

ECONOMIC IMPACT OF INSTITUTING
SMOKING PROHIBITIONS
IN NEW YORK CITY

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EXECUTIVE SUMMARY

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Executive Summary

The following report assesses the economic impacts of imposing smoking restrictions in private workplaces and a variety of public and private locations in New York City. The proposed law is analyzed, the potential impacts on the private sector are discussed and the costs of those impacts are then quantified, where possible. A section-by-section summary follows.

Section I: Introduction

Section II: Overview of the New York City Law

The major provisions of the law are reviewed and definitional problems and ambiguities are discussed. Questions are raised as to the exact specifications of the designated "smoking area" and the effectiveness of enforcement efforts. Other questions are raised and potential problems are highlighted.

Section III: 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 some evidence that illustrates

minorities and low- and moderate-income individuals are more likely to be charged with violating nuisance laws, and thus more affected by the smoking legislation.

The disproportionate impacts on low- and moderate-income working people are also discussed and supported by data detailing smoking habits by occupation and income.

Section IV: Economic Impacts on Affected Public Places

New York City's businesses and taxpayers will bear significant costs if the smoking restrictions are imposed. This section discusses these costs, including the cost of physical alterations, customer inconvenience and productivity losses.

For the owners of restaurants and other establishments in the private sector, the possibility of losses in business if the non-smoking legislation is adopted could be significant. For example, assuming a small 0.5 percent decline in a small proportion of restaurant business in the city, direct losses of \$6.3 million will result. Productivity losses in private workplaces could cost \$50.4 million, based on conservative estimates. Losses suffered in other sectors of the New York City economy are of similar magnitude.

It is important to note that these cost estimates do not cover the entire number of affected establishments. Data limitations precluded total coverage. Our estimates are, therefore, undoubtedly low. The conservative estimates are derived by assuming that, for example, only 25 percent of restaurant sales are affected by the law and in these cases the restaurants suffer only a 0.5 percent decline in business as a result of the law. As

the number of firms affected rises and as the loss of business increases, higher estimates of potential losses become meaningful. Moreover, the impact of the law in all cases will be a function of its enforcement and interpretation. Still, for the above cited reasons, these estimates of the economic impact of the law are biased on the low side.

In summary, the direct costs to the private sector and taxpayers of New York City are:

	<u>Conservative Estimate</u>
(1) Eating Establishments	
- Revenue losses	\$ 4.8 million
- Physical alterations and signs	<u>1.5</u>
- Total	\$ 6.3 million
(2) Private Workplaces	
- Productivity losses	\$ 50.4 million
- Physical alterations and signs	<u>0.7</u>
- Total	\$ 51.1 million
(3) Public Workplaces	
- Productivity losses	\$105.4 million
- Signs	<u>0.2</u>
- Total	\$105.6 million
(4) Other Indoor Public Places	
- Revenue losses	\$101.8 million
- Signs	<u>0.8</u>
- Total	\$102.6 million
Total	<u>\$265.6 million</u>

Section V: Impact on New York City

The impact of the law on New York City is presented in this section. Not only will the city incur enforcement costs, but it may also experience revenue losses from a declining income tax base due to loss of business income, the possibility of small

business failure and subsequent declines in employment. A 1% decline in the tax base will reduce revenues by \$74 million. The negative impact on future economic growth is also discussed.

It is pointed out that the economic outlook is one of moderate economic growth. Federal aid has declined dramatically since 1981 and Congressional concern with the federal budget deficit should exacerbate this situation. The highest priority, in this environment, should be given to maintaining adequate levels of services. The city cannot afford to divert resources to enforcement of smoking bans, precipitate revenue losses and deter economic development.

Section VI: Conclusion

The report has attempted to quantify the economic effects of extending the smoking prohibition in New York City. A conservative estimate of the costs of imposing these restrictions is \$265.6 million and would be borne directly by private establishments and by taxpayers. Other costs not quantified would be imposed on all residents of the city through secondary or multiplied negative economic effects. Over 90 percent of these costs will be incurred year after year, and increase with inflation. The negligible benefits of the New York City law has also been detailed, as have the inequities of the legislation.

The city must consider priorities in its deliberations on this issue. Given the current economic climate, the serious social needs that exist and the limited resources available to both public and private sectors to meet these needs, is such a law worth the consequences?

I. INTRODUCTION

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I. INTRODUCTION

The City of New York is considering a law which prohibits smoking in all enclosed, public places within the city, including elevators, buses, taxicabs and other means of public transit, retail stores, and all public areas at all businesses and non-profit organizations. The bill also requires employers to implement and maintain a written smoking policy that gives precedence to the preferences of nonsmokers. The economic impacts of the proposed law have not been quantified in the debate in the city, yet they have the potential to impose significant costs on employers, employees, and patrons in the affected places. We feel that the city must consider the economic and social implications of this law, as well as the costs and benefits expected to accrue to all affected parties, before reaching a final decision.

This study will review these major issues. In the following report, we will discuss the economic impacts of the law in general terms and quantify to the extent possible the costs that will be imposed on the private sector. Arguments and evidence will be presented in opposition to the legislation.

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 environmental tobacco smoke 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 by the city.

II. OVERVIEW OF THE NEW YORK CITY LAW

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A. Review of the Major Provisions of the Law

1. Coverage

The law before the City Council would prohibit smoking in all "public places" and require that workplace smoking policies be implemented and maintained by all employers. As defined by the law, "public place" means any enclosed area to which the public is invited or in which the public is permitted, including but not limited to, banks, educational facilities, health facilities, malls, public transportation facilities, reception areas, restaurants, retail food production and marketing establishments, retail stores, theaters and waiting rooms. Excluded from the law's coverage are bars, retail tobacco stores, private residences, and private enclosed offices occupied exclusively by smokers. The law does permit the owners of restaurants to designate a maximum of 50 percent of their seating capacity as a smoking area if adequate ventilation is provided. In addition, up to one-half of lobby areas may be set aside for smokers, and separate rooms in the public areas of aquariums, galleries, libraries, and museums may be designated for smoking.

