

In the
United States Court of Appeals
For the Second Circuit

August Term, 2023
No. 23-6070

UNITED STATES OF AMERICA,
Appellee,

v.

XIAOQING ZHENG,
*Defendant-Appellant.**

On Appeal from the United States District Court
for the Northern District of New York

ARGUED: MAY 23, 2024
DECIDED: AUGUST 28, 2024

Before: WESLEY, NARDINI, and ROBINSON, *Circuit Judges.*

* The Clerk of Court is respectfully directed to amend the official caption as set forth above.

Defendant-Appellant Xiaoqing Zheng appeals from his conviction and sentence for conspiracy to commit economic espionage, in violation of 18 U.S.C. § 1831(a)(5), following a jury trial in the United States District Court for the Northern District of New York (Mae A. D’Agostino, *District Judge*). Zheng argues that there was insufficient evidence supporting his conviction, that the district court improperly instructed the jury on the elements of the crime, and that the district court erred in calculating his advisory Guidelines range. We reject each of these claims and accordingly AFFIRM the judgment of the district court.

THOMAS R. SUTCLIFFE (Richard D. Belliss, *on the brief*), Assistant United States Attorneys, *for* Carla B. Freedman, United States Attorney for the Northern District of New York, Syracuse, NY, *for Appellee*.

BRADLEY L. HENRY, Blank Rome LLP, New York, NY, *for Defendant-Appellant*.

WILLIAM J. NARDINI, *Circuit Judge*:

Defendant-Appellant Xiaoqing Zheng worked as an engineer in General Electric’s (“GE”) Power division, where he developed seals for GE’s steam turbines. From approximately 2016 to 2018, Zheng launched two business ventures in the People’s Republic of China

("PRC") that also developed seals for aero engines and ground-based turbines. At the same time that Zheng was focused on growing his turbine-related businesses in China, he misappropriated GE trade secrets related to turbine technology, including turbine seals, by sending the trade secrets through surreptitious means to himself and a co-conspirator in China. Zheng was indicted on various federal charges, and a jury convicted him of one count of conspiracy to commit economic espionage, in violation of 18 U.S.C. § 1831(a)(5). The United States District Court for the Northern District of New York (Mae A. D'Agostino, *District Judge*) sentenced Zheng to 24 months in prison.

On appeal, Zheng argues that there was insufficient evidence supporting his conviction, that the district court improperly instructed the jury on the elements of the crime, and that the district court erred in calculating his advisory sentencing range under the

U.S. Sentencing Guidelines. None of Zheng's claims have merit, and accordingly we AFFIRM the judgment of the district court.

I. Background

A. Zheng's Background

In 1993, Zheng immigrated to the United States from China, eventually becoming a United States citizen in 2004. He holds a bachelor's degree in aeroengine design, a master's degree in aeronautical propulsion and thermophysics, and a doctorate in computational fluid dynamics, all from Northwestern Polytechnical University in China. In 2008, GE hired Zheng as a "sealing and clearance senior engineer" in its Power division, and in 2015, he was promoted to "principal engineer/technologist." App'x at 347, 351. Zheng worked at GE Power's headquarters in Schenectady, New York, where he helped to develop and test "seals technology," such as brush seals and carbon seals, for GE's steam turbines. *Id.* at 788.

B. The Investigation into Zheng

In November 2017, the FBI field office in Cincinnati, Ohio, during the course of an unrelated investigation, uncovered information showing that Zheng gave a presentation in June 2017 or July 2017 at the Nanjing University of Aeronautics and Astronautics in China titled “encapsulation and efficiency in turbomachinery.” *Id.* at 375. The FBI believed that Zheng’s presentation might have contained proprietary GE information. After determining that Zheng worked for GE Power in Schenectady, the Cincinnati field office provided the information that they had obtained to the FBI field office in Albany, New York, which then conveyed the information to GE Power.

GE opened an investigation into Zheng. As part of its investigation, GE’s director of cyber security, Lucas Hilton, discovered that Zheng had over 400 files on his GE computer that were “encrypted, password protected[,] and renamed” using a

software called AxCrypt that Zheng had downloaded from the internet. *Id.* at 417. According to Hilton, he had never before seen a GE employee encrypt files on his GE computer. In June 2018, as part of its internal corporate investigation, and without Zheng's knowledge, GE installed monitoring software on his computer, which would activate in response to certain "triggers," such as the use of AxCrypt, and record and save Zheng's screen when activated. *Id.* at 419.

About three weeks later, on July 5, 2018, the software was triggered and captured Zheng using AxCrypt to encrypt 40 files relating to the design and testing of carbon seals for GE's ground-based turbines. Zheng then used a technique called steganography to embed those encrypted files into an image of a sunrise, so that when viewed normally, the files appeared to be no more than a picture of a

sunrise.¹ Zheng emailed the sunrise image containing the 40 GE files from his GE email account to his personal email account, with the subject line “nice view.” App’x at 464. GE sent the July 5, 2018, video capture from Zheng’s computer to the FBI.

C. Arrest and Indictment

On July 6, 2018, one day after sending the 40 GE files to his personal email address, Zheng traveled to China, and he returned to the United States on July 31. The next day, on August 1, the FBI executed a search warrant on Zheng’s home in Niskayuna, New York. Among other items, the FBI seized Zheng’s desktop computer and cellphone. In addition, Zheng, who was not yet in custody,

¹ According to Hilton, whom the district court received “as an expert in the field of cyber security investigations,” App’x at 415, “[s]teganography is a known technique within the cyber security field” and can “[e]ssentially” be described as “hiding something in plain sight,” *id.* at 413. See *Steganography*, Merriam-Webster.com, <https://www.merriam-webster.com/dictionary/steganography> [<https://perma.cc/9T6H-FN6D>] (Definition: “the art or practice of concealing a message, image, or file within another message, image, or file”; Etymology: “New Latin *steganographia*, from Greek *steganos* covered, reticent (from *stegein* to cover) + Latin *-graphia* -graphy”).

voluntarily gave an over five-hour interview in his home with two FBI agents. Zheng was arrested later that day.

On August 10, 2021, a grand jury returned a fourteen-count superseding indictment charging Zheng and a co-conspirator, Zhaoxi Zhang,² with conspiracy to commit economic espionage, in violation of 18 U.S.C. § 1831(a)(5) (Count 1), and conspiracy to commit theft of trade secrets, in violation of 18 U.S.C. § 1832(a)(5) (Count 2). It further charged Zheng with four counts of economic espionage, in violation of 18 U.S.C. § 1831(a) (Counts 3, 4, 7, and 8), five counts of theft of trade secrets, in violation of 18 U.S.C. § 1832(a) (Counts 5, 6, 9, 10, and 13), and one count of making false statements, in violation of 18 U.S.C. § 1001(a)(2) (Count 14).³

² We discuss Zhang's role in the alleged conspiracy *infra* Section I.D. Zhang, who is Zheng's nephew and lives in China, was never arrested and remains a fugitive.

³ Counts 11 and 12 charged Zhang with economic espionage and theft of trade secrets, respectively.

