

United States Court of Appeals
FOR THE DISTRICT OF COLUMBIA CIRCUIT

Argued September 20, 2021 Decided December 14, 2021

No. 20-1222

UNITED AIRLINES, INC.,
PETITIONER

v.

TRANSPORTATION SECURITY ADMINISTRATION,
RESPONDENT

On Petition for Review of a Decision
of the Transportation Security Administration

Adam P. Feinberg argued the cause and filed the briefs for petitioner.

Leif E. Overvold, Attorney, U.S. Department of Justice, argued the cause for respondent. With him on the brief were *Brian M. Boynton*, Acting Assistant Attorney General, and *Scott R. McIntosh*, Attorney.

Before: HENDERSON and WALKER, *Circuit Judges*, and EDWARDS, *Senior Circuit Judge*.

Opinion for the Court filed by *Circuit Judge* HENDERSON.

KAREN LECRAFT HENDERSON, *Circuit Judge*: Petitioner United Airlines, Inc. (United) sought refunds, pursuant to 49

U.S.C. § 44940(g), from the United States Department of Homeland Security's Transportation Security Administration (TSA) for payments it made to the TSA. The payments relate to fees charged to airline passengers, and collected by airlines, that fund aviation security measures and are to be remitted monthly to the TSA. In its refund request, United contends that it erroneously remitted the security fees in two circumstances: (1) tickets associated with passengers who purchased their tickets from other airlines but who were later involuntarily transferred to United flights and (2) tickets for which, because of currency exchange rate fluctuations, the recorded and remitted fee amount deviated from the fee amount statutorily required. The TSA denied United's refund request for both sets of tickets. Although we uphold the TSA's decision regarding the second set of tickets, we find the TSA's denial of a refund for the first set arbitrary and capricious. We therefore grant United's petition for review in part, deny it in part and remand to the TSA.

I. Statutory Framework

The Aviation and Transportation Security Act, Pub. L. No. 107-71, 155 Stat. 597 (2001) (codified at 49 U.S.C. § 114 and scattered sections of 49 U.S.C.), established the TSA and charged the agency with primary responsibility for maintaining civil aviation security. To defray the costs associated with certain aviation security services, the Act requires the TSA to impose "a uniform fee" on passengers of air carriers originating at airports in the United States. 49 U.S.C. § 44940(a)(1); *see also* 49 C.F.R. § 1510.5. For the years at issue, the security fees were capped at \$2.50 per enplanement and \$5.00 per one-way trip. 49 U.S.C. § 44940(c) (2012). The Act further provides that the security fees "shall be collected by the air carrier . . . that sells a ticket for transportation" and then remitted to the TSA on a timely basis. 49 U.S.C. § 44940(e)(1)–(3). Air carriers

must remit all security fees imposed each calendar month by the last calendar day of the month following the imposition. *Id.* § 44940(e)(3); *see also* 49 C.F.R. § 1510.13(a). If a security fee “is not collected from the passenger, the amount of the fee shall be paid by the carrier.” 49 U.S.C. § 44940(d)(2). The TSA’s implementing regulations echo this allocation of liability: “Whether or not the security service fee is collected as required by this part, the direct air carrier . . . selling the air transportation is solely liable to TSA for the fee and must remit the fee.” 49 C.F.R. § 1510.9(c). Central to the case at hand, the Act provides that the TSA “may refund any fee paid by mistake or any amount paid in excess of that required.” 49 U.S.C. § 44940(g).

II. Procedural History

On April 8, 2016, United submitted a refund request to the TSA through its consultant, Ryan Excise Tax Services, LLC (Ryan). United sought the return of security fees that it asserted had been erroneously remitted during the period from January 1, 2010 through February 29, 2012. The asserted overpayments can be separated into two categories. First, United claimed that it had erroneously remitted to the TSA \$1,059,743.06 in security fees in connection with passengers who bought their tickets from other airlines but were later involuntarily transferred to United flights. For these Involuntary Transfer (IT) tickets, United maintained that it remitted the security fees despite having never collected the fees from the passengers and that the transferring airline, not United, maintained responsibility for their collection and remittance to the TSA.

Second, United claimed that it had erroneously remitted \$478,244.88 in connection with tickets for which United had collected the security fee in a foreign currency but subsequent fluctuations in the foreign exchange rate caused the collected

fee to be slightly more or slightly less than the amount required by statute—\$2.50, or a multiple thereof—when it was ultimately recorded by United.¹ If the converted amount was less than the statutorily required amount, United adjusted upward and remitted the amount required by statute. But if the converted amount was more than the statutory amount, United did not adjust downward, instead remitting the higher amount to the TSA. For these Exchange-Rate-Difference (ERD) tickets, United claimed its practice resulted in a net overpayment to the TSA.

