud, including market and idiosyncratic growth or decline in the price of the stock.³⁸

The Ninth Circuit has noted that Congress itself endorsed such a method for calculating average shareholder loss by pointing to commentary note 3 of § 2B1.1, which states that “[t]his estimate, for example, may be based upon the approximate number of victims and the average loss to each victim.”³⁹ Courts claim to have also found support for the method in the Private Securities Litigation Reform Act (“PSLRA”), which “mandates” the use of a modified rescissory method that looks to the difference between the purchase price and the average trading price in the 90-day (that is, the “bounce back”) period subsequent to the corrective disclosure.⁴⁰

B. The Market-Adjusted Method

The Second,⁴¹ Fifth,⁴² and Tenth Circuits⁴³ have all recognized that “a loss calculation involving publicly traded stock” that fails “to distinguish

earnings statement), with *Snyder*, 291 F.3d at 1296 (using the period from the announcement of the effectiveness of the drug to the days following the announcement of the fraud).

³⁴ *Bakhit*, 218 F. Supp. 2d at 1242.

³⁵ *Id.*

³⁶ *United States v. Grabske*, 260 F. Supp. 2d 866, 873–74; (N.D. Cal. 2002) *see also Bakhit*, 218 F. Supp. 2d at 1240 (“Although it may be preferable for the district court to have the benefit of dueling experts and an extensive tutorial to determine the actual loss with exactitude, that is simply not practical in the vast majority of criminal fraud cases [since m]ost defendants do not have the resources to hire an independent expert and the government has similar financial restraints.”).

³⁷ *Bakhit*, 218 F. Supp. 2d at 1242.

³⁸ *Id.*

³⁹ *United States v. Berger*, 587 F.3d 1038, 1045 (9th Cir. 2009) (noting that if “*Dura Pharmaceuticals*’ loss causation rule applied to criminal sentencing enhancements, that principle’s plain rejection of the overvaluation loss measurement method . . . would collide with Congress’s clear endorsement of that method.”).

⁴⁰ *See Grabske*, 260 F. Supp. 2d at 873 (citing 15 U.S.C. 78u–4(e)). The author notes, however, that the PSLRA—unlike the new formula—is *not* a measure of damages, but is instead a limitation or cap on the amount of damages recoverable in a private action. *See HAROLD S. BLOOMENTAL, SARBANES-OXLEY ACT IN PERSPECTIVE* § 10:7 (2012) [hereinafter *SOX IN PERSPECTIVE*].

⁴¹ *See United States v. Rutkoske*, 506 F.3d 170, 179 (2d Cir. 2007).

⁴² *See United States v. Olis*, 429 F.3d 540, 545–46 (5th Cir. 2005).

⁴³ *See United States v. Nacchio*, 573 F.3d 1062, 1078–79 (10th Cir. 2009).

between the effects of the alleged misconduct and the effects of general market conditions is inherently flawed and thus unreasonable.”⁴⁴ Each of these Circuits has therefore adopted the “market-adjusted method,” calculating the change in the value of the security while excluding changes in value caused by external market forces.⁴⁵ This method follows the analysis applied by the Supreme Court in *Dura*.⁴⁶

In *United States v. Olis*, the defendant was a tax lawyer and accountant who participated in accounting fraud.⁴⁷ Concluding the loss was over \$100 million, the Court enhanced the defendant’s sentence by twenty-six levels, resulting in a 292 month sentence.⁴⁸ On appeal, Judge Jones writing for the Fifth Circuit acknowledged that the district court had to make only a “reasonable estimate of loss.”⁴⁹ “[R]easonable” did not, however, justify any chosen method of calculating loss; rather, only those methods that are “legally acceptable.”⁵⁰ After noting that “actual loss” under the Guidelines incorporates both factual causation and proximate causation,⁵¹ the Fifth Circuit concluded that *Dura* provided the guidance for determining loss causation where the gravamen of the offensive conduct is securities fraud because *Dura*’s civil damages measure “is attuned to stock market complexities.”⁵² The court noted several decisions recognizing that “because a company’s stock price is affected before and after the fraud by numerous extrinsic market influences as well as [by] other business decisions [made] by the company, the calculation of loss attributable to securities fraud requires careful analysis.”⁵³ The Fifth Circuit also emphasized the “importance of thorough analyses grounded in economic reality.”⁵⁴ “Where the value of a security declines for other reasons [unrelated to the fraud], such decline, or compo-

⁴⁴ Brief of Charles F. Dolan et al. as Amici Curiae Supporting Petitioners in Petition for Writ of Certiorari at 9, *Rigas v. United States of America*, No. 09-1456, 2010 WL 2665558 (U.S. Jul 2, 2010) [hereinafter Brief of Dolan et al.].

⁴⁵ See, e.g., *Olis*, 429 F.3d at 546 (using a market-adjusted method under which loss is based upon the change in value of the security, but excluding changes in value that were caused by external market forces).

⁴⁶ In *Dura*, the Supreme Court held that mere allegation and proof of an inflated purchase price “will not itself constitute or proximately cause the relevant economic loss” in fraud-on-the-market cases. 544 U.S. 336, 342 (2005). This is because, at the time of purchase, “the plaintiff has suffered no loss” since “the inflated purchase payment is offset by ownership of a share that at that instant possesses equivalent value. Moreover, the logical link between the inflated share purchase price and any later economic loss is not invariably strong . . . if, say, the purchaser sells the shares quickly before the relevant truth begins to leak out, the misrepresentation will not have led to any loss.” *Id.* Rather, a plaintiff must demonstrate that the alleged misrepresentation actually did “cause a loss.” *Id.* at 343.

⁴⁷ 429 F.3d at 541.

⁴⁸ *Id.* at 543.

⁴⁹ *Id.* at 545.

⁵⁰ *Id.*

⁵¹ See *id.*

⁵² *Id.* at 546.

⁵³ *Olis*, 429 F.3d at 547.

