STUDENT ARTICLE

LACK OF JUDICIAL CAIR: *CHEVRON* DEFERENCE AND MARKET-BASED ENVIRONMENTAL REGULATIONS

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INTRODUCTION

In the American administrative state, agencies are required to interpret statutory language in a wide variety of contexts. These interpretations are subject to judicial review and, over the past century, the judiciary has developed different standards to adjudicate individual questions. Different standards of review recognize that the best role for the judiciary depends on the institutional context and the area of law.[1] In the context of notice-and-comment rulemaking by the United States Environmental Protection Agency ("EPA"), the Supreme Court laid out the modern standard of review in *Chevron, U.S.A., Inc. v. Natural Resources Defense Council*.[2] If the conditions for applying

1 For a complete typology of deference regimes, see Connor N. Raso & William N. Eskridge, Jr., Chevron *as a Canon, Not a Precedent: An Empirical Study of What Motivates Justices in Agency Deference Cases*, 110 COLUM. L. REV. 1727, 1737 (2010).

2 Chevron, U.S.A., Inc. v. Natural Res. Def. Council, 467 U.S. 837 (1984).

Chevron deference are met, proper application by lower courts should benefit society as a whole. Conversely, failure to apply sufficient deference risks judicial overreaching.

The D.C. Circuit considered a prototypical case for *Chevron* deference when it reviewed the Clean Air Interstate Rule ("CAIR") in *North Carolina v. EPA*.[3] With CAIR, EPA attempted to reduce interstate pollution in the context of several separate Clean Air Act requirements. For particulate matter and several other pollutants, the main driver of the Clean Air Act is the National Ambient Air Quality Standards ("NAAQS").[4] One mechanism for reaching these standards is that each state must adopt a State Implementation Plan ("SIP") that meets a series of statutory requirements within the Clean Air Act.[5] One of these requirements is in subsection 110(a)(2)(D) of the Act. This subsection, known for the purposes of this Note as the "interstate pollution provision," requires each state to include in its SIP:

> adequate provisions . . . prohibiting, consistent with the provisions of this subchapter, any source or other type of emissions activity within the State from emitting any air pollutant in amounts which will contribute significantly to nonattainment in, or interfere with maintenance by, any other State with respect to any such national . . . ambient air quality standard . . . .[6]

EPA promulgated CAIR under the interstate pollution provision with respect to two separate NAAQS: (1) particulate matter less than 2.5 micrometers in diameter ("$PM_{2.5}$"), and (2) ozone.[7] In order to combat $PM_{2.5}$ pollution and ozone pollution, CAIR regulated two specific pollutants: sulfur dioxide ("SO_2") and nitrogen oxides ("NO_X").[8]

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3 North Carolina v. EPA, 531 F.3d 896 (D.C. Cir. 2008) (per curiam), *reh'g granted in part, denied in part*, 550 F.3d 1176 (D.C. Cir. 2008) (per curiam) (changing remedy from remand with vacatur to remand without vacatur).

4 *See* Clean Air Act §§ 101–131, 42 U.S.C. §§ 7401–7431 (2006).

5 *See* Clean Air Act § 110(a), 42 U.S.C. § 7410(a) (2006).

6 Clean Air Act § 110(a)(2)(D), 42 U.S.C. § 7410(a)(2)(D) (2006).

7 Final Rule to Reduce Interstate Transport of Fine Particulate Matter and Ozone (Clean Air Interstate Rule), 70 Fed. Reg. 25,162, 25,168–70 (May 12, 2005) [hereinafter CAIR Final Rule].

8 *Id.* at 25,174. SO_2 is a precursor to $PM_{2.5}$ pollution and NO_X is a precursor to both $PM_{2.5}$ pollution and ozone pollution. *See id*. at 25,179 ("The major gaseous precursors of $PM_{2.5}$ include SO_2, NO_X, ammonia (NH_3), and certain volatile organic compounds."); *see also id.* at 25,185 ("The ozone present at ground level as a principal component of photochemical smog is formed in

Under CAIR, certain states ("CAIR $PM_{2.5}$ states") were required to adopt additional SIP provisions for both SO_2 and NO_X. As a part of the regulation, EPA included model trading programs for both SO_2 and NO_X that a state could adopt to automatically come into compliance with the interstate pollution provision with respect to $PM_{2.5}$.[9] For SO_2 emissions, this trading program added requirements within the context of the existing Title IV Acid Rain Trading Program.[10] The Title IV Acid Rain Trading Program, enacted by Congress in 1990, is a "cap-and-trade" program in which the set number of allowances for SO_2 emissions for each year can be freely traded by regulated parties.[11] The Title IV Acid Rain Trading Program established an exchange rate of one Title IV allowance for each ton of SO_2 emissions.[12] The trading rules for SO_2 in CAIR altered this exchange rate for Title IV allowances for covered sources in CAIR $PM_{2.5}$ States.[13] This mechanism effectively created a more stringent cap on SO_2 emissions starting in 2010.

In *North Carolina v. EPA,* the D.C. Circuit held that this method for reducing SO_2 emissions was not a valid exercise of EPA's statutory authority under the interstate pollution provision.[14] This holding flowed from two separate statutory conclusions. First, the SO_2 provisions were not within EPA's statutory authority because they did not necessarily "achieve[]

sunlit conditions through atmospheric reactions of two main classes of precursor compound: VOCs and NO_X (mainly NO and NO_2).").

9 With respect to SO_2 emissions, CAIR provides, with minor exceptions, that EPA will automatically approve any SIP revisions that conform to the SO_2 model rule. *See id*. at 25,331. With respect to NO_X emissions, CAIR likewise provides, with minor exceptions, that EPA will automatically approve any SIP revisions that conform to the NO_X model rule. *See id*. at 25,326.

10 *See id*. at 25,273–74.

11 Clean Air Act § 403(b), 42 U.S.C. § 7651b(b) (2006) ("Allowances allocated under this subchapter may be transferred among designated representatives of the owners or operators of affected sources under this subchapter and any other person who holds such allowances . . . .").

12 Clean Air Act § 402(a)(3), 42 U.S.C. § 7651a(3) (2006) ("The term 'allowance' means an authorization, allocated to an affected unit by the Administrator under this subchapter, to emit, during or after a specified calendar year, one ton of sulfur dioxide.").

13 See *infra* note 97 and accompanying text.

14 North Carolina v. EPA, 531 F.3d 896, 901 (D.C. Cir. 2008) (per curiam), *reh'g granted in part, denied in part*, 550 F.3d 1176 (D.C. Cir. 2008) (per curiam). The opinion also held that the NO_x provisions were also not valid but this Note focuses on the issues relating to the SO_2 provisions in CAIR.

something measurable toward the goal of prohibiting sources 'within the State' from contributing to nonattainment or interfering with maintenance 'in any other State.'"[15] Second, the court found that "no statute confers authority on EPA to terminate or limit Title IV allowances, and EPA thus has none."[16]

The thesis of this paper is that the D.C. Circuit may have made incorrect interpretive choices in *North Carolina* because they had the wrong vision of statutory interpretation in the context of market-based environmental regulations.[17] Without any substantial justification, both of the court's interpretations used methods that fall outside the scope of judicial review of statutory interpretations under *Chevron, U.S.A., Inc. v. Natural Resources Defense Council*.[18] Furthermore, there are normative considerations in the context of the SO_2 provisions in CAIR and market-based environmental regulations that should make courts lean in the direction of *Chevron* deference. More generally, the examples used in this Note are intended to show how a detailed consideration of the economic effects of market-based environmental regulations can improve judicial statutory

15 *North Carolina*, 531 F.3d at 907.

16 *Id*. at 922.

17 Several articles have discussed CAIR and the resulting *North Carolina* opinion. *See, e.g.*, Jamie Gibbs Pleune, *Do We CAIR About Cooperative Federalism in the Clean Air Act?* 2006 UTAH L. REV. 537 (2006) (arguing that CAIR contravenes the Clean Air Act's structure of cooperative federalism); Elizabeth Kruse, Comment, North Carolina v. Environmental Protection Agency, 33 HARV. ENVTL. L. REV. 283 (2009) (describing the opinion of the panel and its ramifications in similar regulatory areas); D. R. van der Vaarf & John C. Evans, *Location, Location, Location: Did* North Carolina *Go Far Enough?*, 10 VT. J. ENVTL. L. 267 (2008-2009) (arguing that ensuring environmental protection requires site-specific enforceability); Matthew D. Tait, Note, *A Remedy Even the Plaintiffs Don't Like: The D.C. Circuit's Vacatur of the Clean Air Interstate Rule*, 16 MO. ENVTL. L. & POL'Y REV. 552 (2009) (arguing that *North Carolina* overturned *Michigan v. EPA*); Patricia Ross McCubbin, *Cap and Trade Programs Under the Clean Air Act: Lessons from the Clean Air Interstate Rule and the NO_X SIP Call*, 18 PENN ST. ENVTL. L. REV. 1 (2009) (examining limits on enacting cap-and-trade programs under the Clean Air Act); Harry Moren, *The Difficulty of Fencing in Interstate Emissions: EPA's Clean Air Interstate Rule Fails to Make Good Neighbors*, 36 Ecology L.Q. 525 (2009) (making recommendations for EPA to redesign CAIR on remand); Kati Kiefer, Note, *A Missing Market: The Future of Interstate Emissions Trading Programs after* North Carolina v. EPA, 54 ST. LOUIS U. L.J. 635 (2010) (arguing that *North Carolina v. EPA* "prevents EPA from creating interstate emissions trading programs without additional statutory authority").

18 Chevron, U.S.A., Inc. v. Natural Res. Def. Council, 467 U.S. 837 (1984).

interpretation and can ultimately shape the underlying doctrine of *Chevron* deference. Part I lays out the statutory background, regulatory precedents, and the history and substance of the SO_2 provisions of CAIR. Part II discusses the rationales behind *Chevron* deference before putting forward additional normative reasons for deference in the context of market-based environmental regulations, such as the SO_2 provisions of CAIR. Part III examines the D.C. Circuit's opinion in *North Carolina v. EPA* by exploring the arguments of the parties, explaining the statutory conclusions of the D.C. Circuit, and demonstrating how the panel went outside the bounds of *Chevron* without any substantial justification.

I. THE CLEAN AIR ACT AND THE SO_2 PROVISIONS OF THE CLEAN AIR INTERSTATE RULE

A. *Clean Air Act Air Quality Requirements: NAAQS for Particulate Matter*

Under the Clean Air Act, EPA has discretion to list any pollutants that "cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare."[19] These pollutants are known as "criteria" pollutants.[20] For each criteria pollutant, EPA must set two different NAAQS: primary NAAQS based on public health considerations and secondary NAAQS based on public welfare.[21] For the purposes of this statute, each state is divided into multiple "air quality control regions."[22] For each separate air quality standard, each region is assigned into one of three categories: attainment, nonattainment or unclassifiable.[23] Areas that violate the NAAQS for a particular

19 Clean Air Act § 108(a)(1)(A), 42 U.S.C. § 7408(a)(1)(A) (2006).

20 There are currently primary NAAQS for seven different pollutants: carbon monoxide, lead, nitrogen dioxide, particulate matter 10 micrometers or less ("PM_{10}"), particulate matter 2.5 micrometers or less ("$PM_{2.5}$"), ozone, and sulfur dioxide. Five of these pollutants have different standards for different averaging times. *See National Ambient Air Quality Standards*, U.S. ENVTL. PROT. AGENCY (Dec. 14, 2012), http://www.epa.gov/air/criteria.html.

21 *See* Clean Air Act § 109(a), 42 U.S.C. § 7409(a) (2006). Only sulfur dioxide has a secondary NAAQS that is different from its primary NAAQS. However, this secondary NAAQS (3 hour averaging limit of 0.5 ppm) has been largely rendered meaningless by a new primary NAAQS promulgated in 2010 (1 hour averaging limit of 75 ppb). *See* U.S. ENVTL. PROT. AGENCY, *supra* note 20.

22 Clean Air Act § 107, 42 U.S.C. § 7407 (2006).

23 *See id*. at § 107(d).

pollutant are designated as nonattainment for that pollutant.

One of the major environmental problems in the United States today is small breathable particles, known as particulate matter. Exposure to $PM_{2.5}$ is associated with many serious human health impacts, notably on the heart and lungs.[24] Particulate matter has a number of other negative environmental effects, including visibility impacts and effects on plants and animals.[25] There have been several different NAAQS for particulate matter over the past forty years. EPA first set NAAQS for particulate matter generally in 1971 and promulgated significant revisions in 1987.[26] In 1997, separate NAAQS were issued for particulate matter 10 micrometers or less ("PM_{10}") and particulate matter 2.5 micrometers or less ("$PM_{2.5}$").[27] For PM_{10}, this included a 24-hour averaging standard of 150 micrograms per cubic meter and an annual standard of 50 micrograms per cubic meter. For $PM_{2.5}$, this included a 24-hour averaging standard of 65 micrograms per cubic meter and an annual standard of 15 micrograms per cubic meter.[28]

B. *Meeting Air Quality Requirements*

The Clean Air Act contains multiple mechanisms designed to achieve the air quality requirements promulgated by EPA. Each state is required to adopt a SIP and submit it to EPA.[29] Each SIP must meet a series of statutory requirements.[30] Significantly, given national regulations set by EPA and efforts undertaken by other states, each state is required to meet these air quality standards within their borders by the deadlines mandated by the Act.[31] Although each state has the final responsibility to meet air

24 *See* NAT'L CTR. FOR ENVTL. ASSESSMENT, U.S. ENVTL. PROT. AGENCY, INTEGRATED SCIENCE ASSESSMENT FOR PARTICULATE MATTER 2-8 to 2-17 (2009), *available at* http://cfpub.epa.gov/ncea/CFM/recordisplay.cfm?deid =216546.

25 *See id.* at 2-27 to -31.

26 U.S. ENVTL. PROT. AGENCY, POLICY ASSESSMENT FOR THE REVIEW OF THE PARTICULATE MATTER NATIONAL AMBIENT AIR QUALITY STANDARDS 1-4 (2011), *available at* http://www.epa.gov/ttn/naaqs/standards/pm/data/ 20110419pmpafinal.pdf.

27 *Id*. at 1-5.

28 *Id*. These standards were revised in 2006 after CAIR was promulgated. The annual PM_{10} standard was eliminated and the 24-hour $PM_{2.5}$ standard was decreased to 35 micrograms per cubic meter.

