

No. 12-684

IN THE
Supreme Court of the United States

UNION CARBIDE CORPORATION
AND SUBSIDIARIES,

Petitioner,

v.

COMMISSIONER OF INTERNAL REVENUE,

Respondent.

ON PETITION FOR A WRIT OF CERTIORARI TO THE
UNITED STATES COURT OF APPEALS FOR THE SECOND CIRCUIT

**MOTION FOR LEAVE TO FILE BRIEF OUT OF
TIME AND BRIEF OF *AMICI CURIAE* NATIONAL
ASSOCIATION OF MANUFACTURERS, AMERICAN
CHEMISTRY COUNCIL, AND CHAMBER OF
COMMERCE OF THE UNITED STATES OF
AMERICA IN SUPPORT OF PETITIONER**

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**MOTION FOR LEAVE TO FILE
BRIEF OUT OF TIME**

Amici curiae National Association of Manufacturers, American Chemistry Council, and Chamber of Commerce of the United States of America request leave to file this amicus brief in support of petitioner Union Carbide Corporation and its Subsidiaries after the January 3, 2013, deadline under Supreme Court Rule 37.2(2). As the result of this Court's grant of an extension, the Commissioner of Internal Revenue's opposition to Union Carbide's petition for certiorari was moved from January 3 to February 4, 2013. Counsel for the Commissioner and Union Carbide have been notified of this request and have consented in writing to the filing of this brief out of time.

Amici curiae request such leave because their undersigned counsel of record, Bennett Evan Cooper, suffered an eye injury on December 24, 2012, that required his hospitalization and resulted in persistent double vision and associated complications that substantially impaired and delayed the completion of the amicus brief. He has been principally responsible for preparation of the brief and also was principally responsible for preparation of *amici curiae's* amicus brief in this case before the United States Court of Appeals for the Second Circuit. The delay

was solely the result of this medical emergency, did not reflect any dilatory motive, and did not cause prejudice to any party or the Court.

Respectfully submitted,

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INTEREST OF THE *AMICI CURIAE*¹

The National Association of Manufacturers (“NAM”) is the nation’s largest industrial trade association, representing small and large manufacturers in every industrial sector and in all fifty states. The NAM’s mission is to enhance the competitiveness of manufacturers by shaping a legislative and regulatory environment conducive to economic growth and to increase understanding among policymakers, the media, and the general public about the vital role of manufacturing in America’s economic future and living standards. The NAM regularly supports its membership through *amicus curiae* briefing.

The American Chemistry Council (“ACC”) is a not-for-profit trade organization representing the companies that make the products that make modern life possible, while working to protect the environment, public health, and security of our nation. ACC represents the leading companies engaged in the business of chemistry. The business of chemistry is a \$720-billion-a-year enterprise and a key element of the nation’s economy. It is the nation’s top exporting sector, accounting for ten cents out of every dollar in U.S. exports. ACC members are committed to improved environmental, health, and safety performance through Responsible Care[®], common-sense advocacy

1. Pursuant to Supreme Court Rule 37.2(6), *amici curiae* state that no counsel for any party to this dispute authored this brief in whole or in part, and no person or entity other than *amici curiae* and their counsel has made a monetary contribution to the preparation or submission of this brief. Letters from the parties consenting to the filing of this brief are on file with the clerk, and counsel of record gave each party’s attorney at least ten days’ notice of the intent to file this brief.

designed to address major public policy issues, and health and environmental research and product testing.

The Chamber of Commerce of the United States of America (the “Chamber”) is the world’s largest business federation, representing 300,000 direct members and indirectly representing the interests of more than three million companies, trade associations, and professional organizations of every size, in every sector, and from every region of the country. Ninety-six percent of the Chamber’s members are companies with fewer than 100 employees. An important function of the Chamber is to represent the interests of its members by filing *amicus curiae* briefs in cases, such as this one, involving issues of national concern to American business.

