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Bureaucratic politics and the labor market*

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Anecdotes about government agencies suggest that the typical civil servant is lazy and incompetent, a clever schemer for his own aggrandizement, or an officious martinet. Occasionally one even hears stories of efficient, honest professionalism to offset the reports of corruption, pettiness, and stupidity. The diversity in the popular impressions of bureaucracy may reflect diverse characteristics of different bureaucrats and agencies.¹ After all, this is a complex world full of complex people, so it would not be surprising to find differences among government agencies in competence and commitment to the legislated task. But unless we can find some way to organize that diversity conceptually, we are left with little basis for predicting the behavior of bureaucrats.

Gordon Tullock attempted to shortcut the problem in his pathbreaking study, *The Politics of Bureaucracy*.² He restricted his analysis to a particular group; i.e., the able, ambitious, and amoral 'climbers' (to use Downs' term) who rise to the top ranks of any large organization. Tullock's technique of looking at the choices open to the individual and explicit decision to stress the role of those who are able and determined to rise within the organization permit him to develop a very general model that is applicable to practically every form of government, to all levels of officials, and every era of history. Such generality has its costs, of course; the limitation examined here is the restriction of Tullock's model to the eager schemers who surround every head of state, and to those who are able and aspire to join or succeed them.

If hierarchical control were perfect, it would be enough to concentrate on the decisions of the leaders; but it is one of the implications of Tullock's own model that the leaders cannot fully control the behavior of their subordinates. Certainly one can assert that control is far from perfect in the U.S. federal government. This implies that government activity will be influenced by the behavior of lower level bureaucrats who may be indolent, unambitious -- or even moral! Clearly, a richer model is necessary to accommodate a variety of possible personal goals and different degrees of competence in pursuing them.

* An earlier version of this paper was presented at the March 1979 meeting of the Public Choice Society in Charleston, South Carolina.

Anthony Downs attempted to provide that richness in *Inside Bureaucracy* with his description of five different kinds of bureaucrats: 'Conservers,' 'Advocates,' 'Zealots,' and 'Statemen,' in addition to the 'Climbers' described by Tullock.³ While the descriptions provided by Downs ring true, seeming to correspond with our experiences and with anecdotes of bureaucracy, they rationalize everything and predict nothing. The analyst needs a psychological examination of each bureaucrat before he can forecast the behavior of the individuals or the bureau.

Sociological studies of bureaucracy attempt to aggregate the peculiarities of individuals using concepts such as 'Bureaucratization' and 'Professionalism.' While many of the sociological case studies are perceptively done and offer useful insights, the implication is, again, that the trained professional must analyze every situation in excruciating detail before being able to describe it, let alone prescribe corrections or forecast behavior. Thus, richness of the analytic framework, too, has its costs. The greater realism and subtlety of the description are purchased at the cost of using a cumbersome and unwieldy theoretical apparatus that requires data not obtainable without costly field studies.

It seems obvious that the analysis of bureaucracy could be improved by a model that (a) is based on the decisions of the individual in response to the particular set of choices open to him; (b) relies on easily observed variables; yet (c) allows for indolent 9-to-5 drones, incompetent bumlbers, and honest professionals, as well as the unscrupulously ambitious climbers. The mechanism underlying Tullock's model provides the key for solving this problem.

The filter that selects the most able, ambitious, and amoral for the top positions, according to that model, is the choice forced upon the bureaucrat between doing what is best for the organization and doing what will maximize his own utility. If the organization is structured with perfect efficiency, the employee will always find that his individual rewards are greatest when he does what is best for the organization. Real organizations are never perfectly efficient, however, and the federal government, for a variety of reasons, is extremely inefficient in this sense. The government employee will, therefore, be confronted with situations in which he must choose between the public interest and his own interest as he sees them.

While individuals differ in their resistance to the Profitable when it conflicts with the Right, surely one important variable in determining the behavior of the bureaucrat is the opportunity cost. Tullock's climber chooses to advance his career within the agency, even if that requires him to write reports he does not believe. The same person under different circumstances (i.e., if the cost were lower) might resign instead.

