

# PROPOSAL: THE EFFECT OF GOVERNMENT SHUTDOWNS ON BUREAUCRAT SELECTION

NATHANIEL BECHHOFFER

## ABSTRACT

Using a new dataset of federal government workers in the United States, I propose to estimate the effects of temporary suspensions (commonly referred to as government shutdowns) on overall and differential bureaucrat attrition in the period from 1976 to 2013. Since this includes employee-specific characteristics, including age, education, occupation, geography, and pay (including how pay within federal employment changes over time), I propose to estimate how attrition in response to experiencing a shutdown is associated with fixed employee traits and geography. These variables will help clarify the short- and long-run costs of these disruptions, due to the estimation of both the change in attrition for workers with more skill, who can leave more easily due to the greater availability of outside options for them (that vary by area), and the change in attrition for workers with less skill, who will presumably be more sensitive to shutdown liquidity shocks.

## NARRATIVE

There have been 18 gaps in government funding in the time period from October 1976 to October 2013. Recently, BuzzFeed News obtained data that details federal employees administered through the Office of Personnel and Management (OPM) from 1973 through mid-2014, which covers. This data set contains information on the status federal employees that includes wages, person-specific characteristics, and identifiers that allow consistent identification of people across time. Data going back to 1982, from the same source, tracks entries and exits of these employees. I propose to document how the composition of workforce changed with these shocks, which are plausibly exogenous relative to other changes in incentives to enter or leave the federal workforce.

What motivates bureaucrats speaks to a larger literature with both theory and experimental work, with prominent mention in the J-PAL Governance review paper. This literature includes the recent findings of Banuri and Keefer, 2013 that claims

pro-social motivations are important using results from laboratory games in Indonesia, and the findings of Hanna and Wang, 2017 who estimate, using laboratory tasks, that cheating behavior is associated with selection into the public sector, and that this cheating behavior is associated with eventual corrupt behavior by civil servants in India. These findings contrast with evidence from Dal Bó, Finan, and Rossi, 2013, which indicates an unambiguous finding that pay motivates higher quality of entrants for bureaucrat positions, as measured by personal characteristics, in a Mexican context. Ashraf, Bandiera, and Lee, 2016 find that emphasizing career possibilities leads to better selection of public sector employees in Zambia, as measured both by general characteristics such as test scores and the effectiveness of public service delivery. Moreover, the association of general characteristics with better provision is documented in Callen et al., 2015, who find that traits such as personality are associated with better health outcomes from public employee effort in Pakistan. These results support a research design that analyzes changes in composition as a proxy for effectiveness, allowing for evidence on the effects of issues with government employment on outcomes without being able to measure outcomes particularly well, let alone aggregate performance measures across various parts of the United States federal government.

It is unclear that any one result would hold across multiple contexts, as shown by Gailmard and Patty, 2007, which derives a model under which high pay serves to encourage entry of those less motivated by the pursuit of public service. In the case of a government shutdown, attrition could be due to either motivation, that is, government workers may be frustrated by their inability to do the jobs they wish to do, or they may be frustrated for instrumental reasons such as aversion to volatile employment income. (Historically, the end of government shutdowns have come with full compensation for workers who did not receive pay during the shutdown period. Therefore, the long run effect on incomes is close to zero, with the caveat that backpay does not include interest to compensate for the delay in payment and the resulting need to access credit markets. While access to credit is likely to vary a great deal across types of federal worker, it is unclear as to how one would estimate this variation, a question here left to future research.) With information on variation in potential outside opportunities for employees, the variation across different kinds of worker can yield an estimate of how much the instrumental reasons matter, thereby helping clarify this question, at least in the context of the United States.

Since these data disaggregate by agency, subagency, and geography I propose to test whether those with better outside options are more likely to leave in response to a shutdown with controls for what are approximation workplace fixed effects, with the unique combinations of are and sector. Additionally, since shutdowns do not affect every kind of employee equally, with some employees who are deemed essential

treated as usual, I can estimate how peer composition can potentially cause even those who remain employed through shutdowns to reconsider their outside options. This also serves as a placebo test to bolster the case for the exogeneity of the shutdown events, as presumably the effects of these shocks on those not directly affected should be of significantly smaller magnitude than for those who are temporarily put out of work.

