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ECONOMIC IMPACT OF SMOKING REGULATIONS  
PROPOSED BY THE  
GENERAL SERVICES ADMINISTRATION

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EXECUTIVE SUMMARY

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Executive Summary

The following report assesses the economic impacts of the regulations proposed by the General Services Administration (GSA). Imposing smoking restrictions in GSA-controlled government buildings. The proposed regulations are analyzed, the potential impacts of the smoking restrictions as described in the GSA rulemaking initiative are discussed, and the costs of those impacts are then quantified, where possible. A separate section examines the impact on individuals of the proposed rule. A section-by-section summary follows.

Section I: Introduction

Section II: Overview of the GSA Proposal

The major provisions of the proposed rule are reviewed and definitional problems and ambiguities are discussed. Questions are raised as to the exact specifications of the "smoking area" and the effectiveness of enforcement efforts. Other questions are raised and potential problems are highlighted. It is pointed out that environmental tobacco smoke is a minor contributor to the problem of indoor air pollution.

Section III: Economic Impacts of the Proposed Regulations

U.S. taxpayers will bear significant costs if the smoking ban is imposed. This section discusses these costs, including the cost of physical alterations and signs, and productivity losses in the public sector.

The potential costs of the non-smoking regulations are substantial. For example, if physical alterations costing just \$1,000 are necessary at only half of the buildings covered, direct costs of \$3.4 million will result. Productivity losses among federal government employees could cost \$105.6 million, based on conservative estimates.

In summary, the direct costs to the taxpayers are:

(1) Productivity Losses (recurs annually)	\$105.6 million
(2) Physical Alterations	3.4
(3) Signs	<u>0.2</u>
TOTAL	<u>\$109.2 million</u>

It is important to note that these cost estimates do not cover the entire number of affected federal employees. Data limitations precluded total coverage. Our estimates are, therefore, very conservative.

In making its proposed rules available for public comment (see 52 Fed. Reg. 18805), GSA asserted that the regulations are not likely to result in an effect on the economy of more than \$100 million annually; the regulatory impact analysis required by E.O. 12291 was therefore not prepared. The above estimates suggest that GSA's cost determination was in error. Even a conserva-

tive estimate of the economic impact of the no-smoking regulations exceed \$109 million, nearly \$106 million of which recurs annually and increases each year with increases in federal employee compensation rates. Despite GSA's assertions, its regulations do constitute a major rule for the purposes of E.O. 12291.

Section IV: Prohibiting Smoking and the Impact on Individuals

There are certain inequities inherent in the smoking ban. This section discusses the increased potential for abuse of enforcement authority if the smoking prohibitions are instituted. In addition, it presents evidence that illustrates how minorities and low- and moderate-income individuals are more likely to be charged with violating nuisance laws, and thus more affected by the smoking regulations.

Disproportionate impacts on low- and moderate-income public sector employees are also discussed and supported by data detailing smoking customs by occupation and income.

Section V: Conclusion

The report attempted to quantify the economic effects of severely restricting smoking in GSA-controlled government buildings. The costs of imposing these restrictions, estimated with the most recently available data, exceed \$109.2 million, and would be borne directly by U.S. taxpayers. Over 96 percent of these costs will be incurred year after year, and increase with inflation. The negligible benefits of the regulations have also been detailed, as have the inequities of the proposed rule.

The General Services Administration must consider priorities in its deliberations on this issue. Given the inequities inherent in the proposed rule, the lack of an enforcement mechanism, and the substantial costs that will be imposed on U.S. taxpayers, are such regulations worth the consequences?

1. INTRODUCTION

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1. INTRODUCTION

The General Services Administration (GSA) is considering a rule (51 Fed. Reg. 18805) which would restrict smoking in all GSA-controlled government buildings. The economic impacts of the proposed regulations have not been quantified in the debate, yet they have the potential to impose significant costs on U.S. taxpayers.

We feel that the GSA must consider the economic and social implications of this rule, the costs and benefits expected to accrue to all affected parties, and the broad questions concerning the proper role of government and government regulation of individual behavior before reaching a final decision.

This study will review these major issues. In the following report, we will discuss the economic impacts of the proposed regulations in general terms and quantify to the extent possible the costs that will be imposed. Arguments and evidence will be presented in opposition to the GSA proposal.

