12-1919-cr
United States v. Gushlak

UNITED STATES COURT OF APPEALS

FOR THE SECOND CIRCUIT

August Term, 2012

(Argued: May 1, 2013 Decided: August 29, 2013)

Docket No. 12-1919-cr

UNITED STATES OF AMERICA,

Appellee,

- v -

MYRON L. GUSHLAK,

Defendant-Appellant.

Before: SACK, WESLEY, and CARNEY, *Circuit Judges*.

Appeal from an order of restitution entered pursuant to the Mandatory Victims Restitution Act of 1996, 18 U.S.C. § 3663A, against Defendant-Appellant Myron Gushlak in the United States District Court for the Eastern District of New York (Nicholas G. Garaufis, *Judge*). We conclude that the district court had authority to enter the restitution order, that the restitution proceedings satisfied Gushlak's rights under the Due Process Clause of the Fifth Amendment, and that the district court's loss calculation was a reasonable estimate grounded in a sound basis for approximation of the full amount of identified victims' losses.

Affirmed.

ELIZABETH BERNEY, Great Neck, New York, *for Defendant-Appellant*.

DANIEL A. SPECTOR, (David C. James, *on the brief*) for Loretta E. Lynch, United States Attorney for the Eastern District of New York, Brooklyn, New York, *for Appellee*.

SACK, *Circuit Judge*:

Defendant-appellant Myron Gushlak challenges, on various grounds, the May 15, 2012, restitution order entered against him in the United States District Court for the Eastern District of New York (Nicholas G. Garaufis, *Judge*). The order, which was entered pursuant to the Mandatory Victims Restitution Act of 1996, 18 U.S.C. § 3663A, awarded a total of $17,492,817.45 to victims for losses stemming from Gushlak's role in the manipulation of the price of a publicly traded security. We affirm.

BACKGROUND

The Fraudulent Scheme

In late 1999, Gushlak, a controlling owner of a telecommunications company, GlobalNet, Inc., took the company public by reverse merging it into a publicly traded shell company, Rich Earth, Inc., which he also controlled. Over the course of the next year, he and his coconspirators engaged in a securities fraud in the form of a so-called "pump-and-dump" scheme. Gushlak, with the help of conconspirators at two broker-dealers, LCP Capital ("LCP") and Montrose Capital ("Montrose"), artificially inflated the price of GlobalNet's stock ("GBNE"). He then sold his own shares at a substantial profit.

The coconspirators accomplished their scheme through both misstatements and manipulative trading practices. According to Gushlak's later plea allocution in this case,[1] Gushlak induced his coconspirators at LCP and Montrose to convince their clients, through misrepresentations, to buy approximately one million GBNE shares for between $11.86 and $15.93 per share. The conspirators knew that these prices overvalued GlobalNet's worth.

[1] The events that led to the plea of guilty at which the allocution was made are described in the next section below.

Another tactic was for broker-dealers at LCP or Montrose to take funds that investors had invested in legitimate stocks and purchase GBNE shares with the funds instead. The conspirators further inflated GBNE's price and maintained the inflated price by discouraging investors from selling GBNE stock, or by simply failing to carry out sell orders. Gushlak paid kick-backs and commissions to his coconspirators for their efforts.

By the summer of 2000, however, the bottom had begun to fall out of the scheme. Some investors began to suspect that manipulative practices were being employed, so they short-sold GBNE in order to profit from its ultimate deflation. Around the same time, Montrose stopped pressuring its customers to purchase GBNE shares and began processing their sell orders. And also at about that time, there was a market-wide collapse of the price for tech stocks like GBNE, the so-called "bursting of the dot-com bubble."[2] According to an affidavit submitted by an FBI Agent present at a proffer session with Gushlak, Gushlak admitted that he made a last-ditch effort to "support[] the [stock] price" with his own money in June 2000. Aff. of Derrick Acker, Oct. 20, 2011, at ¶ 3, Joint App'x

[2] See, for example, *Litman v. United States*, 78 Fed. Cl. 90, 120 (Fed. Cl. 2007), referring to the late 20th Century "'frenzy over internet stocks,' that has since become known as the 'dot-com bubble.'"

at 616. But this apparently did not work for long; by January 1, 2001, GBNE's stock price had fallen from a midsummer high of more than $25 per share to less than $3 per share.

Gushlak's Guilty Plea

In July 2003, Gushlak pleaded guilty in the United States District Court for the Eastern District of New York to an information charging one count of conspiracy to commit securities fraud, in violation of 18 U.S.C. § 371, and one count of conspiracy to commit money laundering, in violation of 18 U.S.C. § 1956. On November 18, 2010, the district court sentenced him to seventy-two months' imprisonment and a $25 million fine. The district court ordered the parties to submit briefing on the issue of restitution, pursuant to the Mandatory Victims Restitution Act of 1996, 18 U.S.C. § 3663A, stating that it would resolve the issue within ninety days.

The court entered judgment while the restitution issue remained pending in order to enable Gushlak to appeal his conviction and sentence immediately. Had the appeal been successful, Gushlak would have been relieved of his criminal responsibility in relatively short order and never have been required to complete the restitution inquiry. But a panel of this Court affirmed the judgment by summary order. *United States v. Gushlak*, 495 F. App'x 132 (2d Cir. 2012).

The Restitution Proceedings

The ninety-day estimate the district court gave for the restitution order, through no fault of the court's, proved optimistic. Nearly eighteen months would pass, during which time the government made four different restitution submissions, before the district court finally entered an order of restitution on May 15, 2012, based on the fourth submission.

The government's first submission seeking restitution was filed on December 20, 2010. In it, the government argued that victim loss amounts could be established by means other than so-called "affidavits of loss" -- forms filled out by victims attesting to losses they suffered -- and purported to rely upon trading records to determine that the losses attributable to fraud amounted to $20,468,876.29. The district court declined to enter a restitution order based on that submission, however, because the government had failed to explain its methodology or to provide a list of each victim and his, her, or its losses. *United States v. Gushlak*, No. 03-cr-833(NGG), 2011 WL 128359 at *2, 2011 U.S. Dist. LEXIS 3864 at *6 (E.D.N.Y. Jan. 14, 2011).

The government tried again on January 26, 2011. Again it argued that the appropriate loss calculation was $20,468,876.29. This time it attached the expert report of one Peter Melley, then the Assistant Director of the Criminal Prosecution Assistance Group at the Financial Industry Regulatory Authority. Gushlak opposed the restitution request on the grounds that the government was required to use affidavits of loss rather than trading records to establish victim losses, and that the government's methodology was in any event flawed. The district court agreed with the government that losses could be established through trading records, but it agreed with Gushlak that the government's methodology was deficient. *United States v. Gushlak*, No. 03-cr-833(NGG), 2011 WL 782295, 2011 U.S. Dist. LEXIS 18177 (E.D.N.Y. Feb. 24, 2011). This was because, the court concluded, it rested upon the unsupported assumption that GBNE had no value at all that had not been imparted to it by the fraud. *Id.* at *5-*7, 2011 U.S. Dist. LEXIS 18177 at *16-*23.

