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Bureaucratic Problems of Public Choice:
Why Do Public Goods Still Remain Public?

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DISKUSSIONSBEITRÄGE

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Bureaucratic Problems of Public Choice:
Why Do Public Goods Still Remain Public?

by
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Bureaucratic Problems of Public Choice: Why Do Public Goods Still Remain Public?

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I. Introduction

In 1967 Francesco Forte asked provocatively "Should 'Public Goods' Be Public?". He meant that the production by a public bureau is not necessary for a good which is to be provided publicly. The community may benefit from the cost reducing forces emerging under competition by contracting with private firms for producing public goods. The discussion of this question has a long history in economics and especially in the theory of socialism. 1) But only recently the problem has been made more tractable by separating the question of supply from that of production. A number of empirical investigations have been made in order to find out whether private firms produce at lower costs than public bureaus. We shall review this evidence in the following second section. 2) Although many empirical studies showed lower costs in private firms comparatively to public bureaus, governments have been reluctant to leave the production of these services to the private sector and to restrict their activity to regulation and/or subsidization of the supply only. In the third section we investigate why private

^{*}The author is indebted to Richard E. Wagner, Werner W. Pommerehne, Bruno S. Frey, and Jürgen Backhaus for helpful comments.

¹⁾ See for a bibliography Backhaus (1976, pp. 292-94).

²⁾ For a treatment from a more theoretical point of view see Blankart (1975).

production has so little political appeal, and we will so be enabled to find out where political reforms may be suggested.

II. A Review of the Main Empirical Evidence

Cost comparisons of bureaucratic versus private production relate mostly to services of local governments. On this level a larger variety of institutional arrangements can be observed than on the state and federal level where public services are mostly monopolized by the government (such as high schools, armed forces, and interstate highways). Therefore cost comparisons are rare (even if the measurement problem could be overcome).

- 1. The greatest number of empirical studies can be found in solid waste treatment (Stevens and Savas 1977, Pommerehne 1976, and Savas 1977). They mostly show that the treatment by private firms causes on the average less costs to the community than production by a public bureau. This difference begins to vanish as soon as competition of public with private firms or among public agencies is allowed or institutionalized (see Hirsch 1965 and Savas 1977).
- 2. Similar results can also be found in other fields of public service provision. For electricity generation, Meyer (1975) shows that public firms have lower operating costs. When, however, overhead and other administration costs are included in both types of firms, private firms seem to have somewhat lower costs (see Moore 1970). In transport and distribution of electricity, no significant differences can be observed.
- 3. Ahlbrandt (1973) finds analogous cost differences for fire protection. He shows that costs capita are nearly 50 percent lower under private than under bureaucratic (public) production.

