

**UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF COLUMBIA**

**UNITED STATES OF AMERICA,**

v.

**SHAN SHI,**

Defendant.

Case No. 17-cr-110 (CRC)

**MEMORANDUM OPINION**

Earlier this year, a jury convicted Defendant Shan Shi of conspiring to misappropriate trade secrets from Trelleborg Offshore US (“Trelleborg”), a Houston-based manufacturer of composite foam products used in offshore drilling operations. Dr. Shi is now awaiting sentencing. Prior to the sentencing, the Court is required to calculate Dr. Shi’s advisory Sentencing Guidelines range. To do so, it must first set the appropriate offense level. Because the offense involved theft, that in turn requires the Court to determine the financial loss associated with Dr. Shi’s conduct. The parties dispute this loss amount. The defense puts it at zero, arguing that there is no evidence that Trelleborg suffered an actual loss or that Dr. Shi ever intended it to. The Government pegs the loss at some \$3 million. While it concedes there is limited proof of actual loss, the Government argues principally that Dr. Shi’s documented plans to take market share from Trelleborg and other competitors evidence his intent to cause a loss of that amount. The difference matters. A loss finding of zero would leave Dr. Shi at base offense level 6 and result in an advisory sentencing range of 0 to 6 months imprisonment (assuming no other enhancements apply and Dr. Shi has no prior criminal history); a loss finding of \$3 million, by contrast, would add 16 offense levels and lead to a recommended sentencing range of 41 to 51 months under the same assumptions.

The parties have briefed the dispute and presented oral arguments on November 12, 2019. For the reasons summarized below, the Court accepts the Government’s “market share” approach to calculating the intended loss amount but estimates the amount at the lower figure of \$1,050,000. The Court will use that figure in determining Dr. Shi’s advisory Guidelines range.

Section 2B1.1(a) of the Sentencing Guidelines establishes the base offense level for theft-related offenses, including theft of trade secrets. The loss table at U.S.S.G. § 2B1.1(b)(1), in turn, increases the base level depending on the amount of loss suffered by the victim of the theft. The Government bears the burden of producing facts that support the imposition of a sentencing enhancement by a preponderance of the evidence. See In re Sealed Case, 552 F.3d 841, 846 (D.C. Cir. 2009).

“Loss” is defined as “the greater of actual loss or intended loss.” U.S.S.G. § 2B1.1, app. n.3(A). The Government here does not contend that Trelleborg suffered any actual financial loss, so the Court will only consider intended loss. “‘Intended loss’ (I) means the pecuniary harm that the defendant purposely sought to inflict; and (II) includes intended pecuniary harm that would have been impossible or unlikely to occur (e.g., as in a government sting operation, or an insurance fraud in which the claim exceeded the insured value).” Id. app. n.3(A)(ii).

In assessing the amount of loss, the “court need only make a reasonable estimate.” Id. The Guidelines permit a district court to estimate the loss amount based on “the available information . . . as appropriate and practicable under the circumstances,” such as the “fair market value of the property unlawfully taken” or “[i]n the case of proprietary information (e.g., trade secrets), the cost of developing that information or the reduction in the value of that information that resulted from the offense,” or “[m]ore general factors, such as the scope and duration of the offense and revenues generated by similar operations.” Id.

The Court begins with the mens rea requirement. In 2015, the Sentencing Commission changed the definition of “intended loss” to mean “the pecuniary harm that the defendant purposely sought to inflict.” In making this amendment, the Commission adopted the interpretation of “intended loss” articulated in United States v. Manatau, 647 F.3d 1048 (10th Cir. 2011). U.S.S.C., Amendments to the Sentencing Guidelines (Apr. 30, 2015), at 24–25. There, the Tenth Circuit held that “[i]ntended loss’ means the loss the defendant *purposely* sought to inflict” and therefore “does not mean a loss that the defendant merely *knew* would result from his scheme or a loss he might have *possibly and potentially* contemplated.” 647 F.3d at 1050 (emphasis in original). To illustrate the distinction between knowledge and intent, then-Judge Gorsuch explained that it is “the difference between a ‘farm boy [who] clears the ground for setting up a still, knowing that the venture is illicit’ but just looking for a paying day’s work, and someone who clears the ground in order to work a still.” Id. at 1051 (quoting Model Penal Code § 2.06 cmt. 6(c) at 316). Because “the district court declined to make any effort to determine whether [the defendant] intended (had the purpose) to cause the losses in question,” the Tenth Circuit vacated the sentence and remanded for the district court to conduct the appropriate inquiry. Id. at 1056.

The Tenth Circuit took pains, however, to explain that “[o]f course,” in analyzing the defendant’s mens rea the district court “is free . . . to make reasonable inferences about the defendant’s mental state from the available facts.” Id. Manatau therefore made clear that its holding was consistent with United States v. McCoy, 508 F.3d 74 (1st Cir. 2007), which held that “‘intended loss’ can be shown by looking to what loss was ‘expected’ because under [First Circuit] precedent a person is presumed to have ‘intended the natural and probable consequences of his or her actions.’” Manatau, 647 F.3d at 1055 (quoting McCoy, 508 F.3d at 74, 79). The

Tenth Circuit noted as hornbook law that “[w]hat [a defendant] does and what foreseeably results from his deeds have a bearing on what he may have had in his mind.” Id. (quoting LaFave, Substantive Criminal Law § 5.2(f) at 355-58).