Amici curiae submit this brief because the tax credit for research activities under section 41 of the Internal Revenue Code (the “Code”) has been a keystone of federal policy for incentivizing large and small businesses to conduct the technological research that fosters innovation and furthers the strength and competitiveness of the American economy. Union Carbide’s petition explains how the Second Circuit’s opinion lacks any basis in law. *Amici curiae* seek to support that legal analysis by explaining the negative real-world consequences of both the Second Circuit’s unwarranted deference to the Commissioner’s litigating position on construction of the statute and regulations, as well as its substantive holding on the scope of the tax credit.

SUMMARY OF ARGUMENT

The Second Circuit's extraordinary deference to the Commissioner's litigating position on the construction of section 41 and the Treasury regulations undermines the fair and effective implementation of the research credit and undermines the certainty that is essential for businesses to be able to plan and operate efficiently. Taxpayers, in planning transactions and investments and in self-reporting their income, need to be able to rely on the plain language of the applicable statutes and regulations, the latter of which are promulgated by administrative agencies after considered analysis. The Commissioner's litigating position, by contrast, is the belated announcement of an agency with a direct pecuniary interest in the litigation, and it therefore should receive no *Auer* deference.

On the merits, the Second Circuit's opinion fails to acknowledge the nature and importance of research into process innovations that is conducted on the full scale of an operational production plant. The Second Circuit's denial of a credit for the cost of supplies used in qualified research into innovative processes is counterproductive in the very business environment in which the research credit is intended to operate.

ARGUMENT

I. Tax Laws Should Be Construed Based on Their Plain Language, Not According to the Taxing Authority’s Litigating Position.

The Second Circuit’s deference under *Auer v. Robbins*, 519 U.S. 452 (1997), to the Commissioner’s litigating position is as troubling as the substance of that litigating position on the scope of the tax credit for research and development expenses under section 41 of the Code, 26 U.S.C. § 41. In addition to arguments that have been made for caution in deferring to agencies’ litigating positions in other contexts, there are specific reasons not to defer to the government’s litigating position in the tax setting. *See Pierre v. Commissioner*, 133 T.C. 24, 40 (2009) (Cohen, J., concurring) (“We have never accorded deference to the Commissioner’s litigating position, as contrasted to (1) contemporaneous expressions of intent when the regulations were adopted and (2) consistent administrative interpretations before the litigation.”).

When considering the extent to which the court should defer to the agency’s interpretation, it is important to keep in mind the background principle that “tax laws are strictly construed against the state and in favor of the taxpayer.” 3A Norman J. Singer & J.D. Shambie Singer, *Sutherland Statutes and Statutory Construction* § 66.1, at 3 (7th ed. 2010). This Court has long recognized the special need for solicitude for taxpayers in statutory construction. “It is elementary that tax laws are to be interpreted liberally in favor of taxpayers” *Miller v.*

Standard Nut Margarine Co. of Fla., 284 U.S. 498, 508 (1932).² “In case of doubt [statutes levying taxes] are construed most strongly against the government, and in favor of the citizen.” *Gould v. Gould*, 245 U.S. 151, 153 (1917). Thus, “in cases such as this one, in which the complex statutory and regulatory scheme lends itself to any number of interpretations, we should be inclined to rely on the traditional canon that construes revenue-raising laws against their drafter.” *United Dominion Indus., Inc. v. United States*, 532 U.S. 822, 839 (2001) (Thomas, J., concurring) (collecting citations).