On April 18, 2016, the TSA promptly denied United’s refund request, concluding that the request was precluded by United’s failure to express its concerns during an audit conducted by the TSA in 2012. *See United Airlines, Inc. v. TSA*, 859 F.3d 67, 69–70 (D.C. Cir. 2017). This Court disagreed and remanded for further administrative proceedings. *Id.* at 70–71.

On remand, United renewed and supplemented its refund request in a letter to the TSA that outlined Ryan’s methodology. Ryan first identified the two sets of tickets at issue here: one that included all tickets for which another airline’s ticket stock had been involuntarily used as payment for a United ticket—the IT tickets—and one that included all tickets for which a security fee was deposited into United’s fee account that was not evenly divisible by the then-applicable statutory fee amount of \$2.50—the ERD tickets. Ryan then undertook a “programmatically review” by running a computer formula programmed to determine whether the correct security fee had been remitted for each ticket. For the IT tickets, Ryan treated any payment of a security fee as an overpayment. For

¹ For example, if a ticket sold in euros results in a security fee of €1.80, the converted amount in U.S. dollars might be \$2.45 one day or \$2.55 two days later, notwithstanding the intended fee amount is \$2.50.

the ERD tickets, Ryan treated amounts paid in excess of \$2.50 (or a multiple where applicable) as overpayments and amounts under that statutory amount as underpayments. Notably, Ryan excluded any ERD tickets for which the security fee fell into any of eight different ranges that were deemed insufficiently close to a multiple of \$2.50.² These tickets were excluded on the theory that it would have been difficult to conduct the programmatic review to determine whether an excluded ticket represented an overpayment or underpayment. Neither United's nor Ryan's letter to the TSA disclosed the exclusion of these tickets. In total, Ryan identified 5,327,781 tickets—304,531 IT tickets and 5,023,248 ERD tickets—for the period at issue and the programmatic review calculated a net refund amount of \$1,537,987.94.

Ryan then verified the programmatic review's results using a "stratified random sample," whereby Ryan manually reviewed a sample of 2,135 tickets, calculated the net refund amount for that sample and then extrapolated that amount for the entire ticket sample. Using the stratified random sample, Ryan calculated a similar refund amount as that calculated by the programmatic review. Ryan conducted a similar verification process using the 600-ticket sample used by the TSA during its 2012 audit, again extrapolating a similar refund amount.

During its review process, the TSA worked with the U.S. Customs and Border Protection's Office of Trade, Regulatory, Audit and Agency Advisory Services (CBP) to examine and verify the reliability of Ryan's methodology and calculations. The CBP, in turn, communicated with Ryan to clarify

² The excluded ranges were security fee amounts between \$0.01 and \$1.48, \$3.52 and \$3.99, \$6.01 and \$6.49, \$8.51 and \$8.99, \$11.01 and \$11.49, \$13.51 and \$13.99, \$16.01 and \$16.49, and \$18.51 and \$18.99.

anomalies in its analysis and methodology. For example, Ryan disclosed the exclusion of the eight ranges of ERD tickets only after the CBP inquired into Ryan's search parameters; the actual ticket data for the excluded tickets was not provided to the CBP or the TSA. After concluding its review, the CBP submitted a memorandum summarizing its findings to the TSA. The CBP explained that its team was unable to verify the reliability of Ryan's data and analysis, citing its inability to replicate Ryan's calculation to arrive at the same net refund amount, its determination that Ryan's programmatic review—and, by extension, its stratified random sample—relied on an incomplete universe of tickets and its observation of numerous discrepancies in the accounting records provided by United.