Employers are required to provide smokefree areas for their nonsmoking employees to the maximum extent possible. Written smoking policies are to be implemented and maintained in all places of work which give nonsmokers the right to designate his or her work area as a nonsmoking area. The employer may accom-

modate the preferences of nonsmokers by, for example, reassigning the employee to a different work area, expanding the size of the work area, or implementing other measures "reasonably designed to minimize or eliminate the effects of smoke," but in any case the concerns of the nonsmoker are to be given precedence. In addition, smoking is to be banned entirely in workplace auditoriums, classrooms, conference and meeting rooms, elevators, hallways, medical facilities and restrooms, and not less than 50 percent of employee cafeterias and lunchrooms must be designated as nonsmoking areas.

The proposed ordinance amends the existing administrative code of New York City which bans smoking in a variety of public and private places. Under the existing law, smoking is prohibited in supermarkets, classrooms, theaters and concert halls, hospitals and nursing homes, museums and libraries, and a number of places with enclosed spaces, including religious, political, and social places. In addition, smoking is now banned in retail stores employing more than 25 workers and serving more than 300 customers.

2. Penalties

Fines not exceeding \$200 for a first violation, \$400 for a second violation, and \$1,000 for each additional violation are imposed. Violations consist either of persons smoking in a prohibited area or of employers, owners, or managers failing to comply with any provision of the law, except that a restaurant shall not be deemed in violation if the host or hostess fails to ask the seating preference of patrons.

3. Enforcement

The enforcement of the proposed law is the responsibility of the New York City Department of Health. In addition, police officers and employees of the Departments of Buildings, Consumer Affairs, Environmental Protection, Fire, and Sanitation may enforce the law's provisions. Moreover, citizens may register complaints with the Health Departments.

B. Definitional Problems and Other Considerations

1. Definition of smoking area

As written, the bill contains certain ambiguities and definitional problems that will create difficulties in compliance and enforcement. Some very important questions surround the definition of "nonsmoking" areas in places of employment. The only guidance given in the law is that in accommodating the preferences of nonsmokers, employers must adopt measures "reasonably designed to minimize or eliminate the effects of smoke on the employee." What constitutes the "minimum" allowable smoke level in non-smoking areas? This vague language will result in a multitude of different standards and definitions which vary from workplace to workplace and, therefore, cause unequal treatment of employees. Moreover, the ambiguity gives wide discretion to those enforcing the law.

2. Enforcement and penalties

Although the owners or managers of the affected places are given the responsibility for designating smoking areas and posting signs, they are in general not responsible for enforcing the provisions of the law. However, owners or managers clearly must monitor the behavior of their employees or customers who smoke

because they will ultimately have to defend their smoking policies against complaints made by nonsmoking customers or employees to the Department of Health.

Persons who smoke in restaurants or other indoor public places in violation of the law can be fined only if they are observed doing so by the persons authorized to enforce the ordinance. Law enforcement is therefore likely to be haphazard, with the result that few smokers will ever actually face monetary penalties. Thus, the extent of compliance with the law depends ultimately on existing good manners and consideration of others shown by smokers.

3. Adjustment costs

Under the current law restricting smoking, individuals can presume that smoking is permissible except in those places where it is specifically prohibited. The proposed law reverses this standard by banning smoking except in designated areas. This reversal means that New Yorkers will be forced to bear some very real adjustment costs to comply with the new ordinance. During the transition period, for example, some individuals may attempt to smoke in places where it had previously been allowed but in which they are unaware it is now banned. This will cause unnecessary conflict between smokers and nonsmokers, disrupt the routine in many establishments, and upset the normally courteous interactions between people.

In short, the proposed law does more than extend existing smoking prohibitions. Instead of setting conditions under which individuals may not smoke, it rules on where people may smoke. This will require costly changes in basic behavior.

4. Property Rights

The proposed ordinance gives nonsmoking employees ultimate control over office workplace smoking policies. That is, if the employer is unable to reach an accommodation that is satisfactory to all nonsmokers, he or she may have to establish a policy which prohibits smoking in entire portions of the workplace. This means that a single employee can dictate that all of his fellow workers not be permitted to smoke on the job.

Economic theory will not support such an assignment of property rights. In privately-owned firms, the employer has an incentive to provide the type of smoking environment that employees prefer, and he will therefore bear the associated costs. This may involve smoker-nonsmoker segregation on the job, investment in smoke-removal devices, paying smokers or nonsmokers a wage premium to work in a given office environment, and so on. The point is that the employer will have already borne the costs of smoking in the workplace. Government intervention cannot improve the situation; there are no costs of smoking unaccounted for.

Consider a simple example. Suppose that all but one employee prefers to smoke on the job. To induce the remaining employees to refrain from smoking, the employer must pay over and above the market wage a premium that is just sufficient to make employment in his firm as attractive as alternative jobs where there are no restrictions on smoking. On the other hand, the owner can offer the market wage to smokers, allow smoking on the job, and increase the pay of the nonsmoker just enough to induce him to work in an environment not to his liking. In either case, the costs of

a given smoking policy are borne by the employer in the form of wage premiums. More importantly, the preferences of the non-smokers are taken into account in both instances.