The literature on the behavior of individuals within the bureau ignores the jobs outside the bureau to which the individual might shift. This neglect is unfortunate because the best choice open to the bureaucrat outside the bureau

defines the opportunity cost of independent behavior within the bureau. Equivalently, the economic rent of the bureaucrat's position is the amount he would give up in order to retain the position, which is surely determined by the other opportunities available to him. Yet government salary schedules are not similar to the salary structure in any particular private labor market. The General Schedule of the U.S. federal government, for example, is constructed from an average of disparate private-sector salaries for occupations with different age-income profiles. This procedure guarantees discrepancies between public and private salaries, the implications of which are explored here.

The structure of wages in public and private employment

The wage structure that I will discuss can be summarized by the age-income profile that the individual expects if he stays with one employer. For our purposes, the current salary schedule is an adequate approximation.⁴ The federal government has several pay schedules; I will restrict my discussion to the familiar General Schedule, since it typifies many of the problems common to other government pay systems and it covers a large proportion of the government employees who sit at desks reading, writing, and talking (as distinct from people who carry mail or build things). The comparable private sector salary schedules are less explicitly defined than the government's General Schedule; that, indeed, is part of the problem for the individual seeking the best alternative to federal employment.

Organized techniques of wage setting in large organizations have two essential components. The first is the process of ranking particular jobs in a way that makes sense within the organization so that jobs that seem to be more difficult, demanding, responsible, or dangerous are ranked above those that seem less so. Thus a label, such as GS-5 or GS-14, is assigned to each job. This process is inherently political, it causes great grief in large private firms, as well as in government, but it gets done according to familiar and well-established procedures.⁵ Once the ranking of jobs is published, it defines a promotion ladder, so the fact that a GS-15 job occasionally happens to be easier to perform than a GS-14 causes very few difficulties for the employee, although the organization may incur excess costs if the GS-14 job takes a long time to learn but pays less than the easier GS-15. Once the jobs are ranked and numbered, it is necessary to assign a salary to each number. This is where the serious troubles begin.⁶ By law, federal salaries are to be 'comparable' with private, so a survey is made of private sector salaries for some jobs at each GS rating. This raises two sorts of problems: The less important one is that numerous government jobs have no close private sector counterparts. More significant is the fact that private markets have assigned widely divergent wage rates to different jobs to which the U.S. Civil Service Commission has

assigned the same GS rating. For example, at the GS-5 level, which includes new college graduates (bachelors degree) and some experienced secretarial personnel, the 1974 survey showed private sector salaries (which are, themselves, averages for many different jobs given the same name in a variety of locations) ranging from \$7,632 for 'Computer Operator II' to \$11,901 for 'Engineer I.' The pay rate adopted by the federal government was \$9,394.⁷ While the specific dollar amounts will vary from time to time, the procedure guarantees that the government will pay above the market rate for some jobs, and below it for others.

The annual money income is not the only consideration in choosing jobs, of course. Various fringe benefits and conditions of employment can be weighed by potential employees, but even the ones for which the employer can calculate the costs to the penny (e.g., fully funded and vested pensions, medical insurance, or the employees' spring picnic) will be given widely different values by different job applicants and employees. This statement applies even more strongly to such matters of taste as the type of work and the quality of supervision. Some people even become government employees because they are patriots; but one does not need to be a traitor to make a tradeoff between patriotism and cash income. While all such matters can be blanketed under the term 'psychic income,' it will prove to be more useful to combine psychic and monetary income with all other aspects of employment and to think of the economic rent offered by the government job. This may be positive or negative; if it is negative, the applicant will prefer the private sector job. If it is positive, it can be quantified as the addition to the money wage in the best alternative job necessary to make the particular candidate indifferent between federal and alternative employment. Such economic rents for particular individuals who happen to prefer particular jobs are a standard phenomenon of the labor market. The people with extremely strong preferences for particular employers make little difference for the general outcome because any employer wanting to hire a considerable number of people must attract those who are relatively indifferent to the peculiar advantages of particular situations. For major occupations, therefore, the compensating differentials in a competitive market should correspond quite well with those specified by Adam Smith.⁸