⁵⁴ *Id.*

ment of the decline, is not a ‘loss’ attributable to the misrepresentation.”⁵⁵ The portion of a price decline caused by other factors—in the case of Mr. Olis, *approximately two-thirds* of the district court’s assessment of the loss—must be excluded.⁵⁶

Similarly, the Second Circuit has directed courts to look to the principles governing recovery of damages in civil securities fraud, specifically, the civil concept of “loss causation.”⁵⁷ Determining loss is “no easy task” as the Second Circuit held in *United States v. Rutkoske*. “‘The loss must be the result of the fraud,’” and “losses from causes other than the fraud must be excluded from the loss calculation.”⁵⁸ Subsequent to Mr. Rutkoske’s conviction for participating in securities fraud, the district court relied on the government’s expert to calculate loss, using a date that was three months after the charged conspiracy and “had no particular relevance to the offens[ive] conduct.”⁵⁹ As a result, the district court’s adopted calculation improperly attributed the total amount of the stock’s decline to the defendant’s fraud.⁶⁰ The Second Circuit therefore remanded the case to the district court for resentencing to consider other factors relevant to the stock’s decline.⁶¹

II. THE NEW STANDARD FOR CALCULATING LOSS

The Commission ultimately selected the modified rescissory method.⁶² A public hearing on the proposed amendment was held in Washington, D.C. on March 14, 2012.⁶³ On April 30, 2012, the Commission submitted the amendments to Congress and specified an effective date of November 1, 2012.⁶⁴ Since Congress did not act, the proposed amendment became law.⁶⁵ Under the new formula for calculating loss, a court multiplies the difference between (i) the average share price during the fraud period and (ii) the average share price during the 90-day period after the fraud was disclosed by the number of shares outstanding.⁶⁶

More specifically, the Commission amended the Commentary to § 2B1.1 captioned “Application Notes” by adding the following to the end of Note 3(F):

(ix) *Fraudulent Inflation or Deflation in Value of Securities or Commodities.*—In a case involving the fraudulent inflation or de-

⁵⁵ *Id.*

⁵⁶ *Id.* at 546, 548.

⁵⁷ *See* *United States v. Rutkoske*, 506 F.3d 170, 179 (2d Cir. 2007).

⁵⁸ *Id.* (quoting *United States v. Ebberts*, 458 F.3d 110, 127–28 (2d Cir. 2006)).

⁵⁹ *Id.* at 178.

⁶⁰ *Id.* at 180–81.

⁶¹ *Id.*

⁶² *See* Sentencing Guidelines for United States Courts, 77 Fed. Reg 2778 (Jan. 19, 2012).

⁶³ *Id.*

⁶⁴ *Id.*

⁶⁵ U.S. SENTENCING GUIDELINES MANUAL § 2B1.1(b)(1).

⁶⁶ *Id.*

flation in the value of a publicly traded security or commodity, there shall be a rebuttable presumption that the actual loss attributable to the change in value of the security or commodity is the amount determined by:

(I) calculating the difference between the average price of the security or commodity during the period that the fraud occurred and the average price of the security or commodity during the 90-day period after the fraud was disclosed to the market, and

(II) multiplying the difference in average price by the number of shares outstanding.

In determining whether the amount so determined is a reasonable estimate of the actual loss attributable to the change in value of the security or commodity, the court may consider, among other factors, the extent to which the amount so determined includes significant changes in value not resulting from the offense (e.g., changes caused by external market forces, such as changed economic circumstances, changed investor expectations, and new industry-specific or firm-specific facts, conditions, or events).⁶⁷

III. PROBLEMS WITH THE COMMISSION’S ARITHMETIC

A. *The New Formula Sacrifices Precision for Ease in Calculating Loss per Share*

The Guidelines define “[a]ctual loss” as “the reasonably foreseeable pecuniary harm *that resulted* from the offense.”⁶⁸ In other words, loss is defined as the harm (and only the harm) that actually “resulted from the offense.”⁶⁹ The amendment to the Guidelines quantifies the loss resulting from fraud as “the difference between the average price of the security or commodity during the period that the fraud occurred and the average price of the security or commodity during the 90-day period after the fraud was disclosed to the market.”⁷⁰ Calculating the “actual loss” that resulted from fraud, however, is not as easy as the Guidelines would make it seem. There are a number of problems with the Guidelines’ arithmetic.

One problem can occur when the price of the stock has increased during the inflationary period for reasons wholly independent of the fraud. The portion of the increase attributable to non-fraud factors should be excluded from the calculation of loss as it would increase the calculation of loss for

⁶⁷ *Id.*

⁶⁸ *Id.* at cmt. n.2(A)(i) (emphasis added).

⁶⁹ Brief of Dolan et al., *supra* note 44, at 8.

⁷⁰ U.S. SENTENCING GUIDELINES MANUAL § 2B1.1(b)(1).

reasons unrelated to the defendant's conduct.⁷¹ Similarly, any non-fraud related decline during the inflationary period should likewise be excluded from the estimate of loss because such a measure would incorrectly depress the estimate of loss.⁷²

Second, because § 2B1.1, as amended, analyzes average prices over discrete (and occasionally long) stretches of time, the resulting estimate is "an imprecise measure of the actual loss caused by the fraud."⁷³ Use of long temporal periods is inconsistent with the Efficient Markets Hypothesis ("EMH"), upon "which the entire theory of market loss is based."⁷⁴ The longer the span of time, the more likely it is that extraneous factors might affect the loss calculation.⁷⁵ According to the EMH, "securities markets react swiftly and accurately in response to new public information."⁷⁶ Extensive research shows "that stock prices react quickly to the arrival of new information, often within a matter of seconds."⁷⁷ Such new information is often fully incorporated in a stock price within one trading day.⁷⁸ As Table 1 demonstrates, a defendant whose offensive conduct spans a period that in-

⁷¹ Cf. Richard A. Booth, *Windfall Awards Under PSLRA*, 59 BUS. LAW. 1045, 1047 (2003) (noting in the civil context that any decline "from the purchase price for independent reasons in addition to the revelation of fraud . . . should be excluded from any award of damages.").

⁷² The purpose of this paper is not to suggest that the penalties faced by white-collar criminals are themselves excessively harsh or severe. Rather, the arithmetic used to calculate loss should not be subject to swings (upward or downward) by extrinsic factors unrelated to the offensive conduct. At times, the math could indeed result in a draconian sentence. At other times, a defendant might get the benefit of a reduced sentence that fails to correlate with culpability and the seriousness of the offense.