Table 1

Empirical Evidence on Public versus Private Production Efficiency

Author	Type of study	Sample	Output Measure	Results
Waste treatment				
Stevens and Savas (1977)	c, ec.	314 cities in the U.S.A., with population between 2500 and 720000, 1970/71, collection without disposal	number of persons served	Annual costs per household for once-a-week curbside collection are between 9,7 to 29,2% higher under public than under private production arrangement. (The difference is increasing with city size.
Pommerehne and Frey (1976)	C _{ep} ec.	103 Swiss cities with population between 5100 and 423000, 1970, collection without disposal	tons of waste collected	Operating costs are signifi- cantly lower under private production.
Pier, Vernon, and Wicks (1975)	c _s , ec.	27 cities in the State of Montana, U.S.A. (no year indicated, sample excludes large urban areas), collection without disposal	pick-up units	Private firms work at lower costs up to 624 collection points (about 1750 inhabitants). Public firms seems to be more efficient beyond that point.
Hirsch (1965)	c., ec.	24 municipalities in the St.Louis City-County, U.S.A., with 200 to 225,000 pick-up units, 1960, collection and disposal	pick-up units	The contractual arrangement (public vs. private) has no significant influence on average costs.
Savas (1977)	ts, acc.	for waste collection (without disposal) per ton before competition was introduced (1966-1970) and after intro-		In 1971 the difference in costs of public vs. private is +11%, in 1975 +1,4%. The annual deflated cost increase for the city before competition was +6,1% p.a., thereafter -2,4% p.a.
Electricity				
Meyer (1975)	c., and ts., ec.	60 to 90 public and private electric utilities in U.S.A., 1967-1969.	kwh	Cost difference: Production (operating costs only): private > public (significant, 1%) Transmission: private < public (not significant) Distribution: private < public (not significant)
Moore (1970)	C., ec.	49 private and 27 public companies with a total of 167 thermal plants in U.S.A., 1962	kwh .	Operating costs of electricity generation including overhead costs and administration costs are significantly lower in private than in public companies.
Wallace and Junk (1970)	c., acc.	137 public and anon-indicated number privately owned utilities in U.S.A., 1965	kwh	Operating costs of electricity generation 74,5% higher and investment cost per kw 37,8% higher in public than in private systems.
Fire protection				
Ahlbrandt (1974)	c, ec.	44 cities and fire districts in the State of Washington (U.S.A.) with public fire protection vs. private fire	number of persons served	Costs per capita are 47% lower under private than under public fire protection.
	Waste treatment Stevens and Savas (1977) Pommerehne and Frey (1976) Pier, Vernon, and Wicks (1975) Savas (1977) Electricity Meyer (1975) Moore (1970) Wallace and Junk (1970)	Waste treatment Stevens and Savas (1977) Pommerehne and Frey (1976) Pier, Vernon, and C., ec. Wicks (1975) C., ec. Savas (1977) ts, acc. Electricity Meyer (1975) Moore (1970) C., ec. Wallace and Junk (1970) Fire protection	Sample Stevens and Savas (1977) C., ec. 314 cities in the U.S.A., with population between 2500 and 720 000, 1970/74, collection without disposal	Savas (1977)

	Health Insurance				. •
10.	Frech III (1976)	c., ec., acc.	12 profit seeking and 66 nonprofit Medicare intermediaries for the Social Security Administration in U.S.A., 1970	average costs per Dollar processed: average pro- cessing time (days): Errors per \$1000	nonprofit vs. profit orient firms + 45% + 80%
	A: =3:			processed:	+ 140%
11.	Airlines Davies (1971)	ts., acc.	productivity figures of a public and a private (regulated) airline in Australia 1958-1969	transported freight and mail per employee	Productivity difference public vs. private firm - 55%
			· .	transported number of pas- sengers per employee	- 17%
				turnover per employee	- 12%
	Urban bus transport	- · · · · · · · · · · · · · · · · · · ·			,
12.	Oelert (1976)	c, acc.	municipal and private bus transport in Germany 1974	costs per bus km	Nationwide average costs per bus km is about 160% above the contract price per bus a paid to private bus firms for comparable services in the State of Nordrhein-Westfale
	Building agencies				
13.	Pausch (1976)	c., acc.	municipal construction agencies in the State of Rheinland-Pfalz (1971; data collected by the state "Rechnungshof"	9 services of municipal construction agencies	Costs of municipal construction agencies are on the average 20% above competitivides of private construction firms.
	Office Cleaning		•		
14.	Bundesrechnungshof (1972)	c, acc.	office cleaning in federal post offices in Germany	standard measures for cleaning	Office cleaning by the federal post office administration is about 42% to 66% more expensive than contracting out
15.	Fischer- Menshausen (1975)	c., acc.	offices of the public administration in Hamburg (FRG), 1974	rooms cleaned	Costs for office cleaning are calculated to be about 30% lower if 80% of all roo cleaning were left to contract firms.
	Forestry				
16.	Bundesregierung (FRG) (1976)	c., ts., acc.	accounts of public and private forests in FRG, 1969-1975 (excl. small private units)	net operating revenue per hectare (ha) of forest	Average net operating reven 1969-1975 -30 DM/ha in pub- licly owned forests, privat- ly owned forests +15 DM/ha