This leaves two open questions: Why does the obstreperous private market insist upon paying such different rates for jobs that the Civil Service Commission has rated the same? and What difference does it make? The first question has three answers: (1) the Civil Service Commission makes errors in the sense that it may give a high rating to a job that the average man will gladly fill for a low wage (or vice versa); (2) sudden shifts in supply or demand may move the market equilibrium away from the government wage, but the latter remains a good approximation to long run equilibrium; and (3) the age-income profile of the particular occupation, which depends on the timing of

the investment in human capital, may be inherently different from the profile implicit in the government salary schedule and promotion practices.⁹ Even if one considered two occupations with exactly the same discounted present value of lifetime earnings, the wage rates could differ markedly at most moments during the work life. This could be enough to create difficulties for government, even if other problems were absent.

A yet different type of problem is presented by the dependence of the comparison on psychic income. In addition to the measurement problems that this creates, it seems reasonable to assume that the typical individual's tradeoff between psychic and money income varies over the life cycle. In the absence of formal research on the topic I will speculate that the individual places the highest weight on psychic income early in his career. Cash will be a primary concern while he is raising and educating his family. Fringe benefits and working conditions will assume their greatest importance in the later working years. It must be stressed that the masculine pronouns in the previous sentences are not merely anachronistic – secondary workers within a family may stress nonmonetary income throughout their careers.

Economic rent at the moment of entry into the labor market

Consider now the options confronting the individual entering the labor market. Several possibilities are summarized in Figure 1, which shows 'Expected total remuneration' at each stage for an individual just entering the permanent labor force. (Think, e.g., of the college graduate considering a

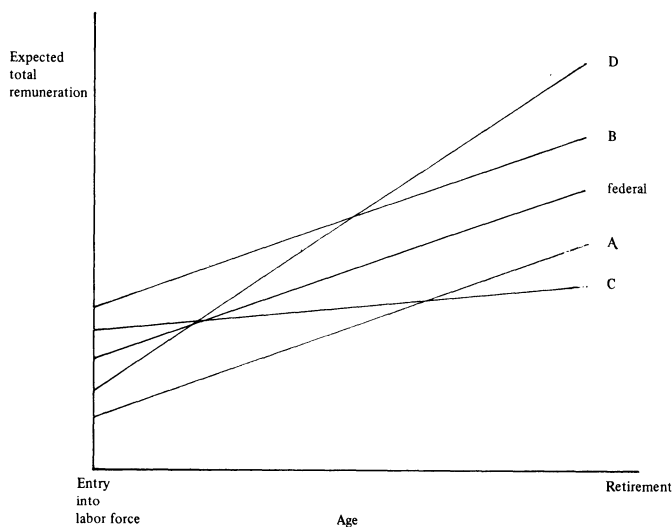


Figure 1.

government career beginning at GS-5, and weighing that against his best non-federal alternative.) It should be noted that 'total remuneration' includes stated salary, fringe benefits, illegal payments, and psychic income. Since the individual choosing a career must guess about the distant future, many of the expectations at the moment of entry into the labor force will not be realized. Psychic income is no different in this regard than is explicit salary. One could plot economic rent, instead, as the difference between the expected federal salary and the alternative, but the form shown in Figure 1 seems more familiar. The line labeled 'federal' shows what the individual expects if he takes the government job. It is drawn as a straight line only for convenience (one can think of a logarithmic vertical axis, if that seems more realistic), since it is only the relationship between the federal and nonfederal salaries that is meaningful. Lines *A*, *B*, *C*, and *D* indicate the best alternatives available to each of four different people (also designated as *A*, *B*, *C*, *D*) who, by virtue of the federal salary-setting process, could expect the same government pay. Line *A*, for example, illustrates the (clearly inferior) next best alternative for the individual who finds government employment particularly attractive for non-salary reasons (patriotism, expectation of large bribes, location, fringe benefits) or who has poor prospects in the private market. The bright liberal arts graduate who has ruled out a management training program for ideological reasons will find federal pay distinctly better than what he might earn teaching history at a prep school. Individual *A* will choose the federal job. How determined he will be to succeed in it will be examined later.