Applying the Guidelines’ intended-loss definition here, the Court finds that the Government has carried its burden of proving that one of Dr. Shi’s purposes in conspiring to misappropriate Trelleborg’s trade secrets was to cause a financial loss to it and other manufacturers of deep-sea buoyancy products. The evidence of Dr. Shi’s plans to pilfer Trelleborg’s proprietary design data and testing procedures is more fully outlined in the Court’s Memorandum Opinion denying his Motion for Judgment of Acquittal, also issued today. As relevant here, in 2014 Dr. Shi created a company, CBM International (“CBMI”), to produce “syntactic foam” and related products for the deep-sea drilling industry. He staffed the company with former Trelleborg employees who still had access to Trelleborg’s proprietary manufacturing data. Those employees proceeded to acquire and use that data—specifically, data related to glass “macrospheres” contained in the foam—to help CBMI (and its Chinese parent company, CBMF) develop its syntactic-foam manufacturing capabilities. The jury found that Dr. Shi had conspired in the misappropriation.

As CBMI was getting off the ground, it created a business plan explaining the market opportunity that it saw in deep-sea buoyancy products. The plan stated that the company’s goal was to become “the fifth company in the world that can provide [a] wide range and qualified buoyancy products for [the] offshore oil & gas industry.” Gov. Ex. 176 at 30825. CBMI believed it could penetrate the existing market—which was confined to Trelleborg and three other international companies—by creating higher-quality products at lower prices. See id. (explaining that “CBM[I] has the advanced chemical process and better engineering design [than

the four existing companies] to make new generation of the buoyancy material for the industry”); id. at 30834 (noting that CBMI would “easily” be able to provide buyers with syntactic foam materials at a lower price). CBMI projected that by its fifth year of operations, it would generate an annual net profit of \$3 million. Id. at 30826. Dr. Shi echoed the company’s strategy in a July 2015 marketing proposal, explaining that CBMF’s goal was to “break the monopoly” in the existing market and “replace” the deep-sea buoyancy products that were being imported into China. Gov. Ex. 4 at 35006-07.

As the Government argues, it naturally follows from Dr. Shi’s stated goal of taking sales from the existing competitors in the market that CBMI’s gain would come at their expense. Because a factfinder may infer a defendant’s intent from the natural and probable consequences of his actions, the Court concludes that Dr. Shi intended to harm his would-be competitors by taking sales and market share from them. Manatau, 647 F.3d at 1055; see Francis v. Franklin, 471 U.S. 307, 316 (1985) (holding that while it violates due process for a factfinder to be *required* to find mens rea based on the presumption that a person “is presumed to intend the natural and probable consequences of his acts,” a factfinder is *permitted* to infer intent based on a defendant’s actions).

Resisting this conclusion, Dr. Shi argues that the Government must produce direct evidence (presumably in the form of a smoking-gun email or the like) indicating that Dr. Shi intended to cause harm to Trelleborg or, at least, evidence that CBMI specifically targeted Trelleborg customers. While such evidence would strengthen the government’s case, it is not required for the Court to find, by a preponderance of the evidence, that Dr. Shi intended to cause pecuniary harm to Trelleborg. As discussed above, a court is permitted to make reasonable inferences based on the defendant’s conduct in order to assess mens rea.

Dr. Shi also argues that he lacked the intent to purposefully inflict pecuniary harm on Trelleborg because his goal was to grow the overall market for deep sea buoyancy products, which he suggests could have been accomplished without harming Trelleborg. Dr. Shi's argument is belied by the record, which, as discussed above, clearly shows that he set out to acquire market share by "replacing" sales to China by the existing companies and "breaking the[ir] monopoly"—not by seeking out new, unserved customers. Gov. Ex. 4 at 35006-07.

In a similar vein, Dr. Shi argues that he lacked the requisite intent because he actually sought to partner with Trelleborg. As evidence of this supposed partnership, Dr. Shi points to discussions with Trelleborg that began in August 2015 about potentially selling macrospheres to Trelleborg. This argument fails for at least two reasons. First, that Trelleborg may have been interested at some point in buying macrospheres from CBMI does not negate Dr. Shi's stated intent to take sales away from the existing competitors in the buoyancy products markets generally. Moreover, the rest of the record evidence does not bear out Dr. Shi's contention that CBMI only sought to partner with Trelleborg. Indeed, after the discussions between the two companies began, CBMI continued to market products developed using Trelleborg's proprietary data. See Gov. Ex. 145 (emails from June 2016 showing CBMF's draft proposal for a buoyancy module project in China); Gov. Ex. 127 (CBMF's January 2017 final bid proposal for that project); Gov. Ex. 131A (secret video recording of a May 2017 meeting in which Shi attempted to sell syntactic foam to undercover FBI agents).