In this report, we have attempted to lay out a comprehensive set of arguments in support of our position. We have tried to avoid the emotionalism that surrounds an issue such as public smoking and have relied on the economic facts available to us. Many of the arguments and cost estimates are based on verifiable data, while others are more difficult to quantify. We have decided, however, to be as complete as possible and, therefore, to present all arguments that we feel should be considered.

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II. OVERVIEW OF THE OEA PROPOSAL

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II. OVERVIEW OF THE GSA PROPOSAL

A. Review of the Major Provisions of the Regulations

1. Coverage

The rule under consideration would amend the Code of Federal Regulations (41 CFR Part 101-20) to regulate smoking in all federal buildings controlled by the General Services Administration (GSA). With the exceptions noted below, smoking would be prohibited in "general office space," which is defined as "space occupied by personnel performing their daily work function," including, but not limited to, ADP areas, mail rooms, file rooms, duplicating areas, court and jury rooms, and office space. Smoking is also to be banned entirely in a variety of other building locations: auditoriums, classrooms, and conference rooms; elevators; corridors, lobbies, and restrooms; medical care facilities such as medical clinics and health units; libraries; and hazardous areas ("locations where there is a collection of readily ignitable, combustible materials").

Under the proposed rule, agency heads are given authority to designate areas within the affected buildings where smoking is permitted. Private offices may be declared as smoking areas, and such areas are required to be set aside in cafeterias and vending machine areas. However, nothing in the proposed regulations precludes agencies from adopting more stringent smoking rules than those called for in the GSA's initiative.

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Although the various agencies are not required to make any expenditures for structural changes to accommodate the preferences of nonsmoking federal workers, designated smoking areas are to be identified by appropriate signs, and an adequate number of ash trays or receptacles are to be provided in these locations. In addition, "no smoking" signs are to be posted in all elevators and uniform signs stating "No Smoking Except in Designated Areas" are to be placed on or near the entrance doors to all buildings subject to the regulations.

2. Penalties

No specific penalties are provided for those who violate the law, although "agencies are encouraged to develop additional guidelines for internal use for action when violations of these regulations occur."

3. Enforcement

No specific enforcement mechanism is established. Agency heads are presumably responsible for compliance.

B. Definitional Problems

1. Definition of the designated smoking area

As written, the proposed rule contains certain ambiguities and definitional problems that will create difficulties in compliance and enforcement. Some very important questions surround the definition of a "smoking" area. No guidelines are given as to what arrangements must be made to implement the smoking restrictions. In a federal office, does the law require that smoking and nonsmoking workers be separated? Will it be necessary to install physical barriers and smoke-removal devices to reduce the amount

of smoke in areas adjacent to designated smoking areas? What proportion of the floor space of an office may be set aside for smokers? What arrangements are to be made for members of the public who visit Government buildings? What constitutes the "reasonably smoke-free environment" that the regulations intend to provide for federal employees? The only guidance given is that in designating smoking areas in cafeterias, the size of the space set aside shall be based upon an estimate of the number of smoking and nonsmoking patrons served. The vague language in the rule may result in standards which vary from building to building, or from office to office, and, therefore, cause unequal treatment of government workers.

2. Enforcement and Penalties

The rule presumably gives enforcement authority to agency heads, but imposes no penalties on those who violate the regulations. Thus, the extent of compliance with the rule will ultimately depend on existing good manners and consideration of others. One can also imagine, however, scenarios in which federal security officers and other law enforcement personnel would, in addition to their responsibilities for protecting the safety and property of federal employees, as well as for guarding classified information, be required to ensure that individuals smoke only in designated areas. Such priorities should be reexamined.

3. Inequities in Coverage

The GSA's proposed rule applies to approximately 6,800 federal buildings in the U.S.<sup>1</sup> This is a small percentage of the real property owned and leased by the Government. In 1983, for example, civil agencies of the U.S. occupied 95,630 federally-

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owned buildings within the 50 states, comprising 760,694,145 square feet of floor area.<sup>2</sup> This means that federal employees will be treated unequally depending on whether or not they happen to work in a GSA-controlled building. Less than 10 percent of U.S. Government buildings will be subject to the GSA regulations.