D. The Evidence Presented at Trial

A jury was empaneled on March 3, 2022. On March 21, 2022, the parties rested their cases. The following evidence was presented at trial.

1. An Overview of the PRC and Its Economic Priorities

The government called as a witness Cheng Chen, a political science professor at The State University of New York at Albany. The district court, with no objection from the defense, received Chen as an expert in political science, “specifically of Chinese government structure” and “policies.” App’x at 1187.

Chen testified that the Chinese Communist Party (“CCP”) governs “the Chinese party state,” with “no clear boundary between the [CCP] and the state in China.” *Id.* at 1188. The CCP “oversee[s] [various] administrative units as well as . . . state-owned enterprises.” *Id.* at 1191. Regarding universities, Chen testified that “[t]he overwhelming majorit[y] of universities in China are public

universities,” to which the PRC provides funding, and each university has a “party committee[] to make sure that the[] universit[y] toe[s] the party line.” *Id.* at 1201. According to Chen, “[u]niversities basically are owned by the Chinese government.” *Id.* In general, the line between public and private entities in the PRC “is a very blurred one.” *Id.* at 1242. “[I]f you are a relatively large enterprise, especially in the area of science and technology, it’s very likely that the government will want to pay very close attention to you and . . . try to monitor you all the time.” *Id.*

Every five years, the PRC promulgates a “five-year plan,” which is an “economic blueprint[]” that identifies the PRC’s “economic priorities” for the next five years. *Id.* at 1192. The plans are “widely promoted by the government . . . [and] within the Chinese public.” *Id.* at 1193. Provincial and municipal governments are expected to help implement the five-year plans, and accordingly,

“their economic policies mirror the interests of the national five-year plan.” *Id.* at 1200.

As relevant here, from 2016 to 2018, the 13th Five-Year Plan was in effect, which had “a broad goal of moving China up the industrial chain by upgrading its entire manufacturing sector.” *Id.* at 1193. Thus, during the 13th Five-Year Plan, economic actors were to be focused “on the innovation and high tech sectors, such as aero engines and industrial gas turbines, cyber security, computing, and technologies for deep sea exploration and space exploration.” *Id.*

In addition to the 13th Five-Year Plan, in 2015, the PRC introduced the “Made in China 2025” initiative, the purpose of which was to “mov[e] China away from low-end manufacturing . . . and make China . . . the world leader in science and technology,” “such as aerospace, biotech, artificial intelligence, . . . [and] 5-G technology.” *Id.* at 1195–96. Within the aerospace industry, the Made in China 2025 initiative focused on “turbine power generation” and “airline

engines.” *Id.* at 1196. According to Chen, the 13th Five-Year Plan and the Made in China 2025 initiative were “[c]omplementary” policies. *Id.*

2. Zheng’s Business Interests in the PRC

i. The Thousand Talents Program

In 2012, Zheng was selected for the PRC’s “Thousand Talents [P]rogram.” App’x at 376. The Thousand Talents Program, established in 2008, is “overseen by the Chinese Communist Party” and “incentivizes individuals engaged in research and development in the [United States] to transmit that knowledge and research gained in the [United States] to China in exchange for salaries, research funds, lab space, or other incentives.” *Id.* at 377. From 2016 to 2018, the focus of the Thousand Talents Program aligned with the priorities outlined in the 13th Five-Year Plan.

ii. LTAT and NTAT

In April 2016, Zheng and Zhang formed a company in China called Liaoning Tianyi Aviation Technology Company Limited (“LTAT”). According to an LTAT brochure, the company “deals with the research and development, design, manufacture and verification of the mechanical seal technology of the aero engine and the ground engine and the large compressor.” Gov’t App’x at 2; *see also id.* at 5 (explaining that the “founders of LTAT” are “developing sealing technologies in LTAT for [the] next generation of aviation engines”). LTAT advertised that it would fill a “gap” in China’s technology. *Id.* at 2.

In addition, Zheng served as the general manager of Nanjing Tianyi Aviation Technology Company Limited (“NTAT”), which was founded in December 2015 in China. According to an NTAT business proposal, “[a]t the early stage,” the company would “focus on R&D of sealing technology for use in steam turbines and gas turbines,

replacing existing technology for steam turbines, and developing gas turbine sealing technology.” *Id.* at 151. At a “later stage,” the company would “primarily engage in R&D of sealing technology for aero-engines to replace imported engines.” *Id.* NTAT also advertised that it would “[f]ill[] [a] gap in the country’s technology.” *Id.* at 87.

On January 25, 2016, Zheng submitted a conflict of interest form to GE. In it, he stated: “[M]y brothers in China and I have registered a small company in China last month to be in the business of parts supplier for civil aviation engines. Although I am not working for G.E. Aviation and the company would never be in direct competition with G.E. Aviation, . . . there is a potential in the future it may become a supplier of G.E. Aviation.” App’x at 233. On November 9, 2016, GE responded, saying that there did “not appear immediately to be a conflict of interest for G.E.” but that, among other things, Zheng “must be extremely careful to avoid using G.E. intellectual property,

proprietary information, or proprietary processes” in his “outside activities.” *Id.* at 237.

**iii. LTAT’s and NTAT’s Partnerships with
Chinese Local Governments**

The government presented evidence that Zheng sought financial assistance from local governments in China to help launch LTAT and NTAT. For example, agents recovered two documents from Zheng’s home that were published by provincial governmental entities and detailed the financial incentives available to Chinese companies that developed technologies promoted by the PRC. The first document, published by the Liaoyang Municipal Science and Technology Bureau in September 2017 and titled “Ten Benefits for Being a High and New Tech Enterprise And Accreditation Criteria and Procedures for Becoming a High and New Tech Enterprise,” described the financial incentives offered by the bureau to “high and new tech enterprises.” Gov’t App’x at 17–18. Those included: (1) eligibility “for a preferential tax rate of 15%”; (2) direct “cash

rewards (up to a million)”; and (3) greater ease “obtain[ing] VC investments and loans from major banks.” *Id.* at 18. The second document, published by the “Liaoning Provincial S&T Department” in June 2017 and titled “Enterprise S&T Innovation Policy Book,” also described “incentive policies for innovation,” such as a lower tax rate for qualifying companies. *Id.* at 36–37.

And, indeed, agents recovered from Zheng’s desktop computer a 2017 “Project Initiation Application” that LTAT submitted, or at least had prepared for submission, to the Liaoning Province Committee of Industry & Information Technology for an “Aircraft Engine Mechanical Seal Research and Manufacturing Project.” *Id.* at 109. As “[b]ackground” to the project proposal, the application explained that “[g]rowing China’s aviation industry is likely an important avenue for promoting ‘Made in China’” and “[a]ircraft engines and ground gas turbines have become the top priority in China’s Thirteenth Five Year Plan.” *Id.* at 112. LTAT advertised that

the aircraft seals it would develop would “fill[] a gap in China and [would] have a historical significance in extending the use life and performance of domestically manufactured aircraft engines.” *Id.* at 113. The application indicated that the project would require “130 Mu⁴ of land” and “approximately 620 million Yuan.” Gov’t App’x at 128.