⁷³ *An Imprecise Measure*, *supra* note 19, at 2; *see also* *Dura Pharm., Inc. v. Bruodo*, 544 U.S. 336, 343 (2005) ("Other things being equal, the longer the time between purchase and sale . . . the more likely that other factors caused the loss.").

⁷⁴ Kevin P. McCormick, *Untangling the Capricious Effects of Market Loss in Securities Fraud Sentencing*, 82 TUL. L. REV. 1145, 1166 (2008); *see also, e.g.*, *Basic Inc. v. Levinson*, 485 U.S. 224, 247 (1988) (holding that under the fraud-on-the-market theory, an investor's reliance on a "public material misrepresentation[]" is presumed because "most publicly available information is reflected in market price[s]").

⁷⁵ McCormick, *supra* note 74, at 1166; *cf. Dura*, 544 U.S. at 1631–32 ("Other things being equal, the longer the time between purchase and sale, . . . the more likely that other [unrelated] factors caused the loss.")

⁷⁶ McCormick, *supra* note 74, at 1166; *see, e.g.*, RICHARD A. BREALEY, STEWART C. MYERS & ALAN J. MARCUS, *PRINCIPLES OF CORPORATE FINANCE* 352–53 (3rd ed. 2001) (describing a study of 194 firms that were targets of takeover attempts and the fact that, within the day of the public announcement, the new stock prices reflect the magnitude of the eventual takeover premium); Ronald J. Gilson & Reinier H. Kraakman, *The Mechanisms of Market Efficiency*, 70 VA. L. REV. 549, 560 (1984) (noting that the requirement that prices always reflect new information means that market mechanisms function rapidly enough to foreclose trading opportunities from new information).

⁷⁷ Mark L. Mitchell & Jeffrey M. Netter, *The Role of Financial Economics in Securities Fraud Cases: Applications at the Securities and Exchange Commission*, 49 BUS. LAW. 545, 557 (1994) (citing James M. Patell & Mark Wolfson, *The Intraday Speed of Adjustment of Stock Prices to Earnings and Dividend Announcements*, 13 J. FIN. ECON. 223 (1984); Larry Y. Dann et al., *Trading Rules, Large Blocks, and the Speed of Price Adjustment*, 4 J. FIN. ECON. 3 (1977)).

⁷⁸ BREALEY, MYERS & MARCUS, *supra* note 76, at 352–53 (describing a study of 194 firms that were targets of takeover attempts and the fact that, within the day of the public announcement, the new stock prices reflect the magnitude of the eventual takeover premium).

cludes extraneous negative market forces that depress the stock price during the inflationary period will invariably receive a much shorter sentence, *ceteris paribus*, than a defendant who engages in the same conduct during a span void of such extraneous forces.⁷⁹ The reverse also holds true: an offender might receive a harsher sentence due to an artificial increase in the loss calculation if the market is booming during the inflationary period. For the foregoing reasons, the Commission’s method disserves the goals of promoting uniformity and reducing the capriciousness seen in sentencing.

TABLE 1
INFLATED AND DEFLATED LOSS CALCULATION SCENARIOS^F

Category	Extraneous Market Forces’ Effect on Stock Price	Loss Calculation (holding everything else constant)
1	Stock Price Up During Inflationary Period	Overestimate Loss
2	Stock Price Down During Inflationary Period	Underestimate Loss
3	Stock Price Up During 90-day Period Following Corrective Disclosure	Underestimate Loss
4	Stock Price Down During 90-day Period Following Corrective Disclosure	Overestimate Loss

Third, the Commission’s arithmetic “inherently assumes” that a price decline during the 90-day period after the revelation of the fraud was caused by the fraud.⁸⁰ This, by itself, contravenes the EMH. The Commission’s math wholly discounts new information that may affect the price of the stock during the post-inflationary period following a corrective disclosure,⁸¹ including “changed economic circumstances, changed investor expectations, new industry-specific or firm-specific facts, conditions, or other events.”⁸² As Table 1 above shows, if a portion of the total stock price decline following a corrective disclosure is due to changes in market or industry conditions, then the Commission’s measure of loss may grossly overestimate the effect of the alleged fraud. Such miscalculation might unfairly add years to a sentence. Similarly, a defendant could benefit from positive market fluctuations during the 90-day period after a corrective disclosure and receive a much lighter sentence than otherwise warranted. The flaw in using average prices over potentially long periods of time becomes even more pronounced when one

⁷⁹ See Response to Request for Comment on Proposed 2012 Amendments and Related Issues, Practitioners Advisory Group, at 5 (Mar. 8, 2012), http://www.uscc.gov/Meetings_and_Rulemaking/Public_Comment/20120329/PAG%20comment%20letter%20re%202012%20proposals%20-%20FINAL.pdf [hereinafter *PAG*]; see also *United States v. Ebbers*, 458 F.3d 110, 128 (2d Cir. 2006) (noting, for example, the negative effect of the bursting of the dot-com bubble, which effect on share price was not attributable to the defendant).

⁸⁰ *An Imprecise Measure*, *supra* note 19, at 2.

⁸¹ Booth, *supra* note 71, at 1046.

⁸² *Dura Pharm., Inc. v. Bruodo*, 544 U.S. 336, 343 (2005).

considers basic principles of corporate finance. Macroeconomic events—such as changes in interest rates, government spending, monetary policy, and oil prices just to name a few—affect almost all companies and the returns on almost all stocks.⁸³ These changes have nothing to do with company-specific news.⁸⁴ Some stocks are more (or less) affected than others by such market fluctuations and the sensitivity of a stock's returns to gyrations in market returns is called a stock's *beta*.⁸⁵

Stocks with a *beta* greater than 1.0 typically respond more than one-for-one to changes in the return of the overall market.⁸⁶ Stocks with a *beta* less than 1.0 typically vary less than one-for-one with market returns.⁸⁷ A stock with a *beta* of 2.0 would therefore fall by twice the percentage as the market, on average, absent any company-specific news because that stock is twice as sensitive as the average stock to market movements.⁸⁸ Stock returns can be broken down into two parts: (i) the part explained by market returns and the firm's *beta*; and (ii) the part affected by company-specific news.⁸⁹ These two parts are additive.⁹⁰ Suppose that the broader market is down by 2% and a company with a *beta* of 2.0 releases a negative earnings announcement that would result in a precipitous decline of 10% solely related to the earnings announcement. Holding everything else constant, the stock should be down by 4% because of the market decline, plus another 10% because of the company specific news, for a total decline of 14%.⁹¹