C. Conclusion

Overall, the New York City law is an attempt to regulate personal behavior. Individuals who either knowingly or unknowingly smoke in places not designated as smoking areas will be penalized only if they are observed in the act by the city's enforcement officers. The ambiguities of the law may also subject employers to arbitrary penalties imposed by the Department of Health. These unnecessary costs are threatened by misinterpretation, misunderstanding and the possibility of litigation over what constitutes "reasonable" measures designed to minimize or eliminate the effects of smoke on nonsmoking employees.

In addition to these items, businesses affected by the law and the city's taxpayers will be forced to bear significant costs associated with compliance. The costs are outlined and quantified in Section IV.

III. PROHIBITING SMOKING AND THE IMPACT ON INDIVIDUALS

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III. PROHIBITING SMOKING AND THE IMPACT ON INDIVIDUALS

Before turning to a more technical discussion of the potential private sector costs of the proposed legislation, it is worthwhile to highlight some of the inequities inherent in banning smoking.

Failure to weed out non-essential laws creates a situation where the potential for abuse of enforcement authority is maximized. The results of such a situation can be tragic. For example, in the past, a Chicago man died as a result of injuries he received while being arrested for allegedly violating a local non-smoking ordinance. Quoting from a Chicago Sun-Times account of the incident, "The officers, assigned to the Department's mass transit unit, were wearing civilian clothes on duty. They said that they identified themselves and asked Ramey to put out his cigarette, but that he refused, and resisted when they tried to arrest him. On Wednesday, (the next day), the Cook County medical examiner's office said Ramey's death was a homicide. He suffered shock from multiple injuries, including two broken ankles, apparently inflicted with a blunt object, the office said."¹

The New York City legislation will implement smoking prohibitions in public and private places and, therefore, increase the probability of such incidents occurring. Although this kind of abuse can probably not be totally eliminated, it can certainly be minimized by resisting enactment of non-essential legislation.

One issue that the city 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 being cited. We have some evidence to corroborate this assertion.² 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.

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 required \$50 bond and was forced to spend the night in jail. Most people would agree that spending time in jail for a violation of a non-smoking ordinance is punishment not befitting the crime -- and lower income individuals would be forced into this situation.

There are other aspects of the law which are disturbing. It prohibits smoking in open office workplaces, but does not apply to private offices. In a law office, the attorneys will not be

affected but their secretaries will. In a real estate office, the agents will not be affected but the secretarial personnel will. In a bank, the higher management personnel will not be affected but the tellers will. This list goes on and on. As this reveals, the sanctions proposed by this law will be directed disproportionately at low- and moderate-income individuals and, therefore, are discriminatory.

If the city had before it a proposal which would increase the taxes on individuals who work in open offices but not on individuals in private offices, such a proposal would be quickly rejected. This smoking ban would have the same kind of disproportionate impact.

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 law will be much greater upon certain categories of workers than on others.

Tables 4 and 5 (see Appendix B) 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 ordinance will have a disproportionate impact upon low- and moderate-income office workers in New York City.

Data on smoking by income class supports this contention. Table 6 (see Appendix B) 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 illustrates, the incidence of smoking is higher among lower-income groups.

In summary, application of smoking bans in private workplaces will have a disproportionate impact on low- and moderate-income working people.

The next section will discuss the economic impact of the city law on the private and public sectors.

IV. ECONOMIC IMPACT ON AFFECTED PUBLIC PLACES

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IV. ECONOMIC IMPACT ON AFFECTED PUBLIC PLACES

A. Eating Establishments

According to the latest available data from the U.S. Census Bureau, there were 10,166 eating establishments located in New York City, employing 130,109 workers with sales of \$3,833 million (1982 dollars). Since the time these data were collected, employment in the general retail trade sector has expanded by 5% which would add approximately 6,505 more workers to the total.³ Note that use of these data will understate the costs outlined below.

1. Reduction in Revenue

The restaurant owners and operators in the city would bear significant costs from imposition of the smoking prohibition. Loss of business is one major concern. The dilemma facing these establishments in designating a portion of the restaurant as a smoking area is that they may be put in the position of turning away customers during times when appropriate seating is not available.

Suppose that a restaurant owner sets aside a certain number of tables in a partitioned area as smoking tables. During the busy lunch or dinner hour, the smoking section fills up and the non-smoking section does not. Patrons wishing to sit in a smoking area will be forced to stand in line, waiting for a free table to open up while non-smoking tables remain empty. Three outcomes are equally likely: (1) the potential customers will become angry and leave; (2) they will remain in line, waiting for an opening in

the smoking section; or (3) they will demand to sit in the non-smoking section. Under scenarios (1) and (2), the restaurant owner will incur revenue losses simply because non-smoking tables remain empty despite the fact that other customers wait to be seated. If the owner refuses to seat patrons in the non-smoking section, revenue losses will also be incurred under (3). This amounts to a forced reduction in capacity and a subsequent reduction in revenues for these establishments.

The restaurant owner will incur additional losses under the scenarios described above. If (1) occurs, it is clear that a customer loss equals a revenue loss, unless that restaurant is assured of a steady flow of replacement customers. This is exceedingly unlikely (except perhaps for a handful of exceptionally popular establishments) given the competitive nature of the restaurant business. There are over 10,166 eating establishments in New York City alone, in addition to the multitude of facilities in contiguous states, many of which are within access of New York City residents.

Under the third scenario, a great deal of unpleasantness will result. If a customer demands to be seated in the non-smoking area, he or she will be in violation of the ordinance and fined accordingly. In either circumstance, there will be additional costs imposed on the owner of the establishment. Again, customer dissatisfaction may result in permanent customer loss.