Relatedly, agents also recovered text and audio messages between Zheng and Zhang that were sent over the application WeChat and indicated that they were meeting with, and seeking funding from, local government leaders for NTAT and LTAT. *See, e.g., id.* at 95 (August 26, 2016, message from Zhang to Zheng stating that the “Provincial Standing Committee” had “approved” the “50 million direct investment fund . . . we applied for”); *id.* at 89 (March 17, 2016, message from Zhang to Zheng stating that “[o]ur Governor

⁴ A mu, sometimes transliterated as “mou,” is approximately 0.165 acres, or 666.5 square meters. *See Mou*, Britannica.com, <https://www.britannica.com/science/mou> [<https://perma.cc/T6TK-6AWY>].

is visiting our company on the 27th of this month”); *id.* at 91 (March 30, 2016, message from Zhang to Zheng stating that “[t]he Secretary of the Municipal Communist Party Committee is visiting this afternoon”). In one message dated January 22, 2017, Zheng sent Zhang an apparent draft status report on LTAT addressed to multiple local government leaders. In it, Zheng thanked the leaders for their “consideration and support” and updated the officials on LTAT’s progress. *Id.* at 97. He reiterated that “[t]he 13th Five-Year Plan places aerospace development as a priority among its strategic key technology projects” and that he was “[t]herefore . . . [t]here to ask the leadership to give the development of this national key technology project the special attention it deserves.” *Id.*

iv. LTAT’s and NTAT’s Partnerships with Chinese Universities

The government also introduced evidence that Zheng, through LTAT and NTAT, sought to partner and collaborate with Chinese universities on various research projects. First, in June 2018, NTAT

executed a “Technical Services Contract” with the Beijing University of Aeronautics and Astronautics (“BUAA”). Gov’t App’x at 164. The contract was for a project titled “Research and Development of High Speed Pneumatic Bearing and Sealing Technology.” *Id.* Under the agreement, BUAA would pay NTAT one million yuan to provide BUAA with technical services relating to the development of turbine bearing and sealing technology. Zheng signed the contract as NTAT’s legal representative (although BUAA’s signature line is blank). Chen testified that BUAA is a “major” university that “specializes [i]n aeronautics” and “astronautics.” App’x at 1213. BUAA is “administered by the [PRC’s] ministry of industry and information technology.” *Id.* As with other public universities in China, “the direction of [BUAA’s] research [is] guided by policies like the 13th five-year plan.” *Id.* at 1214.

Second, in July 2018, it appears that LTAT considered entering into a “Strategic Cooperation Agreement” with Shenyang Aerospace

University (“SAU”) for a project titled “Development of Brush Seal Technology for Aircraft Engines.” Gov’t App’x at 98. According to what appears to be a draft of that agreement, LTAT agreed to, among other things, provide “brush seal test samples” to SAU. *Id.* Chen explained that SAU “is a large public university” that “mostly trains engineers for China’s . . . civilian and military education industries.” App’x at 1210. SAU’s “research would be in line with the 13th five-year plan,” and it “ultimately report[s] back” to the CCP. *Id.* at 1210–11.

Lastly, in July 2018, Zheng emailed Zhang a draft “Strategic Cooperation Agreement For the Establishment of a Joint Research and Development Test Center of Sealing Components for Aero Engines and Gas Turbines” between LTAT and the AECC Shenyang Engine Research Institute (“AECC”). Gov’t App’x at 173. Under the agreement, the parties would “[c]o-design, trial produce, test[,] and verify aero engine and gas turbine sealing products.” *Id.* at 175. Chen

testified that AECC is “one of the leading research institute[s] in China that specializes in R&D of large and medium turbo jet engines as well as natural gas turbines,” and that “it belongs to Aero Engine Operations of China, which is a[] large[] state-owned enterprise.” App’x at 1211.

3. Zheng’s Emails to Himself and Zhang

During the time that Zheng was trying to grow LTAT and NTAT by partnering with Chinese local governments and universities, he was also misappropriating GE trade secrets that related to LTAT’s and NTAT’s areas of focus. On June 6, 2017, Zheng sent an email from his GE email address to his personal email address with an image of bamboo shoots attached. The image was titled “newyear.jpg.” App’x at 643. Through steganography, Zheng had embedded in the image three GE files, which had been encrypted using AxCrypt, containing manufacturing drawings for turbine blades used in GE’s gas turbines.

Then, on August 22, 2017, Zheng sent an email with an attachment from his personal email address to Zhang, who was located in China. Within the attachment were three GE files, including a manufacturing drawing for a brush seal used in various GE steam turbines. Zheng again emailed Zhang on September 1, 2017, this time with an attachment containing seven GE files relating to seal testing rigs that GE engineers used to test turbine seals or to aspirating face seals. The information in the files had applications for aviation turbines and engines. That same day, Zheng sent a message to Zhang on WeChat: “After you finish downloading, don’t forget to delete everything. Don’t leave it in the mailbox.” *Id.* at 1345.

On October 23, 2017, Zheng again sent an email from his GE email address to his personal email address with two images of “something mechanical” attached. *Id.* at 676–77. Embedded in those images through steganography were encrypted GE files containing designs for various gas turbine combustion chamber parts. Multiple

GE employees testified that the GE files that Zheng sent to himself and Zhang contained valuable information that GE took measures to protect, that the information contained in the files would have been valuable to GE's competitors, and that the files contained proprietary information and constituted GE's trade secrets.

E. The Jury Instructions

After the close of evidence, the district court instructed the jury on the elements of each charged offense. For substantive economic espionage, in violation of 18 U.S.C. § 1831(a), the district court instructed the jury that the government must prove the following elements beyond a reasonable doubt:

[F]irst, that defendant knowingly stole or without authorization appropriated, took, carried away, or concealed or by fraud, artifice, or deception obtained information from General Electric Power . . . or knowingly received, bought, or possessed such information, knowing it to have been stolen, appropriated, obtained, or converted without authorization as alleged in the superseding indictment; second, that the stolen information was a trade secret . . . ; third, that the defendant knew the

information was proprietary; [and] fourth, that the defendant acted with the intent to benefit a foreign government or a foreign instrumentality or a foreign agent or knew that it would benefit a foreign government or instrumentality or agent.

App'x at 1627–28. Regarding the fourth element, the district court explained that “[t]he benefit to the foreign government or instrumentality need not be economic in nature” and that “[o]ther benefits would also satisfy this element[,] such as furthering the national security interests of a foreign government.” *Id.* at 1630. At the charge conference, defense counsel requested that the district court instruct the jury that to find Zheng guilty of economic espionage, they must find “some evidence of foreign government involvement, such as foreign government sponsored or coordinated intelligence activity.” *Id.* at 79. The district court rejected that request and instructed the jury as described above.