4. Tobacco Smoke Contributes Little to Indoor Air

Pollution

Although health complaints associated with poor indoor air quality have been increasing in recent years, relatively few of these have involved environmental tobacco smoke. For example, the National Institute for Occupational Safety and Health (NIOSH) completed 203 indoor air quality evaluations through December 1983, 154 (75.9 percent) of which involved government and private business offices of the type subject to GSA's proposed rule.<sup>3</sup> As the figures in the accompanying table show, in only 4, or 2 percent, of the investigations was cigarette smoking found to be a contributor to poor indoor air quality.<sup>4</sup> Even this low figure overestimates the impact of environmental tobacco smoke on indoor air quality because the NIOSH study did not include its investigations of asbestos-related problems in workplace settings.<sup>5</sup> Similarly, high levels of environmental tobacco smoke have been determined to be the immediate cause of indoor air problems in only 5, or 4 percent, of the 125 major-buildings investigated between 1981 and early 1986 by a private company, ACVA Atlantic Inc., that specializes in the study of indoor air pollution.<sup>6</sup> Indeed, ACVA has determined that in cases where high accumulations of environmental tobacco smoke have been found, an excess of fungi and bacteria also has been present in the building's

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Completed NIOSH Indoor Air Quality  
Investigations by Type of Problem  
(through December 1983)

Problem	Number	Percent
Contamination (inside)	36	17.7
Contamination (outside)	21	10.3
Contamination (building fabric)	7	3.4
Inadequate ventilation	98	48.3
Hypersensitivity pneumonitis	6	3.0
Cigarette smoking	4	2.0
Humidity	9	4.4
Noise/illumination	2	1.0
Scabies	1	0.5
Unknown	19	9.4
TOTAL	203	100.0

Source: James Mellus et al. (1984), p. 4

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ventilation system; these microorganisms usually are found to be the primary causes of the complaints reported by the occupants.<sup>7</sup>

Environmental tobacco smoke is not a major contributor to poor indoor air quality. The GSA should consider giving higher priority to minimizing factors that have been found to be much more important in indoor air pollution -- asbestos, bacteria, fungi, ozone, textile and fiberglass fibers, to name a few.

C. Conclusion

To summarize, the GSA's proposed rule is an ill-conceived attempt to regulate personal behavior. Among its other problems, the rule ~~is based on the faulty premise that smokers consume public health resources without paying for them; it~~ contains vague language on what standards agencies are to meet in implementing the no-smoking policy, and it imposes no penalties on those who violate the regulations.

In addition to these items, U.S. taxpayers will be forced to bear significant costs associated with compliance. The costs are outlined and explained in Section III.

III. ECONOMIC IMPACT OF THE PROPOSED REGULATIONS

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### III. ECONOMIC IMPACT OF THE PROPOSED REGULATIONS

Those who want to ban smoking at the workplace or restrict smoking to designated smoking areas claim that these actions will decrease absenteeism among smokers and in general increase worker productivity. The studies cited by those favoring smoking restrictions are inconclusive at best. To the contrary, there is substantial empirical evidence suggesting that workers who smoke are more productive than their nonsmoking colleagues.

Results reported in a recent Minnesota study showed that smokers are 2.5 percent more productive than nonsmokers.<sup>8</sup> This does not of course mean that every worker should smoke, it merely suggests that if smokers are not allowed to smoke on the job there will be a decrease in their productivity.

A recent study by Response Analysis Corporation (RAC) found that 65 percent of first-level supervisors thought there was either no effect or a positive effect on productivity from permitting occasional smoking while working.<sup>9</sup> In addition, only six percent of the supervisors felt that a smoking ban would increase productivity. The RAC study also found that two-thirds of the supervisors surveyed felt morale would decrease with a smoking ban, which surely would reduce productivity. Other researchers have found that smoking is used to alleviate stress, anxiety, and boredom, which if true would increase the productive capacity of workers.<sup>10</sup> (Based on the findings in these two studies, Response

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Analysis Corporation has concluded that productivity increases will not come about by instituting smoking bans.)

By banning or restricting smoking in the workplace, advocates believe that absenteeism will decrease thereby increasing productivity. This argument ignores the fact that the absenteeism rate of smokers, however it compares with that of nonsmokers, is unlikely to be influenced by the proposed regulations because smokers would be free to smoke both on the job in any designated smoking areas and during their nonworking hours.

For the same reason, the argument that the regulations will result in insurance cost savings is erroneous. The GSA proposal only restricts the times and places where federal employees may smoke -- at most, the regulations will prevent some workers from smoking for 8 hours per day. So, even if it were true that smokers make more claims against government-sponsored health insurance programs than nonsmokers, the GSA initiative will not lower these costs: federal workers who smoke can continue to do so at alternative hours and locations.