Individual *B* faces the opposite situation, but the choice is equally clear-cut. Remuneration in the private sector is expected to be better at every stage in his career. At this moment he may, for example, be an exceptionally able petroleum engineer who expects to move into management. If the government needs a petroleum engineer, it will have to search for someone who expects non-salary advantages from federal employment or (more likely) settle for someone who is not able to obtain an attractive offer from private industry.

Individual *C* may be a prospect for the job. His starting salary will be higher in private industry, but will not increase very fast there. He may settle in to the federal job right away because of its long term promise. Alternatively, he may consider switching later on, but this depends on the transferability of the skills he acquires. Individual *C* may be a second rate, plodding engineer, accountant, or other specialist who realizes that he will not move up the managerial ranks in the private sector. The quiet security of the federal job may attract him.

Line *D* shows the opposite pattern. Private sector remuneration is initially lower, but rises so much more rapidly that any reasonable rate of time preference would lead the applicant to choose private employment, unless it is possible to start in the public sector and move to the private. This career pattern will be examined later.

Leaving the mid-career shifts aside for the moment (and also ignoring the possibility of such non-salary monetary incentives as bribes and kickbacks), it appears that federal employment will attract three types of people: (1) those who are not able or ambitious enough to do well in the private sector, (2) those who are able and ambitious, but are in fields that are not well rewarded in the private sector, and (3) those who have strong non-salary motives for working in government. The last group may include people of inferior ability, who will observe that their financial advantage is also furthered by continued government employment. It also includes some able people, who will *perforce* become ambitious when they perceive that their patriotic goals can best be furthered by winning bureaucratic victories, as well as those who expect to use the government job to obtain illegal income. It thus appears that the labor market, at the entry level, serves as an effective filtering mechanism restricting government employment to two main groups: those combining high ability with personal ambition, and those who are inferior representatives of expensive occupations. This is by no means the end of the story, however, for the labor market continues to exert its influence after entry.

The specificity of on-the-job training

Suppose that the individual confronting the decision in the prior section in fact chose to take the government job. Now, ten years later, he faces a decision

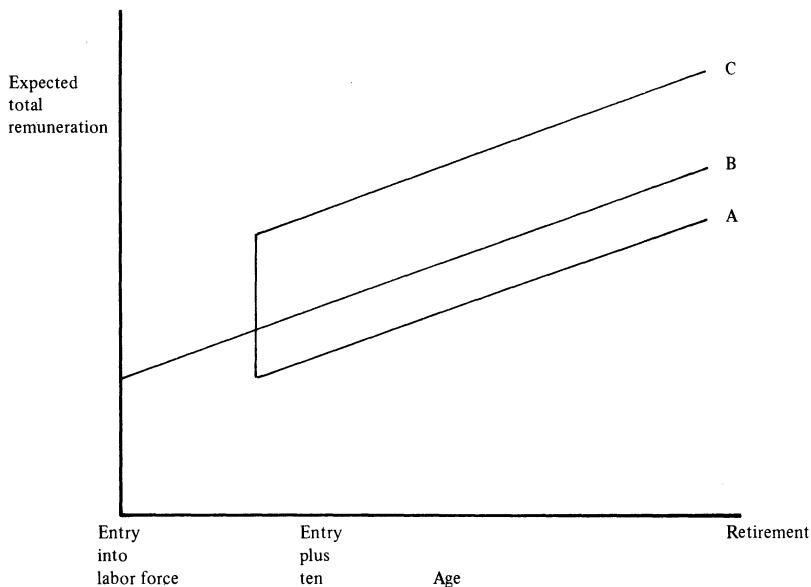


Figure 2.

of the sort Tullock contends that the typical organization frequently thrusts upon people; i.e., should he do what he knows is right or should he do what he knows will increase his chances for promotion? This is always a hard decision, but suppose that in this case the question is really of some importance to the patriotic and professional civil servant. He might be inclined to look into the costs of resigning.