For conspiracy to commit economic espionage, in violation of 18 U.S.C. § 1831(a)(5), the district court instructed the jury that the

government must prove the following elements beyond a reasonable doubt: “[F]irst, that such a conspiracy existed; second, that at some point, the defendant knowingly and willfully joined and participated in the conspiracy; and third, at least one overt act in furtherance of the conspiracy was knowingly and willfully committed by at least one member of the conspiracy.” *Id.* at 1635–36. The district court advised the jury that the conspiracy charge and the substantive charge differed in one material respect:

It is important to note that unlike the substantive charge of economic espionage, to establish conspiracy to commit economic espionage, the government is not required to prove that the information the alleged conspirators intended to misappropriate was in fact a trade secret. What is required is proof beyond a reasonable doubt that the defendant and at least one other member of the conspiracy knowingly agreed to misappropriate information that they *reasonably believed* was a trade secret and did so for the benefit of a foreign government or foreign instrumentality. This is because defendant’s guilt or innocence on this charge depends on what he believed the circumstances to be, not what they actually were.

Id. at 1648 (emphasis added). At the charge conference, defense counsel requested an instruction that the jury must find beyond a reasonable doubt that Zheng “firmly believed,” rather than “reasonably believed,” that what he was misappropriating were, in fact, GE trade secrets. *Id.* at 1591. The district court rejected this request and instructed the jury as described above.

F. Jury Verdict

The jury began deliberating on March 22, 2022, and returned a verdict on March 31. It found Zheng guilty of Count 1, conspiracy to commit economic espionage, and not guilty of two of the substantive economic espionage counts and two of the substantive theft of trade secrets counts (Counts 7–10). The jury hung as to the remaining seven counts (Counts 2–6 and 13–14).

G. Zheng’s Motions for a Judgment of Acquittal

At the close of the government’s evidence, Zheng moved for a judgment of acquittal pursuant to Federal Rule of Criminal Procedure

29(a). The district court denied the motion, reasoning “that a reasonable jury might fairly conclude beyond a reasonable doubt that the defendant is guilty of the crimes charged” because the evidence that the government had presented, “including the testimony of agents involved in the investigation, expert witnesses, employees of GE, the recordings to the defendant’s interview, and the physical evidence recovered during the investigation,” “would permit a reasonable jury to conclude that the defendant stole trade secrets from GE and that this was done for the benefit of a foreign government or instrumentality.” App’x at 1531. At the close of evidence, Zheng renewed his motion for a judgment of acquittal, which the district court denied for the same reasons.

Following the jury’s verdict, on June 29, 2022, Zheng moved for a judgment of acquittal pursuant to Federal Rule of Criminal Procedure 29(c) or, alternatively, for a new trial pursuant to Federal Rule of Criminal Procedure 33. Zheng argued that there was

insufficient evidence to convict him of conspiracy to commit economic espionage because the government had not presented evidence that he intended to benefit the Chinese government. Rather, Zheng argued, the evidence showed that he intended, at most, to benefit himself as a private citizen by pursuing business interests in the PRC that aligned with the PRC's stated economic policies during that time. The government opposed Zheng's motion.

On December 28, 2022, the district court denied Zheng's motion. The district court reasoned that Zheng's interpretation of "benefit" in 18 U.S.C. § 1831(a)(5) was too "narrow." Gov't App'x at 255. According to the district court, "[t]he language of Section 1831 does not preclude a conviction where the defendant derives some benefit from his conduct; rather, all that is required is for the defendant to engage in the conduct knowing or intending his conduct to also benefit a foreign government, instrumentality, or agent." *Id.* at 256. And here, "[t]he evidence admitted at trial was unambiguous

in establishing that [Zheng] knew, and intended, that the turbine technology trade secrets taken from GE would benefit himself personally, as well as the Chinese government and various foreign instrumentalities by advancing their ability to research, develop, design, test, manufacture, and service turbines and turbine technologies.” *Id.* at 259.

H. Sentencing

In its Pre-Sentence Investigation Report (“PSR”), the U.S. Probation Office (“Probation”) calculated Zheng’s advisory imprisonment range under the Sentencing Guidelines as follows. Pursuant to U.S.S.G. § 2B1.1(a)(2), Zheng’s base offense level was 6. Probation then determined that several specific offense characteristics applied. First, it determined that the “loss” resulting from Zheng’s offense “exceeded \$1,500,000, but was less than \$3,500,000” because “[t]he combined value of [the] [t]rade [s]ecrets [Zheng misappropriated] was millions of dollars, including expenses for

research and design and other costs of reproducing the trade secrets that Zheng and Zhang avoided.” PSR ¶ 12. This loss amount resulted in a 16-level enhancement pursuant to § 2B1.1(b)(1)(I). Second, Probation applied a two-level enhancement pursuant to § 2B1.1(b)(10)(B) and (C) because “a substantial part of [the] fraudulent scheme was committed from outside the United States, and [defendants used] sophisticated means.” *Id.* ¶ 13. “Specifically, a substantial part of the scheme was committed from the People’s Republic of China and the offense involved encryption and decryption of trade secrets, steganography, sending trade secrets to China, and coconspirators using encrypted text messages and audio files to communicate.” *Id.* Third, Probation applied a four-level enhancement pursuant to § 2B1.1(b)(14)(B) because “[t]he offense involved misappropriation of a trade secret and the defendant knew or intended that the offense would benefit a foreign government, foreign instrumentality, or foreign agent.” *Id.* ¶ 14. Thus, Probation

calculated Zheng's total adjusted offense level as 28. Combined with a criminal history category of I, the Guidelines yielded an advisory imprisonment range of 78 to 97 months.

As relevant here, Zheng objected to Probation's use of "intended loss" in calculating the loss amount. Gov't App'x at 232. The commentary to § 2B1.1 provides that "loss is the greater of actual loss or intended loss." U.S.S.G. § 2B1.1 cmt. n.3(A). Zheng argued, however, that the Guidelines commentary is no longer entitled to judicial deference after *Kisor v. Wilkie*, 588 U.S. 558 (2019), and that "loss" in § 2B1.1 unambiguously refers to "actual loss," which Zheng argued was zero dollars in his case. The district court rejected Zheng's objection, explaining that under *Stinson v. United States*, 508 U.S. 36 (1993), courts are required "to follow [Guidelines] commentary that interprets or explains a [G]uideline unless it violates the Constitution or a federal statute or is inconsistent with or a plainly erroneous reading of that [G]uideline," App'x at 1871, and that

“Stinson continues to be the law in this Circuit,” *id.* at 1874. The district court accordingly concluded that, based on the Guidelines commentary, it should use intended loss when calculating Zheng’s Guidelines imprisonment range.

However, in contrast to Probation, the district court determined that the intended loss amount should be based on GE’s “potentially lost profits” had Zheng’s conspiracy succeeded, which the district court determined to be \$1,058,800. *Id.* at 1881. This loss amount resulted in a 14-level enhancement, rather than the 16-level enhancement recommended by Probation, pursuant to § 2B1.1(b)(1). The district court otherwise adopted the PSR’s factual findings and Guidelines calculations. Accordingly, a total offense level of 26 and a criminal history category of I yielded an advisory Guidelines imprisonment range of 63 to 78 months. After considering the factors set forth in 18 U.S.C. § 3553(a), the district court departed downward

from the advisory range, sentencing Zheng to 24 months of imprisonment, to be followed by one year of supervised release.

The district court *sua sponte* granted Zheng bail pending the disposition of any appeal. Zheng timely appealed.