The assumption that restricting or banning smoking in the workplace will increase productivity seems to be false. In reality, if smoking bans are instituted, there is reason to believe that such actions will entail significant costs to employers.

A. Productivity Losses

As was mentioned earlier, the taxpayers will face substantial costs if the proposed restrictions on smoking in GSA-controlled buildings are adopted. The major source of these costs is the potential loss in federal worker productivity that would

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occur if employees are not allowed to smoke at their worksite. To comply with the regulations as written, it may be necessary to ban smoking completely in many open office spaces occupied by both smokers and non-smokers, and in the areas of GSA buildings to which the general public has access. If such regulations are prescribed, banning smoking in work spaces, then it may be necessary to give "smoking breaks" to federal employees. Such breaks are costly because they result in lost work time and, therefore, lost production.

A rough estimate of these productivity losses can be made by considering some conservative numbers. GSA-managed buildings house approximately 887,000 federal workers.<sup>11</sup> About 232,400 of these work in clerical jobs, and 149,900 are classified as professional and technical workers.<sup>12</sup> As of 1983, the most recent year for which detailed data are available, federal employees in these two occupational categories were paid average annual salaries of \$14,400 and \$27,411, respectively, which translate into hourly wages of \$7.20 and \$13.71, assuming 250 eight-hour workdays per year.<sup>13</sup>

Figures published by the Journal of Occupational Medicine suggest that 38.0 percent of clerical, and 30.7 of professional and technical workers smoke. If the incidence of smoking among government employees is the same as in the civilian workforce as a whole, then the proposed ban on smoking in GSA buildings will affect 88,312 clerks, and 46,019 professional and technical employees. Under the assumption that smoking employees would be given two ten-minute smoking breaks, the lost work time would be 20 minutes per day per smoking employee. Valuing the lost time on

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the basis of 1983 compensation rates, and again assuming a 250-day work year, yields \$105.6 million as an estimate of the dollar value of annual productivity losses. Note that this cost will grow year after year with increases in government compensation rates. Note also that the \$105.6 million figure is quite conservative. It does not account for the possibility that breaks would be granted to nonsmokers as a matter of equity. Extending the break time to all clericals, for example, would cost the taxpayers an additional \$86.4 million, raising the value of lost work time from \$105.6 million to \$192.0 million. Including other employees obviously adds to these costs.

The estimate of \$105.6 million in productivity losses is based on two principal assumptions. First, it was assumed that the incidence of smoking among clerical and professional and technical workers in the public sector is equal to the national averages in those job categories. This assumption tends to understate the productivity loss to the extent that the incidence of smoking among government workers may exceed the national average. Second, it was assumed that as a result of the law smokers will be given two ten-minute smoking breaks per day. It is of course possible that the number and length of breaks allowed will be more or less than has been assumed. If smokers are given only one ten-minute break per day, for example, the cost to taxpayers of lost productivity will be \$52.8 million annually. A range of estimates for these losses under alternative assumptions concerning the number of workers affected and the number and length of smoking breaks allowed is given in the following table.

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Productivity Losses Under Various Assumptions Concerning Types of Affected Employees and Number and Length of Smoking Breaks<sup>4</sup>

Employees Affected	One Five-Minute Break	One Ten-Minute Break	Two Ten-Minute Breaks	Two Fifteen-Minute Breaks
Clericals who smoke	\$ 13.25	\$ 26.49	\$ 52.99	\$ 79.48
All clericals	\$ 34.86	\$ 69.72	\$139.44	\$209.16
Professional and technical workers who smoke	\$ 13.14	\$ 26.29	\$ 52.58	\$ 78.87
Clericals and professional and technical workers who smoke	\$ 28.39	\$ 52.78	\$105.57	\$158.35
All clericals plus professional and technical workers who smoke	\$ 48.00	\$ 96.01	\$192.02	\$288.03

<sup>4</sup>Millions of 1983 dollars.

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The main point, however, is that even if formal smoking breaks are not instituted (for instance, smokers may be required to smoke only during existing coffee and lunch breaks), smoking employees will be less productive at their workites. For example, they may take more, or longer, trips to the water fountain or restroom. Such factors can easily translate into ten or twenty minutes of lost productive work time per day, generating costs on the order of magnitude we have estimated.