29 Clean Air Act § 110(a)(1), 42 U.S.C. § 7410(a)(1) (2006).

30 Clean Air Act § 110(a)(2), 42 U.S.C. § 7410(a)(2) (2006).

31 Clean Air Act § 110(a)(2)(A), 42 U.S.C. § 7410(a)(2)(A) (2006). This

quality requirements, the Clean Air Act recognizes that pollutant dispersal over state lines causes a portion of the air quality issues within the United States.[32] The "interstate pollution provision", section 110(a)(2)(D) of the Act, requires that a SIP must:

> contain adequate provisions (i) prohibiting, consistent with the provisions of this subchapter, any source or other type of emissions activity within the State from emitting any air pollutant in amounts which will — (I) contribute significantly to nonattainment in, or interfere with maintenance by, any other State with respect to any such national primary or secondary ambient air quality standard, or (II) interfere with measures required to be included in the applicable implementation plan for any other State . . . to prevent significant deterioration of air quality . . . .[33]

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requirement can be enforced in several ways. First, each SIP may be denied in whole or in part by EPA if the agency finds that a particular requirement has not been met. Clean Air Act § 110(k)(3), 42 U.S.C. § 7410(k)(3) (2006). EPA can also condition approval on further action by the State. Clean Air Act § 110(k)(4), 42 U.S.C. § 7410(k)(4) (2006). Second, EPA has the power to issue a Federal Implementation Plan ("FIP") if a state fails to make a required submission, the state makes an incomplete submission, or the Agency disapproves any part of the SIP. Clean Air Act § 110(c), 42 U.S.C. § 7410(c) (2006). The agency is actually obligated to issue a FIP within two years if one of the conditions is triggered but has discretion within that timeframe. Third, EPA can issue a "SIP Call" if it determines that an existing SIP violates any requirement. Clean Air Act § 110(k)(5), 42 U.S.C. § 7410(k)(5) (2006). A SIP Call requires EPA to notify the state of any shortcoming and to establish a deadline to resolve the issues. *Id.* The statute limits SIP calls to requirements that existed when the State submitted the plan. This could be read to limit the ability of SIP calls to make new policy. Finally, anyone can challenge EPA in a federal court of appeals if the agency approves a SIP or promulgates a FIP that does not meet the statutory requirements. Clean Air Act § 107(b), 42 U.S.C. § 7607(b) (2006). This subsection contains no restrictions on who can file a petition for review. Obviously, this is limited by constitutional restrictions on standing.

32 Professor Richard Revesz has argued that controlling interstate externalities is the strongest reason for federal environmental regulation. Richard Revesz, *Federalism and Interstate Environmental Externalities*, 144 U. PA. L. REV. 2341, 2346 (1996). It should be clear that states cannot be trusted to determine whether their contributions to nonattainment in other States are excessive.

33 Clean Air Act § 110(a)(2)(D), 42 U.S.C. § 7410(a)(2)(D) (2006). This provision took its current form in 1990. The prior version was enacted in 1977 and read: "prohibit[] any stationary source within the State from emitting any air pollutant in amounts which will (I) prevent attainment or maintenance by any other State of any such national primary or secondary ambient air quality standard, or (II) interfere with measures required to be included in the applicable implementation plan for any other State under part C of this subchapter to

In addition to the general methods of enforcing the statutory requirements for a SIP, the Clean Air Act provides a specific remedy to states and local governments to enforce this interstate pollution requirement. Section 126(b) allows these entities to petition EPA for a finding that "any major source or group of stationary sources emits or would emit any air pollutant" which would violate section 110(a)(2)(D)(i).[34] If EPA finds that an existing source violates the interstate pollution provision, it must cease operating within three months unless EPA establishes a schedule for emissions limitations to bring the given sources into compliance.[35]

C. *Title IV Acid Rain Trading Program*

In 1990, Congress added a new set of federal requirements to the Clean Air Act with the enactment of Title IV.[36] Among other programs, Title IV set up the Acid Rain Trading Program, which is a nationwide cap-and-trade program for SO_2 emissions from electric generation units. The basic feature of any cap-and-trade program is that no entity can emit more tons of a pollutant in a given year than the number of valid allowances that the entity owns.[37] Although each existing unit covered by the program is given a specific allocation of allowances for each year,[38] there are

prevent significant deterioration of air quality . . . ." 42 U.S.C.A. § 7410(a)(2)(E) (West 1990) (prior to 1990 amendment).

34 Clean Air Act § 126(b), 42 U.S.C. § 7426(b) (2006). Note that the text of this section refers to section 7410(a)(2)(D)(ii) instead of section 7410(a)(2)(D)(i). The text does not make sense as written and this was found to be a scrivener's error in *Appalachian Power Co. v. EPA*, 249 F.3d 1032, 1042–44 (D.C. Cir. 2001).

35 Clean Air Act § 126(c), 42 U.S.C. § 7426(c) (2006).

36 Clean Air Act §§ 401–416, 42 U.S.C. §§ 7651–7651o (2006). Title II of the CAA, which regulates pollution from motor vehicles and their fuels, is also a primarily federal program. Clean Air Act §§ 202–250, 42 U.S.C. §§ 7521–7590 (2006). State regulation of new vehicle emissions is generally preempted. *Id.* at § 7543. There is an exception for California under certain conditions. *Id*. at § 7543(b). California's standards may be adopted by other states with nonattainment areas. Clean Air Act § 177, 42 U.S.C. § 7507 (2006).

37 Clean Air Act § 403(g), 42 U.S.C. § 7651b(g) (2006) ("It shall be unlawful for any affected unit to emit sulfur dioxide in excess of the number of allowances held for that unit for that year by the owner or operator of the unit."). A penalty must be paid for each ton emitted in excess of the number of allowances held and the owner or operator of the source in violation must offset those excess emissions in the next calendar year. Clean Air Act § 411, 42 U.S.C. § 7651j (2006).

38 New units may participate in a yearly auction of allowances. *See* Clean

provisions in Title IV that make this allocation a flexible one. First, the regulatory scheme allows unlimited nationwide trading of allowances.[39] Second, entities are allowed to "bank" allowances meaning that any allowances not used for compliance during the year they were issued may be used in any subsequent year under the program.[40] Taken together, these two provisions provide incentives for regulated entities to minimize the cost of compliance both across the country and over time.[41] The first allows emitters with high reduction costs to pay for allowances from emitters with low costs of reduction.[42] Similarly, if costs of compliance are expected to be high in the future, the second provision gives sources an incentive to reduce current emissions and either use those allowances for compliance in the future or sell them to other sources.[43]

The Acid Rain Trading Program has largely been considered a success. The program was set up to have two phases and does not have a statutory end date.[44] All sources covered by the program

Air Act § 416, 42 U.S.C. § 7651o (2006). New units may also purchase allowances from any other current holder. *See* Clean Air Act § 403(b), 42 U.S.C. § 7651b(b) (2006).

39 Clean Air Act § 403(b), 42 U.S.C. § 7651b(b) (2006); *see also* Clean Air Mkts. Grp. v. Pataki, 338 F.3d 82, 87-8 (2d Cir. 2003) (concluding as part of a preemption analysis that "the nationwide allowance trading system is an essential element of Title IV").

40 *See* Clean Air Act § 403(b) ("[U]nused allowances [shall] be carried forward and added to allowances allocated in subsequent years, including allowances allocated to units subject to Phase I requirements . . . which are applied to emissions limitations requirements in Phase II . . . ."). Note that the converse of banking, "borrowing," is not allowed under the statute. *Id.* ("Such regulations shall prohibit the use of any allowance prior to the calendar year for which the allowance was allocated . . . ."). As a result, it can be useful to distinguish between different "vintages" of allowances (e.g., any allowance which could first be used in 2000 is in the 2000 vintage).

41 *See* Robert N. Stavins, *What Can We Learn From the Grand Policy Experiment? Lessons From SO_2 Allowance Trading*, 12.3 J. ECON. PERSPECTIVES 69, 70–71 (1998).

42 *See id*.

43 *See* Richard Schmalensee, Paul L. Joskow, A. Denny Ellerman, Juan Pablo Montero & Elizabeth M. Bailey, *An Interim Evaluation of Sulfur Dioxide Emissions Trading*, 12 J. ECON. PERSPECTIVES 53, 57–58 (1998).

44 Phase I lasted from 1995 to 1999 and covered between 400 and 450 large coal generating units with substantial emissions of sulfur dioxide. *See* U.S. ENVTL. PROT. AGENCY, ACID RAIN PROGRAM: 1999 COMPLIANCE REPORT 4 (2000), *available at* http://www.epa.gov/airmarkt/progress/docs/1999compreport.pdf. Phase II started on January 1, 2000 and is still ongoing. Clean Air Act § 405(a)(1), 42 U.S.C. §7651d(a)(1) (2006). Phase II covers over

emitted 15.7 million tons of SO_2 in 1990 when the program became law.[45] These sources reduced yearly emissions to 11.9 million tons by 1995, the first year of the program.[46] By 2003, these emissions had been further reduced to 10.6 million tons.[47] Covered sources banked over 2 million tons of allowances per year from 1995 to 1999 and the total number of banked allowances peaked at 21.6 million in 2000.[48] This aggregate bank was drawn down by about 1 million tons per year from 2000 to 2003, leaving a total bank of 7.6 million allowances for 2004.[49] These decreases in emissions had already resulted in significant environmental benefits by 2003. Decreases in sulfate deposition allowed for recovery of acidified bodies of water and decreases in ambient levels of SO_2 and sulfates result in improved human health outcomes.[50] In 2003, the Office of Management and Budget estimated that the Acid Rain Trading Program resulted in over $70 billion in benefits per year and cost less than $2 billion per year.[51]

2000 electric generation units of all fossil fuel types. *See* U.S. ENVTL. PROT. AGENCY, ACID RAIN PROGRAM: 2000 ANNUAL PROGRESS REPORT 1 (2001), *available at* http://www.epa.gov/airmarkt/progress/docs/2000report.pdf. During Phase I, the yearly allocation to affected units declined from 8.7 million tons in 1995 to 7 million tons in 1999. *See id* at 6. The yearly allocation for Phase II began at 10 million tons in 2000, declined to 9.5 million by 2002 and has stayed level since then. *See* U.S. ENVTL. PROT. AGENCY , ACID RAIN PROGRAM 2009 PROGRESS REPORTS: EMISSION, COMPLIANCE, AND MARKET ANALYSES 2 (2010), *available at* http://www.epa.gov/airmarkt/progress/ARP09 downloads/ ARP_2009_ECM_Analyses.pdf.

45 U.S. ENVTL. PROT. AGENCY, ACID RAIN PROGRAM 2009 PROGRESS REPORTS: EMISSION, COMPLIANCE, AND MARKET ANALYSES 2 (2010), *available at* http://www.epa.gov/airmarkt/progress/ARP09_downloads/ARP_2009_ ECM_Analyses.pdf.

46 *Id*. Some of these reductions from 1990 levels may have happened without the program. *See* Schmalensee et al., *supra* note 43, at 56–57.

47 U.S. ENVTL. PROT. AGENCY, *supra* note 45. The discussion of the historical success of the Acid Rain Trading Program is limited to the years 1995 to 2003 because CAIR was first proposed in December 2003 and may have affected Acid Rain Trading Program as early as 2004.

48 *See id.* at 4. Data for these precise numbers is available at *Acid Rain Progress Report 2009–Data Access*, U.S. ENVTL. PROT. AGENCY (Dec. 20, 2010), http://www.epa.gov/airmarkt/progress/ARP09_data_access.html (follow link to excel spreadsheet titled "Collected Tables and Chart Source Data for Emission, Compliance, and Market Analyses").

49 U.S. ENVTL. PROT. AGENCY, *supra* note 45, at 4.

50 U.S. ENVTL. PROT. AGENCY, ACID RAIN PROGRAM: 2003 PROGRESS REPORT 1116 (2004), *available at* http://www.epa.gov/airmarkt/progress/docs/ 2003report.pdf.

51 OFFICE OF INFO. AND REGULATORY AFFAIRS, OFFICE OF MGMT &

Title IV was designed to solve the *regional* problem of acid rain,[52] but the Acid Rain Trading Program, and Title IV more generally, has also led to large decreases in PM and other criteria pollutants. As Congress noted in their findings for Title IV, "reduction of total atmospheric loading of sulfur dioxide . . . will enhance protection of the public health and welfare and the environment."[53] This language mirrors the statutory requirements for the setting of primary and secondary NAAQS.[54] Congress' prediction has turned out to be correct. The documented environmental progress has coincided with decreases in the number of nonattainment areas for both PM_{10} and SO_2.[55] In 1994, there were 86 nonattainment counties for PM_{10} and 51 nonattainment counties for SO_2.[56] By 2003, there were 58 nonattainment counties for PM_{10} and 20 nonattainment counties for SO_2.[57] Studies of Title IV have concluded that the vast majority of quantifiable benefits have come from reductions in $PM_{2.5}$ concentrations across the eastern United States.[58]

D. *The Interstate Pollution Provision and the NO_X SIP Call*

Congress enacted the first version of the interstate pollution provision in 1977 but EPA did not exercise its authority under the

BUDGET, INFORMING REGULATORY DECISIONS: 2003 REPORT TO CONGRESS ON THE COSTS AND BENEFITS OF FEDERAL REGULATIONS AND UNFUNDED MANDATES ON STATE, LOCAL, AND TRIBAL ENTITIES 88 (2004), *available at* http://www.whitehouse.gov/sites/default/files/omb/assets/omb/inforeg/2003_cost-ben_final_rpt.pdf.

52 "The purpose of this subchapter is to reduce the adverse effects of acid deposition . . . ." Clean Air Act § 401(b), 42 U.S.C. § 7651(b) (2006).

53 Clean Air Act § 401(a)(6), 42 U.S.C. § 7651(a)(6) (2006).

54 The statutory requirement for primary NAAQS is "requisite to protect the public health" and the requirement for secondary NAAQS is "requisite to protect the public welfare." Clean Air Act § 109(b)(1)–(2), 42 U.S.C. § 7409(b)(1)–(2).

55 Recall that the NAAQS for $PM_{2.5}$ were not set until 1997 so there can be no before-and-after comparison for these standards.

56 *Green Book – Data Export Downloads*, U.S. ENVTL. PROT. AGENCY (Dec. 24, 2012), http://www.epa.gov/airquality/greenbook/data_download.html (select EPA database "PHISTORY") (calculations by author).

57 *Id*. This evidence is anecdotal and it is beyond the analytical scope of this article to determine the relative contributions of different programs to the improved air quality over this period.