The government's third try to establish a restitution amount, filed April 15, 2011, fared no better. In this submission, the government requested a dramatically reduced sum of $8,950,032.54. But the methodological adjustment was relatively crude: The government essentially (1) subtracted the value of any shares victims still held at the time the trading records ended, which it had previously deemed worthless; and then (2) lopped 20% from that number, ostensibly to account for victim losses caused by declines in the stock market generally around this time.

The district court, again unsatisfied, denied the government's request on July 26, 2011. *United States v. Gushlak*, No. 03-cr-833(NGG), 2011 WL 3159170, 2011 U.S. Dist. LEXIS 81525 (E.D.N.Y. July 26, 2011). But the court granted the government leave "to try one last time," providing relatively detailed guidance as to what sort of showing might suffice. *Id.* at *1, *6-*8, 2011 U.S. Dist. LEXIS 81525 at *1, *24-*30. The court expressed the view that it "would be unfortunate" if the government failed to obtain restitution for victims. *Id.* at *8, 2011 U.S. Dist. LEXIS 81525 at *30.

On October 24, 2011, nearly a year after Gushlak had been sentenced, the government filed its fourth restitution request. On April 20, 2012, the court issued a Memorandum & Order finding that Gushlak's fraud had caused losses to victims in the amount of $17,492,817.45. *United States v. Gushlak*, No. 03-cr-833, 2012 WL 1379627, 2012 U.S. Dist. LEXIS 56009 (E.D.N.Y. Apr. 20, 2012).

The government's first improvement from its previous efforts was the submission of three affidavits, two from coconspirators Salvatore Romano and Howard Appel, and the third from FBI Agent Derrick Acker. They, combined with Gushlak's plea allocution, placed before the district court a general picture of the nature and timing of the conspiracy much like the one we have drawn above. Specifically, the district court relied upon the affidavits to establish the mechanisms by which Gushlak and his coconspirators manipulated GBNE's price; the fact of manipulation throughout the year 2000; and that fraudulent activity had ceased by the end of 2000. *Id.* at *6-*7, 2012 U.S. Dist. LEXIS 56009 at *16-*18.

The government then relied upon a statistician named David DeRosa to fill in the numbers. DeRosa was at the time an instructor of a graduate level course in Financial Engineering at Columbia University and the president and owner of his own financial consulting firm. Decl. of David F. DeRosa, Ph.D. ("DeRosa Rep."), Oct. 24, 2011, at 2, Joint App'x at 620. His expert report and the testimony he gave at a hearing held on February 14, 2012, sought to provide the court with a model for calculating investor losses.

DeRosa's model -- to a non-expert, at least, an apparently complex exercise in statistics and corporate finance -- was in essence designed to determine what GBNE's share price would have been at the times investors bought and sold it had it not been manipulated by fraud. DeRosa labeled this

GBNE's "fair market price." *Id.* at 5, Joint App'x at 623. By subtracting the fair market price from GBNE's actual closing price, DeRosa could determine what is sometimes referred to as the "inflationary component"[3] of the price -- the portion of the price that is the result of fraudulent factors. *Id.*

DeRosa then looked to the available trading records for transactions in GBNE stock during the time its value was manipulated to determine the number of shares purchased and prices paid by individual investors. DeRosa Rep. at 16-17, Joint App'x at 634-35. The rest was arithmetic: Each victim's loss was equal to the inflationary component paid -- the actual price paid less the fair market price DeRosa had calculated -- minus, in the event the investor sold GBNE stock before the entire inflationary component had dissipated, any inflationary component recouped by that sale. *Id.* By this method, he calculated total losses of $17,492,817.45. *Id.* at 19, Joint App'x at 637.

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[3] The phrase "inflationary component" refers to the inflation of GBNE's stock price that is the result of fraud, *see generally FindWhat Investor Grp. v. FindWhat.com*, 658 F.3d 1282, 1315-16 (11th Cir. 2011) (using the term in this manner), and has nothing to do with the word "inflation" as it is often used: "'[T]he increase in the volume of money and credit relative to available goods resulting in a substantial and continuing rise in the general price level.' Webster's Third International Dictionary (1965)." *Kaczkowski v. Bolubasz*, 491 Pa. 561, 565 n.4, 421 A.2d 1027, 1029 n.4 (1980).

Gushlak attempted to refute DeRosa's analysis through testimony of experts of his own, David Juran, a senior lecturer at Columbia University's Graduate School of Business, and Robert Lowry, a retired twenty-three year veteran accountant at the Securities and Exchange Commission and the president of his own consulting firm. Juran testified before the district court at the same February 14, 2012, hearing at which DeRosa offered his testimony. The district court continued that hearing until April 13, 2012, to permit Lowry to testify. But eventually the court credited DeRosa's methodology virtually in its entirety.

The district court entered a final restitution order on May 15, 2012, based on the submission that was supported by DeRosa's methodology. Gushlak appeals.

DISCUSSION

"Federal courts have no inherent power to order restitution . . . ." *United States v. Zangari*, 677 F.3d 86, 91 (2d Cir. 2012). "A sentencing court's power to order restitution, therefore, depends upon, and is necessarily circumscribed by, statute." *Id.*

One such statutory provision -- the one at issue here -- is the Mandatory Victims Restitution Act of 1996 ("MVRA"), 18 U.S.C. § 3663A. The MVRA provides, insofar as is relevant here, that a sentencing court "shall order, in addition to . . . any other penalty authorized by law," defendants convicted of specified crimes to "make restitution to the victim of the offense." *Id.* § 3663A(a)(1). Section 3663A also contains, or incorporates by reference, procedures and standards governing the award of restitution. *See id.* §§ 3663A(d), 3664.

"In general, we review an MVRA order of restitution deferentially, and we will reverse only for abuse of discretion." *United States v. Boccagna*, 450 F.3d 107, 113 (2d Cir. 2006) (internal quotation marks omitted). A district court abuses its discretion when "a challenged ruling rests on an error of law, a clearly erroneous finding of fact, or otherwise cannot be located within the range of permissible decisions." *Id.* (internal quotation marks omitted). Where Gushlak challenges the district court's finding of facts, we review for clear error; where his arguments raise questions of law, our review is de novo. *United States v. Reifler*, 446 F.3d 65, 120 (2d Cir. 2006).

I. The District Court's Authority to Award Restitution

Based on two separate provisions of the MVRA, Gushlak's first two arguments contest the district court's authority to order restitution in this case at all.

<u>A. Failure to Impose Restitution Within 90 Days</u>

Section 3664(d)(5) provides that "[i]f the victim's losses are not ascertainable by the date that is 10 days prior to sentencing, . . . the court shall set a date for the final determination of the victim's losses, not to exceed 90 days after sentencing." The district court violated this provision, Gushlak argues, because although it stated its intention at sentencing to enter a final restitution order within ninety days, it did not actually enter one until well past that deadline. This argument presents a question of law, so our review is *de novo*. *Reifler*, 446 F.3d at 120.