The fact that different stocks “move with the market in varying proportions is ([and] should be) an important consideration in the calculation” of loss.⁹² Professor Richard Booth provides an apt example from a critique of the PSLRA:

Suppose that a stock with a beta of 2.0 is trading at \$60 before a corrective disclosure and falls to \$50 following disclosure. Thereafter, the market progressively falls by [10%] over the next ninety days. In the absence of any other news about the subject company, one would expect its price to fall by a further [20%] to \$40[, simply because of the decline in the market]. Assuming the average trading price over the ninety-day period is \$45 (the average of \$50 at the beginning and \$40 at the end of the ninety-day period

⁸³ BREALEY, MYERS & MARCUS, *supra* note 76, at 290.

⁸⁴ See *Ebbers*, 458 F.3d at 128 (noting, for example, the negative effect of the bursting of the dot-com bubble, the effect of which on share price was not attributable to the defendant).

⁸⁵ BREALEY, MYERS & MARCUS, *supra* note 76, at 290–91.

⁸⁶ *Id.* at 291.

⁸⁷ *Id.*

⁸⁸ Booth, *supra* note 71, at 1051.

⁸⁹ BREALEY, MYERS & MARCUS, *supra* note 76, at 292.

⁹⁰ *Id.*

⁹¹ See Booth, *supra* note 71, at 1051 (setting forth a comparable hypothetical).

⁹² See *id.*

[falling progressively]), damages will be \$15 per share rather than \$10 per share.⁹³

The pitfalls of using the Commission’s modified rescissory method are parallel. The Commission’s estimate of loss *would be 50% higher* than it would be if one looks at the decline in stock price resulting solely from the securities fraud in Professor Booth’s hypothetical.

The Guidelines themselves support the view that a stock’s *beta* should be a factor in calculating loss. The commentary to the Guidelines does not simply state that a court “need only make a reasonable estimate of the loss,” but goes on to state explicitly that when a court is making this reasonable estimate, “[t]he estimate of the loss *shall be based on available information.*”⁹⁴ Anyone with access to the Internet can readily find a stock’s *beta* just as easily as historical trading data.⁹⁵

B. *The New Calculation Overestimates the Number of Harmed Shares*

By “multiplying the difference in average price by the number of shares outstanding,” the Commission’s calculation presupposes that every outstanding share incurred harm. As a matter of economics and pure logic, “investors can only be harmed by the fraud if they paid an inflated price for the security [during the period in which the fraud occurred] and did not recover that inflation when they sold their shares.”⁹⁶ “[I]f a share did not trade during the [inflationary] period” then “its owner could not have been damaged.”⁹⁷

As Figure 1 and Table 2 demonstrate below, the actual number of shares that incurred losses is likely to be *significantly* lower than the number of shares outstanding. Suppose that because of fraud, a hypothetical company’s stock price, which was consistently trading at \$6 prior to the fraud (Period A) rose from \$6 per share to \$10 per share. Then, a few days later the fraud was disclosed and the stock price declined, returning to its pre-fraud trading price of \$6 per share. As the following shows, only those shareholders that purchased shares during the Fraud Period (Period B) *and* held them until after the disclosure of the fraud (Period C) were harmed,

⁹³ *Id.*

⁹⁴ U.S. SENTENCING GUIDELINES MANUAL § 2B1.1 cmt. n.3(C) (emphasis added).

⁹⁵ See *Home, YAHOO! FIN.*, <http://finance.yahoo.com/> (last visited June 1, 2013) (search for any stock quote to find such stock’s *beta*).

⁹⁶ *An Imprecise Measure*, *supra* note 19, at 3; see also *Dura Pharm., Inc. v. Bruodo*, 544 U.S. 336, 342 (2005) (“as a matter of pure logic, the moment the transaction takes place, the plaintiff has suffered no loss because the inflated purchase price is offset by ownership of a share that possesses equivalent value at that instant”).

⁹⁷ See Dean Furbush & Jeffrey W. Smith, *Estimating the Number of Damaged Shares in Securities Fraud Litigation: An Introduction to Stock Trading Models*, 49 *BUS. LAW.* 527, 540 (1993–94).

since they spent \$4 more per share than the shares were worth but for the fraud.⁹⁸

FIGURE 1
DEMONSTRATION OF HARMED SHAREHOLDERS

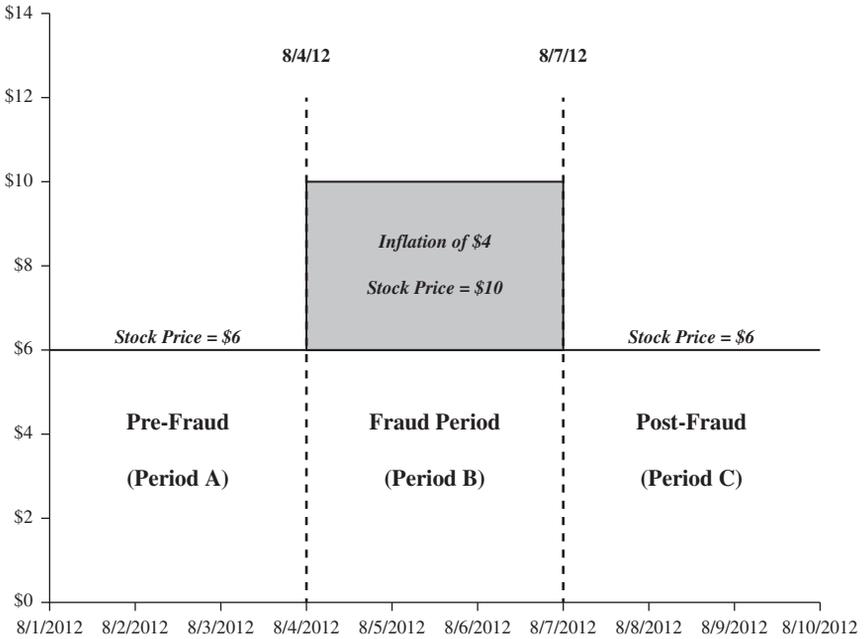


TABLE 2
HARMED SHAREHOLDER SCENARIOS⁹⁹

Category	Period Purchased	Period Held Until	Damaged?
1	Period A (or before)	Period A	No
2	Period A (or before)	Period B	No
3	Period A (or before)	Period C (or later)	No
4	Period B	Period B	No
5	Period B	Period C (or later)	Yes
6	Period C (or later)	Period C (or later)	No

⁹⁸ See Michael Barclay & Frank C. Torchio, *A Comparison of Trading Models Used for Calculating Aggregate Damages in Securities Litigation*, 64 L. & CONTEMP. PROBS. 105, 106 (2001) (“shares purchased when the stock price was artificially inflated and held through a disclosure that reveals the fraud typically are considered to be damaged”).