58 *See, e.g.*, Lauraine G. Chestnut & David M. Mills, *A Fresh Look at the Benefits and Costs of the US Acid Rain Program*, 77 J. ENVTL. MANAGEMENT 252, 265 (2005).

provision until 1998.[59] Before the interstate pollution provision was revised in 1990, the Reagan Administration had interpreted the provision very narrowly and denied every claim brought by states under Section 126(b).[60] These denials were consistently upheld by the courts.[61] In the eight years after the 1990 amendments, there were no significant court cases or EPA actions that interpreted the new version of the interstate pollution provision.[62]

In 1998, EPA finally exercised its authority by issuing a SIP Call determining that several states were violating the interstate pollution provision with respect to the 1-hour ozone NAAQS.[63] The program implemented under this SIP Call was a voluntary regional cap-and-trade program for NO_X ("NO_X SIP Call"). EPA determined emission budgets for each state based on the expected levels of reductions if "highly cost-effective controls" were implemented.[64] The concept of a "budget" can have different meanings. In the context of a cap-and-trade program, a "budget" typically corresponds to the number of allowances allocated to a set of sources in a particular year. Because these allowances are tradable and may be banked, the actual emissions from the same set of sources may vary from the original "budget." In the context of a command-and-control scheme, however, a "budget" can also mean a strict yearly limit on the amount of emissions from a set of sources. In the NO_X SIP Call, the budget set by EPA could take on either meaning. If the state opted into the voluntary cap-and-trade program, the "budget" would be allocated to sources within the state and these allowances could be traded to any other regulated entity within the region.[65] If the state did not participate in the cap-and-trade program, the "budget" would become a strict limit on emissions within the state.[66] It is important to note that the

59 Revesz, *supra* note 32, at 2362.

60 Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone, 63 Fed. Reg. 57,356, 57,380 (Oct. 27, 1998) [hereinafter NO_X SIP Call].

61 *Id*.; Revesz, *supra* note 32, at 2362–74.

62 *See* Michigan v. EPA, 213 F.3d 663, 674 (D.C. Cir. 2000), *cert. denied*, 532 U.S. 904 (2001).

63 NO_X SIP Call, 63 Fed. Reg. at 57,394–98.

64 *Id*. at 57,405.

65 *Id*. at 57,459.

66 *Id*. at 57,451–52.

"budget" for both of these purposes was designed to be the expected result of the voluntary cap-and-trade program. Furthermore, all of the states covered in the NO_X SIP Call opted into the voluntary cap-and-trade program, the NO_X budget trading program.[67] The D.C. Circuit upheld the main provisions of the NO_X SIP Call in *Michigan v. EPA*.[68]

E. *The SO_2 Provisions of the Clean Air Interstate Rule*

EPA proposed CAIR on December 17, 2003 and finalized the rule on March 10, 2005.[69] The substance of the rule for SO_2 emissions consists of four determinations under the interstate pollution provision. First, by using the "air quality factor," EPA determined that several states were in violation of the interstate pollution provision with respect to the annual $PM_{2.5}$ NAAQS promulgated in 1997.[70] Second, EPA determined the level of SO_2 emissions reductions that would be required across all of these

67 *NO_X Budget Trading Program - Basic Information*, U.S. ENVTL. PROT. AGENCY (May 28, 2009), http://www.epa.gov/airmarkets/progsregs/nox/sipbasic.html ("All 20 states covered by the NOx SIP Call were in the" NO_X budget trading program.).

68 *See* Michigan v. EPA, 213 F.3d 663, 669–70 (D. C. Cir. 2000), *cert. denied*, 532 U.S. 904 (2001).

69 *Clean Air Interstate Rule - Regulatory Actions*, U.S. ENVTL. PROT. AGENCY (Feb. 1, 2012), http://www.epa.gov/cair/rule.html. The rule was not issued as a formal SIP Call under section 110(k)(5) but rather under the more general authority to issue regulations under section 301(a)(1). CAIR Final Rule, *supra* note 7, at 25,170. This was done to prevent triggering sanctions against the States under Section 179. Finding of Failure to Submit Section 110 State Implementation Plans for Interstate Transport for the National Ambient Air Quality Standards for 8-Hour Ozone and $PM_{2.5}$, 70 Fed. Reg. 21,147, 21,148 (Apr. 25, 2005) [hereinafter Finding of Failure to Submit]. The proposed rule, originally known as the Interstate Air Quality Rule, was published in the Federal Register on January 20, 2004. 69 Fed. Reg. 4,566. A supplemental proposal giving additional details was issued by EPA on May 18, 2004 and published in the Federal Register on June 10, 2004. 69 Fed. Reg. 32,684. EPA also made a separate determination on March 10, 2005 that the States had failed to submit SIPs to comply with the interstate pollution provision with respect to the $PM_{2.5}$ NAAQS. Finding of Failure To Submit, 70 Fed. Reg. at 21,148. This finding began the two-year period during which EPA would be allowed to promulgate a FIP to remedy the issue. *Id*. On March 15, 2006, EPA issued a FIP implementing the model trading rules as they were laid out in the CAIR final rule.

70 CAIR Final Rule, *supra* note 7, at 25,174–75. In 2005, when CAIR was promulgated, the annual $PM_{2.5}$ NAAQS was 15 micrograms per cubic meter. *Id*. at 25,168–69.

states by using the "cost factor."[71] Third, these reductions were apportioned across the relevant states in proportion to their Title IV allocation.[72] Finally, EPA laid out criteria for remedying the violation with respect to SO_2, including a model trading rule.[73] In 2006, EPA implemented the SO_2 model trading program laid out in the CAIR final rule as a Federal Implementation Plan ("FIP").[74]

1. *Selecting States Using the Air Quality Factor*

EPA used the "air quality factor" to determine which states were violating the interstate pollution provision with respect to the annual $PM_{2.5}$ NAAQS by considering both SO_2 and NO_X emissions.[75] First, EPA modeled a baseline scenario to determine which air quality control regions would be in violation of the annual $PM_{2.5}$ NAAQS.[76] EPA utilized sixty-two counties as "downwind receptors."[77] These counties were projected to be in nonattainment in 2010 and had been monitored as in nonattainment from 2001 to 2003.[78] Second, EPA determined that any state that contributed 0.2 micrograms per cubic meter to any of the "downwind receptor" counties violated the interstate pollution provision with respect to the annual $PM_{2.5}$ NAAQS.[79] EPA did state-by-state modeling of SO_2 and NO_X emissions to determine which states would be over this threshold in 2010 for at least one "downwind receptor" county. Twenty-three states and the District of Columbia (the "CAIR $PM_{2.5}$ states") were found to contribute an amount of pollution over this threshold for at least one "downwind receptor" county.[80]

71 *Id*. at 25,175.

72 *Id*. at 25,176.

73 *Id*. at 25,256–61.

74 Federal Implementation Plans To Reduce Interstate Transport of Fine Particulate Matter and Ozone, 71 Fed. Reg. 25,328 (Apr. 28, 2006) [hereinafter CAIR FIP Final Rule]. EPA also issued a direct final rule to withdraw the FIP automatically if EPA approved a CAIR SIP revision submitted by a State. Federal Implementation Plans for the Clean Air Interstate Rule: Automatic Withdrawal Provisions, 72 Fed. Reg. 62,338 (Nov. 2, 2007).

75 Both SO_2 and NO_X are well-known precursors to $PM_{2.5}$. *See* CAIR Final Rule, *supra* note 7, at 25,179–84.

76 *Id*. at 25,239–43.

77 *Id*. at 25,241.

78 *Id.*

79 *See id*. at 25,188–91.

80 *Id*. at 25,247. The 23 States included in the final rule for $PM_{2.5}$ are Alabama, Florida, Georgia, Illinois, Indiana, Iowa, Kentucky, Louisiana,

2. *Determining Levels Using the Cost Factor*

EPA determined the amount that each of these states should reduce their emissions by considering cost.[81] Patterning their analysis after the NO_X SIP Call, EPA modeled the electric power sector to find "highly cost-effective SO_2 . . . emissions reductions."[82] This analysis assumed that all of the relevant states would participate in a voluntary emissions trading program designed by EPA.[83] EPA argued that different levels of reductions would be highly cost-effective to achieve by 2010 and by 2015.[84] The marginal cost and average cost of these reductions were compared to the cost of existing SO_2 reduction strategies in order to determine that they were indeed "highly cost-effective."[85] This analysis resulted in region-wide caps for SO_2 emissions for two separate periods: 2010-2014 and 2015 and beyond.[86] These caps represent a 50% reduction from yearly Title IV allocations from 2010 to 2014 and a 65% annual reduction afterwards.[87]

3. *Basing State Budgets on Title IV*

EPA divided these yearly region-wide SO_2 budgets between the CAIR $PM_{2.5}$ states on the basis of their Title IV allowance allocations.[88] For 2010 to 2014, each state's budget is 50% of their Title IV allocation.[89] For 2015 and beyond, each state's budget is 35% of their Title IV allocation.[90] EPA put forward several reasons for this decision: (1) it was necessary "to ensure the preservation of a viable title IV program," (2) the Title IV program represented a "logical starting point" because it was the

Maryland, Michigan, Minnesota, Mississippi, Missouri, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, Texas, Virginia, West Virginia, and Wisconsin. EPA subsequently decided to include Delaware and New Jersey. Inclusion of Delaware and New Jersey in the Clean Air Interstate Rule, 71 Fed. Reg. 25,288 (Apr. 28, 2006).

81 *See* CAIR Final Rule, *supra* note 7, at 25,195–229.

82 *Id*. at 25,195.

83 *Id*. at 25,196.

84 *Id*. at 25,215–25 (finding that the full reductions scheduled for 2015 could not be achieved in 2010 because of constraints on the relevant labor pool and manufacturing sectors, permitting issues, and project financing).

85 *Id*. at 25,201–05.

86 *Id*. at 25,226.

87 *Id*.

88 *Id*. at 25,229.

89 *Id*.

90 *Id*.

current limit on SO_2 emissions for the vast majority of sources included in CAIR, (3) Congress created the Title IV allocations to operate in perpetuity, (4) basing allocations on Title IV gave a result roughly in the middle of other options, and (5) ultimately the allocation method "would not impact the attainment of the environmental objectives or the overall cost of this rule."[91] This last reason was effectively an assertion that transaction costs for the cap-and-trade scheme would be low. If transaction costs were high, allowances would tend to be used by their original holder and the allocation method would significantly determine the costs of the rule.[92]

4. *CAIR's SO_2 Trading Program*

EPA laid out flexible criteria that states could meet to remedy their violation with respect to SO_2.[93] However, the regulation provided that EPA would automatically approve any SIP that adopted EPA's model rule for SO_2 trading,[94] which would allow a state to participate in EPA's interstate trading program.[95] No state actually adopted a SIP under CAIR and in 2006 EPA applied the SO_2 model trading rule to all of the CAIR $PM_{2.5}$ states as a FIP.[96]

The model trading rule is primarily an adaption of the Title IV

91 *Id*. at 25,229–30.

92 In this context, "transaction costs" merely refers to the cost of trading allowances, not a broader definition which may sometimes include the administrative costs of the program.

93 40 C.F.R. § 51.124(e)–(g) (2012). Generally, States would have to design a program to achieve the same amount of reductions that would be achieved by the application of their budget as a strict limit. The amount of reductions that this would require is different from the expected result of the cap-and-trade program because it would only correspond to the initial allocation for the program. In addition to this emissions requirement, each State would have to determine a method of retiring Title IV allowances that exceeded the State's budget. CAIR Final Rule, *supra* note 7, at 25,258–59. This requirement was intended to prevent a State from undermining the Title IV program prior to 2010 and in other States. *Id*. at 25,258. If these allowances were not retired, they could be sold outside of the State and emissions across the rest of the country would be higher.

94 40 C.F.R. § 51.124(o). The SO_2 model trading rule is codified at 40 C.F.R. § 96.201–96.288 (2012).

95 CAIR Final Rule, *supra* note 7, at 25,258.

96 CAIR FIP Final Rule, *supra* note 74, at 25, 340 ("EPA decided to adopt, as the FIP for each State in the CAIR region, the SIP model trading programs in the final CAIR, modified slightly to allow for federal instead of State implementation."). The SO_2 trading rule for the FIPs is codified at 40 C.F.R. § 97.201–97.288 (2012).

Acid Rain Trading Program. Every covered source in a CAIR $PM_{2.5}$ state would be forced to exchange two Title IV allowances allocated for the years 2010–2014 for every ton of SO_2 emissions and 2.86 Title IV allowances allocated after 2014 for every ton of SO_2 emissions.[97] Title IV allowances allocated for the years prior to 2010 could still be used by sources to account for one ton of emissions.[98] In some respects, this means that the SO_2 budgets for CAIR were similar to the budgets for the NO_X SIP Call. In the context of the voluntary cap-and-trade program, these budgets each represent the initial allocation to covered sources in each state. Emissions would not necessarily correspond to this initial allocation because covered sources can buy and sell the allowances. However, unlike the NO_X SIP Call budgets, the SO_2 budgets do not correspond to the expected outcome of the relevant cap-and-trade program. That is to say, if EPA was correct about the expected trading under the program, some states' SO_2 emissions would be higher than the allocated budget, and some states' SO_2 emissions would be lower.

II. RATIONALES FOR *CHEVRON* DEFERENCE FOR MARKET-BASED ENVIRONMENTAL REGULATIONS

This Part explains two especially strong normative reasons for applying *Chevron* deference to EPA's rulemaking in CAIR: (1) private reliance on EPA judgments for the purpose of "early action" programs, and (2) the particularly complex nature of the economic considerations behind devising a program to satisfy the interstate pollution provision. These rationales are not unique to CAIR and are relevant to a broad range of market-based environmental regulations. Although the level of scrutiny applied is not necessarily dispositive on any particular statutory question, additional benefits from a deferential standard of review suggest that, on the margin, judges should be less inclined to depart from *Chevron* deference.[99]

97 CAIR Final Rule, *supra* note 7, at 25,258.

98 *Id*.

99 One could question the utility of developing a complex set of considerations for judges while also remaining skeptical of the ability of the judiciary to make judgments of policy. One answer to this objection, identified by Cass Sunstein, is that judges are forced to choose a standard of review, explicitly or implicitly, in every suit that is brought. *See* Cass R. Sunstein, *Beyond Marbury: The Executive Power to Say What the Law Is*, 115 YALE L.J.