At least two different sets of considerations add special force in the tax setting for relying on the plain language of the law rather than deferring to the ultimate litigating position of the taxing authority. First, taxpayers must be able to understand their tax obligations *in advance*. “Our income tax system is primarily a self-reporting and self-assessment one. It is ‘based upon voluntary assessment and payment, not upon distraint.’” *Laing v. United States*, 423 U.S. 161, 191 (1976) (quoting *Flora v. United States*,

2. See also *McFeely v. Commissioner*, 296 U.S. 102, 111 (1935) (“Here the rule obtains that a taxing statute, if of doubtful intent, should be construed favorably to the taxpayer.”); *Burnet v. Niagara Falls Brewing Co.*, 282 U.S. 648, 654 (1931) (“It is a familiar rule that tax laws are to be liberally construed in favor of taxpayers.”); *Bowers v. N.Y. & Albany Lighterage Co.*, 273 U.S. 346, 350 (1927) (“The provision is part of a taxing statute; and such laws are to be interpreted liberally in favor of the taxpayers”); *United States v. Merriam*, 263 U.S. 179, 188 (1923) (“If the words are doubtful, the doubt must be resolved against the government and in favor of the taxpayer.”).

362 U.S. 145, 176 (1960)).³ Taxpayers must be able to determine their tax obligations based on objective sources like statutes and regulations by, at the very latest, the time they fill out their returns, rather than during litigation with taxing authorities. In the tax context, “the duty imposed by [the statute] must be prescribed in terms definite enough to serve as a guide to those who have the duty imposed upon them.... [I]t must be definite and certain enough to enable every person, by reading the law, to know what his rights and obligations are and how the law will operate when put into execution” *Duhamel v. State Tax Comm’n*, 179 P.2d 252, 255 (Ariz. 1947) (quoting *Vallat v. Radium Dial Co.*, 196 N.E. 485, 487 (Ill. 1935)).

Long before tax returns are prepared, taxpayers should be able to discern the applicable tax rules that affect a variety of economic calculations and drive investment and other financial decisions. If tax law cannot be determined from contemporaneously available statutes and regulations, and the interpretive tools (including deference) will not be complete until the taxing authority’s litigating positions are known, taxpayers will be faced with an intolerable level of uncertainty concerning the tax-related financial consequences of prospective business decisions and transactions.

In recent congressional hearings, experts have addressed how uncertainty and lack of transparency undermine the effectiveness of tax incentives. “Two of the

3. See also *United States v. Arthur Young & Co.*, 465 U.S. 805, 815 (1984) (“Our complex and comprehensive system of federal taxation rel[ies] ... upon self-assessment and reporting”).

most important factors that may influence the effectiveness of special tax provisions may be their complexity and uncertainty.”⁴ “The uncertainty of these provisions [such as the research credit] makes it difficult for businesses to incorporate them into planning and investment decisions, thereby undermining their effectiveness.”⁵ With respect to the research credit in particular, “it is very hard ... for companies to use provisions that are very highly uncertain.”⁶

Uncertainty may be existential—will the credit be available the following year?—or it may concern the credit’s scope or applicability. Where “taxpayers ... have less understanding about how their taxes are calculated, they may be less likely to change their economic behavior in response to incentives.”⁷ Indeed, “recent research shows that the salience and transparency of tax incentives matters as much or more than the financial incentives

4. Statement of Dr. Robert Carroll, *How Do Complexity, Uncertainty, and Other Factors Impact Responses to Tax Incentives?: Hearing Before S. Comm. on Finance, 112th Cong., 1st Sess. 42 (Mar. 30, 2011) (“Complexity Hearings”)*; see *id.* at 15. Dr. Carroll was Deputy Assistant Secretary of the Treasury for Tax Analysis, and is now Principal in Quantitative Economics and Statistics at Ernst & Young LLP.

5. *Id.* at 42-43.

6. *Id.* at 12.