It is important to emphasize that our cost estimate is conservative. The \$195.6 million figure does not include the cost of productivity losses for federal blue-collar employees working in the affected buildings. The incidence of smoking among individuals employed in such jobs is much higher than for white-collar occupations (see Appendix A), so including them would raise the cost of the GSA regulations substantially.

B. Physical Alterations and Signs

In estimating the economic impact of instituting smoking restrictions in GSA buildings, productivity losses are just the tip of the iceberg. The taxpayers would be forced to bear additional costs in the form of the expenses associated with posting signs and making the physical alterations to the workplace necessary to establish smoking areas that accommodate nonsmokers. The proposed rule affects about 6,800 federal buildings.<sup>14</sup> If physical alterations costing just \$1,000 are necessary at only half of these sites, the cost will be \$3.4 million. Moreover, the purchase of one \$25 sign for each building entrance that specifies that smoking is prohibited except in designated areas will cost a total of \$170,000. Obviously, these are conservative estimates.

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More than one sign will be required per facility (facilities, for example, with multiple entrances). Also, besides the value of lost work time, there will be other productivity costs arising from the potential segregation of smokers and nonsmokers.

C. Additional Costs

The ban on smoking in GSA buildings would entail other costs which are more difficult to quantify. For example, agency heads and other administrative personnel will face the problem of resolving disputes between employees stemming from the rule's lack of guidelines concerning what constitutes a "reasonably smoke-free environment for those working [in] and visiting GSA-controlled buildings." An important segment of the federal work force is covered by collective bargaining agreements, some of which may have provisions pertaining to smoking while others do not. If smoking in general office spaces were prohibited as outlined in the proposed rule, it is reasonable to assume that contractual provisions would have to be negotiated in those instances where the contract is now silent on smoking. Moreover, because existing contracts cannot be abrogated with a rule, pre-existing contracts would prevail, leading to a forced inequity between workers covered by contracts and those not covered.

Regulations such as smoking prohibitions always increase interdisciplinary proceedings, causing additional costs for both the union representatives and the administrative personnel in terms of time and people involved in the resolution of disciplinary proceedings against employees for violation of the GSA's non-smoking provision.

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It is also important to analyze the impact that these regulations would have on employee relations for those employees without collective bargaining agreements. In these situations, employees are covered by personnel rules and regulations enforced by the Office of Personnel Management. Agency heads and other administrative officers are usually responsible for employee relations on a day to day basis. It is obvious that the GSA's regulations will create additional personnel problems for these managers. Consider for a moment a very conservative estimate of what the rule could cost in time for personnel problems stemming from its imposition.

There are approximately 887,000 employees working in GSA-controlled buildings. Assume that only 10%, or 88,700 of these employees ever have any personnel problems stemming from the imposition of the non-smoking provision and that for those 88,700 workers the personnel problems which do arise over a year take only one day to be resolved. One day per year amounts to 709,600 hours per year for additional personnel management time devoted to resolving smoking problems.

The average compensation for a professional and technical worker is \$13.71 an hour and for a clerical worker is \$7.20 an hour. Involving these two employees in resolution of disputes which take one hour will cost \$20.91 in lost time. Multiplying \$20.91 times the total hours spent in resolving these disputes (709,600 hours) provides an estimate of cost equal to \$14.8 million per year. Again, this is based on very conservative assumptions. It would not be unreasonable to assume that the actual cost for resolution of personnel problems stemming from

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imposition of smoking prohibitions would be significantly greater.

D. Summary

U.S. taxpayers will be forced to bear significant direct costs from imposition of the smoking restrictions in GSA buildings. Even our conservative estimate totals \$109.2 million without inclusion of any estimate of legal costs resulting from the serious ambiguities of the proposed rule. In most situations, smoking-related problems are resolved voluntarily. Thus, taxpayers are being asked to bear a large burden for no discernible benefit.

The next section will discuss the inequitable effects of the rule on individuals.

IV. PROHIBITING SMOKING AND THE IMPACT ON INDIVIDUALS

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IV. PROHIBITING SMOKING AND THE IMPACT ON INDIVIDUALS

Major taxpayer costs have been identified in the previous discussion. Here, we will highlight some of the inequities inherent in banning smoking.