II. Discussion

On appeal, Zheng argues (1) that there was insufficient evidence to convict him of conspiracy to commit economic espionage, in violation of 18 U.S.C. § 1831(a)(5), because the government did not prove that Zheng's conduct resulted from "foreign government sponsored or coordinated intelligence activity"; (2) that the district court improperly instructed the jury regarding the elements of § 1831(a)(5), specifically that the district court should have instructed the jury that the government must prove that (a) Zheng's economic espionage resulted from "foreign government sponsored or coordinated intelligence activity," and (b) Zheng "firmly believed" that what he had misappropriated from GE were, in fact, trade

secrets; and (3) that the district court erred by imposing a 14-level enhancement under U.S.S.G. § 2B1.1 based on “intended loss.”

Because Zheng preserved his arguments regarding the sufficiency of the evidence and the jury instructions, we review those issues *de novo*. *United States v. Jimenez*, 96 F.4th 317, 322, 324 (2d Cir. 2024). Zheng also preserved his argument about “intended loss,” and we therefore review the district court’s interpretation of the Guidelines *de novo*, “just as we would review the interpretation of any law.” *United States v. Hasan*, 586 F.3d 161, 168 (2d Cir. 2009). For the reasons explained below, we are unpersuaded by all of Zheng’s arguments and accordingly affirm the judgment of the district court.

A. Sufficiency of the Evidence

Zheng argues that there was insufficient evidence to convict him of conspiracy to commit economic espionage “because the government did not prove beyond a reasonable doubt that Zheng’s conduct resulted from a government sponsored or coordinated

intelligence activity.” Appellant’s Br. at 11. “Because of the strong deference to which jury verdicts are entitled in our justice system, we must ‘draw all permissible inferences in favor of the government and resolve all issues of credibility in favor of the jury’s verdict.’” *United States v. Osuba*, 67 F.4th 56, 61 (2d Cir. 2023) (quoting *United States v. Willis*, 14 F.4th 170, 181 (2d Cir. 2021)). “[T]he relevant question is whether, after viewing the evidence in the light most favorable to the prosecution, *any* rational trier of fact could have found the essential elements of the crime beyond a reasonable doubt.” *Jackson v. Virginia*, 443 U.S. 307, 319 (1979). If the answer is yes, the conviction must be upheld. *See id.* Thus, “[a] defendant bears a heavy burden in seeking to overturn a conviction on grounds that the evidence was insufficient.” *United States v. Rosemond*, 841 F.3d 95, 113 (2d Cir. 2016) (citation and quotation marks omitted).

**1. Whether Section 1831 Requires Proof of Foreign
Government Sponsored or Coordinated
Intelligence Activity**

Zheng argues that 18 U.S.C. § 1831(a) requires proof of foreign government sponsored or coordinated intelligence activity, and that the government's evidence failed to prove such activity. As "[w]hen answering [any] question[] of statutory interpretation, we begin with the language of the statute." *United States ex rel. Wood v. Allergan, Inc.*, 899 F.3d 163, 171 (2d Cir. 2018).

Section 1831 was codified as part of the Economic Espionage Act of 1996 ("EEA"), Pub. L. No. 104–294, 110 Stat. 3488, and provides: "Whoever, intending or knowing that the offense will benefit any foreign government, foreign instrumentality, or foreign agent, knowingly" misappropriates a trade secret in one of the ways set forth in the statute, attempts to do so, or conspires to do so, is guilty of a federal offense, and may be imprisoned for up to 15 years. 18 U.S.C. § 1831(a). A "foreign instrumentality" is defined as "any agency, bureau, ministry, component, institution, association, or any legal,

commercial, or business organization, corporation, firm, or entity that is substantially owned, controlled, sponsored, commanded, managed, or dominated by a foreign government.” *Id.* § 1839(1).

Contrary to Zheng’s claim, there is nothing in § 1831(a) that requires proof of a foreign government’s involvement in the defendant’s conduct. To the extent the statute makes any mention of foreign governments, it does so only in terms of the defendant’s mental state: the defendant must intend or know that his misappropriation of a trade secret will benefit a foreign government or instrumentality. Far from requiring any action or involvement by another sovereign, under § 1831(a), “criminal liability . . . may be established on the basis of [the] [d]efendant’s intent alone.” *United States v. Chung*, 659 F.3d 815, 828 (9th Cir. 2011).

Zheng argues that a foreign government’s involvement is at least arguably implicit in the term “benefit,” and that ambiguity about that term is resolved in favor of his reading by looking at two aspects

of the statute—its title and its legislative history. But there is no such ambiguity. Here, the only actor specified in the statute is the defendant—that is, “[w]hoever” takes any of the actions enumerated in subsections (1)–(5) of § 1831(a) with the requisite mental state. That *mens rea* involves “intending or knowing that the offense will benefit any foreign government, foreign instrumentality, or foreign agent.” 18 U.S.C. § 1831(a). In the latter phrase, “will benefit a foreign government,” the foreign government is described only as the object—that is, the recipient—of the intended benefit. *See Benefit*, Merriam-Webster.com, <https://www.merriam-webster.com/dictionary/benefit> [https://perma.cc/RC4B-5GFJ]. (defining the verb “benefit” as “to be useful or profitable to”). In short, there is nothing in § 1831(a) that requires the intended beneficiary to take some action to bring about the crime.

Because we disagree with Zheng’s argument that § 1831(a) is ambiguous with respect to foreign government involvement, we need

not consider his arguments that go beyond the statutory text. *See, e.g., Nat'l Ass'n of Mfrs. v. Dep't of Def.*, 583 U.S. 109, 127 (2018) (“Because the plain language of [the statute] is unambiguous, our inquiry begins with the statutory text, and ends there as well.” (citation and quotation marks omitted)); *Wood*, 899 F.3d at 171 (“Only when the terms are ambiguous or unclear do we consider legislative history and other tools of statutory interpretation.”); *Bhd. of R.R. Trainmen v. Baltimore & O. R. Co.*, 331 U.S. 519, 528–29 (1947) (“[T]he title of a statute and the heading of a section cannot limit the plain meaning of the text. For interpretative purposes, they are of use only when they shed light on some ambiguous word or phrase.” (citations omitted)). However, even assuming that § 1831(a) is ambiguous (which it is not), the title and legislative history do not support Zheng’s argument.

Section 1831 is titled “Economic espionage,” 18 U.S.C. § 1831, and Zheng argues that “espionage” typically connotes government-sponsored spying activity. However, the structure and legislative

history of the EEA make clear that “espionage” is used broadly here, and should not be understood in the limited sense that Zheng proposes.

Beginning with the EEA’s structure, in addition to § 1831, the EEA codified § 1832, “Theft of trade secrets.” 18 U.S.C. § 1832. Section 1832(a) provides that “[w]hoever, with intent to convert a trade secret, that is related to a product or service used in or intended for use in interstate or foreign commerce, to the economic benefit of anyone other than the owner thereof, and intending or knowing that the offense will, injure any owner of that trade secret, knowingly” misappropriates a trade secret in one of the ways set forth in the statute, attempts to do so, or conspires to do so, is guilty of a federal offense, and may be imprisoned for up to 10 years. *Id.* § 1832(a). Thus, in contrast to § 1831(a), § 1832(a) does not even mention foreign governments, instrumentalities, or agents, but it was still codified as part of the Economic *Espionage* Act of 1996. It is therefore clear that

the EEA proscribes more than classic spy craft involving foreign government interference.