- 4. Similarly health insurance agencies work at significantly lower costs when organized as for profit institutions than under non-profit conditions.
- 5. Whereas all studies mentioned up to here (except no. 5 and 8) use multiple regression analysis in order to hold constant the relevant exogeneous factors, in some other studies evidence on relative production efficiency is found by direct observation of accounting data. The influence of other factors on costs is taken into account by choosing only those examples which are in all respect similar except in the institutional production arrangement. It is clear that this method is qualitatively not as good as multiple regression analysis. Nevertheless the results are worth mentioning: Airlines, urban bus transport, construction agencies, office cleaning, and forest administration work at considerably lower costs under private than under public ownership.

III. Arguments for Public Production

Despite these arguments the model of a government acting only as a supplying agency of privately produced goods and services has never had large appeal in politics. The growing long run proportion of public employees in relation to total employment in most western countries does not seem to indicate that governments withdrew their activity from production to a mere supply of public services. Five arguments may be investigated for an explanation of this phenomenon.

1. Deficiencies in Measurement

First it may be argued that the cost estimates of private versus public production in table 1 are wrong or misleading. Part of the relevant factors were omitted and therefore results were

¹⁾ See Borcherding (1977), Kleinewefers (1978), Kux (1976, ch. 2.8)

biased. In a cost function taking into account <u>all</u> relevant exogenous variables, however, differences between public and private production would disappear. Under these conditions it can be infered that a government that does not follow the suggestions given in the available empirical cost estimates, acts correctly in maximizing voters' surplus and its own probability of remaining in power.

In order to evaluate this hypothesis, we shall compare an "ideal" cost function such as that proposed by Hirsch (1965) with the actual simpler estimates from above. Ideally costs should be brought into a relation of the form:

$$AC = f(A, Q, L, T, S)$$
 where

AC = average costs

- (i) A = quantity of output produced
- (ii) Q = quality in various characteristics
- (iii) L = factor price level
- (iv) T = technology
- (v) S = service conditions

In the remainder of this subsection we shall investigate how each of these exogenous factors (i) to (v) of the "ideal" (though only partial analytic) model is integrated in the empirical estimate

- (i) Often the <u>output</u> can hardly be defined because the private firm or the public bureau produce a pure public good or a whole bundle of products. Many applied output measures are therefore only vague. Examples are the number of persons served or the amount of claims processed etc. If we accept such measures as correct, the most relevant problems will be relegated into the quality variable to which we will turn next.
- (ii) It is sometimes argued that private firms providing public services on a contract basis perform more poorly than public bureaus; private firms may have an incentive to substitute quality for higher profits, because the quality of their output is hardly measurable and because it will not enter into

their reward function. Private production of public services is argued therefore to be only apparently lower in costs than public production. 1)

This is, however, not the only way of reasoning. The counter-argument is that under public production too, quality cannot be controlled easily. Bureaucrats would have an incentive to substitute quality for easy life or other activities yielding satisfaction to them (see Lindsay 1975).

Most empirical studies cited above account for some quality characteristics. E.g. Frech (1976) holds errors per dollar processed constant. Stevens and Savas (1977) and Pommerehne (1976) account for curbside or backyard refuse collection and for the number of collections per week etc. This method can of course only approximate the requirements of the "ideal model"; for the number of quality variables is infinite.

Nevertheless, the available estimations show that private production has lower costs even when the measured quality characteristics are held constant.

It could, however, be objected that the most relevant quality characteristic, namely the reliability of a continuous supply cannot be held constant because it is intrinsically tied to the production arrangement. A private firm must always fear bankruptcy and therefore cannot fulfill this reliability requirement, whereas a public bureau can. This argument does obviously only hold where no short term substitution of the source of supply is possible. So the regulation of the money supply of a country by a private bank may be unreliable (among other reasons) because this firm may run into bankruptcy. (With reference to Switzerland it can, however, be argued that long periods of private money supply existed until 1906. 2)

Where competition is possible, however, the government may be able to contract with another producer within the available

¹⁾ See e.g. Tofaute (1977)

²⁾ I.e. private banks were allowed to issue banknotes

span of time (see for bus services e.g. Oelert 1976). In other cases the government may take over the management of a firm in baucrupcy in order to maintain a continuous supply before contracting out again.