⁹⁹ Furbush & Smith, *supra* note 97, at 531.

Investors who purchased shares pre-fraud (Period A or earlier) suffered no harm. The Commission’s calculation fails to consider this and mistakenly assumes Period A investors were injured. It assumes *every* investor (indeed, every share) was harmed, even though only one of six categories of shareholder was damaged.¹⁰⁰ In fact, some Period A investors, those that sold during Period B, will have *benefited* from the fraud by selling at a higher price during Period B than they would have been able to but for the fraud.¹⁰¹ Similarly, investors who purchased shares after the misrepresentation (Period B) but sold before the corrective disclosure (Period B) suffer no loss.¹⁰² Purchasers in Period C could not have been damaged by a defendant’s fraudulent conduct since the stock price during the post-inflationary period no longer reflects the fraudulent information.¹⁰³

Defendants may have also owned many shares themselves. Some CEO-founders hold a significant portion of the outstanding shares.¹⁰⁴ By incorrectly assuming all shares were harmed, and failing to deduct the shares held by defendants to arrive at “innocent shares,”¹⁰⁵ the Commission’s arithmetic is biased toward higher calculations of loss.¹⁰⁶ The actual number of shares that incurred harm depends on several factors, including: (i) the length of the inflationary period, (ii) the security’s reported trading volume during the inflationary period,¹⁰⁷ adjusted for volume overstatement due to trades by specialists or market makers,¹⁰⁸ and (iii) the amount of shares available to trade, factoring in shares “governed by lock-up agreements or held by insiders.”¹⁰⁹ The Commission’s calculation is therefore flawed and biased toward higher loss estimates, resulting in potentially draconian sentences.

¹⁰⁰ See *id.*

¹⁰¹ See *id.* at 540.

¹⁰² See *id.*

¹⁰³ See *id.*

¹⁰⁴ See *15 Companies with the Most Insider Ownership*, CNBC, http://www.cnbc.com/id/44789933/15_Companies_with_the_Most_Insider_Ownership (last visited Apr. 13, 2013) (noting CEO-founders holding upwards of 20% of the shares outstanding).

¹⁰⁵ See, e.g., *Brown*, 595 F.3d at 524 (noting that the district court multiplied the loss amount by “innocent shares,” the total number of shares minus those held by the Rite Aid defendants).

¹⁰⁶ See *An Imprecise Measure*, *supra* note 19 at 3.

¹⁰⁷ SOX IN PERSPECTIVE, *supra* note 40, at § 10:7 (“the number of [damaged] shares . . . [is] a determination that involves interpretation of trading data and the number of in and out purchasers during the relevant period who may or may not have been damaged by the misrepresentation/omission”).

¹⁰⁸ Barclay & Torchio, *supra* note 98, at 110 (noting that “reported volume should be reduced by approximately twenty percent for NYSE stocks and by approximately fifty-eight percent for NASDAQ stocks” to account for “specialist (NYSE firms) or market maker (NASDAQ firms) trading”).

¹⁰⁹ *An Imprecise Measure*, *supra* note 19 at 3; see also Judge Sneed’s concurring opinion in *Green v. Occidental Petroleum Corp.*, 541 F.2d 1335, 1341 (9th Cir. 1976).

C. *The Amendment Inappropriately Places the Burden of Proof on Defendants*

Not only does the amendment result in an imprecise and biased measure of loss, it also inappropriately places the burden of proof on defendants.¹¹⁰ The prosecution must prove enhancements at sentencing (such as the loss amount in a fraud case) by a preponderance of the evidence.¹¹¹ The amendment, however, obviates the government's burden.¹¹² Courts must now presume that the modified rescissory method accurately calculates loss. Granted, a court may consider, "among other factors, the extent to which the amount so determined includes significant changes in value not resulting from the offense (e.g., changes caused by external market forces, such as changed economic circumstances, changed investor expectations, and new industry-specific or firm-specific facts, conditions, or events)."¹¹³ The burden, nevertheless, now effectively lies with defendants to prove that the presumptive approach is not a "reasonable estimate of the actual loss."¹¹⁴

In the context of civil securities fraud, "plaintiffs need to *prove* proximate causation and economic loss."¹¹⁵ The government should share the same burden in instances of criminal securities fraud.¹¹⁶ Parties frequently rely upon expert opinion to prove what loss is attributable to fraud.¹¹⁷ "The government is often better equipped [than defendants] to provide expert analysis about the influence of external market forces and about the economic loss proximately caused by the fraud, and is already doing so in circuits in which [the market-adjusted] method has been favored."¹¹⁸ Restoring the government's responsibility to quantify loss is befitting with its extant burden to prove sentencing enhancements by a preponderance of the evidence.¹¹⁹

¹¹⁰ See *An Imprecise Measure*, *supra* note 19, at 3.

¹¹¹ See, e.g., *United States v. Russell*, 595 F.3d 633, 646 (6th Cir. 2010); *United States v. Williams*, 247 F.3d 353, 358 n.7 (2d Cir. 2001); *United States v. Ewing*, 129 F.3d 430, 434 (7th Cir. 1997); *United States v. McAlpine*, 32 F.3d 484, 487 (10th Cir. 1994), ("Clearly, the government has the burden to prove the amount of loss by a preponderance of the evidence."), *cert. denied*, 115 S.Ct. 610 (1994).