Contemporary references to “espionage” in the legislative history are consistent with this broader understanding of the term. The House of Representatives explained that the EEA was needed because of the growing threat of “economic or industrial espionage.” H.R. Rep. No. 104-788, at 5 (1996). Although “[e]spionage is typically an organized effort by one country’s government to obtain the vital national security secrets of another country,” they explained, “as the cold war has drawn to a close, this classic form of espionage has evolved.” *Id.* From the traditional style of espionage, which was “[t]ypically . . . focused on military secrets,” had evolved “industrial espionage,” which

includes a variety of behavior—from the foreign government that uses its classic espionage apparatus to spy on a company, to the two American companies that are attempting to uncover each other’s bid proposals, or to the disgruntled former employee who walks out of his

former company with a computer diskette full of engineering schematics.

Id. The legislators recognized that “[a]ll of these forms of industrial espionage are problems” and that “[e]ach will be punished under [the EEA].” *Id.* Accordingly, the title of § 1831 does not support Zheng’s assertion that there must be proof of government sponsored or coordinated intelligence activity, because Congress understood “economic espionage” to encompass much more conduct than Zheng’s limited—and outdated—conception of “espionage” that only involves foreign government or coordinated intelligence activity.

Zheng notes certain instances in the EEA’s legislative history where legislators referred to § 1831 as applying to defendants acting on behalf of foreign governments. He points to the Senate Managers’ Statement, which explained “the difference between Sections 1831 and 1832”:

This legislation includes a provision penalizing the theft [of] trade secrets (Sec. 1832) and a second provision penalizing that theft when it is done to benefit a foreign government, instrumentality, or agent (Sec. 1831). The

principle [sic] purpose of this second (foreign government) provision is not to punish conventional commercial theft and misappropriation of trade secrets (which is covered by the first provision). Thus, to make out an offense under the economic espionage section, the prosecution must show in each instance that the perpetrator intended to or knew that his or her actions would aid a foreign government, instrumentality, or agent. *Enforcement agencies should administer this section with its principle [sic] purpose in mind and therefore should not apply section 1831 to foreign corporations when there is no evidence of foreign government sponsored or coordinated intelligence activity.*

142 Cong. Rec. S12212 (daily ed. Oct. 2, 1996) (emphasis added).

According to Zheng, this last quoted sentence establishes that § 1831 may be applied only when there is “evidence of foreign government sponsored or coordinated intelligence activity.” Appellant’s Br. at 11 (citation omitted).

Zheng’s argument fails for two reasons. First, the context of the Managers’ Statement clarifies that legislators were concerned about § 1831 being enforced against someone who misappropriates a trade secret intending to benefit a foreign corporation that has no nexus to

a foreign government, that is, a foreign corporation that is not a foreign instrumentality. Indeed, the very next paragraph explains that the legislators' "particular concern" was addressed through "the definition of 'foreign instrumentality[,]'" which indicates that a foreign organization must be 'substantially owned, controlled, sponsored, commanded, managed, or dominated by a foreign government or subdivision thereof.'" *Id.* In other words, the Managers' Statement's reference to "foreign government sponsored or coordinated intelligence activity" was an explanation of the limit to which § 1831 may be utilized when a defendant intended to benefit "foreign corporations," that is, only when the foreign corporation is considered a foreign instrumentality, as defined in § 1839(1). If the foreign corporation does not have the requisite level of connection with the foreign government to make it a foreign instrumentality, then the Managers' Statement expressed the view that § 1832, not § 1831, is the appropriate vehicle to prosecute someone who

misappropriates a trade secret with the intent to benefit that foreign corporation.

Second, even assuming that the “princip[al] purpose” of § 1831 is to prosecute economic espionage done on behalf of a foreign government, that does not mean it is the only circumstance in which § 1831 may be utilized. 142 Cong. Rec. S12212. The legislative history to which Zheng draws our attention does no more than exhort “[e]nforcement agencies [to] administer” § 1831 with that purpose in mind—in other words, the statement is nothing more than a suggestion regarding the proper exercise of prosecutorial discretion, and should not be read as purporting to delineate the scope of the statute. *Id.* Perhaps prosecutors will prioritize the use of § 1831 for cases that involve foreign government spying. Or perhaps they will place greater importance on different factors, depending on the circumstances. But such questions about the allocation of prosecutorial resources are reserved for the executive branch, not for

the judiciary. All that matters for purposes of this appeal is that an individual may intend to benefit a foreign government by misappropriating trade secrets without the foreign government directing or coordinating his activity. Under § 1831, a volunteer spy is just as guilty as one recruited and handled by a foreign government.

**2. Whether There was Sufficient Evidence That
Zheng Intended To Benefit a Foreign Government
or Instrumentality**

Having concluded that § 1831(a) does not require proof of foreign government activity, we next determine whether there was sufficient evidence for a rational jury to find Zheng guilty of conspiring to misappropriate GE's trade secrets intending or knowing that the offense would benefit a foreign government or foreign instrumentality. There was.

We begin by noting that § 1831(a) is “expressed broadly.” *United States v. Aleynikov*, 676 F.3d 71, 79 (2d Cir. 2012); *see also* H.R. Rep. No. 104-788, at 11 (explaining that “‘benefit’ is intended to be interpreted broadly”). Accordingly, the “benefit” that Zheng

intended to confer on the foreign government or instrumentality need not have been an economic benefit; a strategic, tactical, or reputational benefit would also suffice. *See, e.g.*, H.R. Rep. No. 104-788, at 11. Based on the evidence presented at trial, a rational jury could conclude that Zheng conspired to misappropriate GE's trade secrets intending or knowing that such misappropriation would benefit either (1) a foreign government, or (2) a foreign instrumentality.

First, there was sufficient evidence for a rational jury to conclude that Zheng conspired to misappropriate GE's trade secrets with the intent to benefit the PRC. The government presented evidence that from 2016 to 2018, the PRC sought to improve its competitive stature within high-tech manufacturing sectors, including its ability to domestically manufacture "aero engines and industrial gas turbines." App'x at 1193. In service of this goal, the PRC published and promoted the 13th Five-Year Plan and the Made in China 2025 policy, which local governments helped to execute by

offering subsidies and other incentives to companies developing products within the PRC's fields of interest.

Against this backdrop, beginning around 2016, Zheng helped launch two businesses in the PRC, LTAT and NTAT, to develop and manufacture seals for aero and ground-based turbines. Zheng sought funding from Chinese local governments for these ventures and kept local government officials apprised of the companies' work. LTAT's and NTAT's own publications explained how their objectives aligned with the PRC's national economic policies regarding improved domestic turbine manufacturing. Further, Zheng's writings, as evidenced by his draft status report to local government leaders from January 2017 and his draft speech to government and university officials from July 2018, reiterated his desire to help the PRC meet its economic goals.