A. *General Rationales for* Chevron *Deference*

In *Chevron U.S.A., Inc. v. Natural Resources Defense Council*, a unanimous Supreme Court laid out a rule for judicial review of an agency's statutory interpretation.[100] This analysis has been shaped into two steps by subsequent decisions. In the first step ("Step One"), courts use "the traditional tools of statutory construction" to determine whether Congress has "addressed the precise question at issue."[101] In the second step ("Step Two"), a court must determine whether the agency interpretation is a reasonable one and may only overturn it if the interpretation is "arbitrary and capricious in substance, or manifestly contrary to the statute."[102] *Chevron* itself identified several reasons for the principle of judicial deference to agency statutory interpretations: explicit or implicit congressional intent,[103] executive control over regulatory policy,[104] agency policy expertise,[105] and inability or inappropriateness of the judicial branch to resolve competing

2580, 2588 n.39 (2006) [hereinafter Sunstein, *Beyond Marbury*]. Ultimately, it is up to appellate courts, including the Supreme Court of the United States, to choose and enforce optimal standards for questions, like this one, that have not been addressed by the legislature. In this way, judicial doctrines of deference are similar to common law doctrines such as contract and tort.

100

> When a court reviews an agency's construction of the statute which it administers, it is confronted with two questions. First, always, is the question whether Congress has directly spoken to the precise question at issue. If the intent of Congress is clear, that is the end of the matter; for the court, as well as the agency, must give effect to the unambiguously expressed intent of Congress. If, however, the court determines Congress has not directly addressed the precise question at issue, the court does not simply impose its own construction on the statute, as would be necessary in the absence of an administrative interpretation. Rather, if the statute is silent or ambiguous with respect to the specific issue, the question for the court is whether the agency's answer is based on a permissible construction of the statute.

Chevron U.S.A., Inc. v. Natural Res. Def. Council, 467 U.S. 837, 842–43 (1984). Justices Rehnquist, O'Connor and Marshall did not participate in the decision.

101 Footnote 9 in *Chevron* explained that courts should use "the traditional tools of statutory construction" in Step One. *Id*. at 843 n.9. The opinion itself considered the specific statutory provision at issue as well as other related statutory provisions and legislative history. *See id*. at 859–66.

102 Mayo Found. for Med. Educ. & Research v. United States, 131 S. Ct. 704, 711 (2011) (internal quotations omitted).

103 *Chevron*, 467 U.S. at 843–44.

104 *Id.* at 857–58.

105 *Id.* at 864–66.

policy issues.[106]

In addition to these rationales identified by the Court, there is now voluminous law review literature on the underpinnings and rationales of *Chevron* deference.[107] A large subset of these rationales can be categorized as efficiency rationales,[108] which tend to argue that the *Chevron* doctrine works better than the alternative of less judicial deference to executive determinations.[109] These rationales can be further divided into two categories. The first category contains comparative rationales, such as reasons why the agency is a better decisionmaking body than the judiciary.[110] This includes agency expertise in technical or scientific matters,[111] the deliberative rationality of the

106 *Id.* at 866.

107 As of April 17, 2011, a Westlaw search for "Chevron deference" within the legal journal database returned 2,951 articles. A Westlaw search for "Chevron deference" within the same sentence as rationale, theory, motive, or reason returned 367 articles.

108 I refer to the term "efficiency" in the broadest possible sense. A decision can be more efficient if it reaches the same result at a lower cost but it can also be more efficient if it more closely matches the values and desires of the country at large at a higher cost.

109 Other rationales for *Chevron* deference can be categorized as constitutional rationales. These rationales are that Congress is implicitly delegating this power to agencies, that interpretive "gap-filling" authority is within the inherent power of the executive, and that the judiciary should not make the policy judgments inherent in non-textual legal determinations. For example, Goldsmith and Manning argue that *Chevron* deference "is most plausibly explained in terms of constitutional values grounded in" executive authority. Jack Goldsmith & John F. Manning, *The President's Completion Power*, 115 YALE L.J. 2280, 2298 (2005-2006). Justice Stevens ends the *Chevron* opinion with this statement: "The responsibilities for assessing the wisdom of such policy choices and resolving the struggle between competing views of the public interest are not judicial ones: 'Our Constitution vests such responsibilities in the political branches.'" *Chevron*, 467 U.S. at 866 (quoting TVA v. Hill, 437 U.S. 153, 195 (1978)). Both of these claims are in tension with the idea that this authority has been delegated by Congress. Of course, no one will ever know if there is an enforceable constitutional grounding for *Chevron* deference unless Congress attempts to transfer this authority from the executive to the judiciary. It is also important to note that the recognition that statutory interpretation will often involve resolving complex policy issues (a version of legal realism) does not necessarily imply that this power must rest with the Executive Branch. It is still possible to believe that an independent judiciary is the proper body to make these determinations.

110 Subsequent decisions in the *Chevron* line, explaining the limits and applicability of deference, implicitly point to different rationales within this category. For example, *Mead* points to the value of deliberative rationality as a key part of *Chevron*. United States v. Mead, 533 U.S. 218, 230 (2000).

111 *See, e.g.*, Ronald J. Krotosynski, Jr., *Why Deference? Implied*

administrative process,[112] the national uniformity of agency decisions,[113] the responsiveness of agencies to changing conditions,[114] and the political accountability of the agency through its relationship to the President.[115]

A second category of efficiency rationales, sequential rationales, explains why it is more efficient to defer to the agency as an actor that must make interpretive decisions prior to judicial review.[116] First, there are savings in the administrative process. It is more administratively efficient in any individual case to uphold a rule than it is to remand for further proceedings.[117] Additionally, *Chevron* deference and the related principles announced in *National Cable & Television Ass'n v. Brand X Internet Services*[118] limit the number of prior judicial opinions that an agency must scrutinize before making a legal determination. The holdings of opinions based on the unambiguous terms of a statute should be

Delegations, Agency Expertise, and the Misplaced Legacy of Skidmore, 54 ADMIN. L. REV. 735 (2002).

112 *See, e.g.*, Mark Seidenfeld, *A Syncopated Chevron: Emphasizing Reasoned Decisionmaking in Reviewing Agency Interpretations of Statutes*, 73 TEX. L. REV. 83 (1994).

113 *See, e.g.*, Peter L. Strauss, *One Hundred Fifty Cases Per Year: Some Implications Of The Supreme Court's Limited Resources For Judicial Review Of Agency Action*, 87 COLUM. L. REV. 1093 (1987).

114 *See, e.g.*, Sunstein, *Beyond Marbury*, *supra* note 99, at 2587 ("[T]he executive administers laws that apply over extended periods and across heterogeneous contexts. Changes in both facts and values argue strongly in favor of considerable executive power in interpretation. Unlike the executive, courts are too decentralized—and their processes far too cumbersome—to do the relevant 'updating,' or to adapt statutes to diverse domains.").

115 *See, e.g.*, Elena Kagan, *Presidential Administration*, 114 HARV. L. REV. 2245, 2373–74 (2001).

116 Obviously, Congress is the other significant actor here. The legislature is the first actor in the process by enacting the statutory provision that an agency claims to be carrying out. The legislature may also intervene later by amending or repealing the provision in question.

117 *See, e.g.*, Sunstein, *Beyond Marbury*, *supra* note 99, at 2588 ("Deference to the executive reduces the likelihood that judicial disagreement will result in time-consuming remands to the agency for further proceedings."). It is certainly cheaper to uphold a rule from the perspective of administrative costs. Net social efficiency will depend upon the relative efficiency of the original rule and the rule (or lack thereof) that the agency promulgates on remand.

118 *See* Nat'l Cable & Television Ass'n v. Brand X Internet Servs., 545 U.S. 967, 982 (2005) ("A court's prior judicial construction of a statute trumps an agency construction otherwise entitled to *Chevron* deference only if the prior court decision holds that its construction follows from the unambiguous terms of the statute and thus leaves no room for agency discretion.").

largely apparent from the statute itself. Second, deference could result in efficiencies within the judicial system. Fewer suits may be brought against executive actions because these suits are harder to win. These suits may also take less time to dispose of because deference implicitly limits the types of materials that the judge must consider in a given case.[119] However, these efficiencies could be offset by increased agency "risk-taking"[120]—questionable legal interpretations which provoke additional suits on the margin. Finally, deference to agency interpretations gives private parties additional incentives to rely on executive legal determinations. Private reliance on agency legal determinations has been discussed most frequently under the doctrine of deference from *Skidmore v. Swift & Co*.[121] Given the Court's admonition to consider an interpretation's "consistency with earlier and later pronouncements,"[122] deference under this doctrine is typically justified by "reliance interests generated by longstanding agency constructions."[123] Nonetheless, the existence of reliance interests on longstanding agency interpretations does not exclude the possibility of substantial private reliance on novel agency interpretations in the period between the promulgation of a rule and the resolution of legal challenges.

B. *Compelling Rationales for Market-Based Environmental Regulations*

The doctrines of *Chevron* deference have developed across many different subject areas of administrative law. Environmental law is an area where this law has been applied extensively. EPA is given clear authority to implement numerous federal environmental statutes and to promulgate regulations under these

119 *Chevron* stated that courts are limited to "traditional tools of statutory construction" in Step One. Chevron U.S.A., Inc. v. Natural Res. Def. Council, 467 U.S. 837, 843 n.9 (1984).

120 *See, e.g.*, Matthew C. Stephenson, *The Strategic Substitution Effect: Textual Plausibility, Procedural Formality and Judicial Review of Agency Statutory Interpretations*, 120 HARV. L. REV. 528, 533 (2006) ("Doctrines that elevate the importance of agencies' ability to advance their agendas, and consequently instruct courts to place less emphasis on how well an agency's interpretation squares with the court's reading of the statute, encourage agencies to interpret statutes more aggressively.").

121 Skidmore v. Swift & Co., 323 U.S. 134 (1944).

122 *Id.* at 140.

123 Raso & Eskridge, *supra* note 1, at 1737.

statutes. Indeed, *Chevron* deference was created in order to bless an EPA interpretation under the Clean Air Act. Until the late 1990s, nearly all EPA rulemaking involved "command-and-control" regulations.[124] This phrase connotes a variety of regulatory programs where regulators would set technology standards or performance standards for individual facilities or classes of polluters. Two separate rationales for *Chevron* deference stand out when considering CAIR and other market-based environmental regulations. The first is a novel variation on the rationale of private reliance on administrative interpretations: substantial environmental and economic benefits can be reaped from private reliance during the period between the promulgation of a rule and the resolution of judicial challenges. The second is an application of an existing rationale directly from the *Chevron* opinion, that any determination under the interstate pollution provision presents an example of especially complex environmental and economic considerations.

1. *Early Action and Private Reliance*

All types of environmental regulations have the potential to generate some savings in costs and some amount of environmental benefits before the effective date of the program due to private reliance; however, there are strong theoretical reasons to believe these effects should be greatest under market-based environmental regulations. This is particularly the case if the market-based regulation includes an early action program that explicitly incentivizes reductions in pollution during this time. CAIR shows that the benefits of private reliance in the period between the promulgation of a final rule and a final judicial opinion can be substantial under market-based environmental regulations.

a. *Theory*

Different types of environmental regulation can be placed

124 *See* Robert W. Hahn & Robert N. Stavins, *Incentive-Based Environmental Regulation: A New Era From an Old Idea*, 18 ECOLOGY L.Q. 1, 3 (1991) ("Until now, environmental regulation has generally emphasized so-called command-and-control approaches, which specify uniform technologies or performance standards that give little flexibility to regulated firms."). However, there were exceptions. EPA's phase-out of leaded gasoline in the 1980s successfully used a credit-trading program. *See id.* at 17. Several policies under the Clean Air Act, including the "bubble" policy at issue in *Chevron*, had features that effectively allowed limited forms of trading. *See id.* at 15–16.

along a spectrum in terms of flexibility. At one end of the spectrum are inflexible methods of regulation, such as technology standards, which give no choices to regulated parties. A more flexible form of regulation is known as performance standards. These standards typically require regulated sources to meet a numerical emission standard and give sources flexibility to determine how to meet this standard. This flexibility is designed to provide cost savings to regulated parties while at the same time maintaining the same level of environmental benefits to the public. Market-based regulations fall at the most flexible end of the spectrum because these rules do not impose particular emissions limits on any source. One example is the Title IV Acid Rain Trading Program where regulated parties are only required to own allowances sufficient to cover the pollution from their sources.

These different types of regulations in turn have varying effects in the time period between the promulgation of a final rule and the effective date of the rule.[125] Under technology-based standards, few environmental benefits will actually be seen until the date that sources must comply.[126] Under performance-based standards, the story is similar. It is possible that, in the course of investigating alternatives for meeting the set standard, regulated parties will discover techniques for limiting emissions whose implementation are worthwhile prior to the effective date of the

125 Different types of regulations often have different periods of time between promulgation and the date that they become effective. Both the Clean Water Act and the Clean Air Act make a distinction between existing sources and new sources. Standards for new sources may go into effect shortly after the promulgation or they may be retroactive and cover sources that are "new" after the publication of the proposed rule. *See, e.g.*, 2004 Boiler MACT Rule, 69 Fed. Reg. 55,218, 55,254 (Sept. 13, 2004) (defined sources as new if construction began after January 13, 2003). Standards for new sources which go into effect on the date of the proposed rule avoid the incentive for regulated parties to commence construction immediately upon the publication of a proposed rule. However, when EPA or States issue standards for existing sources, these sources are typically given a substantial period of time before they must come into compliance. *See, e.g.*, *id.* at 55,254 (Existing sources covered by the rule were required to meet the applicable standards "no later than September 13, 2007.").

126 This is particularly likely to be the case if there are marginal costs to running any pollution control equipment to meet the standard. There may be some environmental benefits prior to the effective date of the regulation if some facilities shut down instead of investing in meeting the requirements. However, even most of this category of facilities wouldn't need to shut down until the effective date of the regulation. Only a very narrow category of facilities would decline to invest in necessary equipment prior to the deadline if they expected to shut down due to the environmental regulation.

rule. The nature of a performance standard, however, blunts the *extent* of such possibilities. There are no incentives under a performance standard for a source to pollute less than the allowable limit. For market-based environmental regulations, regulated parties have substantial incentives to implement new measures prior to the effective date. This is because all measures to reduce pollution will reap a financial reward: the ability to sell allowances to other regulated parties. Perhaps more significantly, market-based environmental regulations can be accompanied by measures that explicitly reward action by regulated parties before the official starting date for the program.[127] There are a number of different ways to provide this kind of incentive and it can be done without compromising environmental benefits.[128]

The strength of private reliance on novel agency determinations is relevant in the period between the promulgation of a final rule and a final judicial decision on the legality of the rule. If deference is given by the judiciary, private parties will have greater incentives to incur costs when a final rule is promulgated and fewer parties will wait to act until any judicial challenges are resolved. This is particularly important because modern appellate litigation often takes years to resolve.[129] Further, there are several benefits to private reliance on the agency interpretation throughout this interim period. In general, longer lead times for regulated parties to comply with a rule will lead to lower overall costs to regulated parties. Additional private reliance gives a longer *effective* lead time for regulated parties. Cost-

127 Performance standards can be accompanied by these types of programs as well. But, to return to the idea of a spectrum of types of regulation, this makes them more like a cap-and-trade program. Such a program would allow each source to optimize over time and would be equivalent to a "trading" program for each source.