7. Statement of Dr. Eric J. Toder, *Complexity Hearings, supra* note 4, at 11. Dr. Toder is an Institute Fellow at the Urban Institute and Co-Director of the Urban-Brookings Tax Policy Center.

themselves.”⁸ Even apparently straightforward incentives become more uncertain and less predictable when their interpretation turns on litigating positions. “Whatever the shape of a future tax system, taxpayers would be much better served by tax laws that are reasonably stable and predictable.”⁹

A second reason to resist *Auer* deference to litigating positions in the tax context is the government’s direct pecuniary interest in the outcome of tax litigation, which exacerbates the adversarial bias created by such deference in other settings. Hofstra University Law Professor Mitchell Gans observed, “The case for applying increased deference in the tax context is ... undercut by [an] important distinction between tax and some other agency-administered areas of law.”¹⁰ In tax litigation where the government has a direct pecuniary interest, “the problem of adversarial bias is most acute. There is little question but that the government’s ability to determine objectively the most appropriate construction of a regulation will be less than optimal if the government must make the decision at the very moment of engaging in litigation with a taxpayer.”¹¹ Even after “the government’s litigation with a particular taxpayer has ended, the views

8. Statement of Dr. Raj Chetty, *Complexity Hearings*, *supra* note 4, at 47. Dr. Chetty is Professor of Economics at Harvard University.

9. Statement of Dr. Eric J. Toder, *Complexity Hearings*, *supra* note 4, at 67, 80.

10. Mitchell M. Gans, *Deference and the End of Tax Practice*, 36 Real Prop. Prob. & Tr. J. 731, 790 (2002).

11. *Id.* at 786.

formulated in the litigation take on a life of their own. In contrast, in other areas of the law when the government is not a litigant and not suffering the burden of adversarial bias, the government can be trusted to make interpretive decisions that are not influenced by self-interest.”¹²

In the end, it is disturbing to have courts defer to the litigating positions of taxing authorities with a direct pecuniary interest in the litigation, especially when the taxing authority’s position had “not been revealed by any published rulings or action of the Department on which taxpayers could have relied.” *Sanford’s Estate v. Commissioner*, 308 U.S. 39, 52 (1939). Instead, courts faced with a question of interpretation in the tax context should determine the law based on the objective meaning of statutes and regulations, with due regard for the special interests and vulnerability of taxpayers. The litigation decision-making process is not one that conduces to reasoned, even-handed consideration of the principles and policies underlying a statute, taking into account the input of all affected taxpayers, and it certainly offers none of the safeguards that result in deference to formal IRS interpretive processes. Such unwarranted deference denies tax laws the certainty needed to make them effective on their own terms. Moreover, it undermines public trust in the fairness of our tax laws: Taxpayers cannot be expected to have faith in a system where the referees allow one of the competitors to change the outcome by declaring new rules in the middle of the game.

12. *Id.* at 790-91.

II. The Second Circuit's Decision Will Stifle Critical Plant-Scale Process Research.

As to the substance of its opinion, the Second Circuit erred in holding that the costs of certain raw materials used in the course of qualified research into innovative production processes are not subject to section 41's tax credit for "qualified research expenses" (QREs). Like the Tax Court, the Second Circuit concluded that those supply costs were not subject to the credit because the "research was conducted on products that were in the process of being manufactured for sale and were in fact sold," App. 1a, and "the taxpayer would have incurred [those supply costs] regardless of any qualified research it was conducting," App. 10a. The Second Circuit's decision reflects a dichotomy not justified by the language of the statute between product and process research: "[A]s the Tax Court observed, ... 'Congress did not intend for all of the activities that were associated with the production process to be eligible for the research credit if the taxpayer was performing research *only with respect to the process, not the product.*'" App. 8a (quoting Tax Court) (emphasis added).

The Second Circuit's premise, alloyed with the unsupported product/process distinction, is that because those supplies could potentially produce a salable product, they were not *really* used in qualified research. But, as explained below, this impermissibly ignores the nature of process research. Instead, the critical inquiry should be the threshold statutory question under section 41, i.e., whether testing a new process through such full-scale production runs is part of the "qualified research." There is a four-part test under section 41 for determining

whether production runs constitute “qualified research.” See 26 U.S.C. § 41(d)(1)(A)-(C); Treas. Reg. 1.41-4(a)(2). If the production runs meet this four-part test, they constitute qualified research. If the supplies are necessary to and used in the course of this qualified research—the Tax Court found that Union Carbide could not have conducted the production-process research without buying those supplies¹³—then their costs should be considered QREs, even if the production runs yield salable products. By focusing on the use of the end product rather than the experimental nature of the process, the Second Circuit’s approach fails to appreciate the value of plant-scale process research, as well as the need to apply the credit to them on an even footing with product research.