On April 21, 2020, the TSA again denied United's refund request. With respect to the IT tickets, the TSA concluded that United's bare assertion that it had no statutory obligation to remit a security fee did not address whether the transferring airline had already remitted the associated fee or whether United received anything less than all funds the passenger originally paid to the transferring airline, including the fee. In the TSA's view, United's submission created only the possibility that United might be entitled to a refund for this category of ticket but otherwise fell short of demonstrating that a refund was warranted for all IT tickets as a categorical matter. For the ERD tickets, the TSA determined that United's submission did not substantiate United's underlying conclusion that it had made a net overpayment of security fees. The TSA cited the CBP's concerns with Ryan's methodology and calculations, including the exclusion of specific ranges of tickets from the programmatic review, the failure of the stratified random sample to verify the result from an otherwise incomplete universe, the CBP team's inability to replicate Ryan's net refund calculation and the existence of accounting discrepancies in tens of thousands of tickets. The TSA

concluded that these deficiencies, taken collectively, manifested that United's submission was not sufficiently reliable to support a refund. On June 19, 2020, United petitioned for review of the TSA's denial. We have jurisdiction of United's petition pursuant to 49 U.S.C. § 46110(a).

III. Analysis

United contends that the TSA's rejection of its refund request was arbitrary and capricious. United first maintains that it was under no legal duty to remit the security fee associated with the IT tickets, meaning that every remittance was categorically an overpayment. In United's view, the TSA's assumption that the transferring carrier might have either transferred the security fee to United or not remitted the fee to the TSA is therefore unsupported and irrelevant. With respect to the ERD tickets, United argues that the perceived computational and analytical errors in Ryan's methodology cannot provide a basis for the TSA to deny or materially reduce its refund request. United finally argues that the TSA acted arbitrarily and capriciously in denying any refund rather than calculating an alternative refund amount using the data before it.

Our review "is limited to determining whether the TSA acted arbitrarily or capriciously, abused its discretion, or acted contrary to law." *Alaska Airlines, Inc. v. TSA*, 588 F.3d 1116, 1120 (D.C. Cir. 2009); *see also* 5 U.S.C. § 706(2)(A). We review only to ensure that the agency "examine[d] the relevant data and articulate[d] a satisfactory explanation for its action" and we will not "substitute [our] judgment for that of the agency." *Motor Vehicles Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983). An agency's decision need not be "a model of analytic precision to survive a challenge" under this standard, *Dickson v. Sec'y of Def.*, 68 F.3d 1396,

1404 (D.C. Cir. 1995), and we will “uphold a decision of less than ideal clarity if the agency’s path may reasonably be discerned,” *id.* (quoting *Bowman Transp., Inc. v. Arkansas-Best Motor Freight Sys., Inc.*, 419 U.S. 281, 286 (1974)). The question therefore is whether the TSA exercised its discretionary refund authority in a manner that was reasonable and, just as importantly, reasonably explained. *See Public Citizen, Inc. v. FAA*, 988 F.2d 186, 197 (D.C. Cir. 1993) (“The requirement that agency action not be arbitrary or capricious includes a requirement that the agency adequately explain its result.”). For the reasons set out below, we hold that the TSA’s denial was arbitrary and capricious with respect to the IT tickets but otherwise passes muster.

A. Involuntary Transfer Tickets

In the involuntary transfer context, the allocation of legal liability for unremitted security fees is clear. The statute provides that any security fee “shall be collected by the air carrier . . . that sells a ticket for transportation.” 49 U.S.C. § 44940(e)(2). The statute further provides that security fees collected during a given month must then be remitted “by the carrier collecting the fee” by the last calendar day of the month following imposition. *See id.* § 44940(e)(3); *see also* 49 C.F.R. § 1510.13(a). Because United played no part in selling the ticket to a passenger involuntarily transferred to one of its flights from another airline, it had no legal obligation to collect and remit the associated security fee and therefore would not be liable in the event that the fee went unremitted to the TSA.³

³ The statute notwithstanding, the TSA contends that United may have a legal obligation under the implementing regulations to collect and remit security fees from passengers involuntarily transferred to its flights. The agency relies chiefly on 49 C.F.R. § 1510.9(c), which closely tracks 49 U.S.C. § 44940(e) and provides

But this is only the starting point. This is not a case about United's failure to remit security fees that it was required to collect. Rather, United is seeking a refund of security fees it erroneously—and inexplicably—remitted to the TSA despite having no statutory responsibility to do so. The TSA's authority to issue such refunds is discretionary: "The [TSA] *may* refund any fee paid by mistake or any amount paid in excess of that required." 49 U.S.C. § 44940(g) (emphasis added); *see Dickson*, 68 F.3d at 1401 ("When a statute uses a permissive term such as 'may' rather than a mandatory term such as 'shall,' this choice of language suggests that Congress intends to confer some discretion on the agency."). The TSA has consistently argued that, in light of its discretion, it reasonably placed the burden on United to establish that a net overpayment in fact occurred, a position that is not without at least some merit in the informal adjudication context. *See*