128 *See, e.g.*, Alexia Kelly, Nicholas Bianco & John Larsen, *Options for Addressing Early Action Greenhouse Gas Reductions and Offsets in U.S. Federal Cap-and-Trade Policy* (World Res. Inst., Working Paper, 2009), *available at* http://pdf.wri.org/working_papers/options_for_early_action_greenhouse_gas_reductions.pdf.

129 The 2004 Boiler MACT rule was finalized on September 14, 2004 and the D.C. Circuit opinion on its legality came down on June 8, 2007. Natural Res. Def. Council v. EPA, 489 F.3d 1250 (D.C. Cir. 2007). CAIR was promulgated on March 10, 2005 and the D.C. Circuit did not rule on the program until July 11, 2008. North Carolina v. EPA, 531 F.3d 896, (D.C. Cir. 2008) (per curiam), *reh'g granted in part, denied in part*, 550 F.3d 1176 (D.C. Cir. 2008) (per curiam).

savings can make it possible for agencies to promulgate more stringent rules, which deliver higher levels of environmental benefits to the public. Other forms of environmental benefits resulting from private reliance will depend on the type of regulation in question. As discussed above, the potential for reductions in emissions is greatest under market-based regulations, particularly if accompanied by an early action program. Thus, one would expect the benefits from private reliance to be highest under these types of programs.[130]

b. *Experience in CAIR*

Theory can predict the direction of effects but only the real world can give us estimates of the *size* of these effects. CAIR provided immediate incentives for regulated entities to change their investments. Additionally, the linkages with the Title IV Acid Rain Trading Program acted as an early action program because allowances banked before 2010 could still be used at their full value by CAIR $PM_{2.5}$ sources. Prior to CAIR's proposal, Title IV allowances generally traded between $150 and $200.[131] After CAIR was proposed in late 2003, pre-2010 vintages of Title IV allowances became significantly more valuable because the SO_2 provisions effectively made allowances scarcer for all Title IV sources. Spot prices for pre-2010 vintages of Title IV allowances[132] increased steadily throughout 2004 and reached a

130 Some early action under a cap-and-trade program may be a one-for-one swap for reductions that would otherwise occur in later years. However, such a swap can still provide net benefits to society. It can be a net benefit in an expected value sense because of a positive discount rate on benefits. Independently, it can be a net benefit if the marginal benefits of reduction are higher in the early rather than in the later year. This would particularly be the case if the health benefits of a reduction are higher in the early years of a program due to higher ambient levels of pollution than they are in later years when the program has resulted in lower ambient levels of pollution.

131 U.S. ENVTL. PROT. AGENCY, ACID RAIN PROGRAM 2005 PROGRESS REPORT 9 (2006), *available at* http://www.epa.gov/airmarkt/progress/docs/2005report.pdf.

132 The SO_2 trading provisions turned different vintages of Title IV allowances into different commodities within the existing Title IV market. Because the ability to bank allowances was not changed by CAIR, these changes make pre-2010 allowances worth relatively more to CAIR sources. Post-2009 vintages of allowances are worth less to sources within the CAIR region because more than one allowance is needed to account for each ton of emissions. For example, allowances from the 2010 vintage have typically sold at around 50% of the price for allowances from the 2009 vintage—just as one would expect from

peak of $1,600 in December of 2005.[133] This peak was temporary and prices generally ranged between $400 and $600 in 2007 and 2008.[134] These price increases provided incentives for regulated entities to change their behavior immediately. In 2008, EPA estimated that $3.8 billion was invested in SO_2 emissions control measures at power plants in 2006 and 2007 and that a further $14 billion of investment in these controls was expected to take place between 2008 and 2012.[135]

The environmental benefits in the period after the promulgation of CAIR were substantial. As shown in Figure 1, these are observable in national SO_2 emissions data.

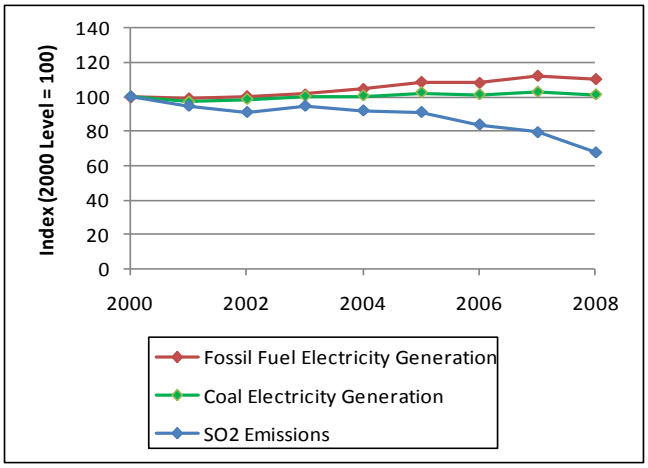
the two-to-one exchange rate. EVOLUTION MARKETS, SO_2 MARKETS - JANUARY–FEBRUARY 2010 MONTHLY MARKET UPDATE (2010), *available at* http://new.evomarkets.com/pdf_documents/January%20and%20February%20SO2%20Markets%20Update.pdf ("Traditionally, Vintage 2010 is priced at approximately 50 to 52% of Vintage 2009 . . . .").

133 U.S. ENVTL. PROT. AGENCY, ALLOWANCE MARKETS ASSESSMENT: A CLOSER LOOK AT THE TWO BIGGEST PRICE CHANGES IN THE FEDERAL SO_2 AND NO_X ALLOWANCE MARKETS 3 (2009), *available at* http://www.epa.gov/airmarkets/resource/docs/marketassessmnt.pdf. There may have been a number of factors behind this price spike, including compliance deadlines and the effect of Hurricane Katrina on a range of fuel markets. *Id*. at 4–5.

134 *See id*. at 3; and FED. ENERGY REG. COMM'N, EMISSIONS MARKET: EMISSION ALLOWANCE PRICES 1 (2008), *available at* http://www.ferc.gov/market-oversight/othr-mkts/emiss-allow/2008/10-2008-othr-emns-archive.pdf.

135 Declaration of Brian J. McLean at 4, North Carolina v. EPA, 550 F.3d 1176 (D.C. Cir. 2008) (No. No. 05-1244).

Figure 1: SO_2 Emissions from Title IV Sources, Fossil Fuel Electricity Generation and Coal Electricity Generation from 2000 to 2008[136]



Despite roughly constant electricity generation from 2005 to 2007 by fossil fuel generators generally, and coal generators specifically, SO_2 emissions from units covered by the Acid Rain Trading Program decreased over 7% in 2006 and by an additional 5% in 2007. In absolute terms, the reduction from 2005 to 2006 was 830,000 tons and the reduction from 2006 to 2007 was 460,000 tons. From 2000 to 2005, regulated entities drew down the substantial bank that was accumulated from 1995 to 1999.[137] In 2006 and 2007, this pattern reversed itself and regulated entities

[136] Level from Year 2000 is equal to 100. Emission data from *Acid Rain Progress Report 2009–Data Access*, U.S. ENVTL. PROT. AGENCY (Dec. 20, 2010), http://www.epa.gov/airmarkt/progress/ARP09_data_access.html (follow link to excel spreadsheet titled "Collected Tables and Chart Source Data for Emission, Compliance, and Market Analyses"). Generation data from Energy Info. Admin., *2009 Annual Energy Review, Table 8.2c*, U.S. DEP'T OF ENERGY (Sept. 27, 2012), http://www.eia.gov/emeu/aer/elect.html (index calculations by author).

[137] *Acid Rain Program 2009 Progress Report—Data Access*, U.S. ENVTL. PROT. AGENCY (Dec. 20, 2010), http://www.epa.gov/airmarkets/progress/ARP09_data_access.html.

banked 150,000 allowances and 600,000 allowances respectively.[138] Some of these reductions may have happened in the course of the Acid Rain Trading Program, but private reliance on CAIR by regulated entities was undoubtedly a major part of this story.[139]

2. *"Technical and Complex" Considerations*

The original opinion in *Chevron* explains that deference to agencies is appropriate when "the regulatory scheme is technical and complex."[140] Despite the focus of subsequent D.C. Circuit decisions involving deference to EPA interpretations on the *scientific* aspects of EPA's work under the Clean Air Act,[141] *Chevron* itself shows that the "technical and complex" includes *economic* considerations, especially the economic effects of a particular rule on environmental outcomes.[142] The experience of the Title IV Acid Rain Trading Program shows that different types of market-based regulations (e.g., national versus regional cap-and-trade programs) can be used to ameliorate local pollution problems. The choices between these different types of regulations involve complex tradeoffs of administrative costs, transaction costs, compliance costs, and environmental benefits. Judicial scrutiny of the precise configuration of a market-based regulation is likely to interfere with a careful balancing of these tradeoffs. The relationship between the interstate pollution provision and the requirement that each state must meet the relevant NAAQS through provisions in their SIP provides a uniquely complex set of considerations of this type.

138 *Id*. (additional calculations by author).

139 Reliance on promulgated regulations by other government agencies may further reinforce private reliance on the program. For example, the Energy Information Administration ("EIA"), within the Department of Energy, publishes yearly projections of long term trends in energy and electricity markets. Beginning in 2006, EIA included CAIR in their yearly modeling and published expected long-term trends for Title IV allowance prices under CAIR. Energy Info. Admin., *Annual Energy Outlook 2006 with Projections to 2030, Emissions Projections,* U.S. DEP'T OF ENERGY (Feb. 2006), http://www.eia.gov/oiaf/archive/aeo06/emission.html. Private parties may use these projections for any number of purposes, including internal planning for investments.

140 Chevron U.S.A., Inc. v. Natural Res. Def. Council, 467 U.S. 837, 865 (1984).

141 *See, e.g.*, Bluewater Network v. EPA, 372 F.3d 404, 410 (D.C. Cir. 2004).

142 *See Chevron*, 467 U.S. at 863.

a. *Using Market-Based Regulations to Achieve Environmental Goals*

Over the past thirty years, cap-and-trade programs have been recognized as an important tool for reducing pollution. Professors Ackerman and Stewart argued in 1985 that market-based environmental regulation would be superior in many respects to command-and-control regulation.[143] Market-based regulation would:

> tend to bring about a least-cost allocation of control burdens, saving many billions of dollars annually. It will eliminate the disproportionate burdens that [command-and-control regulation] imposes on new and more productive industries by treating all sources of the same pollutant on the same basis. It will provide positive economic rewards for polluters who develop environmentally superior products and processes. It will . . . reduce the incentives for litigation, simplify the issues in controversy, and facilitate more intelligent setting of priorities.[144]

They also argued that market-based regulations offer administrative advantages relative to command-and-control regulations. Market-based regulations would free EPA from the burden of rulemakings to determine the proper command-and-control regulations for each industry and from the burden of industry legal challenges to each of these rulemakings.[145] Enforcement of market-based regulations can be simpler than enforcement of command-and-control regulations.[146] Moreover, when structured properly, market-based regulations can also improve bureaucratic incentives for enforcement.[147]

While market-based regulations come with these significant benefits, there are also countervailing costs associated with them. The costs and benefits will vary with the details of the program. Ackerman and Stewart observed that there are four bureaucratic tasks for a cap-and-trade program: (1) setting numbers of permits, (2) determining how to distribute these permits, (3) running a title registry to track permits, and (4) enforcing the permit

143 Bruce A. Ackerman & Richard B. Stewart, *Reforming Environmental Law*, 37 STAN. L. REV. 1333, 1341 (1985).

144 *Id.* at 1341–42.

145 *Id.* at 1342–43.

146 *Id.* at 1344–45.

147 *Id.* at 1346

requirements.[148] For a given geographic area, these administrative costs are lowest in a truly unconstrained trading program where the regulator must choose only a number of permits to distribute and a method for distribution. Furthermore, by putting the decisionmaking power in the hands of regulated entities, these entities must spend money to determine the best way to comply with the program. From the perspective of the regulated parties, compliance is easiest if various forms of transaction costs are limited—the market for permits is deep and liquid, the requirements of the program are straightforward, and the rights that are attached to the permits are clear. The market for permits is more likely to be liquid if the program allows for unconstrained trading. Similarly, the requirements of the program and rights associated with a permit are simplest if there is only one type of allowance. Thus, if one only considers these kinds of costs, cap-and-trade programs are most effective if they utilize a single type of allowance without any restrictions on trading.

The Acid Rain Trading Program has shown that local pollution benefits can be derived from a market-based regulation that is national in scope, allows for unconstrained trading, and only has one type of allowance. However, the downside to such a program is that it paints with a broad brush. If the health and environmental effects of a pollutant depend on local or regional levels of emissions, there can be additional benefits from adding restrictions within a cap-and-trade program. There are at least three types of adjustments that can accomplish this objective: (1) creating separate zones and restricting trading between these zones, (2) issuing permits in terms of environmental degradation, and (3) an "offset" trading program where an emitter would only be required to purchase offsets if an ambient standard would be violated by their increase in emissions.[149] If these alternatives are implemented correctly, they will deliver additional environmental and public health benefits. The SO_2 provisions of CAIR are a variation of option (1) because they create special requirements for sources in a particular "zone," the CAIR $PM_{2.5}$ states. These types of restrictions come with the additional costs described above. Many of these costs are extremely difficult to quantify and may

148 *Id.* at 1347.