It should be noted that the annoyances imposed on those who smoke and those who wish to dine with smokers in these situations can be viewed as "social costs" associated with imposition of a smoking prohibition. Although we have not attempted to quantify

these costs, suffice it so say that they do exist and will affect a large number of customers.

Other impacts are likely. Consumer preferences may shift away from dining out, causing a long-term revenue loss to the restaurant industry. Or, customers may choose to eat in restaurants that are not forced to comply with such a law. Large restaurants that can afford to install approved air cleaning devices will benefit at the expense of marginal businesses or new businesses struggling to survive. In addition, restaurant owners whose establishments currently have limited seating capacity will hesitate to expand because the smoking law will make it more costly to do so.

The data do not exist which allow us to exactly quantify the drop in demand that may occur. However, some assumptions will allow us to obtain a sense of the relative magnitudes. In New York City, eating and drinking establishments had a sales volume of \$3,833 million in 1982. If half of this revenue is generated by the larger restaurants subject to the law and the ordinance causes a 1% decline in business, a loss of \$19.2 million will result. Some alternative estimates of these costs are given in the following table.⁴

Restaurant Revenue Losses (\$ Million)			
Percentage of Restaurant Sales Affected	Percentage Decline in Demand		
	0.5	1	5
25	4.8	9.6	47.9
50	9.6	19.2	95.8
75	14.4	28.7	143.7

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Note that this is only the direct impact of the revenue loss. Declines in business in this sector will set off a chain reaction of income and employment declines in other sectors of the economy and have a multiplied effect on other economic activity in the city. Loss of business by restaurants (or any other establishment) will have negative spill-over effects and entail even greater costs than we have detailed above.

Even if the proposed smoking law were to cause no decline in restaurant sales, the capacity problem created by the ordinance would nevertheless make the customers of these establishments worse off. Because appropriate seating may not be available during peak periods, waiting times for tables will increase. Suppose that only 20 percent (2,033) of the restaurants in New York City ever experience times during the day when the number of patrons exceed the number of available tables. Further suppose that as a result, 4 customers must wait ten minutes longer than they would have if the owner could seat them anywhere in the restaurant. Valuing the cost of this extra waiting time at the average hourly wage earned by professional and technical workers in New York City (\$12.86) yields a figure of \$8.57 per restaurant per day. Based on a 250-day workyear, the total cost to New York City's restaurant customers is \$4.36 million annually.

2. Physical Alterations

The ambiguity surrounding the exact definition of "non-smoking" area makes the determination of the cost of establishing such an area difficult. The only requirement specified in the legislation is that restaurant owners may designate a maximum of 50 percent of their seating as a smoking area if ventilation

approved by the Health Department is provided. In a previous survey of restaurant owners facing a similar smoking prohibition almost three-quarters of the respondents felt that physical alterations would be necessary; 16% of the sample estimated costs in excess of \$1,000.⁵ Applying this data to the case of New York City implies that three-quarters of 10,166 establishments, or 7,626 establishments, would have to make physical alterations. If 16% of these, or 1,220 establishments, spent \$1000 on such changes in facilities, the total cost would be \$1,220,000. Note that costs for individual restaurants will vary considerably depending on their current physical characteristics and the exact requirements mandated by the city. In fact, the above estimate is very conservative because it ignores all expected costs of less than \$1000 in restaurants.

3. Signs

Every restaurant is to post at every entrance a sign clearly stating that a nonsmoking section is available. "Smoking" or "No Smoking" signs, whichever are appropriate, are to be displayed in relevant locations. For example, suppose that a more expensive restaurant buys one fairly expensive sign for \$25.00.⁶ One such sign per establishment will cost \$254,150. Restaurants with more than one entrance or smoking area will, of course, have to purchase more signs and the total cost will increase. For example, if we assume that the average establishment posts 5 signs at a cost of \$6.50 each, costs rise to \$330,395.⁷

B. Private Workplaces

The law sets down certain requirements in work environments. This will affect "any enclosed area under the control of a public

or private employer which employees normally frequent during the course of employment, including, but not limited to work areas, employee lounges and restrooms, conference and class rooms, employee cafeterias and hallways." Private enclosed offices occupied exclusively by smokers are not subject to the law. If the law were applied to New York City offices, the major category of workers that will be affected is clerical workers or other non-professionals in open office environments.

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.⁸ 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.⁹ 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.¹⁰ (Based on the findings in these two studies, Response 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. Advocates of smoking bans argue that smokers miss more days of work than nonsmokers. If one then multiplies these missed days by the wage rate, one can arrive at the cost to society of smoking. But, this analysis is mistaken.¹¹ Absenteeism, and therefore lost productivity, are not costs to society but are private costs incurred by the individual smoker through a lower wage rate and possibly higher insurance premiums.¹²

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 businesses and taxpayers.

1. Productivity Losses

A major concern of private employers in implementing a smoking ban is the potential loss in productivity that would occur if employees were not allowed to smoke at their worksite. In order to accommodate smokers, and to comply with the law as written, it may be necessary to institute a "smoking break" for employees who will now be prohibited from smoking at their worksites. Such breaks necessitated by the law are costly to the

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employer because they result in significant amounts of lost work time and, therefore, lost production.

In order to estimate the magnitude of the direct loss in production, we examined employment in the New York City, looked at the incidence of smoking among various occupational groups and evaluated the cost of instituting smoking breaks based on average hourly compensation rates. In our calculations, it was assumed that employees would be given two ten-minute smoking breaks per day. A description of the methodology and the data used are contained in Appendix A.

Our estimates of the dollar value of lost work time are about \$325.1 million in 1983. Note that this cost will increase year after year with increases in compensation rates and will continue to be borne by private employers.