that "[w]hether or not the security service fee is collected as required by this part, the direct air carrier or foreign air carrier selling the air transportation is solely liable to TSA for the fee and must remit the fee as required in § 1510.13." The agency has defined "direct air carrier" as "a selling carrier," 49 C.F.R. § 1510.3, which, in turn, is defined as "an air carrier . . . that provides or offers to provide air transportation and has control over the operational functions performed in providing that air transportation," *id.* In the TSA's view, United, despite never having sold a ticket to an involuntarily transferred passenger, maintains operational control over the flight, meaning that it can be deemed a "selling carrier" under its regulations. The TSA's argument is unpersuasive. The statute clearly allocates liability to the air carrier "that *sells* a ticket for transportation," with no mention of operational control. 49 U.S.C. § 44940(e)(2) (emphasis added). Even the regulation allocates liability to the "direct air carrier . . . *selling* the air transportation." 49 C.F.R. § 1510.9(c) (emphasis added). To the extent that the TSA's regulation, especially 49 C.F.R. § 1510.3, may conflict with the statute, "the statute clearly controls." *Murphy v. IRS*, 493 F.3d 170, 176 n.* (D.C. Cir. 2007).

Schaffer ex rel. Schaffer v. Weast, 546 U.S. 49, 57–58 (2005) (if a statute is silent on the burden of persuasion and “[a]bsent some reason to believe that Congress intended otherwise,” the burden “lies where it usually falls, upon the party seeking relief”); *cf. Pension Benefit Guar. Corp. v. LTV Corp.*, 496 U.S. 633, 654–55 (1990) (noting that “courts are not free to impose upon agencies specific procedural requirements that have no basis in the APA” and that informal adjudications are governed by “the minimal requirements . . . set forth in the APA, 5 U.S.C. § 555”). Accordingly, the TSA concluded that United failed to demonstrate that it had not simply remitted security fees that another airline had collected and then transferred to United along with the rest of the funds associated with an involuntarily transferred passenger. In this scenario, the TSA contends, no overpayment of security fees occurred.

Placing the burden on United, however, does not relieve the TSA of its ordinary burden under the Administrative Procedure Act—*i.e.*, its duty to provide a reasoned explanation for its decision. *See, e.g., State Farm*, 463 U.S. at 42–52. Even when denying an interested party’s request via informal adjudication, an agency cannot merely state a “conclusion” but rather “must ‘articulate a satisfactory explanation’ for its action.” *Butte Cnty., Cal. v. Hogen*, 613 F.3d 190, 194 (D.C. Cir. 2010) (quoting *Tourus Records, Inc. v. DEA*, 259 F.3d 731, 737 (D.C. Cir. 2001)); *see also* 5 U.S.C. § 555(e) (providing that an agency’s notice of denial “shall be accompanied by a brief statement of the grounds for denial”). In other words, the agency must always adequately explain “why it chose to do what it did.” *Tourus Records*, 259 F.3d at 737 (quoting Henry J. Friendly, *Chenery Revisited: Reflections on Reversal and Remand of Administrative Orders*, 1969 DUKE L.J. 199, 222). We conclude that the TSA failed to meet that burden here.

In denying United's request, the TSA concluded that United had failed to demonstrate that any overpayment occurred. More specifically, it determined that United failed to show that the transferring airline had already remitted the relevant security fee to the TSA or that United had not received from the transferring airline anything less than all of the funds the involuntarily transferred passenger had originally paid to the transferring airline, including the fee amount. But the problem with the TSA's rationale is this: If the transferring airline remains legally obligated to collect and remit the security fees for the tickets it sells, even if the passenger is involuntarily transferred to United, there is little reason to suppose that the transferring airline would pass along the security fee to United instead of remitting it to the TSA in proper course. Why would the transferring airline entrust United to satisfy the transferring airline's legal responsibility, thereby risking noncompliance if United failed to do so? The TSA's hypothetical about airlines transferring security fees among themselves therefore appears logically incongruent with the allocation of liability under the statute and the TSA otherwise makes no effort to rely on industry practice or past practice to validate its concern. *See United Airlines*, 859 F.3d at 71 n.11 ("For those overpayments due to involuntary transfers, there is no reason to suspect that the carrier that sold the original ticket did not *also* pay TSA, i.e., it is equally likely that TSA was paid double."). The TSA's reasoning therefore strikes more as a largely unsupported hypothetical than a "satisfactory explanation" rooted in logic or practice. *See Butte Cnty.*, 613 F.3d at 194 (quoting *Tourus Records*, 259 F.3d at 737).