One issue that the GSA should be aware of is the fact that a preponderance of individuals charged with violating nuisance laws are minority or low-income individuals. Evidence suggests that the probability of a minority or a low-income person being cited for a smoking violation is much greater than the probability of a well-dressed suburbanite. We have some evidence to corroborate this assertion. For example, Chicago instituted a Smoker's Court to hear cases involving violations of the City's anti-smoking ordinances. Approximately ninety percent of those who were arrested for violating these nonsmoking laws were members of minority and low-income groups. Also, in New York, more than 55,000 summonses were issued to persons who allegedly violated health code regulations such as the non-smoking ordinance. Of these 55,000 summonses nearly 40,000 were issued to Blacks and Hispanics.<sup>15</sup>

Not only are minorities and low-income individuals more likely to be cited for violations, the disruption to their lives for these violations is likely to be much greater than it is for other individuals. Take just one example from the Chicago Smoker's Court history. In 1976, a woman was arrested for smoking on one of the City's elevated trains. She was unable to post the

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required \$10 bond and was forced to spend the night in jail.<sup>16</sup> Most people would agree that spending time in jail for a violation of a non-smoking regulation is punishment not befitting the crime.

There are other aspects of the rule which are disturbing. It would prohibit smoking in open workplaces, but would allow private offices to be designated as smoking areas. In a law office, the attorneys will not be affected but the typists, file clerks, and receptionists will. This list goes on. As this reveals, the sanctions proposed by this rule will be directed disproportionately at low- and moderate-income individuals and the results are discriminatory.

This unfairness is supported by data on the smoking habits of the population according to occupation. A close look at available data indicates that there are significant variations in smoking habits by occupation and that the actual impact of the rule will be much greater upon certain categories of workers than on others.

Tables 1 and 2 (see Appendix A) show by detailed occupation percentages of persons who smoke. These numbers demonstrate that the effect of the proposed smoking ban will be felt by occupations which traditionally are referred to as blue-collar. It is clear that the proposed rule will have a disproportionate impact upon low- and moderate-income federal workers.

Data on smoking by income class supports this contention. Table 3 (see Appendix A) shows the percentage of smokers by income according to the latest survey (1980) conducted by the National Center for Health Statistics. As the data reveal, the

percentage of people who smoke between the ages of 25 and 65 falls as income increases. For example, over half of the 35-44 year-olds who earn less than \$7,000 smoke, while only 35% of those earning over \$25,000 smoke. As the data illustrate, the incidence of smoking is higher among lower-income groups.

In summary, application of smoking restrictions in GSA buildings may have a disproportionate impact on low- and moderate-income federal employees.

V. CONCLUSION

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V. CONCLUSION

This report has attempted to quantify the major effects of imposing smoking prohibitions in GSA-controlled buildings, has discussed the economic impacts of such prohibitions and has reviewed the issue of environmental tobacco smoke in terms of the need for government regulation.

The conclusion is that the proposed rule is unwarranted. Scientific evidence suggests that environmental tobacco smoke is a trivial contributor to the problem of indoor air pollution, the costs associated with complying with the regulations are obviously much more than the \$100 million required by E.O. 12291 to be considered a major rule, and the individuals who are supposed to be "protected" by the regulations -- federal employees -- are opposed to their promulgation without substantial changes.<sup>17</sup> Other effects are inequitable: low- and moderate-income federal workers are the most likely group to be directly affected and the regulations apply to only a small portion of federal buildings. At the same time, the benefits of the rule are negligible: instances of smoking-related problems in workplaces are few and where they occur, voluntary efforts by managers and employees can resolve these problems on a case-by-case basis without arbitrary government regulation.

The GSA must consider priorities in its deliberations on this issue. Given the inequities inherent in the proposed rule, the lack of an enforcement mechanism, and the significant costs that will be imposed on taxpayers, such regulations are not worth the consequences.

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APPENDIX A

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Table 1

Percentage Male Smokers by Detailed Occupational Category

<u>Category</u>	<u>Percentage Smokers</u>
Garage Laborers	58.5
Cooks (Not Private Household)	57.5
Maintenance Painters	56.3
Pressmen and Plateprinters	55.7
Auto Mechanics	54.6
Assemblers	52.7
Buyers, Store	52.1
Shipping and Receiving Clerks	50.0
Personnel, Labor Relations	36.9
Draftsmen	34.2
Accountants and Auditors	33.3
Architects	32.3
Lawyers	30.3
Compositors and Typesetters	29.3
Engineers, Aeronautical	26.2
Engineers, Electrical	20.3

Source: Sterling, T., and Weinkas, J., "Smoking Characteristics by Type of Employment," Journal of Occupational Medicine, 18 (11), 1976, pp. 743-754.