Figure 2 indicates the best choices open to three bureaucrats whose pangs of conscience suggest the desirability of quitting. Individual *A* finds that his salary in the private sector is exactly what it would have been when he finished college ten years earlier. That is, he is starting from scratch and has apparently not learned anything of any use to private employers in his years in government. In other words, the on-the-job training in government has been 100 percent specific to the federal government as an employer. Since federal employment was more attractive ten years ago, the private alternative will look even worse now after 10 years of merit and seniority increases in his federal salary. The exception to this generalization is that if the total expected remuneration from public employment included a significant share of non-salary income (psychic income, bribes, etc.), then the individual's expectations may have shifted in the intervening decade. If the realities of bureaucratic life have dashed his ideological visions or hopes of graft, he may endure little sacrifice in moving to the private sector.

Such a person is more like Individual *B*, who (reverting to strictly financial comparisons) finds that his public sector training can be generalized 100 per cent to the private sector. Completely general on-the-job training is as extreme a case as completely specific, but it is important in defining the limiting case of complete professionalism. While sociologists and others have labored long and drearily to produce definitions of 'profession,' my working definition is that a 'profession is an occupation that is worth as much in the outside labor market as it is within the organization.' Professions can include economics, carpentry, and law.

This gives some meaning to the assertion that a professional has a primary commitment to his profession, rather than to the organization. If he can get the same pay elsewhere, he has no reason to engage in obsequious behavior within the organization. The market gives him freedom.⁴

There is one great difficulty with this concept that stems from the government wage-setting process described earlier in this paper. Since the government pay scale does not reflect the age-income profile of any one occupation, even those people with fully transferable skills in a technical sense will find a financial differential between government and private employment at most stages in their careers. Whether the differential is positive or negative, it creates unfortunate incentives. If federal salaries are lower, the more able and ambitious leave. If federal salaries are higher, professionals who are able and ambitious will find their greatest rewards within the organization, and hence

will act like politicians rather than professionals. If the federal and private schedules intersect, as may well occur, the most able and ambitious will try to move to the organization paying more, but in the case of a federal schedule that starts low and moves high, the relatively incompetent incumbents may fill all the job slots, thus precluding the hiring of more able people in mid-career.

Individual *C* represents the special case of the person whose training is worth more on the outside than it is within the organization. In one sense this is not distinct from the case where the federal and private salary structures are inconsistent. That is, productivity of that particular skill may improve more rapidly than can be represented in the federal salary schedule. If, however, those who start in federal employment can actually earn more in the private sector than those who begin in the private sector, then the public sector will serve as a highly specialized training program for private employment. The example that comes to mind most readily is regulatory law. Although one might argue that making contacts within the agency and the regulated industry is not quite the same as acquiring substantive skill in a craft or profession, it makes little difference to the analysis. The significant point is that if such a pattern persists, able and ambitious people will observe the large rewards of the person who works in the agency for a few years and then moves to a private employer, and so will follow such a path even if the income is low during the early years.

This has two costs for the agency, despite the infusion of more able talent than it could otherwise afford. In the first place, the upper ranks of such an agency may be clogged with the residue of the filtering – those people rejected by the market. They will not have much control over the stream of very bright and ambitious people moving through the agency. The ability, ambition, and short time horizon of those people cause the other problem. While their ambition to obtain private employment keeps them from being seen to do anything that might be judged incompetent, unethical, or bizarre by the standards of the profession, they are mainly interested in achieving sufficient prominence quickly to enable them to move into important private positions. The emphasis on making a good name quickly, without any concern for long-run consequences to the agency, sets up the conditions for the most uncontrolled ‘climbing’ of all. In other situations the existence of an outside labor market at comparable pay permits the individual to follow the dictates of his conscience, rather than his superior, but that presupposes a relatively undifferentiated labor market for the craft or profession, rather than a keen competition for star billing.