149 Jonathan Remy Nash & Richard L. Revesz, *Markets and Geography: Designing Marketable Permit Schemes to Control Local and Regional Pollutants*, 28 ECOLOGY L.Q. 569, 614–24 (2001).

not be particularly susceptible to effective judicial review. In the end, the optimal tradeoff between additional localized benefits and these additional costs comes down to a delicate agency judgment that should not be overturned lightly by the courts.

b. *The Interstate Pollution Provision and CAIR*

The implementation of the interstate pollution provision is an especially complex instance of the above considerations. Violation of the NAAQS is typically a result of both intrastate and interstate pollution. EPA has statutory authority to require the elimination of interstate pollution that "significantly contributes" to nonattainment in another state. Once EPA has set the requirement for reductions in interstate pollution, EPA can promulgate FIPs to implement these reductions or wait for states to submit sufficient SIPs. States are thereafter required to implement SIPs with local pollution controls that will result in attainment of the NAAQS. Because of this, the determination of "significant contribution" has two distributional elements. For a particular area in nonattainment, this determination divides responsibility between local pollution controls and pollution controls in other states and allocates responsibility to the other states which are significant contributors to pollution in that area. The difficulty of this allocation is illustrated by an example used in *North Carolina*, Davidson County in North Carolina. The panel noted that Alabama contributed to the violation of the $PM_{2.5}$ NAAQS in Davidson County.[150] However, the panel did not note that EPA found that *ten* states, including Alabama, were contributing at least 0.2 micrograms per cubic meter to $PM_{2.5}$ concentrations in Davidson County.[151] EPA projected a $PM_{2.5}$ concentration of 15.73 micrograms per cubic meter for Davidson County in

150 North Carolina v. EPA, 531 F.3d 896, 907 (D.C. Cir. 2008) (per curiam), *reh'g granted in part, denied in part*, 550 F.3d 1176 (D.C. Cir. 2008) (per curiam).

151 CAIR Final Rule, *supra* note 7, at 25,247–49, Table VI-8. The ten states are Alabama, Georgia, Indiana, Kentucky, Ohio, Pennsylvania, South Carolina, Tennessee, Virginia, and West Virginia. The other thirteen CAIR states collectively contribute at least 0.8 micrograms of $PM_{2.5}$ per cubic meter to Davidson County and North Carolina would benefit from reductions in these states as well. U.S. ENVTL. PROT. AGENCY, TECHNICAL SUPPORT DOCUMENT FOR THE CLEAN AIR INTERSTATE RULE: AIR QUALITY MODELING Appendix H (2005), *available at* http://www.epa.gov/cair/pdfs/finaltech02.pdf.

2010.[152] Since the relevant $PM_{2.5}$ NAAQS was 15 micrograms per cubic meter, the determination of significant contribution implicitly divided the responsibility for 0.73 micrograms of reductions between these ten other states and North Carolina. This level of complexity was not an isolated example. EPA's air quality modeling showed that every one of the sixty-two counties projected to violate the $PM_{2.5}$ NAAQS in 2010 received a contribution of at least 0.2 micrograms from at least four other states.[153]

EPA has many options in this context. A regional approach, such as the SO_2 provisions in CAIR, will be more precise than a national program in directly remedying pollution that causes nonattainment. But approaches that are even more targeted than CAIR's SO_2 provisions could deliver even more local benefits. If EPA chooses a relatively targeted approach, fewer local pollution controls, which may be command-and-control, will need to be included in SIPs. Yet, a more tailored approach by EPA necessarily entails additional administrative and transaction costs within the interstate pollution program. While these tradeoffs by themselves are enormously complex, the involvement of the states brings another institutional element to the forefront. One justification for the joint federal-state nature (often dubbed "cooperative federalism") of the original Clean Air Act is that EPA has an advantage in setting standards such as the NAAQS but states are best placed to determine the local controls necessary to meet the standard. This suggests that EPA should limit its role under the interstate pollution provision to relatively broad requirements of reductions, like in CAIR, and allow states to perform their traditional role of crafting local solutions. In situations like these, interference by the courts is extraordinarily likely to upset a complex balancing of interests. These types of considerations are better left for resolution by the agency when there are no explicit requirements from Congress.

III. CHEVRON DEFERENCE IN *NORTH CAROLINA V. EPA*

Petitions forming the basis of *North Carolina v. EPA* were

152 CAIR Final Rule, *supra* note 7, at 25,251, Table VI-10.

153 U.S. ENVTL. PROT. AGENCY, TECHNICAL SUPPORT DOCUMENT FOR THE CLEAN AIR INTERSTATE RULE: AIR QUALITY MODELING 47–49, Table VII-3 (2005), *available at* http://www.epa.gov/cair/pdfs/finaltech02.pdf.

filed in the D.C. Circuit immediately after the original rule was finalized in 2005.[154] In addition to the named petitioner (the State of North Carolina), a coalition of electric utilities (known as the "SO_2 Petitioners") challenged various aspects of CAIR's SO_2 provisions.[155] A coalition of environmental and public interest groups ("Environmental Intervenors") intervened on behalf of EPA. These petitions were stayed pending the issuance of the CAIR FIPs in 2006. Oral arguments were then held before Judges Sentelle, Rogers and Brown on March 25, 2008.[156] A per curiam decision by these three Judges, issued on July 11, 2008,[157] unanimously struck down CAIR on five grounds.[158] However, only two of these grounds were unambiguous statutory bars on the approach EPA used to regulate SO_2.[159] First, the panel decided that a regional trading program does not comply with the interstate pollution provision because it does not "achieve[] something toward the goal of prohibiting sources 'within the State' from

154 Section 307(b)(1) requires challenges to be filed in the D.C. Circuit Court of Appeals if EPA finds that the action is "based on a determination of nationwide scope or effect." Clean Air Act § 307(b)(1), 42 U.S.C. § 7607(b)(1) (2006). EPA made such a finding for CAIR. CAIR Final Rule, *supra* note 7, at 25,316.

155 *North Carolina*, 531 F.3d at 905.

156 *Id.* at 896.

157 *Id.*

158

> [1] [EPA] must consider anew which states are included in CAIR, after giving some significance to the phrase 'interfere with maintenance' in [the interstate pollution provision]. [2] It must decide what date, whether 2015 or earlier, is as expeditious as practicable for states to eliminate their significant contributions to downwind nonattainment. [3] The trading program is unlawful, because it does not connect states' emissions reductions to any measure of their own significant contributions. [4] To the contrary, it relates their SO_2 reductions simply to their Title IV allowances, tampering unlawfully with the Title IV trading program. [5] The SO_2 region-wide caps are entirely arbitrary, since EPA based them on irrelevant factors like the existence of the Title IV program.

North Carolina, 531 F.3d at 929–30.

159 The holding that EPA did not appropriately consider the "interfere with maintenance" prong of the interstate pollution provision goes to the completeness of the remedy, not the underlying statutory authorization for the SO_2 provisions of CAIR. The holding that the SO_2 budgets are arbitrary and capricious could be re-explained within the statute on remand, particularly if the holding on Title IV allowances was reversed. Finally, the holding relating to the 2015 deadline could also be re-explained, particularly within the context of the economic effects of a cap-and-trade program with banking.

contributing to nonattainment or interfering with maintenance 'in any other State.'"[160] Second, the panel held that EPA has no statutory authority "to terminate or limit" Title IV allowances.[161]

Although Part II demonstrated that there are several benefits of *Chevron* deference to CAIR's SO_2 provisions and other market-based environmental regulations, such benefits do not necessarily dictate the result on any issue or even mandate that *Chevron* deference be applied.[162] It does mean, however, that we can confidently state that an error has been made when the case against *Chevron* deference is weak or non-existent. This was the case in *North Carolina v. EPA*. Despite the panel's announcement that they would be applying *Chevron* deference, the panel did not apply *Chevron* deference, in practice, to these two important statutory questions.

A. *Statutory Arguments by the Parties*

1. *Regional Trading Programs and the Interstate Pollution Provision*

The main thrust of North Carolina's argument is evident from the State's requested remedy: North Carolina requested that the issue be remanded to EPA "to promulgate reasonable measures to ensure that trading does not cause more than *de minimis* budget overages."[163] In other words, the State argued that the interstate pollution provision requires a tighter link between the yearly budgets allocated to a state and the yearly emissions from that state. In particular, North Carolina complained about EPA's projections for South Carolina. EPA's modeling showed that South Carolina's emissions would be substantially higher than the budget due to banking and trading.[164] North Carolina argued that this violates the plain text of the interstate pollution provision

160 *North Carolina*, 531 F.3d at 907.

161 *Id*. at 922.

162 For example, EPA's interpretation of Section 112 of the Clean Air Act for the Clean Air Mercury Rule was clearly contrary to the plain text of the Act. The D.C. Circuit rightly struck this agency action down in *New Jersey v. EPA*, 517 F.3d 574, 581–84 (D.C. Cir. 2008); *see also* Nicholas Morales, New Jersey v. Environmental Protection Agency, Case Comment, 33 HARV. ENVTL. L. REV. 263, 263 (2009).

163 Final Brief of Petitioner the State of North Carolina at 33–34, North Carolina v. EPA, 531 F.3d 896 (D.C. Cir. 2008) (No. 05-1244).

164 *Id*. at 31.

because "[a] State's 'significant contribution' is defined by the volume of emissions that exceed the State's budget."[165] However, this textual proposition is dubious. The interstate pollution provision says nothing about the *means* that a state (or EPA) must exercise for compliance. The word "budget" does not appear in the text of the interstate pollution provision and that is not how EPA interprets the meaning of each budget. Consequently, North Carolina's best argument was one of degree. The State argued that an unrestricted trading program is not legally sufficient because "only the market will determine the ultimate distribution of emissions reductions . . . ."[166] North Carolina acknowledged that EPA projected that the states contributing to nonattainment in North Carolina would reduce their emissions.[167] Nevertheless, the State asserted that this was not legally sufficient.[168]

EPA relied primarily on *Michigan v. EPA*, the D.C. Circuit case upholding the NO_x budget trading program, to rebut these statutory arguments.[169] In particular, the majority in *Michigan* clearly found that the phrase, "contribute significantly," in the interstate pollution provision is ambiguous[170] and that "there is nothing in the text, structure, or history of [the interstate pollution provision] that bars EPA from considering cost in its application."[171] The *Michigan* majority then upheld the decision to base state budgets on uniform application of "highly cost-effective measures."[172] Nonetheless, EPA glosses over the differences between the NO_x budget trading program and the SO_2

165 *Id*. at 29.

166 *Id*. at 31.

167 *Id*. at 32.

168 *Id*.

169 Brief for Respondent Environmental Protection Agency at 163–64, North Carolina v. EPA, 531 F.3d 896 (D.C. Cir. 2008) (No. 05-1244).

170 Michigan v. EPA, 213 F.3d 663, 674 (D.C. Cir. 2000) ("Nothing in the text of the new section or any other provision of the statute spells out a criterion for classifying 'emissions activity' as 'significant.'").

171 *Id*. at 679. This opinion was handed down prior to the Supreme Court's opinion in *Whitman v. American Trucking Ass'ns*, 531 U.S. 457 (2001). However, it is apparent that the Supreme Court did not feel that the outcome in *American Trucking* controlled this case. The losing petitioners in *Michigan* petitioned for certiorari during the same term as *American Trucking* and were denied. Michigan v. EPA, 532 U.S. 904 (2001) (denying certiorari). *Michigan* was also cited without disapproval in *American Trucking*. *American Trucking*, 531 U.S. at 469 n.1.

172 *Michigan*, 213 F.3d at 679.

provisions in CAIR. As discussed in Part I, the budgets for the two programs were designed in different ways. Despite this, EPA asserted that "EPA's CAIR approach is nearly identical to the approach the Court found lawful in *Michigan*."[173]

2. *Authority to Limit or Terminate Title IV Allowances*

EPA first argued that it has the statutory authority to terminate or limit Title IV allowances in the final CAIR rule. There is no express authority within the statute, so the argument rests on an inference from two separate statutory provisions. First, under the interstate pollution provision and *Michigan v. EPA*, EPA has authority to promulgate a new cap-and-trade program or a new command-and-control program for SO_2.[174] EPA observes that an approach that did not consider Title IV would eviscerate the Acid Rain Trading Program.[175] Second, EPA notes that a Title IV allowance is defined as "[a]n authorization, allocated to an affected unit by the Administrator under [Title IV], to emit, during or after a specified calendar year, one ton of sulfur dioxide."[176] However, section 403(f) of Title IV further states:

> An allowance allocated under this title is a limited authorization to emit sulfur dioxide in accordance with the provisions of [Title IV]. Such allowance does not constitute a property right. *Nothing in [Title IV] or in any other provision of law shall be construed to limit the authority of the United States to terminate or limit such authorization.* Nothing in this section relating to allowances shall be construed as affecting the application of, or compliance with, any other provision of this Act to an affected unit or source, including the provisions related to applicable National Ambient Air Quality Standards and State implementation plans.[177]

EPA interpreted "United States" in this provision to include the authority of EPA under Title I of the Clean Air Act.[178] EPA

173 Brief for Respondent at 163, North Carolina v. EPA, 531 F.3d 896 (D.C. Cir. 2008) (No. 05-1244).

174 CAIR Final Rule, *supra* note 7, at 25,291.

175 *Id*. at 25,290 ("would likely result in a significant excess in the supply of title IV allowances, a collapse of the price of title IV allowances, [and] disruption of operation of the title IV allowance market").

176 Clean Air Act § 402(3), 42 U.S.C. § 7651a(3) (2006).

177 Clean Air Act § 403(f), 42 U.S.C. § 7651b(f) (2006) (emphasis added).

178 CAIR Final Rule, *supra* note 7, 25,291–92. The Environmental Interveners buttressed this argument by noting that "the U.S. Code contains

argues that these two conclusions, express authority within Title I and denial of a limitation within Title IV, are sufficient to infer that EPA has authority to utilize Title IV allowances to achieve the goals of the interstate pollution provision.[179] Furthermore, EPA believed that the SO_2 provisions of CAIR are a judicious, reasonable use of their authority under the interstate pollution provision.[180] By using the allowances created by Title IV, EPA tried to avoid carving Title IV out of the statute entirely.[181] The Environmental Intervenors added an additional argument for finding EPA authority on this issue.[182] Section 301(a)(1) of the Clean Air Act, contained within Title III and titled "General Provisions," states that "[t]he Administrator is authorized to prescribe such regulations as are necessary to carry out his functions" under the Act.[183]

The SO_2 petitioners claimed that the Clean Air Act gave no authority to EPA to terminate or limit Title IV allowances.[184] The SO_2 petitioners referred to several Title IV provisions to argue that Title IV allowances are a "fixed currency" with which EPA may not tamper.[185] Given these features of Title IV, the SO_2 petitioners argued that "[i]n the face of such specificity, EPA must

thousands of specific references to 'Congress'" and that the Administrative Procedure Act defines an agency as an "authority of the United States." Final Joint Brief of Interveners Environmental Defense, Natural Resources Defense Council, Ohio Environmental Council, and U.S. Public Interest Research Group in Support of Respondent EPA at 17, North Carolina v. EPA, 531 F.3d 896 (D.C. Cir. 2008) (No. 05-1244) [hereinafter Environmental Interveners Brief].