- (iii) Studies on public versus private production may not consider factor price differences.
- (a) Such differences may arise when workers fulfilling the same service under public as under private production do not receive the same wage because they belong to different trade unions. Often higher wages and fringe benefits are paid in public bureaus than in private contract firms. 1) A priori there seems to be no reason why a municipality, a state, or national government should not benefit from lower wage rates in private firms. An argument would be that non-paid fringe benefits may reappear as externalities of private firms in the budget of the government which must pay or subsidize compensations in case of unemployment or illness if these workers are not sufficiently well insured on an individual basis. These externalities are, however, (when they exist at all) only contingent upon some hazards. Therefore only their expected value should be considered in cost estimations.
- (b) Similarly differences in prices of capital and of land may be observed. But here public bureaus usually enjoy an advantage over private firms, because borrowing conditions are more favorable or because tax-financed capital has not to yield a return, or because public lands are often available free of rent for public bureaus (see Niskanen 1973, ch. 2). On the other hand, market forces may require private firms to pay the full amount or at least a higher proportion of the social opportunity costs. Therefore public bureaus should show lower costs ceteris paribus than private firms.

¹⁾ See Sauerborn and Minssen (1977)

- (iv) Technical conditions such as the technical standard of equipment used (the type of lorries for refuse collection, or the type of hose in fire protection) may also influence costs. But these factors are usually under the control of the management unless special government prescriptions exist as to the type of input to be used (cf. Davies' study on Australian airlines (1971) where the private company has to use the same type of aircraft as the public company). Therefore these factors should not be held constant in comparisons of different ownership forms. After all one of the major advantages of private enterprise over public bureaus is that the former institution can be expected to be more flexible in adopting new techniques (see also Stevens and Savas 1977).
- (v) Varying service conditions must, however, be taken into account in estimated cost functions. They are outside the control of the management: The density of the area served may affect the costs of electricity distribution, of fire protection, or of refuse collection. Similarly in cost estimates of bus services differences of winter temperatures of topographical height differences, frequency of stops etc. should be considered.

To sum up: Although the cost estimates shown in table 1 do not fully satisfy the requirements of an "ideal model", it cannot be argued that they are systematically biased in favor of private firms. As far as quality can be measured, private firms seem to perform at least as well as public bureaus. There is also no a priori reason why service conditions should cause distortions in favor of private firms. Differences of costs under public or private ownership seem mainly to be based on differences of factor prices (esp. wages) and/or of the technology used including management techniques. So far the preference of governments for public bureaus instead of private firms seems to be based on reasons, other than purely allocative efficiency.

2. Distributional Reasons for Public Production

Another line of argument rests on the supposed distributive advantages of public bureaus. It is often argued that poor citizens will be better off with publicly produced services. For only the government may be able to guarantee equal treatment for the rich and the poor. This characteristic seems to be of considerable importance for institutions such as schools and hospitals but also for basic services such as electricity supply refuse collection etc. Private firms are said to prefer to serve rich rather than the poor when this behavior furthers their profits (see ÖTV, no. 1, 1977).

This argument is, however, not correct in this form. For equal treatment can be obtained by regulation of the rate structure and of the supply conditions alone. Public ownership does not seem to be a necessary condition for attaining this goal.

If the service is to be provided "free" and its costs are covered by taxes, the poor fare equally well under either institutional arrangement. E.g. free fire protection or free waste collection can be provided by public bureaus or by private contract firms with the same distributive impact. When moreover the private firm charges lower costs to the government, the poor (as well as the rich) may even enjoy a tax advantage in financing the service.