While the preceding discussion has focused on the options available to the individual at a specific moment, it is also useful to examine how the options vary over time for different types of people. Consider first the case of the person of rather limited natural abilities who barely manages to be accepted for a federal job because he is in a scarce field (e.g., the third-rate mining

engineer). As time passes he will (a) demonstrate his incompetence conclusively to those on the outside and (b) receive regular merit increases (only 600 of the 1 million federal employees eligible for merit increases in 1976 did not receive them¹⁰). It is so clear that federal employment is his best option that even this obtuse fellow will recognize the fact. With his limited ability, however, it is doubtful that he will have much success as a climber, so he will soon bed down for life in the bureau. He will be the extreme conserver, who can be roused only when his bureau or position is subject to serious threat. But the important question is, How well will he perform his job? when expansion holds no promise, termination is not a threat, the outside labor market has no openings, and corruption is too dangerous. The answer is that he will put in his hours at the office, follow the rules to avoid problems, and push the papers along. If he is basically indolent, as well as having low ability, that is enough. If he is ambitious and stupid, he may become the punctilious formalist who hopes that adherence to the correct procedures and appropriate sycophancy will gain him promotions.

At the more able end of the spectrum the situation is different. If the individual finds that government salaries are close to outside salaries he can remain professionally motivated. That is, he can quit rather than compromising his principles and is generally not a participant in internal intrigues. If, however, he is able and *internally* ambitious because the government pay scale exceeds the private alternative, then he is Tullock's climber. These categories are summarized in Figure 3.

		low	high
Ability	low	Indolent	Formalists
	high	Professionals	Climbers

Figure 3. Ambition for advancement within the organization

Because of the inconsistency of the government and private pay lines, there is a tendency for the 'professionals' to disappear. Those able people who see better opportunities elsewhere in the profession leave. Those in poorly paid pro-

fessions see that their opportunities lie within the government and become politicians, rather than professionals. The tendency of the Potomac mists to turn the brains of good economists to mush has often been noted,¹¹ but it is mainly the result of substituting an attempt to advance within the bureaucracy for the goal of achieving professional esteem.

Since it is the superiority of the rewards for government employment compared to the best outside alternative (i.e., the economic rent from government employment) that provides the rewards for internal ambition, it is worth inquiring how likely it is that the federal job will provide higher pay to a particular individual. The evidence compiled by Sharon Smith suggests that it is very likely, indeed.¹² By comparing the pay received by people with similar characteristics in federal and private employment, Smith found that a person faced with a choice between the two sectors will on average earn significantly more in the federal government. Comparisons have traditionally been made according to job descriptions, which tend to show rough equality on average, but Smith's techniques provides a better indication of the options open to an individual. This does not mean, of course, that every able person will earn more in government than elsewhere. In particular, very able people who are motivated strongly by money income will find the rigid ceilings in federal salary schedules an effective constraint on earning capacity. If such people have the skills and inclination to go into business, professional practice, or other competitive areas of the economy, they will move out of government employment. If they have skills that are not useful in the competitive sector (perhaps facing academia as the only real alternative), dislike business, or have strong psychic income from government employment, they will remain in government and will probably be somewhat embittered by the high pay earned by inferior people in business. This may explain the prevalence of anti-business sentiments among the most able bureaucrats and academics (other than economists).

Empirical testing

Empirical testing of the yarn spun in this paper is difficult for a variety of reasons. The main problem is the lack of appropriate data, but it is not immediately obvious what data are even required for testing the ideas discussed above. Ideally, one would proceed agency by agency to examine wage rates and psychic income for each important skill inside the agency relative to the best alternative outside. Income differentials could be related to attrition rates and average duration of employment. The raw data on attrition rates by agency are not very revealing because (1) the probability of attrition is dominated by tenure on the job, (2) the aggregate data for an agency may be largely determined by the behavior of a mass of low level clerical employees

(or letter carriers), while the performance of a small number of supervisors may have more impact on the efficiency and responsiveness of the agency, and (3) the 'agencies' for which data are available are large collections of diverse activities.¹³