With mens rea established, the Court next considers the appropriate method of estimating the loss amount. Taking into account all the evidence available, the Court concludes that a reasonable measurement of the loss amount is the lost profits that Trelleborg would have suffered had CBMI achieved its stated goal of penetrating the market for deep-sea buoyancy

products for the oil and gas drilling industry. CBMI projected that it would generate \$3 million dollars of profit by its fifth year of operations and that Trelleborg possessed 35% of the market. Given the absence of evidence showing that CBMI sought to target Trelleborg customers specifically, the Court intuitively feels that CBMI's projected profits would be proportionally distributed across the four manufacturers. Therefore, since Trelleborg possessed 35% of the market, it is reasonable to assume that it would have suffered a loss in profits in the amount of 35% of the \$3 million, or \$1,050,000. Gov. Ex. 176 at 30833-35.<sup>1</sup>

Before concluding, the Court addresses two other arguments advanced by Dr. Shi. First, he contends that his loss amount (to the extent it is found to be greater than zero) should be capped by the lower figures agreed to in the plea agreements of his co-conspirators. See Ogoe Plea Agreement, ECF No. 150 (\$95,000 loss amount); Uche Plea Agreement, ECF No. 108 (\$15,000 loss amount); Randall Plea Agreement, ECF No. 75 (\$6,500 loss amount). Finding a different loss amount, Shi says, would punish him for exercising his constitutional right to stand trial. For support, Dr. Shi points to United States v. Ring, 811 F. Supp. 2d 359 (D.D.C. 2011), where Judge Huvelle questioned whether the Sentencing Guidelines “permit the calculation of offense levels using one methodology for defendants who plead guilty, but a dramatically

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<sup>1</sup> This is a rough estimate to be sure. A more precise estimate might involve calculating the present value of the stream of profits that CBMI projected to earn into the future. But no such detailed projections are in the record. In any case, the general reasonableness of the \$1,050,000 figure is supported by evidence that CBMI considered paying a consultant at least \$1,000,000, if not more, to help it develop a syntactic-foam manufacturing capability. Gov. Ex. 102 at 4 (emails showing that CBMI contemplated paying a consultant \$3 million to help them develop syntactic foam); see also Tr. 1664-65 (July 17, 2019 p.m.) (testimony from Kui Bo that Dr. Shi felt that the consultant's requested \$6 million “was too much. We tried to reduce it to \$3 million”). The figure is also consistent with evidence that Trelleborg spent somewhere in the neighborhood of \$1,000,000 annually on product research and development. Tr. 1970 (July 18, 2019 p.m.) (testimony of Trelleborg President Alan Burgess).

different one for [a defendant] who went to trial and chose not to plead guilty and cooperate with the United States.” Id. at 367.

This argument misses the mark. As discussed above, determining intended loss requires assessing a defendant’s subjective state of mind. It should come as no surprise, then, that one defendant might intend to cause a different loss than another. That is especially so here, where Dr. Shi was the president of CBMI and set its strategic goals, while Sam Ogoe was merely employed to create the macrospheres that CBMI needed in order to produce syntactic foam for its planned products, and Uka Uche and Johnny Randall were lower-level Trelleborg employees. Ring is not to the contrary. The issue in Ring was whether the government could, consistent with the Sixth Amendment, rely on one Guidelines provision for defendants who pleaded guilty, and then argue for the application of a totally different Guidelines provision for a defendant who went to trial on the same charges. See id. at 364. The issue here is the application of the same Guidelines provision—§ 2B1.1(b)—to multiple co-defendants. In any case, Judge Huvelle ultimately did not decide the question she posed in Ring, explaining that she “[did] not rely on defendant’s argument that the government is bound to calculate the Guidelines range consistent with the methodology it has previously used for the co-conspirators who entered pleas.” Id. at 372. In her view, sentencing disparity among co-conspirators “is a subject that can be addressed more fully with respect to the final sentence.” Id. at 371. This Court agrees. Dr. Shi will have ample opportunity at sentencing to argue that imposition of a Guidelines sentence in his case would create an undue disparity with the sentences of his co-conspirators.

Next, Dr. Shi argues that the Court may not use the Government’s “market share” valuation method because the Guidelines do not permit the Court to use a defendant’s intended gain as a proxy for the intended loss to the victim. This too fails. The Guidelines broadly permit



a court to look at the “the available information . . . as appropriate and practicable under the circumstances,” including the “fair market value of the property unlawfully taken.” U.S.S.G. § 2B1.1(b)(1), app. n.3(C). Here, Dr. Shi’s expected profit from the stolen Trelleborg technology is a reasonable (albeit imprecise) measure of the fair market value of that property.

For the foregoing reasons, the Court will apply the loss amount of \$1,050,000 for purposes of calculating Dr. Shi’s base offense level under § 2B1.1(b) of the Sentencing Guidelines manual.

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CHRISTOPHER R. COOPER  
United States District Judge

Date: December 17, 2019