A service which is to be provided at a positive price does not seem to be much different. Actually often cross subsidization is used to attain the distributionally desired rate structure. But it may be argued that the rates negotiated between political authorities and private firms will be distributively different from those emerging from bargaining by these bodies with public bureaus. The profit incentive of private firms will on the average lead to higher rates (harming the poor) than the non-profit behavior of public bureaus.

Some evidence on this hypothesis can be found in the study by Moore (1970) cited above. The author shows that privately owned regulated electricity generating companies charge prices not significantly different from monopoly prices whereas publicly owned (municipal) companies apply rates wihich are between 10 and 22 percent below the monopoly price.

This indicates that consumers (especially those of lower wealth groups) may have an interest in policies favoring public production of public services although the real costs may be higher under this form of ownership. To put it simply, the consumers may enjoy the advantage of not having to pay menopoly profits to private enterpreneurs.

This distributive effect will, however, not always prevail:
When competition is feasible, profits will tend to disappear.
Stevens (1976) shows for refuse collection that the lower costs of competitive private contractors relative to public producers are reflected in a lower level of prices charged to the households.

On the balance there is evidence on both sides, and it cannot be said that a policy in favor of "reprivatization" of public services will in general harm the poor and may not find voters' approval therefore.

3. Economies of Scale as a Reason for Public Production

Economies of scale are <u>a priori</u> again no argument for public production. A private firm may as well be able to exploit such technological advantages as a public bureau. But it could be argued that a bureaucratic planner is more powerful and therefore also more successful in achieving the optimal firm size. 1)

This does, however, not seem to be proved. The relative inefficiency of public bureaus described in table 1 may be due at least partially to a non-optimal choice of capacity. So

For a discussion of this argument in the history of economic thought see von Loesch (1977, pp. 74-75).

Wallace and Junk (1970) show for American electric power plants¹⁾ that only private firms are generally large enough to exploit economies of scale whereas municipal firms are often too small and have therefore higher costs.

This example can of course not be generalized, but it serves as an illustration of the well known suspicion that the potential power of public authorities to plan is not a sufficient condition that the least cost capacity is indeed chosen.

4. Externalities as a Reason for Public Production

Often public enterprises produce positive externalities, and it is argued that these effects justify public ownership. A closer look, however, reveals that this is not generally so. The optional demand e.g. which is provided by a public transport system in deficit may also be covered by a publicly subsidized private transport system. An example is the public post-office which produces an externality in mailing newspapers below marginal costs, but so could a private dispatching firm when subsidized.

In other cases, however, the externality is intrinsically tied to public ownership. This may be pushed to the extreme of proposing to contract out for services of courts as a measure of cost saving. Although it is of course conceivable that judicial impartiality will not (or not as much) be guaranteed under this peculiar form of ownership. Services of regulatory agencies have to remain with public institutions because corruption may influence the outcome more under private than under public ownership. Or the services of embassies can not be contracted out; for private agencies of local representatives may favor the interests of their own country in case of conflict. 2)

¹⁾ This sample is somewhat different from that used in Moore's study (1970) cited above (III, 2) because (among others) of the technology used at that time.

This does not mean, of course, that the actual service organization represents the best of all conceivable institutional forms.

These examples may indicate a boundary for government services beyond which only public bureaus can work efficiently. A large part of public services, however, remain candidates for private production and therefore their publicness still needs to be explained.

5. Public Policy for Private Profit

The undisputed public production of services such as refuse collection, fire protection, urban bus transport, local schools and parts of postal services needs an explanation different from the above arguments of efficiency and redistribution to the poor. This may be an argument for an explanation in the field of politico-economic interactions. In a politico-economic context, governments must observe the preferences of voters fluctuating between parties, of groups who support the party financially or personally, and of groups who can exert pressure on the government.

It seems that public sector bureaucrats enjoy a favorable relation to the government because they maintain an important position in all these three fields:

First: Bureaucrats can be located in the middle of a two or three party spectrum common in many western democracies. In Germanye.g. the public service workers' union is a part of the national trade union organization and may be - in so far - affiliated to the Social Democratic Party. But the union of public officials tends rather to the Christian Democratic Party (see Spiegel 1975). On balance, it can be said that bureaucrats may be located around the median preference and may therefore need special attention in elections as fluctuating voters.