Another point should be made here regarding the equity of instituting smoking breaks for smokers and not providing any comparable breaks for non-smokers. Expanding smoking breaks to all workers would cause costs to rise dramatically because our estimates are based on a small percentage of the workforce being affected. Extending the break time to all clericals, for example, would cost the private sector an additional \$328.7 million, raising the value of lost work time from \$325.1 million to \$653.8 million. Including other employees could easily double or triple the costs.

Of course, there is an argument in the other direction. Some workplaces will be unaffected by the law because they are populated by all smokers or all nonsmokers. If firms are presently so configured, the costs of the law will be very low because

workplaces would not have to be changed. The probability that this is the case would seem to be quite low.

Our estimate of \$325.1 million in productivity losses is based on two principal assumptions. First, we assumed that the incidence of smoking among clerical, and professional and technical workers in New York City 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 New Yorkers exceeds the national average. In addition, because our data are restricted to establishments employing 500 or more workers, and do not include individuals employed in certain service categories, there is a further downward bias to our calculations. Second, we 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 we have assumed. If smokers are given only one ten-minute break per day, for example, the cost to employers of lost productivity will be \$162.6 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.

Productivity Losses Under Various Assumptions Concerning Types
of Affected Employees and Number and Length of Smoking Breaks^a

Employees Affected	One Five-Minute Break	One Ten-Minute Break	Two Ten-Minute Breaks	Two Fifteen-Minute Breaks
Clericals who smoke	\$ 50.35	\$100.70	\$201.40	\$302.10
All clericals	\$132.50	\$265.10	\$530.10	\$795.20
Professional and technical workers who smoke	\$ 30.93	\$ 61.85	\$123.70	\$185.60
Clericals and professional and technical workers who smoke	\$ 81.30	\$162.60	\$325.10	\$478.70
All clericals plus professional and technical workers who smoke	\$163.50	\$326.90	\$653.80	\$980.70

^aMillions of 1983 dollars.

Source: See Appendix A

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 worksites. They may take more, or longer, trips to the lounge or cafeteria, they may be able to concentrate less on their tasks, and so on. These 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.

A complete census of the office workplaces in New York City affected by the law is not available. However, a partial list would include the 10,918 establishments providing business services, and the 16,324 establishments providing health care, legal and other professional services. A more detailed breakdown of these establishments is as follows.¹³

Office Workplaces in New York City
Potentially Affected by the Smoking Ordinance

Advertising Services	1,158	
Computer and data processing services	858	
Management, consulting, and public relations services	2,699	
Other business services	<u>6,203</u>	
Total business service establishments		10,918
Offices of health professionals		9,165
Legal services		4,611
Engineering, architectural, and surveying services		1,007
Accounting, auditing, and bookkeeping services		<u>1,541</u>
	Total	<u>27,242</u>

The above-listed establishments employed over 326,000 workers and generated revenues of nearly \$18 billion in 1982.

2. Signs

Signs are required to be posted by the law in appropriate places. The purchase of one sign for \$25.00, assuming one sign per service establishment, will yield a cost of \$681,050. Alternatively, posting 5 signs per establishment will cost \$885,365 if signs cost \$6.50 each.

C. Public Sector Workplaces

1. Productivity Losses

The proposed ordinance also applies to the offices and departments of the City of New York. As in the case of private workplaces, a major cost of the legislation is the potential loss in city worker productivity that would occur if government employees are not allowed to smoke at their worksites. If such regulations are prescribed by the Mayor, banning smoking in city workplaces, then it may be necessary to give "smoking breaks" to government employees who smoke.

A rough estimate of these productivity losses can be made by considering some conservative numbers. As of 1983, the most recent year for which detailed data are available, there were 387,916 workers employed by the City of New York.¹⁴ The local government payroll in that year amounted to \$710,374,000, which translates into an average annual salary of \$21,975 per employee. If the incidence of smoking among government employees is the same as among New Yorkers as a whole, roughly 30 percent of whom smoke, then the proposed ban on smoking in Government workplaces will affect approximately 116,375 employees.¹⁵ Under the assump-

tion 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 the basis of 1983 employment and compensation rates, and assuming a 250-day work year, yields \$105.4 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 and would be borne entirely by New York City's taxpayers. Note also that the \$105.4 million figure is quite conservative because it assumes that only smokers would be given breaks. Extending smoking breaks to other employees as a matter of equity would obviously add to these costs.

2. Physical Alterations and Signs

In estimating the economic impact of instituting smoking restrictions in Government workplaces, 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 physical alterations to the workplace necessary to establish smoking areas that accommodate nonsmokers. Although the data necessary to estimate the costs of erecting physical barriers, modifying building ventilation systems, and so on are not available, suffice to say that these costs are likely to be substantial.

Signs are required to be posted in appropriate places. Assuming that one \$25.00 sign must be purchased for every 50 employees, the total cost will be \$193,940. Alternatively, posting 5 signs for every 50 employees will cost \$252,135 if signs cost \$6.50 each.

3. Additional Costs

The ban on smoking in Government buildings would entail other costs which are not possible to quantify. For example, agency heads and other administrative personnel will face the problem of resolving disputes between employees stemming from the law's provision giving each worker the right to designate his or her worksite as a nonsmoking area. In short, taxpayers will be forced to bear substantial direct and indirect costs from the imposition of the restrictions on smoking.