The Supreme Court confronted the statutory deadline at issue here in *Dolan v. United States*, 130 S. Ct. 2533 (2010). Reasoning in part that "the statute seeks speed primarily to help the victims of crime and only secondarily to help the defendant," *id.* at 2540, the court concluded that "a sentencing court that misses the 90-day deadline nonetheless retains the power to order restitution -- at least where, as here, the sentencing court made clear prior to the deadline's expiration that it would order restitution, leaving open (for more than 90 days) only the amount," *id.* at 2537; *see also United States v. Pickett*, 612 F.3d 147, 149 (2d Cir. 2010) (per curiam) (applying *Dolan*'s rule). On much the same rationale, though viewing the matter through the somewhat different prism of harmlesserror analysis, we have declined to reverse a restitution order because of "a district court's failure to determine identifiable victims' losses within ninety days . . . unless [the defendant] can show actual prejudice from the omission." *United States v. Zakhary*, 357 F.3d 186, 191 (2d Cir. 2004); *see United States v. Catoggio*, 326 F.3d 323, 329-30 (2d Cir. 2003) (applying this rule).

These authorities control here. In *Dolan*'s words, the district court "made clear prior to the deadline's expiration that it would order restitution" -- it said so on the record at Gushlak's sentencing hearing, Sentencing Tr., Nov. 18, 2010, at 105, Joint App'x at 2142 -- and "le[ft] open (for more than 90 days) only the amount," *Dolan*, 130 S. Ct. at 2537;[4] *see also Pickett*, 612 F.3d at 149. And we find implausible Gushlak's assertion that the eighteen-month delay, when tacked on to the decade or so that had elapsed between the conduct that caused the

[4] We reject Gushlak's attempt to distinguish *Dolan* on the grounds that the district court here stated its intention to enter its restitution order within ninety days, as opposed, the argument appears to suggest, to stating explicitly both that it would order restitution, *and* that it would *not* determine the amount until after the ninety days had elapsed. This argument misunderstands *Dolan*'s proviso, the purpose of which, it seems to us, is to guard against a sentencing judge entering what appears to be a final sentence, thus relinquishing authority to order restitution, only then to impose restitution more than ninety days thereafter. Gushlak was at all times fully aware that the sentence announced at his sentencing hearing contained a blank space to be filled in with a dollar amount once restitution proceedings had run their course. We think this is what *Dolan* contemplates.

victims' losses and his sentencing, somehow hampered his ability to collect victim information, causing him prejudice. It is without evidentiary support.

We therefore conclude that the district court was authorized to enter the restitution order despite section 3664(d)(4)'s ninety-day requirement.

B. Complexity and Duration of Proceedings

Gushlak also points to 18 U.S.C. § 3663A(c)(3)(B), which provides that the MVRA "shall not apply . . . if the court finds, from facts on the record, that . . . determining complex issues of fact related to the cause or amount of the victim's losses would complicate or prolong the sentencing process to a degree that the need to provide restitution to any victim is outweighed by the burden on the sentencing process." *Id.* He argues that the district court should have declined to order restitution on this basis. We review a district court's application of section 3663A(c)(3)(B) to the facts of a particular case for abuse of discretion.[5] *In re W.R. Huff Asset Mgmt. Co., LLC*, 409 F.3d 555, 563-64 (2d Cir. 2005).

Although we have encountered section 3663A(c)(3)(B) only sporadically, we have from time to time discussed the sort of factors that might inform a district court's balancing of "the need to provide restitution to any victim" against "the burden on the sentencing process," 18 U.S.C. § 3663A(c)(3)(B).

Our most expansive discussion of the issue appears to be that provided in *United States v. Reifler*. There, after vacating an MVRA award on other grounds, we directed the district court to consider section 3663A(c)(3)(B) on remand. *Reifler*, 446 F.3d at 139. We grounded our analysis in what we understood to be Congress's purposes in enacting section 3663(c)(3)(B). They were to ensure "that the process of determining an appropriate order of restitution be 'streamlined,'" *id.* at 136 (quoting S. Rep. No. 104-179, at 20, 21

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[5] The government argues that Gushlak failed to raise section 3663A(c)(3)(B) before the district court, and that we should therefore review for plain error. We doubt very much, upon review of the record, that Gushlak failed adequately to alert the district court to his concerns regarding the duration and complexity of the restitution proceedings. We need not resolve the question, however, inasmuch as we conclude that the district court did not abuse its discretion in awarding restitution despite the complexities of doing so.

(1995), reprinted in 1996 U.S.C.C.A.N. 924, 933-34), and "'that the sentencing phase[s] of criminal trials [would] not become fora for the determination of facts and issues better suited to civil proceedings,'" *id.* at 137 (quoting S. Rep. No. 104-179, at 18). We noted, in light of the diverse class of alleged victims and the circumstances of the fraud in that case, "difficult questions as to both the causation requirement and the requirements for determining the timing and the amounts of the losses caused." *Id.* at 135. That it would be difficult to "determine a victim's actual loss on the basis of dates and prices that were not hypothetical, assumed, or arbitrary . . . clearly implicate[d] section 3663A(c)(3)(B)." *Id.* at 138-39; *see also W.R. Huff Asset Mgmt.*, 409 F.3d at 563-64 (affirming district court's decision not to award restitution on section 3663A(c)(3)(B) grounds).

But section 3663A(c)(3)(B) plainly does not require the district court to surrender whenever one or more complex issues of causation or loss calculation appear. To the contrary, the statute explicitly contemplates that the district court weigh against the burden of ordering restitution the victims' interests in receiving restitution. And it commits the balancing to the district court's discretion, likely because it implicates what the Supreme Court has referred to as "supervision of litigation," *Pierce v. Underwood*, 487 U.S. 552, 558 n.1 (1988), and because it requires a detailed understanding of and sensitivity to the facts of each case; in other words, because it is the sort of task to which district courts are better suited. Deference to the district court's consideration of the issue is therefore typically warranted if "the record indicates that the district court, although aware of the difficulties involved in ordering restitution[,] . . . considered restitution an essential part of [the defendant's] sentence," *Catoggio*, 326 F.3d at 328.

So it is here. The record makes clear that the district court was keenly aware of the difficulties of calculating restitution in this case. It was also of the view, however, based on its decade-long supervision of the matter, that the need to compensate victims outweighed challenges of measurement. After all, as the district court found, "Gushlak ha[d] admitted to stealing from a large number of people what likely amounted to a significant portion of their personal wealth." *Gushlak*, 2011 WL 3159170 at *8, 2011 U.S. Dist. LEXIS 81525 at *30.