Secondly: Bureaucrats support parties financially (in Germany mostly the Social Democratic Party) through their unions. But bureaucrats are also involved in the political life by their own profession. Therefore they have a productivity advantage in political jobs comparatively to other professions. This may explain why we can find a proportion of 28 to 61 percent bureaucrats in the state parliaments and of 37 percent in the federal parliament of the Federal Republic of Germany (see Spiegel 1974).

Thirdly: The most important factor of influence may lie in bureaucrats' possibility to strike. Even when higher ranked public officials are legally not allowed to go on strike, most of the services cited above can be used as effective means for strike pressure. This is so because public employees hold a monopoly position as suppliers of these services. Refuse collection, fire protection, postal services, electricity supply have nearly no substitute. The economy and the daily life are therefore seriously harmed when it comes to strike. Since all these services are under government's responsibility, the government will finally be made responsible for break-downs of supply, and this will cause a loss of votes.

No wonder that we can observe wages considerably above the competitive level in the Public Sector. Adie (1977) has calculated the competitive (optimal) wage rate for wages in the Postal Service in the United States using Becker's human capital model (1964). He finds that wages actually paid exceed the competitive wages by 33 percent on the average (1958-72). This figure represents the highest "overpayment rate" in all but one industry in the United States.

Bureaucrats' monopoly position would be lost if public services were contracted out to private firms. Substitution among suppliers would become possible, and the price elasticity of demand for these services as seen by a single firm would decline. Therefore we would expect a vigorous resistence of public sector bureaucrats against any form of privatization of public services. Indeed, we can find empirical evidence for this hypothesis in the German political scene. In 1975 the Council of

¹⁾ Arguments in that line can be found in Niskanen (1971, 1973) and Breton (1978).

²⁾ Because of fixed wage structures, strikes in these sectors have also an influence on the outcome of wage settlements for the higher ranked public officials who may be devoid of the right to strike (Krause 1975). Sometimes these groups use also the means of a low down of their work effort to enforce higher wages (see Keller 1977).

economic advisers¹⁾ of the federal treasury suggested more contracting out of public services and initiated so a still ongoing discussion. The public employees' union showed a sharp reaction. It initiated a research program with a new series of publications in order to prove the superiority of public production of public services.²⁾ Moreover, in a programmatic statement the union claimed that 16 conditions must be satisfied before contracting out may be taken into consideration. Four of them may be instructive:

- -- Product quantity and quality must remain equal under private as under public production,
- -- wages must not be lower in the private than in the public firm,
- -- the unemployment rate must not rise due to private management,
- -- the service must be cheaper for the government and the citizens under private ownership. 3)

Clearly, these conditions cannot simultaneously be met at the same time. Therefore public production of public services can be expected to maintain its political appeal given unions' effective pressure on the government.

¹⁾Wissenschaftlicher Beirat (1975).

²)ÖTV, Zur Privatisierung öffentlicher Dienstleistungen, Stuttgart, Heft 1-6, 1977-78.

³⁾OTV, Heft 1, 1977, pp. 30-31.

If these hypotheses based on empirical evidence reflect correctly an aspect of the political decision making process, the corollary would be that governments and parliaments are not the appropriate institutions to decide on public or private production of public services. For bureaucrats will tend to predetermine the outcome due to their political influence especially in parliaments.

This is, however, not necessarily so when these decisions are made on another political level say by popular vote. Offers of private enterpreneurs to produce a given public service could be subjected to popular vote when a proportion of say 10 percent of the franchised population asks for. Bureaucrats' influence on such a decision would be much smaller than on the parliamentary or governmental level. They are no more able to channel decisions before they come to a vote and they rely on a much smaller representation in the population as a whole than in the parliament. Their main incentive would then be directed to a persuasion of the voters that public bureaus will serve better their customers than private firms.

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