A. Process research is critical to innovation and economic competitiveness.

The research credit should be applied in an even-handed fashion to both process and product research. When the credit was first enacted in 1981, Congress recognized broadly that “a substantial tax credit for incremental research and experimental expenditures [would] overcome the resistance of many businesses to bear the significant costs of staffing, supplies, and certain computer charges which must be incurred in initiating or expanding research programs.” H.R. Rep. No. 97-201, pt. 1, at 106 (1981). Congress has extended the research credit fifteen times since then, concluding in connection with the 1996 extension that “[a] research tax credit can help promote investment in research, so that research

13. *Union Carbide Corp. v. Commissioner*, T.C. Memo. 2005-50, 2009 WL 605161, at *112 (Mar. 10, 2009).

activities undertaken approach the optimal level for the overall economy.” Staff of J. Comm. on Taxation, 104th Cong., General Explanation of Tax Legislation Enacted in the 104th Congress 105 (Comm. Print 1996). An interpretation of section 41 that denies the credit for a significant portion of the necessary costs of process research is antithetical to that congressional purpose. Without the credit, American industry would run the risk of falling behind foreign competitors in identifying and pursuing the process innovations that lead to economic growth and development.

Process research is every bit as critical to technological innovation from both economic and non-economic perspectives. As to economics, “[t]here seems to be little doubt now that the introduction of process innovation, especially in manufacturing, can have a substantial impact on productivity.” John E. Ettlíe & Ernesto M. Reza, *Organizational Integration and Process Innovation*, 35 *Acad. Mgmt. J.* 795, 796 (1992). “Historical studies of technical change indicate that process innovation is responsible for a considerable proportion of productivity improvement and industrial change.” Toke Reichstein & Ammon Salter, *Investigating the Sources of Process Innovation Among UK Manufacturing Firms*, 15 *Indus. & Corp. Change* 653, 677 (2006). Because “process innovations are an important source of increased productivity,” they are “an important element in government innovation policy.” *Id.* at 654. Indeed, “[e]very year, billions of dollars are spent on process innovation in manufacturing.” Ettlíe & Reza, *supra*, at 795 (citation omitted).

But the importance of process innovation cannot be measured solely by reductions in the short-term financial costs of production. At a time when “green” is more than just a popular color, research into improved production processes may yield benefits in reducing energy consumption in processing; reducing use of hazardous and non-hazardous materials as inputs in production; ameliorating toxic or “greenhouse” environmental emissions affecting air or water; and enhancing the safety and health of both production workers and the public. Process research is often critical—and at times even more important than product research—to allowing manufacturers to comply with environmental, safety, and other regulations.

There is no hierarchy of product and process innovation and research, either in science or in the tax law, because “a firm’s competitiveness over time depends on its ability to adopt both types of innovation [product and process].” Fariborz Damanpour & Shanthi Gopalakrishnan, *The Dynamics of the Adoption of Product and Process Innovations in Organizations*, 38 *J. Mgmt. Stud.* 45, 45-46 (Jan. 2001). The relative importance of one type of research may depend, for example, on the maturity of the industry. See Wesley M. Cohen & Steven Klepper, *Firm Size and the Nature of Innovation Within Industries: The Case of Process and Product R&D*, 78 *Rev. Econ. & Stat.* 232, 232 (May 1996) (contrasting petroleum refining with pharmaceuticals). In industries like the chemical industry, where the products may be well established, process research may take on heightened importance. Commentators suggest that “process innovation becomes the dominant type of innovation in the later stages of the industry life cycle when the market is highly concentrated

and/or the returns to process R & D outweigh the returns to product R & D.” Reichstein & Salter, *supra*, at 660 (citations omitted).