¹¹² See *An Imprecise Measure*, *supra* note 19, at 3.

¹¹³ U.S. SENTENCING GUIDELINES MANUAL § 2B1.1(b)(1).

¹¹⁴ *Id.*

¹¹⁵ *Dura Pharm., Inc. v. Bruodo*, 544 U.S. 336, 346 (2005) (emphasis in original).

¹¹⁶ See *PAG*, *supra* note 79, at 6 ("Just as civil securities fraud plaintiffs must prove that their economic loss was proximately caused by the defendant's misrepresentation as opposed to other independent market factors, so too should the government have to prove that loss was proximately caused by the defendant's fraudulent conduct as opposed to independent market factors.").

¹¹⁷ See, e.g., *United States v. Rutkoske*, 506 F.3d 170, 179 (2d Cir. 2007) (relying on the government's expert); *United States v. Olis*, 429 F.3d 540, 548 (5th Cir. 2005) (relying on the defense's expert).

¹¹⁸ *PAG*, *supra* note 79, at 6.

¹¹⁹ *Cf. id.* ("Placing the burden on the government is consistent with its current responsibility in the sentencing phase to prove the application of sentencing enhancements by a preponderance of the evidence.").

IV. *DURA* SHOULD APPLY TO LOSS CALCULATIONS IN WHITE-COLLAR CRIMINAL SENTENCING

A. *Dura’s Beneficial Effects in the Civil Context Should Likewise Apply in the Criminal Context*

In *Dura*, the Supreme Court of the United States unanimously held that when evaluating civil securities fraud allegations, courts must consider “the tangle of factors affecting [stock] price.”¹²⁰ *Dura* reversed the Ninth Circuit’s holding that “[i]n a [Rule 10b-5] fraud-on-the-market case, plaintiffs establish loss causation if they have shown that the price *on the date of purchase* was inflated because of the misrepresentation.”¹²¹ The decision recognized, and was premised upon, the fact that publicly traded shares can vary in price for a host of reasons, including “changed economic circumstances, changed investor expectations, new industry-specific or firm-specific facts, conditions, or other events.”¹²² Of particular import, both the Department of Justice and the Securities and Exchange Commission argued as *amici* for the defendants in *Dura*.¹²³

Though *Dura* was a civil securities fraud case, the Court’s analysis therein is apropos to quantifying loss for purposes of the Guidelines.¹²⁴ “*Dura* applied economic reality to reduce the impact of frivolous civil securities litigation.”¹²⁵ It did so, in part, by setting forth a method for arriving at the appropriate economic loss. On that basis alone, *Dura* should likewise apply in the context of criminal sentencing.¹²⁶ As the Second Circuit wrote in *Rutkoske*, there is “no reason why considerations relevant to loss causation in a civil fraud case should not apply, *at least as strongly*, to a sentencing regime in which the amount of loss caused by a fraud is a critical determinant of the length of a defendant’s sentence.”¹²⁷ When “a defendant’s liberty is at stake, the calculation of loss should be no less reliable than it is where

¹²⁰ *Dura*, 544 U.S. at 343.

¹²¹ *Broudo v. Dura Pharm., Inc.*, 339 F.3d 933, 938 (9th Cir. 2003) (quoting *Knapp v. Ernst & Whinney*, 90 F.3d 1431, 1438 (9th Cir. 1996)) (emphasis in original), *rev’d*, 544 U.S. 336 (2005).

¹²² *Dura*, 544 U.S. at 343.

¹²³ SOX IN PERSPECTIVE, *supra* note 40, at § 10:7; see also Brief of the United States as Amicus Curiae 11–12 (No. 03–932), 2004 (arguing, among other things, that “a fundamental premise of the fraud-on-the-market theory is that the dissemination of a material misrepresentation ‘typically affects the price of the stock’”).

¹²⁴ SOX IN PERSPECTIVE, *supra* note 40, at § 10:7.

¹²⁵ Brief of Dolan et al., *supra* note 44, at 6–7 (“[E]mpirical evidence suggests that *Dura* has had precisely the intended effect. In the wake of *Dura*, ‘the number of class action filings has declined, the average settlement amount has increased, and the number of lower and relatively quick settlements has declined.’”) (citing Scotland M. Duncan, Note, *Dura’s Effect On Securities Class Actions*, 27 J.L. & COM. 137, 167 (2008)).

¹²⁶ *Id.*

¹²⁷ *United States v. Rutkoske*, 506 F.3d 170, 179 (2d Cir. 2007).

the outcome is merely a judgment to pay damages.”¹²⁸ *Dura* “should be the backdrop for criminal responsibility both because it furnishes the standard of compensable injury for securities fraud victims and because it is attuned to stock market complexities.”¹²⁹

B. *Dura’s “Market-Adjusted Method” Measures the Loss Actually Caused by the Fraud*

“[M]arket and industry forces can cause significant changes in share prices as a result of, among other things, changes in market interest rates, levels of risk aversion, forecasts of future inflation and growth rates, and forecasts of industry measures such as demand, profit levels, and required rates of return.”¹³⁰ These changes, among others, alter investors’ estimates of future growth and earnings, which drive stock prices.¹³¹

The language of the Guidelines aligns with *Dura*. “Actual loss” is defined as “the reasonably foreseeable pecuniary harm *that resulted* from the offense.”¹³² The commentary to the Guidelines does not merely state that a court “need only make a reasonable estimate of the loss,” but goes on to state explicitly that when a court is making this reasonable estimate, “[t]he estimate of the loss *shall be* based on available information.”¹³³ Any “*reasonable* estimate of loss based on stock price decline must [consider] *all* of the reasons for that decline and must disaggregate” the decline unrelated to the underlying fraud.¹³⁴ In a case involving a publicly traded company, the “available information” includes a litany of “facts, conditions, [and] other events”¹³⁵ that might have affected the stock price but are wholly unrelated to the offense conduct.¹³⁶

Of the methods considered by the Commission, the market-adjusted method was and is the only one that calculates loss “based on the change in value of the security that can fairly be attributed to the fraud.”¹³⁷ It does so by accounting for those changes in value caused by external market forces.¹³⁸ “The most significant advantage of this method is that”—unlike the Com-

¹²⁸ Gibson Dunn & Crutcher LLP, *U.S. Sentencing Commission Approves Increased Penalties for Certain Fraud Offenses* (April 18, 2012), <http://www.gibsondunn.com/publications/Documents/USSentencingCommission-IncreasedPenalties-FraudOffenses.pdf>.