Table 2

Percentage Female Smokers by Detailed Occupation Category

<u>Category</u>	<u>Percentage Smokers</u>
Waitresses	49.6
Shipping and Receiving Clerks	48.5
Buyers, Store	46.5
Assemblers	43.6
Bookkeepers	38.6
Nurses, Professional	38.4
Laundry and Drycleaning Operatives	38.3
Secretaries	37.8
Accountants and Auditors	30.8
Stenographers	28.4
Payroll and Timekeeping Clerks	24.4
Technicians, Medical and Dental	23.6
Elementary School Teachers	19.4
Librarians	16.4

Source: See Table 1.

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Table 3  
Percentage of Smokers by Income\*

<u>Age Group</u>	<u>Less than \$7,000</u>	<u>\$7,000 - \$14,999</u>	<u>\$15,000 - \$24,999</u>	<u>\$25,000+</u>
17 - 19	30.1%	27.9%	23.0%	17.2%
20-24	37.8	40.8	30.5	33.4
25-34	45.9	41.9	36.3	29.0
35-44	51.4	41.8	37.2	25.0
45-65	40.1	38.8	35.8	31.0
65+	17.4	18.0	15.6	10.2

\* Unpublished data from the National Health Interview Survey, National Center for Health Statistics. Survey interviews took place during last six months of 1980.

FOOTNOTES

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Notes

1. "GSA Bans Most Smoking in Government Buildings," Current Developments, Bureau of National Affairs, May 28, 1986, p. A-5.

2. U.S. General Services Administration, Office of the Administrator, Summary Report of Real Property Owned by the United States Throughout the World as of September 30, 1983, Washington, D.C: General Services Administration.

3. James Mellus et al., "Indoor Air Quality -- the NIOSH Experience," Ann. Am. Conf. Gov. Ind. Hyg. 10 (1984): 3-7.

4. Ibid., p. 4.

5. Ibid., p. 3.

6. Statement of Gray Robertson, President, AVCA Atlantic Inc., Before the National Academy of Sciences Concerning the Contribution of Environmental Tobacco Smoke to Indoor Air Pollution, January 14, 1986, p. 8.

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7. Ibid.

8. Dahl, Tor; Gunderson, Barbara; and Kuehnast, Kathleen. The Influences of Health Improvement Programs on White Collar Productivity, 1984.

9. Vogel, Alfred. "Are Smokers Really Less Productive Than Nonsmokers?" Legislative Policy, 1985, pp. 6-8.

10. See Lavethal, H. and Cleary, P.D. "Why Haven't More People Quit Smoking?" The Sciences 17 (7), 12. New York: Academy of Science, 1977; Lichenstein, E. "The Smoking Problem: A Behavioral Perspective." Journal of Consulting and Clinical Psychology 50, 1982, pp. 804-19.

11. "GSA Bans Most Smoking in Government Buildings," supra n. 1. There is, of course, the problem that some of these workers will have private offices. There is no apparent way to adjust for this effect, nor is it clear how the proposed legislation would impact on a federal worker who smokes in a private office. Can he or she smoke, for example, when giving dictation or hosting a meeting?

12. Bureau of Labor Statistics data suggest that in non-manufacturing industries (services, finance, insurance, and real estate), 26.2 percent of employees are in clerical jobs and 16.9 percent are in professional and technical positions.

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(P. 5)

13. U.S. Department of Commerce, Bureau of the Census, Statistical Abstract of the United States 1986, Washington, D.C.: USGPO, p. 329. The average salary of professional and technical workers was arrived at by weighting the average salaries in the two occupational categories by the number employed.

14. "GSA Bans Most Smoking in Government Buildings," supra n. 1.

15. Remarks of Dr. Theodore Gill, Provost and Dean of Faculty, John Jay College of Criminal Justice, before the First Annual Conference of the National Minority Council on Criminal Justice, Washington, D.C., October 18, 1980.

16. Ibid.

17. Letter from Kenneth Blaylock, National President, American Federation of Government Employees, to Senator Ted Stevens, October 29, 1985.

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