Not much can be done about the latter two problems at this time, but the first can be circumvented by plotting the quit rate against tenure and considering the deviations from the 'normal' relationship. Figure 4 suggests that Agriculture and the Postal Service are relatively 'professional,' while the Justice and Treasury Departments have low turnover. The implication of the low turnover could be either rampant 'climbing' or the more stolid and inert forms of bureaucracy. The turnover data alone will not distinguish. In view of the transferability of legal skills and the high pay of outstanding lawyers, however, one could conclude that the Justice Department is probably dominated by a dreary bunch of drudges.

Implications

The foregoing discussion has generally unpleasant implications. It suggests, first of all, that outside labor markets will have some influence on the internal functioning of bureaucracy, but that the extent and direction of influence will vary by occupation. Because of the differences among agencies in the proportions of people in different occupations, one would expect to observe wide variations in turnover rates and average age of personnel in different agencies, as indeed is the case.

The typical agency will be dominated either by people of rather low ability, who may be either rigidly rule-bound or merely indolent, or by the able, ambitious, and unscrupulous. In the former type of agency, certain routine tasks can be carried out in an indifferent way, but the range of activities at which the agency can be successful will be severely limited. Such agencies will not be aggressive at undertaking new tasks. The agencies dominated by climbers, by contrast, will be eager to take on new functions and will have the capacity to plan, organize, and coordinate complex tasks. Such tasks may not be done well from the viewpoint of their impact on the outside world, however, since climbers are interested in their individual relations within the bureaucracy, rather than the 'success' of the agency's activities in the outside world. The true professional will rarely be found in government, except when public and private salary schedules for an occupation are, by pure chance, consistent.

With federal salaries so high relative to private and academic schedules, the problems of stupidity and indolence may be distinctly secondary to those created by political behavior. The major exception is in the specialties such as engineering and medicine where the government is in direct competition with business or independent practice. This does raise questions about the wisdom