Indeed, analysts of industrial research have struggled even to define and distinguish product and process research. It has been noted that “the concept itself [of process innovation] is extremely diffuse and elastic,” Reichstein & Salter, *supra*, at 655, and “[t]he difference between product and process R&D is a subtle conceptual question that has not been answered satisfactorily to date,” Souresh Saha, *Consumer Preferences and Product and Process R&D*, 38 RAND J. Econ. 250, 250 (Spring 2007) (citation omitted). Thus, “[p]rocess innovation can be defined as new elements introduced into an organization’s production or service operations ... with the aim of achieving lower costs and/or higher product quality.” Reichstein & Salter, *supra*, at 653 (citations omitted).

Even more broadly, because the product is the fruit of the process, the two often cannot be separated with respect to either the product’s inherent characteristics or cost efficiency, because both may bear directly on the product’s usefulness, competitiveness, and exogenous effects. Even if the goal of the process innovation is economic—greater efficiency of operation or lower production cost, without any change in the physical nature of the end product—the cost of a product to its customer or its environmental or safety characteristics and regulatory compliance may be as critical to industrial and national competitiveness as its physical characteristics, particularly in the face of effective competition from substitute goods. In other words, in many respects, the process *is* the product.

B. Supplies are a critical element of plant-scale process research because new processes require those supplies in order to test the processes for efficacy, efficiency, safety, and environmental compliance.

The Second Circuit's exclusion of supply costs from QREs for process research if they are for materials ordinarily used in commercial production fails to acknowledge the critical importance of full-scale experimentation using plant production equipment. Bulk materials used to test improved production processes are no different in kind from beakers or lab notebooks used in bench testing in laboratories.

The Second Circuit failed to acknowledge the uncertainties and risks associated with "scale-up" in the chemical engineering in which Union Carbide engaged. "Scaleup is the process or group of activities by which one moves from the calculations, studies, and demonstrations to a successful commercial operating facility." Attilio Bisio & Robert L. Kabel, *Scaleup of Chemical Processes: Conversion from Laboratory Scale Tests to Successful Commercial Size Design* ix (1985). "Scaleup ... involves answering the technical question, 'How will this play on a larger scale?'" *Id.* It is a crucial element of process research without which the benefits of scientific experimentation cannot be realized.

Scale-up can have a significant effect on research answers, because chemicals can react differently based on the size of the equipment being used. A classic work on the problem explains, "When a new chemical process or a change in some part of a process moves from the laboratory

to a commercial manufacturing operation, unexpected problems are often encountered. The problems may be of a physical nature, a chemical nature, or involve some aspects of both.” Bisio & Kabel, *supra*, at 1-2. This is a universally acknowledged concern: “A chemical engineer is generally concerned with the industrial implementation of processes in which the chemical or microbiological conversion of material takes place in conjunction with the transfer of mass, heat, and momentum. These processes are *scale-dependent*, i.e., they behave differently on a small scale (in laboratories or pilot plants) than they do on a large scale (in production).” Marko Zlokarnik, *Scale-up in Chemical Engineering 1* (2d ed. 2006).

For example, problems of scale-up may include “the presence of impurities that were not considered or studied in the smaller scale laboratory or pilot plant studies,” which “can completely change the character of a catalytic process by deactivating the catalyst or by increasing the quantity of the by-products that are formed.” Bisio & Kabel, *supra*, at 2. Such by-products may pose problems for the quality of final goods produced, as well as environmental and safety-and-health consequences for workers and the public. “The real challenge today, in scaleup, is to minimize total pollutant volume.... The process of addressing the environmental challenges and regulations in the scaleup process is complex.” *Id.* at 596.