179 *See* CAIR Final Rule, *supra* note 7, at 25,290–96.

180 Brief for Respondent at 86, North Carolina v. EPA, 531 F.3d 896 (D.C. Cir. 2008) (No. 05-1244) ("EPA's intent was to establish a program implementing the requirements of section 110(a)(2)(D) with regard to $PM_{2.5}$ and make the two programs work together as harmoniously as possible.").

181 CAIR Final Rule, *supra* note 7, at 25,294 ("If title IV allowances were to have no market value, the title IV cap and trade system would no longer affect the choice of whether to emit or to reduce emissions. The EPA maintains that such a result is contrary to Congressional intent.").

182 Environmental Interveners Brief, *supra* note 178, at 12.

183 Clean Air Act § 301(a), 42 U.S.C. 7601(a) (2006).

184 Joint Brief of SO_2 Petitioners at 10, North Carolina v. EPA, 531 F.3d 896 (D.C. Cir. 2008) (No. 05-1244).

185 This includes 42 U.S.C. § 7651a(3) (quoted above), 42 U.S.C. § 7651b(b) ("Allowances allocated under this subchapter may be transferred among designated representatives of the owners or operators of affected sources under this subchapter and any other person who holds such allowances . . . ."), and provisions directing EPA to issue regulations on this topic. Joint Brief of SO_2 Petitioners at 14, North Carolina v. EPA, 531 F.3d 896 (No. 05-1244).

identify a specific, affirmative grant of authority to alter major portions of that scheme."[186] They claimed that EPA was finding an "elephant in a mousehole" by asserting the authority to limit Title IV allowances.[187] The SO_2 petitioners also argued that "United States" in section 403(f) does not include EPA.[188] Finally, the SO_2 petitioners contended that Title I was designed to make the Title IV Acid Rain Trading Program gradually obsolete by "ratchet[ing] down SO_2 emissions" to decrease the need for Title IV allowances and to depress the price of allowances within the program.[189] They requested that the panel vacate CAIR's SO_2 provisions[190] and implicitly argued for "a stand-alone program with unique SO_2 allowances . . . ."[191]

B. *Statutory Conclusions by the Panel*

1. *Achieving Something Measurable?*

The panel ruled on the side of North Carolina by holding that CAIR's SO_2 trading rules are not statutorily justified by the interstate pollution provision. This determination contained two separate parts: a new test announced by the panel and a determination that CAIR failed this test. The panel put forward the following standard: "EPA is not exercising its [interstate pollution provision] duty unless it is promulgating a rule that achieves something measurable toward the goal of prohibiting sources 'within the State' from contributing to nonattainment or interfering with maintenance 'in any other State.'"[192] While the panel did not elaborate on this, it seems to imply that EPA cannot require a particular revision of a SIP under the interstate pollution provision unless the remedy "achieves something measurable." On the other

186 Joint Brief of SO_2 Petitioners at 17, North Carolina v.EPA, 531 F.3d 896 (No. 05-1244).

187 *See id*. at 13. This implicitly invoked a line of cases where the Supreme Court has arguably declined to apply *Chevron* deference because "Congress . . . does not alter the fundamental details of a regulatory scheme in vague terms or ancillary provisions . . . ." Whitman v. American Trucking Ass'ns, 531 U.S. 457, 468 (2001).

188 Joint Brief of SO_2 Petitioners at 17–18, North Carolina v. EPA, 531 F.3d 896 (No. 05-1244).

189 *Id*. at 1–2.

190 *Id*. at 34.

191 *Id*. at 8.

192 *North Carolina*, 531 F.3d at 907.

hand, if the remedy does not "achieve something measurable" to reduce emissions, the state could not have violated the provision in the first place and EPA has no statutory authority to impose that requirement on the state.

While this new test appears to be straightforward wordplay on the logical implications of the interstate pollution provision, the real bite came from the determination that CAIR failed this test. The panel gave the following example of why the trading program for SO_2 does not "achieve something measurable:"

> Yet under CAIR, sources in Alabama, which contribute to nonattainment of $PM_{2.5}$ NAAQS in Davidson County, North Carolina, would not need to reduce their emissions at all . . . . Theoretically, sources in Alabama could purchase enough . . . SO_2 allowances to cover all their current emissions, resulting in no change in Alabama's contribution to Davidson County, North Carolina's nonattainment.[193]

As a result, the panel finds that additional assurance is necessary in order to promulgate a regional cap-and-trade program under the interstate pollution provision.[194] This conclusion amounts to a determination that EPA's judgment in this case is not legally sufficient to find that a trading program will "achieve something measurable." This holding rules out an unconstrained trading program under the interstate pollution provision as a matter of law.

2. *No Authority to Limit or Terminate Title IV Allowances*

The panel signed onto the SO_2 petitioners' view that the Clean Air Act provides no authority to limit or terminate Title IV allowances. However, the panel did not adopt the SO_2 petitioners' arguments that there are statutory provisions which "supposedly show[] that Title IV allowances are fixed currency, the value of which EPA may not manipulate."[195] The panel declined to rule on EPA's contention that the term "United States" in section 403(f)

193 *Id*. at 907.

194 *Id.* at 908. ("Despite *Michigan*'s approval of emissions controls that do not correlate directly with each state's relative contribution to a specific downwind nonattainment area, CAIR must include some assurance that it achieves something measurable towards the goal of prohibiting sources 'within the State' from contributing to nonattainment or interfering with maintenance in 'any other State.'").

195 *Id.* at 921.

includes EPA.[196] The panel avoided explicitly taking sides in the debate about whether Title I is expected to supersede the Title IV Acid Rain Trading Program or whether EPA has authority under Title I to preserve the functioning of this program.[197] The panel also dismissed the Environmental Intervenors' argument that EPA has authority under Section 301(a)(1) because "EPA cannot claim retiring excess Title IV allowances is 'necessary' for EPA to ensure SIPs comply with [the interstate pollution provision]."[198]

After dismissing all of these arguments, the panel merely stated that "we find nothing in section 110(a)(2)(D)(i)(I) granting EPA authority to remove Title IV allowances from circulation in the Title IV market."[199] They did not adopt the "elephant in a mousehole" reasoning offered by the SO_2 petitioners. The panel reinforced its conclusion with the following passage:

> Lest EPA forget, it is "a creature of statute," and has "only those authorities conferred upon it by Congress"; "if there is no statute conferring authority, a federal agency has none." *Michigan v. EPA*, 268 F.3d 1075, 1081 (D.C. Cir. 2001). So too here: no statute confers authority on EPA to terminate or limit Title IV allowances, and EPA thus has none.[200]

This holding required a clear authorization for EPA to terminate Title IV allowances.

C. *Departures from Chevron Deference in* North Carolina v. EPA

Although the panel announced that it applies Chevron deference to the statutory conclusions of the EPA, both of the above statutory analyses by the panel failed to do so in significant ways. The "achieve something measurable" test may have been justified by the statute, but the conclusion that the SO_2 provisions of CAIR fail this test was either a policy choice or an unjustified factual conclusion. By requiring express statutory authority for EPA to terminate or limit Title IV allowances, the panel declined to apply *Chevron* deference. While there are established grounds for declining to apply *Chevron* deference, this statutory question

196 *Id*. at 922, n.4

197 *See id*. at 921–22.

198 *Id.* at 922.

199 *Id*.

200 *Id*. The cited *Michigan v. EPA* decision is different than the NO_X SIP Call decision with the same name.

does not fall within any of the relevant categories.

1. *Questions of Policy and Fact*

As discussed above, in order to find that EPA cannot promulgate a region-wide cap-and-trade program under the interstate pollution provision without additional "assurances," the panel observed that "[t]heoretically, sources in Alabama could purchase enough . . . SO_2 allowances to cover all their current emissions, resulting in no change in Alabama's contribution to Davidson County, North Carolina's nonattainment."[201] While this theoretical claim is true, EPA has found that reductions will occur in each CAIR $PM_{2.5}$ state because of the SO_2 trading program. As a result, EPA has implicitly looked at the question of whether the model trading rule will "achieve something measurable."[202] To take the example of Alabama, EPA's main modeling runs estimated that the program would result in a reduction of about 150,000 tons of SO_2 per year.[203] The panel did mention the policy conclusions of EPA: "EPA's modeling shows that sources contributing to North Carolina's nonattainment areas will at least reduce their emissions even after opting into CAIR's trading programs."[204] By mid-2008, when the opinion was issued, EPA also could have shown the panel that Acid Rain Trading Program sources in Alabama had decreased their SO_2 emissions by 2.8% between 2005 and 2007 despite increasing their heat input by 3.6%.[205] However, the panel dismissed EPA's policy judgment as merely "possible."[206] This dismissive attitude is a step beyond the role of the courts under *Chevron*. Under *Chevron*, the panel

201 *Id.* at 907.

202 *Id.* at 908. EPA could not have explicitly examined this standard in its rulemaking because it was first articulated in this opinion.

203 *IPM Analysis for the Clean Air Interstate Rule (CAIR)*, U.S. ENVTL. PROT. AGENCY (April 14, 2009), http://www.epa.gov/airmarkt/progsregs/epa-ipm/cair/index.html. The analysis used the following files: EPA Base Case 2004 parsed for year 2010, EPA Base Case 2004 parsed for year 2015, EPA Base Case 2004 parsed for year 2020, IPM Parsed File EPA Final CAIR parsed for year 2010 (Final CAIR modeling), IPM Parsed File EPA Final CAIR parsed for year 2015 (Final CAIR modeling), and IPM Parsed File EPA Final CAIR parsed for year 2020 (Final CAIR modeling). *Id*.

204 *North Carolina*, 531 F.3d at 907.

205 *Clean Air Markets Data, State Level Emissions Quick Report for 2005 to 2007* (Nov. 5, 2011), U.S. ENVTL. PROT. AGENCY , http://camddataandmaps.epa.gov/gdm/index.cfm?fuseaction=emissions.wizard (calculations by author).

206 *North Carolina*, 531 F.3d at 907.

should have examined EPA's policy determination under the arbitrary and capricious standard put forward in *Motor Vehicle Manufacturers Ass'n v. State Farm Mutual Automobile Insurance Co*.[207] There is plenty of evidence to suggest that EPA would have met this deferential test on this issue.

While such a judicial *policy* determination is a departure from *Chevron* by itself, the skepticism of the panel may have been caused by an underlying *factual* dispute. In another section of the opinion, the panel asserted that it is "hardly likely" that "the transaction costs of trading emissions were small."[208] This is contrary to the implicit findings of EPA in CAIR, as discussed in Part II. At the very best, the panel's conclusion on this issue was speculative. In 2007, an article by several EPA staff members estimated that transactions in the Title IV SO_2 allowance market only cost 50 cents per allowance, a tiny fraction of the cost of an allowance.[209] Nevertheless, this factual finding by the panel provides a basis for distinguishing the program upheld in *Michigan* from the program struck down in *North Carolina*. If transaction costs were indeed high, the results of a trading program would closely match the initial allocation to each state. In the NO_X budget trading program, this result went hand in hand with EPA's expected result from the trading program. In the case of CAIR's SO_2 trading rule, such a result would deviate wildly from the results of EPA's modeling and would not provide the environmental benefits expected by EPA. However, independent factual determinations such as this are not traditionally within the

207 *See* Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co., 463 U.S. 29, 43 (1983).

208 *North Carolina*, 531 F.3d at 920. The panel notes that this was asserted in *Michigan* as well. Michigan v. EPA, 213 F.3d 663, 676 n.3 (D.C. Cir. 2000).

209 Sam Napolitano, Jeremy Schreifels, Gabrielle Stevens, Maggie Witt, Melanie LaCount, Reynaldo Forte & Kenon Smith, *The U.S. Acid Rain Program: Key Insights from the Design, Operation, and Assessment of a Cap-and-Trade Program*, 20.7 THE ELECTRICITY J. 47, 58 (2007). The article explains the reason for this: "[T]here is no need for EPA to review each transaction thereby reducing the time, transaction costs, and administrative costs to trade allowances. Parties to a trade can enter the transactions online using EPA's information system, allowing trades to be processed in less than one day; competition and market liquidity have driven down the costs of private transactions to less than 0.1 percent of the cost of an allowance, and administering transactions of millions of allowances each year requires less than one full-time employee at EPA." *Id*. at 51.

province of the courts when reviewing an agency action.[210] At most, the panel may have been able to justify a remand under the arbitrary and capricious standard because EPA did not make any explicit findings on the issue of transaction costs.

2. *Exceptions to* Chevron *Deference*

The panel did not explain its reasons for requiring express authority for EPA to terminate or limit Title IV allowances. However, the lack of an express provision denying this authority to EPA and the rhetoric used by the panel both imply that the panel did not grant *Chevron* deference to EPA on this issue. Additionally, the panel's only citation on the issue was revealing. As mentioned above, the panel quoted a different D.C. Circuit case named *Michigan v. EPA* to state that:

> Lest EPA forget, it is "a creature of statute," and has "only those authorities conferred upon it by Congress"; "if there is no statute conferring authority, a federal agency has none." *Michigan v. EPA*, 268 F.3d 1075, 1081 (D.C. Cir. 2001). So too here: no statute confers authority on EPA to terminate or limit Title IV allowances, and EPA thus has none.[211]

However, in this *Michigan v. EPA*, the D.C. Circuit *explicitly* denied *Chevron* deference to EPA.[212]

Of course, such denial of *Chevron* deference is not necessarily without good reason. Over the years, the Supreme Court and the Courts of Appeals have developed exceptions to *Chevron* deference. Within this jurisprudence, Cass Sunstein has identified four reasons why courts decline to apply *Chevron* deference: (1) the administrative formality requirements of *United States v. Mead Corporation*, (2) clear statement rules, such as avoidance of serious constitutional questions, (3) "major" questions, and (4) jurisdiction.[213] As an informal rulemaking, CAIR is within

210 For example, in *Motor Vehicle Manufacturers Ass'n v. State Farm Mutual Automobile Insurance Company*, when the Supreme Court struck down an agency rule for a lack of proper justification, the Court did not conclude that the opposing position was correct. The Court remanded to EPA for further consideration. *See State Farm*, 463 U.S. at 46–57.