In short, Zheng launched businesses in the PRC to develop and manufacture technology—seals—that were critical to producing the

turbines that the PRC wanted to manufacture domestically, and with the express objective of helping the PRC do so. Further, the trade secrets that Zheng misappropriated from GE all related to turbine designs, including the specific types of turbine seals that Zheng's companies wanted to develop. Zheng misappropriated these trade secrets using surreptitious means and twice sent the trade secrets directly to Zhang in China. The jury therefore could have found that Zheng misappropriated GE's trade secrets for the purpose of allowing his Chinese companies to achieve their objectives, and consequently, those of the PRC. And the jury could therefore have found that Zheng acted with the intent to confer a benefit on the PRC—whether economic, strategic, tactical, or reputational—or at least with the knowledge that such a benefit would be conferred on the PRC if his conspiracy succeeded.⁵

⁵ In arguing that there was insufficient evidence of foreign government involvement, Zheng argues in passing that there was also no proof that he “willfully engaged in criminal conduct” because the government failed to prove

that he acted “with knowledge that his conduct was unlawful.” Appellant’s Br. at 20. The district court instructed the jury that to find Zheng guilty of conspiracy to commit economic espionage, the jury must find, among other things, that Zheng “knowingly and willfully joined and participated in the conspiracy” and that “at least one overt act in furtherance of the conspiracy was knowingly and willfully committed by at least one member of the conspiracy.” App’x at 1635–36. Although the district court did not expressly define “willfully,” we have generally defined the term to mean what Zheng says it means. *See, e.g., United States v. Kukushkin*, 61 F.4th 327, 332 (2d Cir. 2023) (“[I]n order to establish a willful violation of a statute, the Government must prove that the defendant acted with knowledge that his conduct was unlawful.” (quoting *Bryan v. United States*, 524 U.S. 184, 191–92 (1998))). It appears that the district court relied on *Modern Federal Jury Instructions* for its instruction, which matches that source nearly verbatim. *See* Leonard B. Sand et al., 1 *Modern Federal Jury Instructions: Criminal*, Instruction 19-3S (2024). That model instruction appears to concern conspiracy charges where the substantive offense specifically includes a willfulness requirement; § 1831(a) does not include a willfulness requirement, however, and there is no indication that Congress intended that all conspiracy offenses include a willfulness requirement even if the substantive offense does not. Nevertheless, Zheng did not ask the district court to further define “willfully,” nor does the government challenge the district court’s instruction. Accordingly, we need not decide whether the instruction as given properly included a willfulness requirement, and we simply assume for purposes of this appeal that the jury had to find that Zheng knew that the conspiracy’s objective was unlawful.

Even indulging this assumption, Zheng’s claim fails. There was abundant evidence that Zheng was conscious that he was engaged in wrongdoing. Most obviously, the evidence showed that Zheng went to considerable lengths to hide his misappropriation of GE’s trade secrets, including by using encryption and steganography when sending the trade secrets outside the GE system, instructing Zhang to delete some of the files that Zheng sent him, and communicating with Zhang through encrypted messages. A jury may infer a defendant’s knowledge that conduct is wrongful from his efforts to conceal his conduct. *See, e.g., United States v. Hassan*, 578 F.3d 108, 126 (2d Cir. 2008) (explaining that evidence of importation methods that “included efforts to conceal the nature of [the] packages” helped demonstrate that the defendant knew that what he was

Second, there were several Chinese government “instrumentalities” that the jury could have found that Zheng intended to benefit. Bear in mind that § 1839(1) defines a “foreign instrumentality” to include “any . . . institution . . . or business organization . . . or entity that is substantially owned, controlled, sponsored, commanded, managed, or dominated by a foreign government.” 18 U.S.C. § 1839(1). Here, the jury could have reasonably found that LTAT and NTAT themselves were foreign instrumentalities. Zheng sought government funding to start LTAT, and local government officials were involved in LTAT’s formation and kept apprised of its status. Both LTAT’s and NTAT’s business objectives were tied to national economic policy. And both were operating in the PRC, where, as Chen testified, the distinction between private and public entities is “very blurred,” such that the PRC would want to “pay very close attention . . . and . . . try to

importing contained a controlled substance and therefore that he knowingly participated in the conspiracy to import and distribute the controlled substance).

monitor” “relatively large enterprise[s], especially in the area of science and technology.” App’x at 1242. The jury therefore could reasonably have determined that the government “sponsored” both companies as contemplated under 18 U.S.C. § 1839(1), and that Zheng misappropriated trade secrets to benefit them. *Accord United States v. You*, 74 F.4th 378, 396 (6th Cir. 2023) (holding that defendant’s “joint venture” with a Chinese chemical company was a “foreign instrumentality” as defined in § 1839(1)).

Zheng’s companies also entered into, or at least contemplated, agreements with BUAA, SAU, and AECC. BUAA and SAU are public universities, which in the PRC are, according to Chen, “basically . . . owned by the Chinese government” and expected to “toe the party line,” App’x at 1201, and AECC belongs to a state-run enterprise. The jury therefore could reasonably have found that these entities were “foreign instrumentalities” as defined by § 1839(1). Further, there was evidence that Zheng’s companies agreed to

provide BUAA and SAU technical specifications for turbine seals and turbine seal samples, respectively. Similarly, in its draft agreement with AECC, LTAT and AECC would work together to develop “aero engine and gas turbine sealing products.” Gov’t App’x at 175. These agreements all depended on Zheng’s companies having technical expertise of turbine seals, and the trade secrets that Zheng misappropriated from GE related to the design of such seals.

Accordingly, there were multiple avenues for the jury to find that Zheng acted with the intent to confer a benefit on a foreign instrumentality. And contrary to Zheng’s argument, it is of no moment that throughout all of the conduct described above, Zheng might have also been attempting to benefit himself financially. Intent to benefit oneself is not mutually exclusive of intent to benefit another.

B. Jury Instructions

Zheng next argues that the district court erred by failing to instruct the jury that in order to be found guilty of conspiracy to commit economic espionage, in violation of § 1831(a)(5), the government must prove that (1) a foreign government sponsored or coordinated the intelligence activity, and (2) Zheng “firmly believed”—rather than “reasonably believed”—that what he was misappropriating from GE were, in fact, trade secrets. “A jury instruction is erroneous if it misleads the jury as to the correct legal standard or does not adequately inform the jury on the law. The defendant bears the burden of showing that his requested instruction accurately represented the law in every respect and that, viewing as a whole the charge actually given, he was prejudiced.” *Jimenez*, 96 F.4th at 322 (cleaned up).

Zheng’s first argument need not detain us long, because as explained above, *see supra* Section II.A.1, § 1831(a) does not require

proof of foreign government sponsored or coordinated intelligence activity. Accordingly, the district court did not err by failing to instruct the jury that such proof was required.