¹²⁹ *United States v. Olis*, 429 F.3d 540, 548 (5th Cir. 2005); *see also* *United States v. Nacchio*, 573 F.3d 1062, 1085–87 (10th Cir. 2009) (directing the district court on remand to eliminate the gain caused by legitimate price appreciation, as well as the underlying inherent value of the stock).

¹³⁰ Madge S. Thorsen, Richard A. Kaplan & Scott Hakala, *Rediscovering the Economics of Loss Causation*, 6 J. BUS. & SEC. L. 93, 105 (2006).

¹³¹ *Id.*

¹³² U.S. SENTENCING GUIDELINES MANUAL § 2B1.1 cmt. n.2(A)(i) (emphasis added).

¹³³ *Id.* at § 2B1.1 cmt. n.2(C) (emphasis added).

¹³⁴ Brief of Dolan et al., *supra* note 44, at 13 (emphasis in original).

¹³⁵ *Dura Pharm., Inc. v. Bruodo*, 544 U.S. 336, 343 (2005).

¹³⁶ Brief of Dolan et al., *supra* note 44, at 13.

¹³⁷ *PAG*, *supra* note 79, at 4–5.

¹³⁸ *Id.*

mission’s modified rescissory method—it removes the possibility of sentencing disparity (both upward and downward) due to the inclusion of extrinsic factors wholly unrelated to a defendant’s conduct.¹³⁹ Put simply, it is a more precise and sound way to calculate actual loss. A clear exposition of inflationary loss can be found in case law.

As recognized by Judge Posner of the Seventh Circuit, when a shareholder buys stock based on a misrepresentation and the market subsequently declines, there is no loss causation because the loss that occurred (that is, investment loss) is not the kind of loss that the securities fraud law intends to prevent.¹⁴⁰ “To hold the defendant liable for th[is] loss would produce overdeterrence” as these are “conditions outside his [or her] control.”¹⁴¹ And given that the law rejects the notion in the civil context, investment loss should also be excluded from the estimate of loss in the criminal context. As eloquently put by Judge Posner:

Of course, one could take a very hard line and argue that the defendant had only himself to blame—had he told the truth he would have no liability. But the law rejects this argument, perhaps believing that it is unrealistic to suppose that potential defendants have such complete control over their actions (realistically, the actions of their employees and other agents) that they won’t worry about, and so overprotect against (which is what we mean by overdeterrence), the liability to which they will be subject if through a lapse of diligence they violate the law. . . . The legal system is busy enough without shouldering the burden of providing insurance against business risks.

Failure to apply the principles recognized in the civil securities context in the criminal context prevents courts from “distinguish[ing] between the fraud-related and non-fraud related influences on [a] stock’s price behavior.”¹⁴² Thus, criminal sentencing for securities fraud should conform with its civil counterpart. Unless the new law is corrected, we can expect diverse sentences for defendants engaged in indistinguishable conduct due to both macroeconomic and microeconomic factors wholly unrelated to fraud.

¹³⁹ *Id.*

¹⁴⁰ *Movitz v. First Nat'l Bank of Chi.*, 148 F.3d 760, 763 (7th Cir. 1998).

¹⁴¹ *Id.*

¹⁴² *In re Oracle Sec. Litig.*, 829 F. Supp. 1176, 1181 (N.D. Cal. 1993) (recognizing the utility of event study methodology and requiring experts to include an event study in their damage analysis); *see also In re N. Telecom Ltd. Sec. Litig.*, 116 F. Supp. 2d 446, 460 (S.D.N.Y. 2000) (granting defendants’ motion for summary judgment, in part because plaintiffs’ expert’s analysis was “fatally deficient in that he did not perform an event study or similar analysis to remove the effects on stock price of market and industry information”).

CONCLUSION

The Commission's chosen calculation of loss is highly flawed and will engender unwarranted sentencing disparity. White-collar defendants are now subject to a formula biased toward higher loss estimates that can also yield loss calculations "grossly disproportional [both upward and downward] to the actual seriousness of their offense."¹⁴³ Courts frequently found Guideline sentences "to be greater than necessary to serve the goals of sentencing and var[ied] downward from the Guideline ranges" before the new arithmetic became law on November 1, 2012.¹⁴⁴ The Commission's new math will only exacerbate the problem of capricious sentencing. The more precise (and available) market-adjusted methodology should replace the Commission's proposed arithmetic as it would improve the accuracy and effectiveness of the sentencing process. Using the modified rescissory method "in criminal cases invites the unpleasant situation where the stakes are greater but the precision and accuracy of the remedy is lower."¹⁴⁵

Uniformity, accuracy and usability are essential to the success of the Guidelines. Ease of application and precision, however, need not be mutually exclusive. The benefits of the modified rescissory method—the ability of a court to "calculate the loss based upon readily available information," "without the aid of expert testimony or an extensive factual debate"¹⁴⁶—can

¹⁴³ See Alan Ellis, John R. Steer & Mark H. Allenbaugh, *At a Loss for Justice: Federal Sentencing for Economic Offenses*, 25 CRIM. JUST. 35, 36 (Winter 2011) (citing *United States v. Parris*, 573 F. Supp. 2d 744, 754 (E.D.N.Y. 2008) (noting that "the Sentencing Guidelines for white-collar crimes [can produce] a black stain on common sense"); *United States v. Adelson*, 441 F. Supp. 2d 506, 512 (S.D.N.Y. 2006) (lamenting "the utter travesty of justice that sometimes results from the guidelines' fetish with absolute arithmetic, as well as the harm that guideline calculations can visit on human beings if not cabined by common sense"). See also *United States v. Watt*, 707 F. Supp. 2d 149, 155 (D. Mass. 2010) (stating that sometimes loss is an effective "proxy for evaluating culpability," "sometimes it is not"); *United States v. Faulkenberry*, 759 F. Supp. 2d 915, 928 (S.D. Ohio 2010) (stating that "[a]s has become common among district courts sentencing white-collar offenders in financial fraud cases, the Court finds that the loss calculation substantially overstates the gravity of the offense here and declines to impose a within-Guidelines sentence.").