We think it worth noting again, moreover, that the district court entered an appealable judgment while restitution proceedings were pending so as to enable Gushlak to appeal from his conviction and sentence as quickly as possible. If this Court were to have vacated the conviction, then, it would have done so in a reasonably timely manner and, in the bargain, perhaps rendered further restitution proceedings unnecessary. This bolsters our view that the district court exercised its discretion with the aims of the MVRA and Gushlak's interests and rights firmly in mind.

We therefore conclude that the district court did not abuse its discretion in awarding restitution despite the complexity and duration of the restitution proceedings.

II. Reliance on Affidavits

We next address Gushlak's argument that the district court's reliance on the three affidavits the government submitted with its fourth restitution request violated his Fifth Amendment right to due process. As we have described, the district court relied on the three affidavits -- two of them submitted by coconspirators, one by an FBI agent -- for an overall view of the timing and manner of the fraudulent scheme. *Gushlak*, 2012 WL 1379627 at *6-*7, 2012 U.S. Dist. LEXIS 56009 at *16-*18. Gushlak maintains that the affidavits lack the "indicia of reliability" required for use of hearsay evidence during sentencing proceedings. Appellant's Br. at 69-70. His right to due process was denied, he argues, because he had no opportunity to cross-examine the affiants, a defect he maintains was compounded by the government's explicit representation that it did not intend to rely on the affidavits to determine loss amount. *Id.*

Although we have held that the Sixth Amendment's restrictions on judicial factfinding do not apply to proceedings setting restitution amounts, *Reifler*, 446 F.3d at 113-20, we have recognized that "[t]he Due Process Clause is plainly implicated at sentencing," *United States v. Martinez*, 413 F.3d 239, 244 (2d Cir. 2005) (internal quotation marks omitted), and that "defendants have a due process interest in paying restitution only for losses actually sustained by victims," *Zakhary*, 357 F.3d at 191 n.4. Nevertheless, "[d]ecisions as to what types of procedure are needed lie within the discretion of the sentencing court and are reviewed for abuse of discretion." *United States v. Slevin*, 106 F.3d 1086, 1091 (2d Cir. 1996). And "[w]e have noted, in the context of contested issues regarding the propriety of a restitution award, that the sentencing procedures employed to resolve such disputes are within the district court's discretion so long as the defendant is given an adequate opportunity to present his position." *United States v. Sabhnani*, 599 F.3d 215, 257-58 (2d Cir. 2010).

Gushlak was afforded that opportunity here. It is true that the government justified its denial of Gushlak's request to make the affiants available for live testimony by promising that its "submission to the Court and presentation w[ould] be based entirely on Dr. DeRosa's testimony." Tr. of Status Conf., Jan. 30, 2012, at 6, Joint App'x at 1698. But the government also simultaneously averred that it "provided those affidavits really as background." *Id.* And this, the district court explained, is the purpose for which it used them. As explained below, the expert testimony of DeRosa did, as the government promised it would, serve to establish the existence, timing, and effect of the fraudulent conspiracy in which Gushlak participated. Gushlak had ample opportunity, through submissions to the court, participation in status conferences, and two lengthy hearings, to rebut the government's overall theory of victim losses.

In light of the slight weight the affidavits were asked to bear, we think the district court's decision that it was not required to expand the evidentiary hearings to include the live testimony and cross-examination of the affiants was within its discretion. *Cf. United States v. Maurer*, 226 F.3d 150, 151-52 (2d Cir. 2000) (per curiam) (affirming district court's decision not to hold a full evidentiary hearing on victim losses where the defendant "had ample opportunity to present his views"); *Sabhnani*, 599 F.3d at 257 (same).

III. Amount of Loss Directly and Proximately Caused by the Offense

Gushlak's remaining grounds for appeal all focus on the accuracy of the amount of the district court's restitution award.

A. Legal Standards Governing Loss Calculation under the MVRA[6]

With one exception, the parties agree as to the standards governing a district court's determination of the amount of a restitution award.

The MVRA directs sentencing courts to "order . . . that the defendant make restitution to the victim of the offense." 18 U.S.C. § 3663A(a)(1). "Victim," as relevant here, is defined as "a person directly and proximately harmed as a result of the commission of an offense for which restitution may be ordered." *Id.* § 3663A(a)(2).

This provision is obviously relevant to determining the type of individuals entitled to restitution, which is not an issue presented on this appeal. *See, e.g.*, *United States v. Marino*, 654 F.3d 310, 320-21 (2d Cir. 2011). But also, when read along with the balance of the MVRA, it is taken to mean that restitution may be awarded only in *the amount* of losses directly and proximately

[6] In setting forth the legal standards governing awards under the MVRA, we rely also on cases applying materially identical provisions of another federal restitution statute, the Victim and Witness Protection Act, 18 U.S.C. § 3663. *See United States v. Marino*, 654 F.3d 310, 319 n.7 (2d Cir. 2011) ("Because the relevant statutory language in the MVRA and VWPA is nearly identical, we include in our analysis cases arising under both statutes.").

caused by the defendant's conduct.[7] *See Reifler*, 446 F.3d at 115 (noting that "additional proceedings" may be necessary for determining "the amounts of loss to each [victim] that were directly and proximately caused by the defendant's commission of the offense"); *accord United States v. Squirrel*, 588 F.3d 207, 215 (4th Cir. 2009) ("[A]n order of restitution under the MVRA is to be based upon the loss directly and proximately caused by the defendant's offense conduct."). The government bears the burden of establishing loss amount under the MVRA. 18 U.S.C. § 3664(e). "Any dispute as to the proper amount . . . of restitution shall be resolved by the court by the preponderance of the evidence." *Id.*; *see also id.* § 3663A(d).

The parties' lone dispute concerning the standards governing the calculation of loss amount arises out of language in our case law that "a court's power to order restitution is limited to *actual* loss." *United States v. Carboni*, 204

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[7] As a general matter, restitution is permitted "only for an amount of loss caused by the specific conduct forming the basis for the offense of conviction," *United States v. Silkowski*, 32 F.3d 682, 688 (2d Cir. 1994), although the parties may provide otherwise in their plea agreement, *id.*; 18 U.S.C. §§ 3663A(a)(3), 3664(a). We have in the past, exercising plain error review, affirmed a restitution award imposing joint and several liability "payable by all convicted co-conspirators in respect of damage suffered by all victims of a conspiracy, regardless of the facts underlying counts of conviction in individual prosecutions." *United States v. Boyd*, 222 F.3d 47, 50-51 (2d Cir. 2000) (per curiam).

F.3d 39, 47 (2d Cir. 2000) (emphasis added); *see also United States v. Germosen*, 139 F.3d 120, 130 (2d Cir. 1998) (restitution statute "requires a showing of actual loss"); *Catoggio*, 326 F.3d at 329 (noting requirement that the district court identify victims' "actual losses prior to imposing restitution"). This "actual loss" requirement, Gushlak contends, conflicts with the standard the district court applied insofar as the court accepted a "'reasonable estimate' of investor loss," *Gushlak*, 2012 WL 1379627 at *3, 2012 U.S. Dist. LEXIS 56009 at *7.