That said, the TSA's concern is nevertheless understandable. If United simply passed along a security fee received from the transferring airline, there was no overpayment, meaning that a refund would leave the TSA

shortchanged for that passenger.⁴ For its part, United appears to have made no effort to verify that it did not receive a passenger's security fee as part of the funds it received from the transferring airline or to cite to industry practice highlighting why such verification would be unnecessary. Instead, United chose to repeat its assertion that it had no legal responsibility to collect and remit the security fee. It was not until briefing and oral argument that United finally asserted that it never transfers security fees when it is the transferring carrier and that its practice reflects the industry practice. But its assertion, unlike the TSA's, finds support elsewhere. *See* Internal Revenue Service, *Excise Tax – Air Transportation Audit Techniques Guide*, at 8-3 (Apr. 2008) (“The liability for air transportation tax is normally recorded by each individual carrier’s accounting system. Carriers remit the transportation tax on the basis of their ticket stock sales. If a ticket is used on

⁴ In its brief, United suggested that it would have no legal obligation to remit a security fee received from a transferring airline even if United had reason to believe the transferred amount was a security fee. United argues that this would “at most . . . give rise to a debt owed by United to the other carrier.” Reply Br. of Pet’r 8. But we have our doubts. *See* 49 U.S.C. § 44940(e)(1) (“All fees imposed and amounts collected under this section are payable to the Administrator of the Transportation Security Administration.”); *id.* § 44940(e)(6) (“No portion of the fee collected under this section may be retained by the air carrier or foreign air carrier for the costs of collecting, handling, or remitting the fee except for interest accruing to the carrier after collection and before remittance.”). Even if the statute does not explicitly require United to remit a fee amount it has reason to believe constitutes a security fee, we would be hard-pressed to conclude that United could, like Billy Joe and Bobbie Sue before it, simply take the money and run. *See* Steve Miller Band, *Take the Money and Run, on Fly Like an Eagle* (Capitol Records 1976).

another airline, that airline bills the selling airline for only the fare, not the air transportation tax.”).

We are therefore confronted with a factual dispute with important implications for United’s refund. On the one hand, United claims that it never transfers security fees—a practice that appears correct in view of the allocation of liability under 49 U.S.C. § 44940—but failed to raise or support this assertion until oral argument. On the other hand, the TSA maintains that airlines *might* transfer security fees but does little to support this assertion in its denial letter, at least beyond bare conclusions and unsupported hypotheticals. In light of United’s assertion regarding its practice—and assuming that it can support this assertion upon remand—we vacate the TSA’s decision with respect to the IT tickets and remand to the TSA to allow it to reconsider its denial.

B. Exchange-Rate-Difference Tickets

We turn next to the ERD tickets. The TSA, relying on the CBP’s analysis of United’s submission, determined that “material limitations in Ryan’s overarching methodology” rendered the submission insufficiently reliable to warrant a refund. J.A. 8. In particular, the TSA focused on deficiencies in the programmatic review and the stratified random sample as well as discrepancies inherent in United’s accounting data for the security fees. We find the TSA’s conclusions regarding these deficiencies, viewed collectively, provide a reasonable basis for the TSA’s denial and find United’s attempts to minimize these flaws unavailing.

Programmatic review: With respect to the programmatic review, the TSA’s denial relied chiefly on two key limitations. First, the TSA noted that United elected to exclude from its submission—without informing the TSA or the CBP at the outset—those tickets it deemed insufficiently close to statutory

fee amounts to be accurately classified as overpayments or underpayments by the programmatic review. According to the TSA, “Ryan was necessarily excluding from its search query tickets for which [United] may have made an over- or underpayment, meaning the universe of tickets that Ryan identified for its refund calculations was necessarily incomplete.” J.A. 9. For example, United excluded tickets for which United remitted a net security fee amount of \$0.01 to \$1.48, tickets the TSA noted “would appear to be comprised solely of tickets for which [United] under-remitted the Fee (as every ticket in that group falls below the minimum Fee amount of \$2.50).” J.A. 9.⁵ The TSA therefore reasonably concluded that because Ryan’s search parameters “were more likely to identify tickets that reflected an over-remittance of the Fee while failing to identify” under-remittances, “it is unsurprising that Ryan’s calculations would appear to suggest a systematic aggregate overpayment of the Fee by [United].” J.A. 9–10.