“The scaling up of equipment needed for dealing with ... physical systems often presents serious hurdles” Zlokarnik, *supra*, at xiii. The uncertainty of scale-up may be driven by the molecular complexity of the materials used (as in chemical, pharmaceutical, and food industries); physical phenomena related to unique processing

parameters or equipment; or varying environmental factors, which are particularly relevant to plant, animal, and construction-product industries. In many cases, researchers will not know what the results will be until they compare the actual outputs of plant production equipment used in operation on a typical production scale. Thus, research and development in many industries follows a trail from discovery and “test tube” laboratory research to pilot plants and ultimately full-scale production tests. Technical uncertainty often plagues all steps along this research trail, creating risks of process improvement for the output as well as the efficiency of the process itself.

Experimentation using production runs in plant facilities may be the critical step in the scale-up process. *See* Bisio & Kabel, *supra*, at 14 (“Tests in operating plants ... are all part of the input for the design and operation of a commercial plant.”). “When appropriate material systems are not available for model experiments, accurate simulation of the working conditions of an industrial plant on a laboratory or bench-scale may not be possible,” Zlokarnik, *supra*, at 42, and pilot plants may be inadequate, unavailable, or expensive, *see* Bisio & Kabel, *supra*, at 9. “Full-scale tests are often carried out in existing plants. The total costs involved in such programs are not insignificant.” Bisio & Kabel, *supra*, at 14. For example, full-scale testing “occurs where the cost of developing data for scaleup is high compared with the cost of a full scale test and where basic scaleup technology is minimal,” which “occurs often in solids handling.” *Id.* at 658 (citation omitted).

Thus, process research may entail modifying existing facilities. “Occasionally, [chemical engineers] are faced

with ... an industrial facility [that] already exists but does not function properly, if at all, and suitable measurements have to be carried out in order to discover the cause of these difficulties as well as to provide a solution.” Zlokarnik, *supra*, at 1. Even where production equipment is largely in place and the usual equipment is used in the experiment, there may be great uncertainty and risk associated with critical issues of how the equipment runs or can be maintained if the new process is used. As a result, “[p]rocess innovations are often associated with ... the existence of ‘learning-by-doing’ and ‘learning-by-using.’” Reichstein & Salter, *supra*, at 654-55.

Because of these uncertainties and risks, scale-up batches run through full-plant processes can be critical to effective experimentation. “Much of the uncertainty that surrounds a process system can be swept away only after the system [has been] built and operated.” Bisio & Kabel, *supra*, at 30. In such a setting, the qualified research activities could not be conducted without the use or consumption of large dollar amounts of the raw materials and other supplies required for commercial production.

C. The Second Circuit’s holding eliminates from consideration a large cost component of plant-scale process research and thereby stifles innovation.

The Second Circuit’s opinion thus excludes from the research credit a significant component of the cost of such process research, based on a distinction not found in the statute or regulations, and thereby limits the effectiveness of the tax credit in promoting innovation by companies

of all sizes. Numerous large and small businesses take advantage of the research credit. In 2009, the last year for which the U.S. Internal Revenue Service has published data, 12,359 companies claimed the credit, for a total of over \$7.7 billion.¹⁴ Small businesses are major players: Of all claimants, more than 86% had gross receipts of less than \$250 million, and nearly half had gross receipts between \$1 million and \$50 million.¹⁵ The leading industry sectors claiming the credit were manufacturing, information, and professional, scientific, and technical services.¹⁶ Of the over \$7.7 billion in total credits taken, \$5.2 billion was for the manufacturing sector.¹⁷

The IRS data breaks down the research costs by category, including wages for qualified services, cost of supplies, rental or lease costs of computers, and contract research expense. While the relative size of the “cost of supplies” component varies from sector to sector, it constituted nearly 17% of the total qualified research expenses for the manufacturing sector in 2009.¹⁸ The IRS data does not distinguish between product research and process research. For these purposes, supply expenses for product research and supply expenses for process research are treated identically, as key elements of the research process.