We disagree. We have used the term "actual loss" to distinguish the sorts of losses cognizable in restitution proceedings from those cognizable under the United States Sentencing Guidelines, which additionally recognize "intended loss." *Germosen*, 139 F.3d at 130. The term has also served to emphasize the MVRA's requirement that "the court shall order restitution to each victim in the full amount of each victim's losses." 18 U.S.C. § 3664(f)(1)(A); *Catoggio*, 326 F.3d at 326. In other words, we have used the term to disapprove of loss calculations that incorporate hypothetical or speculative losses, and those that arbitrarily fall short of the "full amount."

But we have never used the word "actual" in this context to mean "mathematically precise." Nor have we ever adopted a one-size-fits-all standard of precision for application in restitution cases. To the contrary, our case law reflects the settled understanding among courts of appeals[8] that a "reasonable approximation" will suffice, especially in cases in which an exact dollar amount is inherently incalculable. *See Catoggio*, 326 F.3d at 329 (citing *United States v. Futrell*, 209 F.3d 1286, 1292 (11th Cir. 2000), and describing it as "holding that restitution could be based on a reasonable estimate of losses when it would be impossible to determine the precise amount"); *Germosen*, 139 F.3d at 129, 130 (explaining that, for purposes of calculating loss amount under the United States Sentencing Guidelines, "the court need only make a reasonable estimate of the loss," and later that the "quantity and quality of evidence the district court may rely upon to determine the amount of loss is the same in both [the Guidelines and restitution] contexts").

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[8] *See United States v. Burdi*, 414 F.3d 216, 221-22 (1st Cir. 2005) ("In calculating the restitution amount [under the MVRA], absolute precision is not required. . . . [T]he district court's obligation was to attempt to come to a reasonable determination . . . ." (internal quotation marks omitted)); *United States v. Hand*, 863 F.2d 1100, 1104 (3d Cir. 1988) ("Difficulties of measurement do not preclude the court from ordering a defendant to compensate the victim through some restitution."); *United States v. Teehee*, 893 F.2d 271, 274 (10th Cir. 1990) ("The determination of an appropriate restitution amount is by nature an inexact science."); *United States v. Futrell*, 209 F.3d 1286, 1291-92 (11th Cir. 2000) (per curiam) ("[W]e hold that the district court did not abuse its discretion by accepting a reasonable estimate of the amount of government loss caused by . . . fraud. Because of the inevitable gaps in evidence in cases of this nature, the district court properly applied the preponderance standard and did not abuse its discretion by accepting the government's approximation of its actual losses.")

We reiterate that the MVRA requires only a reasonable approximation of losses supported by a sound methodology. As explained by the First Circuit, "the preponderance standard must be applied in a practical, common-sense way. So long as the basis for reasonable approximation is at hand, difficulties in achieving exact measurements will not preclude a trial court from ordering restitution." *United States v. Savoie*, 985 F.2d 612, 617 (1st Cir. 1993).

B. Calculation of Losses in Artificial Inflation Cases

"The securities laws are intended to allow investors to buy, sell, or hold based on accurate information." *United States v. Ebbers*, 458 F.3d 110, 127 (2d Cir. 2006). A "pump-and-dump" scheme, by definition, seeks fraudulently to alter the mix of available information for the purpose of artificially inflating a stock price. This has the potential to harm investors who purchase at the inflated price in reliance on the information's ostensible integrity. The challenge, often daunting, is to determine if and to what extent particular investors have been harmed by artificial prices that are the result of deliberate misinformation of one sort or another (including manipulative trading practices designed to inflate the price).[9]

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[9] Similar issues arise not only in the context of criminal sentencing, but also, and perhaps more prominently, in the area of civil securities litigation.

We might understand the amount of investors' *potential* losses as a function of the "inflationary component" of the price paid, that is, the portion of the price paid that would not have been paid but for the fraud. But "as a matter of pure logic, at the moment the transaction takes place, the [investor who paid the inflated price] has suffered no loss; the inflated purchase payment is offset by ownership of a share that *at that instant* possesses equivalent value." *Dura Pharm., Inc. v. Broudo*, 544 U.S. 336, 342 (2005) (emphasis in original). By the same token, an investor able to sell shares before some or all of the "inflationary component" has fallen out of the share price suffers a loss that is less than the entire inflationary component because he, she, or it has, through the sale, recouped some or all of the overpayment.

Thus, at least theoretically, an investor's actual losses are equal to "the artificial inflation when the shares were purchased minus the artificial inflation when the shares were sold." Michael Barclay & Frank C. Torchio, *A*

Although we rely on authorities from each of these contexts to establish certain general principles, we are mindful of important differences that counsel against using authorities from these different contexts interchangeably. For example, although we rely generally on the discussion of investor loss in the Supreme Court's opinion in *Dura Pharmaceuticals, Inc. v. Broudo*, 544 U.S. 336 (2005), not every principle from the context in which that case arose -- pleading standards for "loss causation," an element of a civil securities litigation claim -- is readily applicable to this one, or vice versa.

Comparison of Trading Models Used for Calculating Aggregate Damages in Securities Litigation, LAW & CONTEMP. PROBS., Spring/Summer 2001, at 106; *see also* Bradford Cornell & R. Gregory Morgan, *Using Finance Theory to Measure Damages in Fraud on the Market Cases*, 37 UCLA L. REV. 883, 886 (1990).

To quantify investor losses in this manner, one needs to determine what the aggregate price of the investor's shares would have been on a given date but for the fraud; this value can then be subtracted from the actual market price of the shares on that date. *Green v. Occidental Petroleum Corp.*, 541 F.2d 1335, 1344 (9th Cir. 1976) (Sneed, J., concurring). This disentangles those elements of a stock price that are a result of legitimate factors from those that are the result of fraudulent ones. Although performing the task may be a challenge in any particular case, as a general matter, it is necessary to a determination whether particular losses were "directly and proximately" caused by fraud, or instead by the materialization of some non-fraud risk, against which investors are not protected by the securities laws. *See United States v. Zolp*, 479 F.3d 715, 719 (9th Cir. 2007) ("[T]he court must disentangle the underlying value of the stock, inflation of that value due to the fraud, and either inflation or deflation of that value due to unrelated causes."); *see also United States v. Rutkoske*, 506 F.3d 170, 178-79 (2d Cir. 2007).

This sort of quantitative analysis, relying as it does on sophisticated principles of corporate finance and statistics, is hardly the stuff of ordinary judicial expertise. Courts therefore can and ordinarily do rely on the testimony of one or more experts for one side to establish a statistical model, and one or more on the other side to bring to the court's attention the ways in which that model may be unsound, and, if necessary, propose a viable alternative. *See Rutkoske*, 506 F.3d at 180 ("Normally, expert opinion and some consideration of the market in general and relevant segments in particular will enable a sentencing judge to approximate the extent of loss caused by a defendant's fraud.").[10]

C. Application of Governing Law

We turn, then, to the question of whether the district court's restitution calculation of $17,492,817.45 comports with the applicable legal principles. We conclude that it does.