Second, the TSA noted that not all of the fee amounts within this universe of tickets could be attributed to exchange rate fluctuations, which Ryan’s programmatic review necessarily assumed. A more detailed review by the CBP revealed accounting discrepancies suggesting that a ticket may have a fee that deviates from that required by statute for reasons entirely unrelated to exchange rate fluctuations. As one example, in response to a CBP inquiry into two tickets, Ryan

⁵ United counters that the tickets in the \$0.01 to \$1.48 interval were more likely *overpayments*, relying on the possibility of flights being canceled and refunded after a higher-than-required security fee had already been converted and remitted to the TSA. But this quibble, which did not arise until appeal, serves only to highlight how United’s decision to exclude tickets without sufficiently explaining its rationale or the potential implications on the net refund amount cuts against its assertion that Ryan’s methodology was sufficiently reliable to support a refund for the requested amount.

explained that United had initially (and correctly) collected \$5.00 for each but unexplained refunds had been issued in the amounts of \$3.06 and \$0.83, bringing the remittance amounts to \$1.94 and \$4.17 and causing the programmatic review to erroneously flag the tickets as ERD tickets. Although Ryan chalked up the identified discrepancies to “operator errors” and “field refunds” made at airports, it did not otherwise elaborate on their frequency or aggregate impact on the calculated net refund amount. In short, the TSA reasonably concluded that Ryan’s methodology “necessarily depends on the assumption that the Fee attributable to a ticket was always a multiple of \$2.50 or within \$1.00 thereof,” but “[t]he vagaries of [United]’s accounting practices . . . reveals that tickets may easily have unusual Fee amounts assigned to them in [United]’s ledger,” which would not necessarily warrant a refund. J.A. 9–10 n.15.

We find United’s arguments to the contrary unpersuasive. United maintains that the number of excluded tickets was “insignificant” but it never substantiated this claim to the TSA or CBP by providing, for example, the relevant ticket-level data, the number of excluded tickets or the effect of those tickets on the net refund calculation.⁶ United’s failure to provide this information is particularly glaring given that the CBP asked specifically about the excluded tickets and Ryan’s

⁶ On appeal, United has attempted to substantiate its claim that the number of excluded tickets was insignificant by providing extra-record evidence quantifying the number of tickets and their effect on the net refund amount and stating that the airline would have provided this data to the TSA had it been requested. United concedes that this information was not before the TSA when it issued its denial letter. *See* Reply in Supp. of Pet’r’s Extra-Record Evid. Mot. 9–11 (Jan. 21, 2021). This Court routinely rejects extra-record submissions. *See, e.g., CTS Corp. v. EPA*, 759 F.3d 52, 65 (D.C. Cir. 2014); *IMS, P.C. v. Alvarez*, 129 F.3d 618, 624 (D.C. Cir. 1997). We therefore decline to give weight to this extra-record evidence.

search parameters. United had every incentive to substantiate its assertion that the excluded tickets were in fact “insignificant” in the net refund calculation. United ultimately faults the TSA for speculating about the existence of underpayments but the fact remains that United did not provide the TSA with the information necessary to do anything but reasonably hypothesize about a known but undefined pool of potential underpayments within the ERD ticket universe. We cannot fault the TSA for declining to take United’s word that the excluded tickets were “insignificant,” much less find that its decision was arbitrary and capricious.

United further argues that the TSA, not United, had the burden to establish the existence of underpayments that would offset the total net refund amount, characterizing this burden as an affirmative defense. We are again unpersuaded. We find it unlikely that the broad grant of discretionary authority under 49 U.S.C. § 44940(g) would also include an implicit requirement that the TSA prove offsetting underpayments. The cases that United cites in support of its theory—which involve mandatory awards under different statutory schemes, not discretionary awards requested by the regulated parties themselves—are similarly unavailing. *See American Airlines, Inc. v. United States*, 551 F.3d 1294, 1303–07 (Fed. Cir. 2008) (declining to allow the government to undertake discovery to uncover unrelated and previously overlooked underpayments to offset an amount owed to an airline under an illegal exaction claim without first providing a “concrete and positive” evidentiary basis for doing so); *Conway v. United States*, 145 Fed. Cl. 514, 521, 524–29 (2019) (finding that governing state law did not permit the Department of Health and Human Services to use debts owed to it by an insurer to offset money the agency was required to distribute to that insurer under the Affordable Care Act). Further, United’s claim assumes that Ryan’s methodology was sufficiently reliable to support a

refund and that any excluded underpayments would serve only to reduce the calculated net refund amount. But it was the reliability of Ryan’s methodology—namely the completeness of the universe of tickets used to calculate the proposed refund amount—that the TSA faulted.