One complication for inference is heterogeneity in shutdown events. Four of these so-called shutdowns only lasted for one day, with the longest, at the end of 1995 and beginning of 1996, lasting 21 days. One way to distinguish between different kinds of shutdown in a model is to view shutdowns of a shorter length as being almost exclusively shocks to beliefs, with the experience of a shutdown being informative as to whether further shutdowns are likely to occur. The question of what direction people should update in is unclear, as the occurrence of a shutdown seems best categorized as out-of-equilibrium behavior in the negotiations done by elected politicians, and therefore not well characterized with typical principal-agent models of the relationship between politicians and bureaucrats. This is further confounded by uncertainty as to how voters respond to shutdowns. Voters might react by punishing the politicians seen as responsible for negotiations breaking down, and if negotiation breakdown is related to some fixed characteristics of a politician, the population of politicians who exacerbate such negotiation issues will decline, implying that the correct update in response to a government shutdown will be lower probability of future shutdown, at least in the short run. This could potentially be reversed when politicians are sorted via the ideology of their particular voters, which could mean that the relevant voters will respond positively to the perception that their elected representative was willing to bear the public relations cost of being seen as obstinate. Regardless of which probabilistic update is closer to the truth, the change in perceptions can be inferred by inspecting the differences in bureaucrat responsiveness by length of shutdown. If bureaucrats do in fact see short shutdowns as indicating reduced probability of future shutdowns, then this will show up as short shutdowns being associated with reduced attrition.

To estimate variation in outside options I propose to use the geography information, which allows for differences in (differential) attrition caused by the reluctances of workers to relocate. If alternative job opportunities are scarce for a particular geographical area, then one would expect lower attrition as a result. Moreover, this can be disaggregated by occupation, by using the Current Population Survey to estimate labor market characteristics for a particular occupation in a geography during the shutdown times. With information on age, I propose to use a model bureaucrats as maximizing their long run utility to estimate the role of expectations, since

older workers who are closer to retirement will not give much consideration to the informational aspects of the shutdown.

Since federal employment has historically been an area where women and ethnic minorities are more represented as compared to other industries, it would be of particular importance to measure how this attrition affects opportunities for these employees to advance, or, in the case of women, whether the general difference in labor force attachment by gender is exacerbated after government shutdowns. Unfortunately, the data available does not include measures of employee gender or ethnicity. For gender, the most promising approach is probabilistic assignment of gender on the basis of names, allowing for disaggregated results. This approach is unlikely to work for ethnic minorities, but aggregate estimation may be possible by using the Current Population Survey, which does have ethnicity (and sex) to analyze changes in outcomes of ethnic minorities who are in the relevant geographic area (or those who migrated, as the Current Population Survey does ask about place of previous residence).

As the data is published by BuzzFeed, it is accessible to anyone with an internet connection, without the need to obtain permission. This will allow much of the analysis to be completely open access. One limitation is that the analysis that uses the Current Population Survey, as available from Flood et al., 2018, would presumably require access to IPUMS-CPS, but as this is easy for researchers to obtain, it is expected that all of the core results will be replicable from start to finish with minimal effort. To further aid analysis replication, I plan to add summary specifications, which would not include the detailed individual level data that cannot be shared, but instead use aggregated outcomes to show similar patterns. With this pre-existing availability, this project requires minimal expenditure, and is therefore highly viable.

Bureaucrats' crucial role in public good provision has already motivated a literature on effective selection mechanisms. With this analysis, I can clarify whether disruptions to bureaucrat compensation are important to avoid, both because they may make bureaucrat recruitment more difficult generally and because they may negatively affect the composition of these employees, which has been shown to be important for outcomes in developing countries. Since these data allow for wage controls, and these shocks have minimal effects on overall wages paid, a sizable result could indicate that merely disrupting compensation, a problem that is more likely to be prominent in developing countries, can have important implications for governance outcomes, emphasizing the need for further work on maintaining a professional civil service.

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