[10] The Federal Rules of Evidence do not apply at sentencing proceedings. Fed. R. Evid. 1101(d)(3). Expert testimony in restitution cases is therefore not governed by the strictures of Fed. R. Evid 702, nor, it follows, by authorities interpreting that Rule, for example, *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993), and *Kumho Tire Co., Ltd. v. Carmichael*, 526 U.S. 137 (1999).

1. The Government's Showing. As we have described, the district court first relied on Gushlak's allocution and affidavits filed with the government's fourth restitution submission to establish the nature and timing of the fraud. These materials suggested a fraud accomplished through misrepresentations and manipulative trading practices. They also revealed that the coconspirators continued to use these manipulative practices and others through the summer of 2000 to keep GBNE's stock price inflated.

But apparently as a result of downward pressure caused by the bursting of the "dot-com bubble"; the tapering of the manipulative trading practices; and short sales by sophisticated investors who had realized that GBNE's price was manipulated, GBNE's inflated price could not be sustained.

What this demonstrated, as an initial matter, is that this was not a relatively simple situation in which the fraudulent conduct at issue was revealed all at once, such that one could observe the market's immediate response to a disclosure in order to quantify victims' losses. *Rutkoske*, 506 F.3d at 179 (describing similar circumstances). It appears instead to be a case where the inflationary (fraud-induced) component fell out of the price gradually, as the result of cessation of manipulative conduct, an increasing awareness in the market that GBNE's price was inflated, and perhaps even broader market forces.

See Madge S. Thorsen, Richard A. Kaplan & Scott Hakala, *Rediscovering the Economics of Loss Causation*, 6 J. BUS. & SEC. L. 93, 103-06 (2006) (explaining how these factors might lead to gradual dissipation of the inflationary component).

The balance of the district court's findings were drawn from the expert report and testimony of DeRosa. His analysis was an attempt to do what we have described above. He sought to calculate the "fair market price" of GBNE during the period in which the price had been manipulated, February 29, 2000, to December 31, 2000, which he labeled the "Manipulation Period." This "fair market price" -- essentially, what the price would have been "'but for' the price manipulation," DeRosa Rep. at 5, Joint App'x at 623 -- could then be compared to GBNE's actual closing price to isolate the so-called "inflationary component" of the price -- that part of the price that was the result of fraud.

To calculate GBNE's "fair market prices," DeRosa started with a "clean" price for GBNE, an actual closing price that he could assume with some confidence was not the product of manipulation. He selected the actual closing price of GBNE on January 1, 2001, which date he designated as the beginning of what he called the "Post-Manipulation Period." Derosa Rep. at 5, Joint App'x at 623. He then set out to demonstrate how this "clean" price would have behaved, proceeding from the beginning of the Post-Manipulation Period backward throughout the preceding Manipulation Period.

DeRosa's attempts to do this rested on the premise that "movements in a particular stock's price can be expected to be associated with contemporaneous like movements in the prices of stocks in general and in particular the prices of stocks in the same industry." DeRosa Rep. at 12, Joint App'x at 630. This empirical regularity is the natural consequence of common risks. One such set of risks is what some corporate finance literature terms "market risk" (or "systematic risk") -- "economywide perils that threaten all businesses," but also tend to affect the share price of companies in the same industry similarly. RICHARD A. BREALEY ET AL., PRINCIPLES OF CORPORATE FINANCE 170 & n.25 (10th ed. 2011); *see also* RONALD J. GILSON & BERNARD S. BLACK, (SOME OF) THE ESSENTIALS OF FINANCE AND INVESTMENT 96-97 (1993). Another is what the district court called "industry-specific idiosyncratic risk," *Gushlak*, 2012 WL 1379627 at *2, 2012 U.S. Dist. LEXIS 56009 at *6, which consists of risk factors that apply to all companies in a particular industry, and affects similar companies within that industry in similar manner and to a similar degree. These latter risks are a form of what the literature calls "specific," "unsystematic," or "unique" risk. BREALEY, *supra*, at 170; GILSON & BLACK, *supra*, at 96-97.

What DeRosa sought to do, then, was identify a company or group of companies whose rate of return[11] moved in like manner and degree to GBNE's during the Post-Manipulation Period, during which GBNE was not being manipulated by fraud. For this, DeRosa used a technique known as regression analysis. Regression analysis, DeRosa explained, is a way of determining "the impact of . . . explanatory variables" -- here, the monthly rates of return of potential comparator stocks -- "on the dependent variable" -- the monthly rate of return of GBNE. DeRosa Rep. at 10, Joint App'x at 628. This approach was used to find a comparator the rate of return of which had a "meaningful statistical relationship" with GBNE's, such that an unmanipulated GBNE could be expected to behave like the comparator, and for the same reasons. *Id.* The comparator could then serve as a proxy for GBNE's reaction to the materialization of market and industry-specific risks during the Manipulation Period.

DeRosa applied this method to rates of return of shares in companies he deemed similar to GlobalNet, reasoning that these were the most likely to

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[11] Specifically, DeRosa used monthly rates of return for one dollar invested on January 1, 2001. DeRosa Rep. at 6, Joint App'x at 624. He used rate of return instead of stock price because it permitted him to normalize fluctuations in the various comparators' prices. Hearing Tr., Feb. 14, 2012, at 19-20, Joint App'x at 1773-74; *see also id.* at 28, Joint App'x at 1782 (explaining DeRosa's reason for using monthly, instead of daily, rate of return).

have a statistically meaningful relationship with GBNE's rate of return. His analysis led him to the view that an existing stock index, "CUTL," was the best available comparator. *Id.* at 14, Joint App'x at 632. CUTL, he explained, is a "capitalization-weighted index composed of NASDAQ stocks in the telecommunications industry." *Id.* at 8, Joint App'x at 626.[12] DeRosa testified that according to his analysis, the relationship between CUTL's and GBNE's rates of return during the Post-Manipulation Period was "highly significant," Hearing Tr., Feb. 14, 2012 ("2/14 Hr'g"), at 26, Joint App'x at 1780, and that CUTL was an "outstanding explanatory variable," *id.* at 28, Joint App'x at 1782. He pointed out, moreover, that CUTL and GBNE were not correlated at all during the Manipulation Period. DeRosa Rep. at 14, Joint App'x at 632. This, he opined, was powerful confirmation of the manipulation. 2/14 Hr'g at 26-27, Joint App'x at 1780-81.