Stratified random sample: The TSA correctly concluded that Ryan’s use of a stratified random sample to verify its programmatic review could not make up for the excluded tickets because a sample “drawn from an incomplete universe will, of necessity, tend only to confirm the results drawn from the incomplete universe itself.” United does not contest the TSA’s conclusion and we see no reason to disturb it.

The TSA further noted that the stratified random sample contained 32 tickets—within a total sample of 2,135 tickets—that were absent from the programmatic review. The TSA concluded that “[t]he inclusion of exemplars in the stratified random sample that do not appear in the universe is a fundamental flaw in the reliability of the random sampling effort itself.” J.A. 11. United points out that Ryan acknowledged this discrepancy during the CBP’s review and explained that it had removed the 32 tickets from the programmatic review because the tickets were determined to be neither overpayments nor underpayments, meaning that they would have no effect on the net refund calculated by the programmatic review. Ryan further explained that it did not remove the 32 tickets from the stratified random sample because it did not believe they would change the outcome of the new programmatic results.

But this explanation misses the point. If the 32 tickets were in fact neither underpayments nor overpayments, United is correct that their exclusion from the programmatic review would have no effect on the calculated net refund. The TSA,

however, was focused on the stratified random sample, not the programmatic review, and whether it was reflective of the universe of tickets from which it was ostensibly drawn—*i.e.*, the universe of tickets comprising the programmatic review. The reliability of random sampling, namely its randomness, decreases if the random sample is not drawn from the universe it purportedly samples. See RICHARD L. SCHEAFFER ET AL., *ELEMENTARY SURVEY SAMPLING* 8–9 (7th ed. 2012). Given that neither Ryan nor United attempted to answer the CBP’s concerns over the inclusion of the 32 tickets in the stratified random sample, it was reasonable for the TSA to conclude that the validity of the stratified random sample was diminished as a result.

Accounting and calculation discrepancies: The TSA noted that the CBP identified more than 39,000 tickets with variances in the total sum of debits, credits and United-proposed adjustments, reasoning that these “unexplained flaws” cast doubt on the programmatic review’s capacity to accurately calculate the proper refund amount. United’s only counter to this finding is that the TSA acted arbitrarily by not quantifying the monetary impact of those tickets and deducting that amount from the total requested refund or simply removing those tickets from the refund request. Granted, the TSA assuredly could have elected to deduct the monetary amount of these tickets but it was not compelled to do so under 49 U.S.C. § 44940(g), especially in light of the TSA’s and CBP’s compounding concerns with Ryan’s methodology and United’s accounting practices. The “unexplained flaws” for these thousands of tickets—combined with the “vagaries” in United’s accounting practices highlighted by the CBP—bolster the TSA’s conclusion that Ryan’s methodology was insufficiently reliable to support United’s requested refund amount. We see no reason to disturb its reliance on this subset of tickets in denying United’s refund request.

The TSA also cited the CBP's inability to replicate Ryan's calculations to reach the requested refund amount, prompting the CBP to conclude that Ryan utilized a dataset other than the one provided to the TSA. The TSA characterized the differing calculations as "inexplicabl[e]." J.A. 11. But, as United points out, the record does provide an explanation. When CBP voiced concern over the discrepancy, Ryan explained that it stemmed from duplicated data and confirmed that the CBP's calculation was correct. Thus, we find that it was unreasonable for the TSA to rely on this later-reconciled error, at least absent any reason or findings to the contrary. Nevertheless, even if this single basis for denying United's refund request may not be reasonable, we cannot demand perfection nor vacate the TSA's decision on this basis alone. *See Dickson*, 68 F.3d at 1404 (noting that an agency's decision need not be "a model of analytic precision to survive a challenge").

In short, because the TSA's decision to deny United's request for a refund for the ERD tickets was reasonable, we deny United's petition regarding the ERD tickets.