14. SOI Tax Stats, Corporation Research Credit, Figure A. All of the cited IRS data is available at <http://www.irs.gov/uac/SOI-Tax-Stats-Corporation-Research-Credit> (last visited Jan. 14, 2013).

15. *Id.*, Figure B.

16. *Id.*, Table 1.

17. *Id.*

18. *Id.*

Despite the need for supplies to test innovative processes on a full-plant scale, the Second Circuit's decision arbitrarily denies the research credit for these necessary costs if they produce, or potentially could produce, salable products. That distinction is counterfactual because, as has been demonstrated, such costs are a crucial part of process research. The denial of a credit for those key costs essential to test the processes will necessarily reduce the willingness of companies to engage in process research. Congress made clear it believed that the credit was necessary to assure the continued ascendancy of American manufacturing ingenuity, yet the Second Circuit's decision denies that credit for the crucial final piece of the process-research puzzle.

That the materials used in experimental production runs may produce products that are merchantable and are ultimately sold to customers is in many cases a fortuity—a positive result that is by no means guaranteed in any process research. That fortuity does not change the fact that the run was part of the research necessary to determine whether the new process works. The applicability of the research credit should not be contingent on the success, or lack of success, of an experiment in producing salable product. That would create an unadministrable test, often making it impossible to determine whether the costs even of admittedly qualified research are QREs, particularly if the results of the experiment are mixed. It also would make it almost impossible for companies to engage in the crucial process of budgeting for research, because they would have no way to know when entering into a research project whether the supply costs would or would not be eligible for the credit.

As explained above, experimental processes may pose foreseeable or unforeseeable risks to the product's quality, not just the efficiency or cost of production, and whether supply costs constitute QREs should not turn on the actual outcome. Companies engaged in process research may frequently undertake such risks with the knowledge or anticipation that they will sell any useful products, but may not be able to do so. Problems with the experimental process may render the product *wholly* unsalable for any purpose. Or *some* of the product may be left unsalable. Or some or all of the product may be of an imperfect or lower grade or quality, and salable only at a lower price. Those risks will vary from experiment to experiment, and may be difficult to quantify in advance or after the fact. A company undertaking production runs necessary for process experimentation may hope, by validating the experimental process on a plant scale, that the experimental run ultimately produces a salable product, but that does not make such run any less crucial to the research process and does not turn the experiment into production.

The Second Circuit's opinion makes no allowance in the scope of QREs for these variables. Nor did the court address the situation of the manufacturer that, as a result of the experimentation, has to purchase a higher total amount of its ordinary raw materials because the experimental process yields a higher level of scrap or waste.

By disallowing research costs if they are for supplies that may or actually do also produce salable output, the Second Circuit created a test that not only devalues plant-scale process research, but also is difficult to predict or

apply. It replaces the practical, objective four-part test in the Code with an uncertain, subjective standard that makes the availability of the credit turn on the commercial usefulness of the output. It disqualifies for the credit expenses that the scientific literature agrees are an integral part of the research process. And by requiring manufacturers seeking the credit to forswear sale of any output of production-process tests, it encourages economic waste. Such a rule is nowhere provided for in the law; nothing in section 41 indicates that supplies crucial to the process of experimentation lose their characterization as such if the experiment can, or actually does, succeed.

In repeatedly extending the research credit, Congress recognized that the financial support it was supplying through tax policy would help fuel the engine of technological innovation that drives the American economy. The research credit must be assumed to have the incentivizing effect Congress intended, and the Second Circuit's distortion of the credit's application can only distort the research that results. Section 41 has a four-part test of objective questions with no distinction like the ones the Second Circuit drew; if a taxpayer meets that test, it should receive the credit without regard to whether the research is product or process, or whether the output of the process research is saleable.

CONCLUSION

The petition for certiorari should be granted.

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