CUTL's relationship to GBNE enabled DeRosa to use CUTL's movements during the Manipulation Period to calculate what GBNE's price

[12] "I found a telecommunications [stock] index that [is] prepared by the NASDAQ people. It's not the NASDAQ index; it's just prepared by them on telecommunications. We refer to it as 'CUTL' because that was its sticker [sic] symbol, and it has about 400 stocks in it." Test. of David DeRosa, Hr'g Tr., Feb. 14, 2012, at 17, Joint App'x at 1768.

would have been absent the manipulation on any given date. He did so by applying CUTL's fluctuations in rates of return backwards in time from January 1, 2001, to GBNE's price on that date. DeRosa Rep. at 14-15, Joint App'x at 632-33. In other words, he made GBNE's price move back through time the way CUTL's did. He then plotted these prices on a chart along with GBNE's actual closing price, *id.* at 15, Joint App'x at 633. This chart is set forth at the end of this opinion as the Appendix.

DeRosa then used this data to calculate losses. He drew from "blue sheet" trading records[13] the actual prices paid and the number of shares for all transactions in GBNE between February 2, 2000, and November 1, 2000, apparently the only time period for which records could be obtained. *Id.* at 3, Joint App'x at 621. He tabulated losses as the amount the investor overpaid, minus, in the event the investor sold the stock during the Manipulation Period,

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[13] "'Blue Sheets,' so named because of the color on which they were once printed, are questionnaire forms on which clearing firms supply to the Securities and Exchange Commission certain information relating to trading activity, including the name of a security, the date traded, the price, the size of the transaction and the parties involved." *United States v. Ageloff*, 809 F. Supp. 2d 89, 98 n.6 (E.D.N.Y. 2011).

the amount the investor was overpaid by a later buyer.[14] *Id.* at 16-17; Joint App'x at 634-35.

We are persuaded, as was the district court, that this showing established by a preponderance of the evidence a reasonable estimate of loss founded on a sound basis for approximation. Calculating loss amounts in this case, as already noted, was a vexing task, because although the evidence demonstrated that GBNE's stock price was plainly, vastly inflated, the manner in which its inflationary component dissipated was halting and gradual. In such circumstances, it is difficult to identify and quantify discrete dissipating events in order to determine precisely how the market valued the fraudulent factor or factors artificially inflating the price.

Confronted with this difficulty, the government was forced to explain in a somewhat more general manner the price that one would have expected GBNE to have traded at absent fraud, quantifying the inflationary component by comparing that fair market price to the actual closing price. It

[14] Another way of understanding this calculation is as actual total loss -- actual price paid less actual price recouped when sold (or price on January 1, 2001, if the shares were not sold) -- minus "fair market" loss -- DeRosa's "fair market price" on the date purchased less his "fair market price" on the date sold. Thus, investors' losses were total losses minus any of those losses that would have happened even absent manipulation as a result of non-fraudulent factors.

relied, as is customary -- indeed, necessary -- in cases like this, on the testimony of a well-qualified expert.

DeRosa explained the various aspects of his approach in significant detail. He testified that the model he created has been used in "thousands of studies." 2/14 Hr'g at 15, Joint App'x at 1768. He described his statistical techniques as "standard tool[s]," DeRosa Rep. at 10, Joint App'x at 628, and explained that his applications "ha[d] been done thousands of times," 2/14 Hr'g at 29, Joint App'x at 1783. And he explained why his model would yield a logically sound measure of actual loss, avoiding obvious pitfalls such as the "basic failure at least to approximate the amount of the loss caused by the fraud without even considering other factors relevant to a decline in . . . share price." *Rutkoske*, 506 F.3d at 180.

What DeRosa's analysis did first was confirm the existence of manipulation so overwhelmingly effective that GBNE traded at prices wholly untethered to the price it would have fetched if unmanipulated. Indeed, this much was all but self-evident in light of the precipitous drop in GBNE's actual share prices, reflected in the chart reprinted in the Appendix, from its peak price of approximately $25 per share to less than $3 per share in a matter of months. But DeRosa demonstrated it with data.

To be sure, GlobalNet's price was not all a product of fraud, even if mostly so. And this is what the government and DeRosa sought to untangle in their loss calculation. But in light of these circumstances -- which is to say, in light of the demonstration that the manipulation was most usefully observed from a few paces back -- it would have made little sense to comb each day's trading activity to discover where, if at all, some abnormality hints at manipulation. We think DeRosa's rather wider window on the scheme's fraudulent impact provided a sound basis for reaching a reasonable approximation of losses.

In sum, the district court credited the government expert's well-supported proffer of a widely accepted methodology, trained towards a logical measure of loss, and tailored to the particular circumstances of this case. We therefore conclude that, in the circumstances of this case, the government carried its burden under the MVRA.

2. Gushlak's Challenges. It therefore fell to Gushlak to undermine this showing if he could. And indeed he levied a number of challenges against DeRosa's methodology during the restitution proceedings, many of which he renews before us.

Perhaps his most compelling argument, which he restates in various ways, is that DeRosa's methodology was flawed because it failed to account for potential company-specific factors other than fraud that could have affected the market price during the manipulation period. As we have said, stock prices are subject to market risk and industry-specific risk; but they are also subject to company-specific risks, of which fraudulent conduct is but one. *See* BREALEY, *supra*, at 170; GILSON & BLACK, *supra*, 96-97. DeRosa's analysis, relying as it did on CUTL, controlled for market and industry-specific risk, but could not have hoped to account for GBNE-specific risk -- i.e., risk that inhered in the company's business and market forces' effect on the value of its products. Gushlak maintains that this is fatal to a valid loss calculation.

Gushlak's insistence on a more fine-grained approach is not, as an abstract matter, altogether unreasonable. It has apparently become standard operating procedure in federal securities litigation to conduct a so-called "event study" when attempting to establish or quantify the effects of fraud on a stock's market price. One essential component of such a study is what DeRosa did indeed perform -- a regression analysis designed to separate out price movements resulting from market- or industry-based factors. *See* Michael J.

Kaufman & John M. Wunderlich, *Regressing: The Troubling Dispositive Role of Event Studies in Securities Fraud Litigation*, 15 STAN. J.L. BUS. & FIN. 183, 192 (2009).

But event studies typically go further, identifying relevant dates on which disclosure of fraud is thought to have reached the market, and then quantifying the extent to which the market reacted in a way that can only have been a response to the relevant event. Kaufman & Wunderlich, *supra*, at 191-94.

We do not think that DeRosa's failure to conduct such a study is a fatal flaw in his analysis. First, as explained above, the extent of the manipulation and the gradual manner in which the effects of that manipulation dissipated justified DeRosa's more generalized approach -- that is, justified the decision not to perform a fine-grained event study. This is just not a case of a series of blips, slight departures from what the market would predict, each of which must be finely measured, day-by-day. The decision not to conduct a detailed event study trained specifically on fraudulent factors -- or perhaps on non-fraudulent company-based factors -- therefore did not render DeRosa's approach unsound or his ultimate estimate unreasonable.