C. The TSA's Duty to Calculate an Alternative Refund Amount

Finally, United contends that the TSA's decision to deny its entire refund request rather than calculate a revised refund amount in light of the omissions and errors detected by the TSA and CBP was arbitrary and capricious. Rather than rely on administrative law principles to support its assertion, United relies primarily on *Cohan v. Commissioner*, 39 F.2d 540 (2d Cir. 1930), a federal tax case. In *Cohan*, the Second Circuit concluded that the U.S. Board of Tax Appeals—the predecessor of the modern U.S. Tax Court—could not deny a business-expense deduction altogether when it was clear the taxpayer "had spent much and that the sums were allowable

expenses.” *Id.* at 543. Although the court noted that “[a]bsolute certainty in such matters is usually impossible and is not necessary,” it reasoned that the Board “should make as close an approximation as it can, bearing heavily if it chooses upon the taxpayer whose inexactitude is of his own making.” *Id.* at 543–44; *see also United States v. Marabelles*, 724 F.2d 1374, 1383 (9th Cir. 1984) (citing *Cohan* and stating that “if it is clear that the taxpayer is entitled to *some* deduction, but he cannot establish the full amount claimed, it is improper to deny the deduction in its entirety”).

At the outset, United makes no effort to anchor the *Cohan* principle to 49 U.S.C. § 44940(g), specifically, or the TSA’s statutory scheme, more generally. We therefore cannot conclude that *Cohan* supports the proposition that the TSA must reflexively remedy a requesting airline’s failure to carry its burden on a particular point with the TSA’s own approximation, especially if the agency has reasonable concerns about the underlying calculations and accounting data it would need to use to make any approximation. Indeed, *Cohan* itself has been diluted by the Congress’s enactment of a more stringent substantiation requirement for business expense deductions, whereby a taxpayer must be able to “substantiate[]” any claimed deduction with “adequate records or by sufficient evidence corroborating the taxpayer’s own statement” regarding the amount, date and purpose of the business expense. *See* 26 U.S.C. § 274(d); *see also Berkley Mach. Works & Foundry Co. v. Comm’r*, 623 F.2d 898, 902 (4th Cir. 1980) (documenting the relationship between *Cohan* and the enactment of 26 U.S.C. § 274(d) as part of the Revenue Act of 1962).

To the extent that *Cohan* may operate as a background principle of fairness, we have found the *Cohan* principle inapplicable if ““there are no reliable figures from which to

calculate or extrapolate a reasonable estimate’ of taxpayers’ entitlements.” *Green Gas Del. Statutory Tr. v. Comm’r*, 903 F.3d 138, 144 (D.C. Cir. 2018) (quoting *Plisco v. United States*, 306 F.2d 784, 787 (D.C. Cir. 1962)); *see also Coloman v. Comm’r*, 540 F.2d 427, 431–32 (9th Cir. 1976) (cautioning that undue application of the *Cohan* principle “would . . . in essence . . . condone the use of that doctrine as a substitute for burden of proof”). In *Green Gas*, this Court declined to require a “*Cohan* estimate” of deductible landfill gas production because the Tax Court reasonably concluded that the estimation methods proffered by landfill owners were insufficiently reliable. 903 F.3d at 144. For example, the Tax Court determined that the owners’ site logs were too infrequent and data contained in them was “statistically improbable,” and that software used by the owners to monitor landfill gas emissions was not designed to provide an accurate measurement of landfill gas production. *Id.* at 143. *Green Gas* supports the conclusion that a *Cohan* estimate is unwarranted when the reviewing body—whether the Tax Court or an agency—has valid concerns about the reliability of the proffered methodology or data. We therefore decline to find that the TSA acted arbitrarily or capriciously when it elected to deny United’s submission rather than approximate a refund amount based on data and methodology it questioned.⁷

⁷ United contends that if the TSA declined to issue a refund based on Ryan’s programmatic review or stratified random sample, it could have calculated a refund amount using the 600-ticket data from the TSA’s 2012 audit of the airline. Notwithstanding United noted in its submission that it extrapolated the audit data in order to *validate* Ryan’s calculations, it in no way suggested that the extrapolation could serve as an alternative refund amount in the event the agency disputed all of its other calculations. Because it did not make this argument to the TSA during the pendency of its submission, and offers no excuse for not doing so, we decline to

IV. Conclusion

For the foregoing reasons, we grant United's petition in part, vacate the TSA's decision with respect to the Involuntary Transfer tickets and otherwise deny the petition. The case is remanded for proceedings consistent with this opinion.

So ordered.

consider it. *See* 49 U.S.C. § 46110(d); *see also Alaska Airlines, Inc. v. TSA*, 588 F.3d 1116, 1122 (D.C. Cir. 2009).