D. Other Indoor Public Places

The owners, managers, or persons in charge of all retail stores, financial institutions, theaters, hospitals, schools, colleges and universities, and other indoor public places must prohibit smoking. Under current law, however, smoking is not permitted in large retail establishments and in a variety of other places enumerated in the proposed legislation. We therefore have attempted to estimate compliance costs only for those establishments in which smoking will be restricted for the first time. As in the case of places of work, we were unable to obtain a complete count of all other indoor areas subject to the proposed smoking restrictions. At a minimum, the law applies to the 29,906 retail trade establishments and 2,160 financial institutions listed below.¹⁶

- Building materials, hardware, and garden supply stores	1,463	
- Variety and miscellaneous general merchandise stores	892	
- Meat and fish markets, retail bakeries, and other food stores	3,774	
- Automotive dealers	1,325	
- Apparel and accessory stores	6,563	
- Furniture, home furnishings, and equipment stores	3,552	
- Drug and proprietary stores	2,065	
- Miscellaneous retail stores	<u>10,272</u>	
- Total retail establishments		29,906
- Commercial bank branches	1,595	
- Mutual savings banks	504	
- Savings and loan associations	<u>61</u>	
- Total financial institutions		<u>2,160</u>
Total		<u>32,066</u>

In addition, the law appears to cover New York City's 293 hotels, motor hotels and motels; 151 dance halls, studios, and schools; and 413 establishments providing educational services.¹⁷

1. Revenue losses

In 1982, New York City's retail establishments generated sales of \$18,914 million, and local service establishments had receipts totaling \$1,446 million. If these places experience a 0.5 percent drop in demand as a result of some customers shifting their purchases elsewhere, the cost to New York City will be \$101.8 million annually; a 1 percent drop in demand will cost the city \$203.6 million each year.¹⁸

2. Signs

The purchase of one \$25.00 sign per retail establishment will yield a total cost of \$747,650. One sign for each financial institution will cost \$54,000, and service establishments will incur a cost of \$21,425. Five \$6.50 signs for each of the af-

affected places will cost \$1,069,998.

E. Additional Costs to Affected Establishments

The law will impose additional private costs on employers and businesses in the city. For example, increased costs will be created for both employers and labor union representatives upon the passage of the laws. More than 38% of the New York labor force is covered by collective bargaining agreements, some of which have provisions pertaining to smoking and others do not. If smoking in the private workplace were restricted as outlined in the proposed law, it is reasonable to assume that contractual provisions would have to be negotiated in those instances where the contract is now silent on smoking. To the extent that the law caused present contract language to be irrelevant, new negotiations between the employer and the union would be necessary.

Initially, sitting down with the employer to discuss the new law in addition to on-going enforcement of collective bargaining agreements would have to take place. Regulations such as smoking prohibitions always increase interdisciplinary proceedings, causing additional costs for both the union representatives and the employers in terms of time and personnel involved in the resolution of disciplinary proceedings against employees for violation of the city's non-smoking provision.

It is also important to analyze the impact that this law would have on employee relations in the New York City establishments without collective bargaining agreements. In these establishments, employees are often covered by personnel rules and regulations enforced by a personnel department. In small

establishments, the owner of the business or office manager is usually the individual responsible for employee relations. It is obvious that the city's law will create additional personnel problems for these establishments. Consider for a moment a conservative estimate of what the law could cost in time for personnel problems stemming from its imposition.

Recall that the primary workplace affected by the proposed law is the office workplace. We account for the number of office workplaces with the approximately 27,242 service establishments in New York City.¹⁹ Assume that 50%, or 13,621, of these establishments ever have any personnel problems stemming from the imposition of the non-smoking provision and that in those 13,621 establishments the personnel problems which do arise over a year take only one day to be resolved. One day per year amounts to 108,968 hours per year for additional personnel management time devoted to resolving smoking problems.

The average compensation for a professional and technical worker is \$12.86 an hour and for a clerical worker is \$7.98 an hour.²⁰ Involving these two employees in resolution of disputes which take one hour will cost \$20.84 in lost time. Multiplying that \$20.84 times the total hours spent in resolving these problems (108,968 hours) provides an estimate of cost equal to \$2,270,893 per year. Note that this, again, is based on very conservative assumptions. It would not be unreasonable to assume that the actual cost for resolution of personnel problems stemming from imposition of smoking prohibitions would be significantly greater.

F. Summary

Private businesses and taxpayers will be forced to bear significant direct costs from imposition of the smoking ban in New York City. Our conservative estimate of these costs is \$265.6 million. More importantly, in the private sector, smoking-related problems are usually resolved voluntarily. Concerns over employee morale and customer satisfaction dictate their behavior, making imposition of the city's smoking prohibition unnecessary.

Certain segments of the private sector are being asked to bear significant costs of compliance, loss of productivity and direct revenue loss from this law for no discernible benefits. In addition, the spill-over or multiplied effects of decreased revenues in these establishments and the closure of marginal businesses will depress other private sector employment and growth. More will be said about this in our discussion of the impact on New York City.

V. IMPACT ON NEW YORK CITY

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V. IMPACT ON NEW YORK CITY

The major costs detailed previously have outlined the effects of imposing the proposed smoking ban on the private sector and individuals in New York City. In addition to these substantial costs, adverse effects will be felt by the public sector in both the short- and the long-run.

Direct enforcement costs will be incurred by the city government. As specified in the legislation, the Department of Health has the primary responsibility for enforcing the smoking bans, but that police officers and employees of the Departments of Buildings, Consumer Affairs, Environmental Protection, Fire, and Sanitation may also enforce the law's provisions. The enforcement costs will depend on the length to which the city government goes to insure compliance. If the laws are taken seriously, and appropriate enforcement procedures are established, the employment of each additional inspector or regulator would cost the city roughly \$25,000 in total compensation per year. Tax revenue that would otherwise be used to feed and shelter poverty stricken families or pay for additional police officers to protect citizens from violent crimes will, instead, be diverted to ensuring that individuals smoke only in designated areas. In short, by using transit police, firemen, garbage collectors, and employees in other departments to enforce smoking bans, these individuals will be diverted from their primary job of supplying essential public services. Such priorities should be reexamined.