The district court also did not err by failing to instruct the jury that they must find that Zheng “firmly believed” that the material he misappropriated constituted GE trade secrets. To begin with, the government was not required to prove, for purposes of the conspiracy count, that the stolen materials were actually trade secrets. It is well established that factual impossibility is not a defense to inchoate crimes, such as conspiracy to commit an offense. *See, e.g., United States v. Williams*, 553 U.S. 285, 300 (2008); *United States v. Hassan*, 578 F.3d 108,123 (2d Cir. 2008). That is because conspiracy law targets the mere agreement to commit a crime; in this way, it differs from the substantive crime that is the object of the conspiracy. Accordingly, in the conspiracy context, a defendant’s guilt depends on the facts as he believed them to be. *See, e.g., United States v. Wen Chyu Liu*, 716 F.3d

159, 170 (5th Cir. 2013) (“[T]he relevant inquiry in a conspiracy case . . . is whether the defendant entered into an agreement to steal, copy, or receive information that he *believed* to be a trade secret.”).

Zheng suggests that the jury had to find not just that he believed that he was misappropriating GE trade secrets, but that he “firmly believed” as much, relying on *United States v. Nosal*, 844 F.3d 1024 (9th Cir. 2016). In *Nosal*, a § 1832 case, the Ninth Circuit found no error in jury instructions where the district court advised the jury that for the conspiracy charge, “the government must prove that Defendant firmly believed that certain information constituted trade secrets.” *Id.* at 1044 (internal quotation marks omitted). But on appeal, the defendant had argued only that the “firmly believed” standard constituted a constructive amendment of the indictment, “because the indictment allege[d] theft of actual trade secrets while the jury instruction did not require proof of actual trade secrets.” *Id.* The Ninth Circuit rejected the defendant’s argument, explaining that

because the grand jury indicted him for theft of trade secrets, in violation of 18 U.S.C. § 1832(a), which requires that he “knowingly” stole trade secrets, the grand jury would have necessarily indicted him on the lesser standard of “firmly believ[ing]” that he was stealing trade secrets. *See id.* at 1044–45. The *Nosal* court did not have occasion to assess, nor did it opine on, whether conspiracy to commit theft of trade secrets requires that the defendant “firmly believed” that he was misappropriating trade secrets.

Indeed, less than one year later, the Ninth Circuit, in a case where the defendant was convicted of both conspiracy to commit economic espionage and conspiracy to commit theft of trade secrets, did not find any error in the district court instructing the jury that the defendant must have “reasonably believed” that he was misappropriating trade secrets to be found guilty of the conspiracy charges. *See United States v. Liew*, 856 F.3d 585, 594, 600 (9th Cir. 2017). *Cf. United States v. Shi*, 991 F.3d 198, 209–10 (D.C. Cir. 2021) (turning

away a challenge to jury instructions that included the “reasonably believed” standard in a § 1832 case because the defendant had not objected to the instructions either before the district court or on appeal).

The *Nosal* and *Liew* courts did not focus on whether the district court in each case properly instructed the jury on whether the defendant had to have a more specific type of belief—whether firm, reasonable, or otherwise—to be found guilty of conspiracy to commit economic espionage or theft of trade secrets. Rather, those courts agreed that for a conspiracy offense, all that matters is the facts as the defendant believed them to be. *See Nosal*, 844 F.3d at 1044–45; *Liew*, 856 F.3d at 600. And nothing in § 1831(a)(5) suggests it requires a special *mens rea* in this respect—all the statute speaks about is conspiring “to commit any offense described in any of paragraphs (1) through (3).” 18 U.S.C. § 1831(a)(5). Thus, to find Zheng guilty of conspiracy to commit economic espionage, the jury needed to find

that Zheng believed that the material he was misappropriating were GE trade secrets, regardless of whether his belief turned out to be accurate. Accordingly, the district court did not err in failing to instruct the jury that Zheng had to have a “firm” belief that he was dealing in trade secrets.⁶

C. Zheng’s Sentence

Lastly, Zheng argues that the district court erred in calculating his advisory Guidelines range because it relied on the Guidelines commentary to use “intended loss,” as opposed to “actual loss,” when determining the “loss” amount under U.S.S.G. § 2B1.1(b)(1), which resulted in a 14-level enhancement to his Guidelines sentencing range. *See* U.S.S.G. § 2B1.1 cmt. n.3(A) (“[L]oss is the greater of actual

⁶ Zheng only argues that the district court should have instructed the jury that his belief must have been “firm.” It is not altogether clear to us why the district court instructed the jury that Zheng had to have “reasonably” believed that what he misappropriated were trade secrets. App’x at 1648. Perhaps the court simply concluded that it was a safe bet to use the instructions in *Liew* and *Shi*, which included the word “reasonably,” since the convictions in those cases were affirmed on appeal. The parties here do not make any arguments about whether the defendant’s belief had to be “reasonable,” and so we express no view on that point.

loss or intended loss.”). The premise of Zheng’s argument is that after *Kisor v. Wilkie*, 588 U.S. 558 (2019), the Guidelines commentary is no longer “authoritative,” *Stinson v. United States*, 508 U.S. 36, 38 (1993), and may be deferred to only if, after exhausting all tools of statutory interpretation, a Guideline remains “genuinely ambiguous,” *Kisor*, 588 U.S. at 573. In the context of § 2B1.1, Zheng argues that “loss” is not genuinely ambiguous, and unambiguously means actual loss.

We recently rejected this proposition in *United States v. Rainford*, No. 20-359, 2024 WL 3628082 (2d Cir. Aug. 2, 2024). As we explained there, this Court is obliged to adhere to *Stinson*, and thus to treat the Guidelines commentary as authoritative, for two reasons. *Id.* at *7 n.5. First, only the Supreme Court may overrule its own decisions, and it has not overruled *Stinson*. *Id.* Second, because the Sentencing Commission adopts the Guidelines and the commentary as “‘a reticulated whole’” that should be read as such, the commentary qualifies as an authoritative source of interpretation under *Kisor*. *Id.*

(quoting *United States v. Moses*, 23 F.4th 347, 355 (4th Cir. 2022)).

Accordingly, it was proper for the district court to defer to the Guidelines commentary interpreting “loss” in § 2B1.1(b)(1).

Further, Zheng does not challenge the district court’s actual calculation of the intended loss in this case, only the district court’s general use of it. Thus, because the district court, relying on the Guidelines commentary, properly used intended loss when calculating Zheng’s Guidelines sentencing range, we find no error in the 14-level enhancement the district court added based on the loss that Zheng intended to cause.

III. Conclusion

In sum, we hold as follows:

1. 18 U.S.C. § 1831(a) does not require proof beyond a reasonable doubt that the “benefit” to a foreign government, instrumentality, or agent resulted from foreign government sponsored or coordinated intelligence activity. Accordingly, there was sufficient evidence to convict Zheng of conspiracy to commit economic espionage, in violation of 18 U.S.C. § 1831(a)(5).

2. The district court properly instructed the jury on the elements of conspiracy to commit economic espionage, in violation of 18 U.S.C. § 1831(a)(5). That crime does not require proof of foreign government sponsored or coordinated intelligence activity, and Zheng's guilt depended on the facts as he believed them to be.
3. The district court properly deferred to the Guidelines commentary interpreting "loss" in U.S.S.G. § 2B1.1. Therefore, the district court, when calculating Zheng's Guidelines sentencing range, did not err in adding a 14-level enhancement based on the loss that Zheng intended to cause.

Accordingly, we AFFIRM the judgment of the district court.