¹⁴⁴ Federal Public and Community Defenders Public Comment (Mar. 19, 2012), at 2–3, available at http://www.uscc.gov/Meetings_and_Rulemaking/Public_Comment/20120329/FPD%20Public%20Comment%202012.pdf (citing *United States v. Rigas*, 583 F.3d 108, 113 (2d Cir. 2009) (80-year old father and son sentenced to 12 and 17 years respectively, where recommended guideline range was life in prison)) [hereinafter *FPCD Public Comment*]; *United States v. Ebbers*, 458 F.3d 110, 129 (2d Cir. 2006) (sentence of 25 years imposed where guideline range was at least 30 to life); *Adelson*, 441 F. Supp. 2d at 506 (S.D.N.Y. 2006) (sentence of 42 months imposed in securities fraud case where guideline range was life imprisonment). See also Frank O. Bowman, III, *Sentencing High-Loss Corporate Insider Frauds After Booker*, 20 FED. SENT'G REP. 167, 169 (Feb. 2008) (noting that "since *Booker*, virtually every judge faced with a top-level corporate fraud defendant in a very large fraud has concluded that sentences called for by the Guidelines were too high. This near unanimity suggests that the judiciary sees a consistent disjunction between the sentences prescribed by the Guidelines in fraud cases and the fundamental requirement of Section 3553(a) that judges impose sentences 'sufficient, but not greater than necessary' to comply with its objectives.").

¹⁴⁵ McCormick, *supra* note 74, at 1173.

¹⁴⁶ *United States v. Bakhit*, 218 F. Supp. 2d 1232, 1242 (C.D. Cal. 2002).

also apply to the market-adjusted method with just an ounce of creativity. For example, a Microsoft Excel workbook and Visual Basic macro could be prepared by a panel of independent experts at the Commission’s direction which could consistently, and easily,¹⁴⁷ automate:

1. The import of publicly available stock price, volume, shares outstanding, and broader market data from the Internet into Excel, based upon simple information provided by a court (for example, inflation begin date, inflation end date, ticker, and market (for example, NASDAQ, NYSE, and so on));
2. Event study analysis, which would analyze the security’s abnormal market-adjusted return and (more importantly) the abnormal dollar impact from a corrective disclosure;¹⁴⁸
3. Trading model analysis that would estimate the number of shares damaged by the fraudulent misrepresentations of a defendant;¹⁴⁹ and
4. A “reasonable estimate of the loss”¹⁵⁰ that yields consistent calculations tethered to economic theory and a defendant’s culpability.¹⁵¹

The Commission’s methodology is no panacea for the ills it seeks to remedy.¹⁵² Uncorrected, the lack of uniform and precise calculations that will stem from the Commission’s arithmetic “endangers traditional notions of fair play and justice by creating the possibility of capricious sentences” in white-collar securities fraud.¹⁵³ “Just as *Dura* applied economic reality to

¹⁴⁷ Easy in the sense that any lay person could run the program, which would calculate the market-adjusted loss to be used in sentencing, by providing a few simple inputs. There is, however, quite a bit of debate about event study analysis and the “best” trading model. See Brief of Dolan et al., *supra* note 44, at 7. In the end, the Guidelines only require a “reasonable estimate of the loss,” so the use of a loss calculation put forth by an independent panel of experts should suffice. U.S. SENTENCING GUIDELINES MANUAL § 2B1.1 cmt. n.2(C)

¹⁴⁸ Atanu Saha & Allen Ferrell, *Event Study Analysis: Correctly Measuring the Dollar Impact of an Event*, (Harv. Law Sch. John M. Olin Discussion Paper Series, 2011) (setting for the proper transformation of an abnormal return into an associated abnormal dollar impact), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1814236. There are a number of sources on event study methodology. See, e.g., E. Boehmer, J. Musumeci & A. Poulsen, *Event- Study Methodology Under Conditions of Event-Induced Variance*, 30 J. FIN. ECON. 253, 253–272 (1991); J. Binder, *On the Use of the Multivariate Regression Model in Event Studies*, 23 J. ACC. RESEARCH, 370, 370–383 (1985); S. Brown & J. Warner, *Using Daily Stock Returns: The Case of Event Studies*, 14 J. FIN. ECON. 3, 3–31 (1985).

¹⁴⁹ See generally Barclay & Torchio, *supra* note 98, at 110 (comparing single-trader and multi-trader models and discussing generally theoretical criticism of the various models); Furbush & Smith, *supra* note 94, at 529–31 (discussing the basic mechanism of a proportional trading model, the equiprobable trading hypothesis, and a general trading model).

¹⁵⁰ U.S. SENTENCING GUIDELINES MANUAL § 2B1.1 cmt. n.2(C).

¹⁵¹ The estimate of loss should continue to be a rebuttable presumption, which would permit a party to persuade the court that it is not a “reasonable estimate of the actual loss.” *Id.* That said, such a discussion would begin from a more accurate and standardized starting place.

¹⁵² See, e.g., *FPCD Public Comment*, *supra* note 144, at 2 (“the frictional drag [the new arithmetic will] exert on the smooth operation of the [G]uidelines [will exact] a very real cost”).

¹⁵³ See McCormick, *supra* note 74, at 1177.

reduce the impact of frivolous civil securities litigation, so its principles should apply to reduce the risk of disparate and disproportionate sentences in white-collar criminal sentencing.”¹⁵⁴ Fortunately, Judge Patti B. Saris, Chair of the Commission, explained that these amendments are “the first step in a multi-year review of the fraud guideline.”¹⁵⁵ The Chair’s statement provides hope for future refinement of the Guidelines consistent with this Article.

¹⁵⁴ Brief of Dolan et al., *supra* note 44, at 7.

¹⁵⁵ Press Release, U.S. Sentencing Comm’n, U.S. Sentencing Commission Promulgates Amendment to the Federal Sentencing Guidelines Responding to the Dodd-Frank Act (Apr. 13, 2012), http://www.ussc.gov/Legislative_and_Public_Affairs/Newsroom/Press_Releases/20120413_Press_Release.pdf.