Enforcement costs are not the only costs the New York City government will incur. Decreases in tax revenues in the future are likely for a number of reasons. As was discussed in previous sections, passage of the ordinance will impose significant costs on the private sector. Loss of income, especially business revenues, increase the possibility of small business failure and subsequent declines in employment which will reduce the taxable income base in the city. For each 1% decline in the ability of the city to tax, an approximately \$74 million revenue loss will result. And, therefore, the city will have \$74 million less to spend to provide services to residents.²¹

Additional tax revenue loss will occur to the extent that fewer tobacco products will be purchased as a result of the smoking ban. This will have a direct effect on tobacco tax collections. Gross city tax revenues on cigarettes sold in New York amounted to over \$60.3 million in 1985.²² Even a conservative 1 percent decline in tobacco tax revenue will mean over \$600,000 less for New York.

The city should also consider the impact on its economic growth if this smoking ban is imposed. Prohibiting smoking in private places is viewed by businesses as another unnecessary burdensome regulation and, therefore, a negative factor in assessing the business climate in the city. Because regulations are important inputs into business decisions to expand and/or relocate, a smoking ban which private employers view as an invasion of their privacy and their property rights will enhance the perception of a negative business climate. It is ironic that, at the same time New York City is expanding its initiatives for

business to locate within its boundaries, the city government is countering these efforts by enacting unnecessary regulations.

In addition, the burden of the legislation will fall most heavily on small businessmen. Why add employees or expand capacity if it means additional costs to comply with a smoking ban? The city should be especially sensitive to this point because small businesses create the majority of new jobs and employment opportunities.

The fact that the law applies to food service facilities and office workplaces in service-related businesses raises additional concerns. Such service-related businesses are less cyclically sensitive and, therefore, help to stabilize local economies during downturns. New York City should look to encourage these employment-generating businesses, not discourage them.

Conclusion

The costs we have outlined above are direct revenue losses to the state and city government. In times of strong economic growth and low unemployment, such revenue losses may not be cause for great concern. However, the recession of 1981-82 is not the distant past, and many sectors of the economy have still not recovered.

New York City currently has weathered the recession far better than most states. Its ability to attract new enterprises, especially high-tech firms, has aided its economic growth. And the fact that it has become a more service-based economy contributed to its better-than-average performance during our last recession. Unnecessary regulation of business will harm the long-term growth potential in New York City.

In addition to the bleak outlook for state and city tax revenues, it is useful to make a rough estimate of projected federal aid. As is well known, the present prospects are bleak. Deficit reduction occupies center stage in Washington, and further cuts in federal aid to New York City are a virtual certainty. And these cuts will come on top of already heavy cuts. For example, New York State lost \$1,086 million in federal aid between 1981 and 1982 alone.²³ On a per capita basis, this translates into a loss of \$511 million for New York City. Recent discussion in the press and media suggests further and deeper cuts in federal aid, with possible serious fiscal implications for New York City.

In this environment, the highest priority should be given to maintaining adequate levels of service. Diverting resources to enforcement of smoking bans, precipitating revenue losses and deterring economic development reflects spending priorities that are not easily understood. The city should move with extreme caution on this issue.

VI. CONCLUSION

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VI. CONCLUSION

This report has attempted to quantify the major effects of imposing smoking prohibitions in New York City. Our conclusion is that the proposed New York City law would put serious fiscal pressure on certain segments of the private sector, and on the public sector as well. The costs of imposing these laws would be borne directly by private employers and indirectly by all residents of the city through secondary or multiplied economic effects. Other effects are inequitable: low- and moderate-income working people are the most likely group to be directly affected, as are marginal, low-profit establishments. At the same time, the benefits of the law are negligible: instances of smoking-related problems in workplaces, restaurants, and other facilities are few and where they occur, voluntary efforts by managers and owners can resolve these problems without arbitrary government regulation.

The city must consider priorities in its deliberations on this issue. Given the current economic climate, the serious social needs that exist and the limited resources available to both public and private sector to meet these needs, is such a law worth the consequences?

APPENDICES

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APPENDIX A

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Table 1 shows employment by major sector in New York City estimated from Bureau of Labor Statistics data contained in the Supplement to Employment, Hours, and Earnings, States and Areas, Data for 1980-83. The data cover employees in establishments with 500 or more employees. The exclusion of firms with less than 500 employees results in a very conservative estimate of total cost.

The number of smokers in each occupational category was determined using data published in the Journal of Occupational Medicine. In this study, the authors surveyed employees and reported the incidence of smoking by occupation. Table 2 details the percentage of smokers in each occupational category as determined by this survey. That percentage is applied to the employment figures to obtain the estimated number of smokers by type of employment (third column).

The next step was to determine the value of lost production. In order to arrive at this figure, compensation rates are necessary. These were derived from a BLS wage survey in the New York City area which contained average wage rates by occupation. A weighted average of the various job titles within each occupation yields the average hourly earnings contained in Table 3.

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 this lost time on the basis of current compensation rates yields estimates of the dollar value of the lost work time. As Table 3 shows, our con-

servative estimate is just about \$325.1 million in 1983. This cost will grow year after year with increases in compensation rates.