Moreover, the district court had a factual basis for concluding that there were no company-specific disclosures concerning non-fraudulent information that would have affected GlobalNet's stock price. In the government's fourth restitution request, it stated explicitly that it was "unaware of any additional events, such as public disclosures, which would have affected the stock price [during the Manipulation Period]." Gov't's Fourth Restitution Request, Oct. 24, 2011, at 6 n.2, Joint App'x at 609. And when Gushlak's counsel cross-examined DeRosa about two possible such disclosures -- a $10 million loan GlobalNet had secured, and bare GlobalNet revenue data -- DeRosa plausibly quashed the notion that they would have affected the market price in any relevant way. *See* 2/14 Hr'g at 44-45, 112-13, Joint App'x at 1798-99, 1866-67.

Confronted with the government's and DeRosa's position in this regard, and tellingly, without specific, probative evidence to the contrary supplied by Gushlak, the district court reached the factual determination that none of the losses sustained by victims were caused by the market's reaction to company-specific disclosure of non-fraudulent information. *Gushlak*, 2012 WL 1379627 at *9, 2012 U.S. Dist. LEXIS 56009 at *30. In other words, it found that the only relevant company-specific factor was fraud. We do not think this finding, grounded in the record before the district court, is clearly erroneous.[15] And we

[15] We likewise reject Gushlak's suggestion that the district court impermissibly shifted the burden of proof when it reasoned that "the onus must be on *Gushlak* to identify events other than the fraud that contributed strongly to changes in GlobalNet's stock price," *Gushlak*, 2012 WL 1379627 at *9, 2012 U.S.

agree with the district court that it obviated the need for a more nuanced look at each particular fraudulent act.

None of Gushlak's remaining contentions merits more than brief mention.

He argues that the district court erred in failing to credit Dr. Juran and Dr. Lowry, his proffered experts, rather than Dr. DeRosa. Both offered criticisms of DeRosa's approach, and then described alternatives. But largely for the reasons outlined above, we can find no error in the decision of the district court, acting as factfinder, to credit DeRosa's explanations of his methodology. And strikingly, neither Juran nor Lowry actually conducted a loss analysis in this case. *See* 2/14 Hr'g at 145, Joint App'x at 1899; Hearing Tr., April 13, 2012, at 57-58, Joint App'x at 2015-16. It is possible that there was some reticence on Gushlak's part to supply the court with such an analysis and a resulting number, fearing that it would be taken as something of an admission, a floor for losses to

Dist. LEXIS 56009 at *30 (emphasis in original). As explained, the government carried its burden by articulating a sound basis for approximation, under the circumstances of this case, and by demonstrating, as well as one might expect it to have been able to, the absence of non-fraud, company-specific disclosures that would have affected its analysis. We agree with the district court that in such circumstances it fell to Gushlak to refute this showing.

be used as the basis for further inquiry. But the notion that, had they done so, their models would have been superior to DeRosa's is entirely speculative.

Gushlak also renews attacks on the precision of some of DeRosa's measurements. For example, he argues that the statistical relationship between CUTL and GBNE was not strong enough, and he is critical of DeRosa's use of the "blue sheet" trading records of individual transactions, which he argues may in some instances be unreliable. We see no ground, however, for branding as erroneous the district court's careful decision to credit the soundness of DeRosa's regression and the reliability of the trading records insofar as necessary to approve the inevitably approximate estimate of the restitution amount. Any identified potential imprecisions in what is by its nature an imprecise process would not render the restitution amount estimate unreasonable.

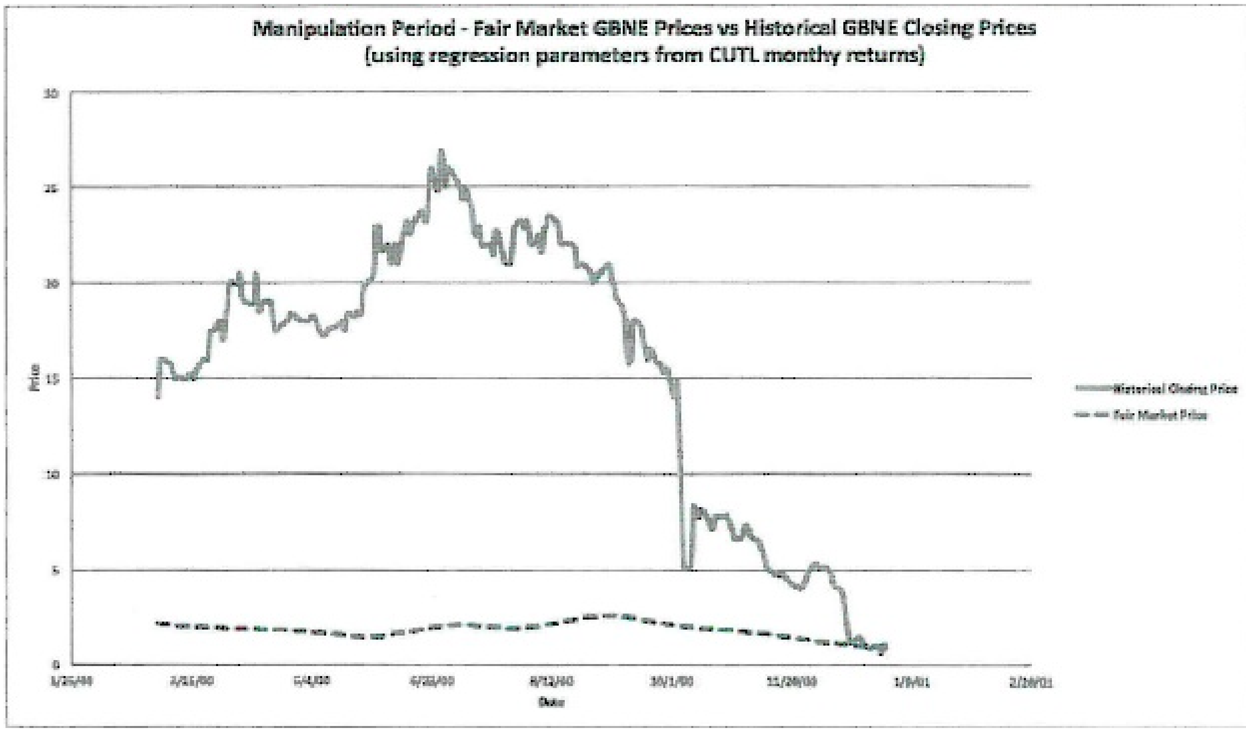
* * *

We return to where we began, the inexpertness of most judges in most technical matters, including the forces afoot in the securities markets and their impact on the prices for any particular security at any particular time. We must therefore rely on the testimony of professionals with appropriate expertise. The district court took great pains in addressing the restitution issues over an extended period of time, requiring repeated efforts by the government to obtain a proper valuation for losses under the particular circumstances, and in light of the peculiar challenges, presented by the case before it. It relied on a qualified expert as a guide. We can identify no clear error of fact or mistake of law that the court committed in reaching, with such care, its result.

CONCLUSION

For the foregoing reasons, the district court's restitution order is affirmed.

Appendix



Manipulation Period - Fair Market GBNE Prices vs Historical GBNE Closing Prices
(using regression parameters from CUTL monthy returns)
Price
Date
Historical Closing Price
Fair Market Price