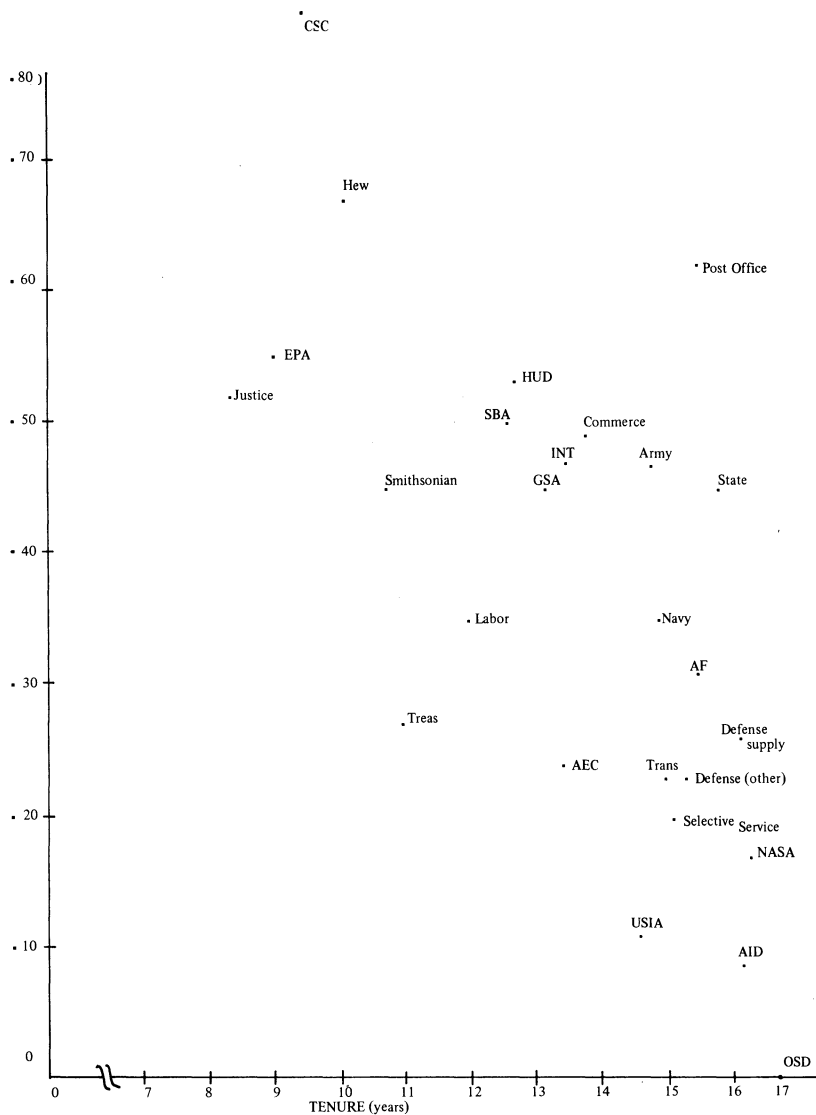


Figure 4. Tenure and quit rates, by agency, December 1974

Sources: U.S. Civil Service Commission, Federal Civilian Workforce Statistics, 'Age and Federal Employment - An overview,' December 1974, p. 13; and Federal Civilian Manpower Statistics, April 1975, p. 28.

of high salaries for government employees, since the major functions that can be done well by government are probably done better by the indolent and incompetent than by the ambitious and unscrupulous.

NOTES

1. I use the term 'bureaucrat' to mean any government employee. When I write 'government,' I specifically intend the federal government of the United States, unless otherwise specified. Much of the analysis in this paper could, however, be generalized to other organizations, including non-governmental ones.
2. Gordon Tullock, *The politics of bureaucracy* (Washington: Public Affairs Press, 1965).
3. Anthony Downs, *Inside bureaucracy* (Boston: Little Brown, 1967), Ch. IX.
4. The current salary schedule, which shows what people of different ranks earn today, is a biased estimate of the pay that an individual can obtain as he moves upward through the ranks. The bias is of no importance for our purposes here, because this paper is concerned with the choices that the individual must make. Uncertainty about the future is much more significant than statistical bias.
5. For an account of a job evaluation of very large magnitude in the private sector, see Jack Stieber, *The steel industry wage structure* (Cambridge: Harvard University Press, 1959).
6. For a discussion of the problems, see Arthur J. Corazzini, 'The federal salary comparability process: A "fair comparison" reexamined' (undated mimeo) and the U.S. General Accounting Office, Report to the Congress FPCD-76-9, 'Federal white-collar pay systems need fundamental changes,' October 30, 1975.
7. GAO, page 8.
8. Adam Smith, *The wealth of nations*, Book I, Chapter X.
9. The age-income profile reflects the accumulation of human capital and the stream of returns that an individual earns on his investment. The theory of human capital as applied to on-the-job training was spelled out by Jacob Mincer, 'On-the-job training: Costs, returns, and some implications,' *Journal of Political Economy*, Supplement, October 1962 (Vol. LXX, No. 5, Part 2), pp. 9-49.
10. Karen Elliott House, 'Civil service rule book may bury Carter's bid to achieve efficiency,' *Wall Street Journal*, Sept. 26, 1977, p. 1.
11. See, e.g., Harry Johnson's comments in the session on 'Issues in incomes policy,' Industrial Relations Research Association, *Proceedings of the 24th Annual Winter Meeting* (December 27-28, 1971, New Orleans), p. 170.
12. Sharon P. Smith, *Equal pay in the public sector: Fact or fantasy* (Princeton, N.J.: Industrial Relations Section of Princeton University, 1977).
13. The age and duration of service data are not routinely published, but are available in U.S. Civil Service Commission, 'Age and federal employment - An overview,' *Federal civilian workforce statistics*, December 1974; the turnover data are published monthly in U.S. Office of Personnel Management, *Federal civilian workforce statistics*, formerly called *Federal civilian manpower statistics* by the U.S. Civil Service commission.