TABLE 1

Employment in New York City, 1983

	<u>Employment</u>	<u>Percent Clerical</u>	<u># Clerical</u>	<u>% Professional & Technical</u>	<u>% Professional & Technical</u>
<u>Manufacturing</u>	517,900	21.7	112,384	4.9	25,377
<u>Non-manufacturing</u>	2,666,600	-	-	-	-
Transportation and Public Utilities	261,600	21.7	56,767	4.9	12,818
Wholesale and Retail Trade	742,500	21.7	161,123	4.9	36,383
Finance, Insurance, and Real Estate	527,900	26.2	138,310	16.9	89,215
Services	1,134,600	26.2	297,265	16.9	191,747
<u>Other, Excluding Government</u>	119,400	26.2	<u>31,283</u>	16.9	<u>20,179</u>
			797,132		375,719

Source: Supplement to Employment, Hours, States and Areas, Data for 1980-84. Occupation breakdown based on national data from BLS.

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Table 2

Impact on Clerical Workers

Number of Clerical Workers	797.132
Percent Smokers	38.0
Number Affected by Law	302.910

Impact on Professional and Technical Workers

Number of Professional and Technical	375.719
Percent Smokers	30.7
Number Affected by Law	115.346

Source: See Tables 4 and 5.

Table 3

Private Sector Costs: Lost Work Time

	<u>Average Hourly Earnings</u>	<u>Cost of Smoking Breaks</u>	<u>Number of Workers</u>	<u>Total Cost</u>
Clerical	\$ 7.98	\$ 665	302,910	\$201,440,000
Professional and Technical	\$12.86	\$1,072	115,346	<u>\$123,650,000</u>
				\$325,090,000

Source: New York, New York-New Jersey Area Wage Survey, May 1985. Based on two 10-minute smoking breaks per day and 250 days per year.

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APPENDIX B

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Table 4

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 Weinkam, J., "Smoking Characteristics by Type of Employment," Journal of Occupational Medicine, 18 (11), 1976, pp. 743-754.

Table 5

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 4.

Table 6
Percentage of Smokers by Income*

<u>Age Group</u>	<u>Less than</u>	<u>\$7,001 -</u>	<u>\$15,000 -</u>
	<u>\$7,000</u>	<u>\$14,999</u>	<u>\$24,999</u>
17-19	30.1%	27.9%	23.0%
20-24	37.8	40.8	30.5
25-34	45.9	41.9	36.3
35-44	51.4	41.8	37.2
45-65	40.1	38.8	35.8
65+	17.4	18.0	15.6
			<u>17.2%</u>
			<u>33.4</u>
			<u>29.0</u>
			<u>35.0</u>
			<u>31.0</u>
			<u>18.2</u>
			<u>\$25,000+</u>

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

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FOOTNOTES

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Notes

1. Chicago Sun Times, July 13, 1980, p. 20. The two policemen involved in this incident were convicted of involuntary manslaughter and sentenced to prison. See Chicago Sun Times, February 4, 1982.

2. The following evidence and incidents are drawn from the 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.

3. Census of Retail Trade 1982. U.S. Department of Commerce, Bureau of the Census.

4. Equivalently, one can view these costs as a "tax" on restaurant customers. As mentioned earlier, some patrons will become annoyed because they may be unable to sit in the section of the restaurant that suits their own preferences. Smokers may have to sit in the non-smoking section and non-smokers may choose to sit in the smoking area rather than wait for a table in the non-smoking section to open up. This will be particularly true

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when customers are members of groups composed of both smokers and non-smokers. In either case, dining out will be less enjoyable for some patrons. Even if it is only 1 percent less pleasant for half the customers, this is equivalent to imposing a one-half percent tax on New York City's restaurant sales. In 1982, this yields a cost of \$19.2 million.

5. Survey of Businesses and Eating Establishments in Montgomery County, Maryland, Hamilton and Associates, 1982.

6. This was the lowest estimate obtained from a sampling of firms.

7. These figures are based upon independent estimates by Mathtech, Inc.

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

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11. Tollison, Robert and Wagner, Richard. "Cost Benefit Analysis and Its Application to Smoking-Related Issues."

12. See Littlechild, Stephen C. "The Alleged Costs of Cigarette Smoking," Testimony on HR 4957, 1982. Tollison and Wagner, pp. 37-39. Tollison, Robert, "Smoking and Economics." pp. 10-12. Solmon, Lewis, "The Other Side of the Smoking Worker Controversy." Personnel Administrator, March 1983.

13. Census of Service Industries 1982. U.S. Department of Commerce, Bureau of the Census.

14. Local Government Employment in Selected Metropolitan Areas and Large Counties. U.S. Department of Commerce, Bureau of the Census.

15. See the memorandum to Mayor Koch from the Special Assistant to the Mayor, Health Services Administrator, March 21, 1986, p. 5.

16. Census of Retail Trade 1982.

17. Census of Service Industries 1982.

18. In addition to traveling out of town to purchase these goods and services, in the long run New York City stores may suffer a permanent revenue loss as customers shift to mail-order catalogs.

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19. Census of Service Industries 1982.

20. New York, New York-New Jersey Area Wage Survey, May 1985.

21. City and County Data Book 1983. U.S. Department of Commerce, Bureau of the Census. The result in the text is for the most recent Census data available in a published form. Namely, the City and County Data Book 1983 gives total tax collections for the five boroughs of New York City (\$7.4 billion) circa 1981-1982. This total includes property (44.9%) and sales and gross receipts (25%) taxes. Current tax receipts should be within an order of magnitude of the Census estimates, making the revenue loss estimate in the text a reasonable approximation of the potential impact on general city tax revenues of the smoking restriction.

22. The Tax Burden on Tobacco, Vol. 20, 1985. The Tobacco Institute. The \$60.3 million figure represents gross tax revenues for all cities in New York which levy local taxes on cigarettes. New York City clearly accounts for the bulk of this revenue.

23. Statistical Abstract of the United States, various issues. U.S. Department of Commerce, Bureau of the Census.

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