211 *North Carolina*, 531 F.3d at 922.

212 Michigan v. EPA , 268 F.3d at 1082 (D.C. Cir. 2001). This is a different case than the *Michigan v. EPA* that upheld the NO_X budget trading program.

213 Sunstein, *Beyond Marbury*, *supra* note 99, at 2602–10. Sunstein's term for clear statement rules that apply to agencies is "nondelegation canon." *See* Cass R. Sunstein, *Nondelegation Canons*, 67 U. CHI. L. REV. 315, 316 (2000).

Mead's safe harbor so the first exception does not apply. No constitutional issue was ever invoked by any party and this interpretation of the interstate pollution provision would clearly be constitutional under the commerce power if enacted by Congress.[214] While the major question exception or a variation on the jurisdiction exception could arguably apply, there is not a strong case for either.

Cass Sunstein traces the "major" question exception to *FDA v. Brown & Williamson*.[215] This is a variation on the "elephant in a mousehole" standard from *American Trucking* put forth by the SO_2 petitioners.[216] The panel did not adopt this claim or even discuss it. The panel may have recognized that such a conclusion would be factually problematic. In the preamble to CAIR, EPA argued that harmonization with the Title IV Acid Rain Trading Program was necessary to preserve the program.[217] This is because, otherwise, any requirements that would reduce SO_2 emissions below the levels required by Title IV would effectively end the program by driving Title IV allowance prices to zero. The economic theory behind this result is unimpeachable and has been verified by subsequent events. In March of 2008, before the *North Carolina* opinion, EPA auctioned allowances from the 2015 vintage for $131.[218] After the *North Carolina* opinion, EPA proposed a rule (known as the "Transport Rule") to replace CAIR, which would drive SO_2 emissions below Title IV levels without harmonization.[219] Subsequently, in March of 2011, EPA conducted an advance auction of allowances from the 2018 vintage

214 The author is not aware of any other clear statement rules that should obviously apply to this statutory question. To the extent that any non-constitutional clear statement rule could apply, the utility of such a rule would need to be traded off with the benefits of *Chevron* deference, including the benefits identified in Part II.

215 *See* FDA v. Brown & Williamson, 529 U.S. 120 (2000); Sunstein, *Beyond Marbury*, *supra* note 99, at 2605.

216 *Whitman v. American Trucking Ass'ns*, 531 U.S. 457, 468 (2001). *American Trucking* cites this principle in part to the statutory conclusion in *Brown & Williamson*.

217 CAIR Final Rule, *supra* note 7, at 25,229–30.

218 *Results for 2008 SO_2 Allowance Auction*, U.S. ENVTL. PROT. AGENCY (April 14, 2009), http://www.epa.gov/airmarkets/trading/2008/index.html.

219 Federal Implementation Plans To Reduce Interstate Transport of Fine Particulate Matter and Ozone, Proposed Rule, 75 Fed. Reg. 45,210, 45,210 (Aug. 2, 2010).

and the clearing price was only 16 cents.[220] As a result, the SO_2 petitioners alleged that the "elephant," terminating or limiting individual Title IV allowances, is a less radical result than the "mousehole," which is the authority to destroy the entire Acid Rain Trading Program.

The remaining reason for not applying judicial deference is the exception for jurisdictional provisions. In the only opinion cited by the panel on this issue, the D.C. Circuit denied *Chevron* deference to EPA on the jurisdictional question of whether EPA could assert authority under the Clean Air Act over sources located in areas whose status as "Indian Country" was "in question."[221] This opinion, written by Judge Sentelle, based this denial of *Chevron* deference on a passage in *United States v. Mead Corporation*: "We hold that administrative implementation of a particular statutory provision qualifies for Chevron deference when it appears that Congress delegated authority to the agency generally to make rules carrying the force of law . . . ."[222] The opinion thus held that Congress did not delegate the authority to make rules concerning the jurisdiction of its authority. Although the D.C. Circuit may have adopted this exception to *Chevron*, it has not been universally followed by the other Courts of Appeals.[223] In a concurrence, Justice Scalia has argued that an exception for issues of jurisdiction does not exist.[224] Furthermore, he argued that deference on issues of "jurisdiction" is necessary because the line between jurisdictional provisions and general provisions is difficult to draw and many statutory provisions can be characterized in either way.[225] Of course, Justice Scalia was the lone dissenter in *Mead*[226] so it is possible that the current Supreme Court would endorse Judge Sentelle's approach.

220 *Results for 2011 SO_2 Allowance Auction*, U.S. ENVTL. PROT. AGENCY (Mar. 29, 2011), http://www.epa.gov/airmarkets/trading/2011/index.html. The four winning bidders in the 2018 advance auction were "University of Tampa Environmental Protection Coalition," "Bates College Environmental Econ B," "Acid Rain Retirement Fund," and "Evolution Markets" (a broker for environmental markets). *Id*.

221 Michigan v. EPA , 268 F.3d 1075, 1080–82 (D.C. Cir. 2001).

222 *Id.* (quoting United States v. Mead Corp., 533 U.S. 218, 226–27 (2000)).

223 *See* Sunstein, *Beyond Marbury*, *supra* note 99, at 2604–05. The Supreme Court has never directly addressed the issue in a majority opinion.

224 *See* Mississippi Power & Light v. Mississippi, 487 U.S. 354, 380–81 (1988).

225 *Id*. at 381–82

226 United States v. Mead Corp., 533 U.S. 218, 239 (2000).

Regardless of whether the Supreme Court would uphold this exception for jurisdiction, an analogous conclusion for Title IV allowances is difficult to support. There is statutory jurisdiction over the sources in question under Title I and EPA has the statutory authority to regulate any emissions of precursors to $PM_{2.5}$ from these sources, including SO_2 emissions. In addition, EPA has authority under section 301(a)(1) to promulgate regulations for all of the Titles of the Clean Air Act.[227] Even still, the panel construed this power narrowly by arguing that EPA's interpretation was not "necessary."[228] As an initial matter, such a narrow interpretation of "necessary" may be puzzling to anyone who has read *McCulloch v. Maryland*.[229] The panel did cite one D.C. Circuit case, *Citizens to Save Spencer County v. EPA*, to support their interpretation.[230] Although the principle the panel quoted is inarguable, the larger context of the quote does not support the panel's conclusion on the issue. In that case, EPA faced a conflict between two different provisions in Title I of the Clean Air Act and issued a rule harmonizing the two provisions.[231] The panel in *Spencer County* found that such a rule was a valid exercise of EPA's authority under § 301(a)(1).[232] In particular, the sentence *immediately after* the one quoted in *North Carolina*

227 The *North Carolina* panel stated that EPA "does not rely on section 301(a)." North Carolina v. EPA, 531 F.3d 896, 922 (D.C. Cir. 2008). This may have been true about EPA's brief but EPA invoked section 301(a) as the original source of authority to issue the rule in CAIR. CAIR Final Rule, *supra* note 7, at 25,170 (invoking "EPA's general authority to clarify the applicability of CAA requirements, as provided in CAA section 301(a)(1)," to promulgate CAIR).

228 *North Carolina*, 531 F.3d at 922.

229 McCulloch v. Maryland, 17 U.S. 316, 413–14 (1819) ("Is it true, that this is the sense in which the word 'necessary' is always used? Does it always import an absolute physical necessity, so strong, that one thing to which another may be termed necessary, cannot exist without that other? We think it does not. If reference be had to its use, in the common affairs of the world, or in approved authors, we find that it frequently imports no more than that one thing is convenient, or useful, or essential to another. To employ the means necessary to an end, is generally understood as employing any means calculated to produce the end, and not as being confined to those single means, without which the end would be entirely unattainable.").

230 *North Carolina*, 531 F.3d at 922 ("Nor does section 301(a), 42 U.S.C. § 7601(a), 'provide [EPA] Carte blanche authority to promulgate any rules, on any matter relating to the Clean Air Act, in any manner that the [EPA] wishes.' Citizens to Save Spencer Cnty. v. EPA, 600 F.2d 844, 873 (D.C. Cir. 1979).").

231 *See* Citizens to Save Spencer Cnty. v. EPA, 600 F.2d 844, 860–73 (D.C. Cir. 1979).

232 *Id*. at 873–74.

adopted broader interpretation of § 301(a)(1):

> But in light of the dilemma posed by the conflicting provisions . . . and tracking the words of § 301(a)(1), it was clearly "necessary" for the Administrator in order to "carry out his functions" . . . to employ the rulemaking authority provided in § 301(a)(1) to resolve the conflict . . . .[233]

In CAIR, EPA found itself in a similarly difficult situation. In order to meet the $PM_{2.5}$ NAAQS, substantial reductions of SO_2 emissions were required. However, the achievement of these reductions independently from Title IV effectively meant the termination of the Acid Rain Trading Program. In order to avoid eliminating a wide swath of Title IV, EPA chose to harmonize CAIR's SO_2 provisions under the interstate pollution provision with the Acid Rain Trading Program. The panel's attempt to carve out Title IV allowances from EPA's regulatory authority is ultimately unfounded.

If the panel had properly applied *Chevron* deference on this question, it is easy to see how the statutory conclusion could have gone the other way. Under Step One, no statutory provisions forbid EPA from utilizing Title IV allowances as a currency and retiring them as a means to achieve the goals of the interstate pollution provision. Additionally, the panel may have found that the term "United States" in section 403(f) included EPA.[234] Given a determination that EPA is not prevented from terminating or limiting Title IV allowances, the inference that EPA is given such a power elsewhere becomes much stronger. This power may come from several different sections of Title I of the Clean Air Act, including the interstate pollution provision. Under Step Two, there is a strong case that EPA's interpretation was reasonable. The alternative interpretation adopted by the panel requires EPA to terminate the Acid Rain Trading Program. Harmonizing CAIR's SO_2 provisions with Title IV was a reasonable way of avoiding this outcome for a program with no statutory end date.

CONCLUSION

The original opinion in *North Carolina* vacated all of the

233 *Id*. at 873.

234 It is less clear whether the panel would have been obligated to give *Chevron* deference to EPA's interpretation on this sub-question.

regulations in CAIR as well as the associated FIPs.[235] The Title IV allowance market behaved exactly as one would expect from vacatur of CAIR's SO_2 trading rule. Before the oral arguments in *North Carolina v. EPA*, the price of Title IV allowances was $600.[236] By the morning of the original opinion, perhaps because of the attitude of the panel at oral argument, prices had declined to $300.[237] Shortly after the original opinion came out, prices dropped below $100.[238] In the aftermath of the opinion, EPA and several other parties petitioned for rehearing and rehearing en banc. On December 23, 2008, a short per curiam opinion by the same panel granted the petition for rehearing in part.[239] The sole deviation from the original opinion was a change in the remedy to remand without vacatur.[240] The official rationale for this change was that prior D.C. Circuit cases established that "it is appropriate to remand without vacatur in particular occasions where vacatur 'would at least temporarily defeat . . . the enhanced protection of the environmental values covered by [the EPA rule at issue].'"[241] Nonetheless, there is some indication that remand without vacatur was a serious departure from prior precedent. In particular, remand without vacatur may have only been provided when there was no statutory violation.[242] A more convincing (and less doctrinal) explanation came in the short concurrence issued by Judge Rogers:

> However, on rehearing, EPA, petitioners, and amici states point to serious implications that our previous remedy analysis, including our consideration of mitigation measures, did not adequately take into account. The parties' persuasive demonstration, extending beyond short-term health benefits to impacts on planning by states and industry with respect to interference with the states' ability to meet deadlines for

235 *North Carolina*, 531 F.3d at 930.

236 Declaration of Brian J. McLean at 4, North Carolina v. EPA, 550 F.3d 1176 (D.C. Cir. 2008) (No. No. 05-1244).

237 *Id*.

238 *Id*.

239 North Carolina v. EPA, 550 F.3d 1176 (D.C. Cir. 2008).

240 *Id*. at 1178.

241 *Id*. (*quoting* Envtl. Def. Fund, Inc. v. Adm'r of the U.S. EPA, 898 F.2d 183, 190 (D.C. Cir. 1990)).

242 *See* Kristina Daugirdas, *Evaluating Remand Without Vacatur: A New Judicial Remedy for Defective Agency Rulemakings*, 80 N.Y.U. L. REV. 278, 278–83 (2005).

> attaining national ambient air quality standards for $PM_{2.5}$ and 8-hour ozone, shows that the rule has become so intertwined with the regulatory scheme that its vacatur would sacrifice clear benefits to public health and the environment while EPA fixes the rule.[243]

While Judge Rogers limits the implications of the judges' lack of understanding to the remedy analysis, such an understanding may have influenced other parts of the original opinion as well. The ultimate irony of this is that a more robust application of *Chevron* deference would not have required the judges to understand all of the policy implications of CAIR.

The overarching purpose of this Note has been to show how a detailed consideration of the economic effects of market-based environmental regulation can improve judicial decisionmaking by influencing the standard of review. In the case of the SO_2 provisions of CAIR, a thorough consideration of private reliance on agency interpretations and of the complex tradeoffs of designing a remedy under the interstate pollution provision should have resulted in the application of a more robust form of *Chevron* deference. However, the rationales presented in this paper go beyond the SO_2 provisions of CAIR. Similar considerations apply to the NO_X provisions of CAIR and other market-based regulations promulgated under the interstate pollution provision in the future. EPA is currently considering how to regulate greenhouse gases under the Clean Air Act.[244] The economic and scientific evidence overwhelmingly shows that market-based regulations are optimal for greenhouse gases.[245] If EPA chooses to implement market-based regulations for greenhouse gases under the Clean Air Act,[246] any judge given the task of determining the ultimate legality of such a regulation should think long and hard about the considerations discussed in this Note.

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243 *North Carolina*, 550 F.3d at 1178–79.

244 Addressing Greenhouse Gas Emissions, U.S. ENVTL. PROT. AGENCY (Nov. 4, 2011), http://www.epa.gov/airquality/ghgsettlement.html.

245 *See* INIMAI M. CHETTIAR & JASON A. SCHWARTZ, INST. FOR POLICY INTEGRITY, THE ROAD AHEAD: EPA'S OPTIONS AND OBLIGATIONS FOR REGULATING GREENHOUSE GASES 62–64 (2009), *available at* http://policyintegrity.org/files/publications/TheRoadAhead.pdf.

246 For a survey of EPA's statutory avenues for implementing market-based regulations for greenhouse gases, see *id*. at 71–91.