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Evidence from a Survey Experiment

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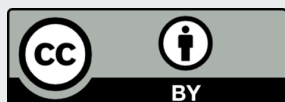
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Abstract

Two seemingly contradictory trends have accompanied the rise of digital transformation: a demand for better and more customized services, which require the use of personal data, and a concern for data protection. How do we reconcile these divergent trends? The answer to this question may influence not only the design of personalized services but also the strategies for their widespread adoption. This study explores how to mitigate the impact of citizens' reluctance to share data on the uptake of personalized public services. Through a survey experiment, we offered two hypothetical personalized services: one educational service (a scholarship) and one health-related service (a checkup). Each respondent was randomly assigned to one of three possible intervention groups, receiving different types of information: (i) a summary outlining the service benefits; (ii) details on benefits with a data use disclosure; and (iii) a data usage disclosure. The findings reveal that citizens exhibit a strong baseline interest in personalized services. However, a requirement to share personal data had an adverse impact on interest in both the educational and health-related services, resulting in declines of 2.6 to 3.0 percentage points. There are indications that the decrease in interest may be more pronounced for the health service. Providing detailed service descriptions increased interest by 4.5 and 5.5 percentage points for education and health services, respectively. This suggests that offering information about the benefits of the service can offset concerns about data privacy. These effects remained consistent among different population groups.

JEL Codes: D78, D90, H41, H83

Keywords: data protection, personal data, government services, citizen preferences

1. Introduction

The rise of digital transformation ushers in two seemingly contradictory trends: a demand for the personalization of services, which rely on the use of personal data, and a concern for data protection. On the one hand, the success of services provided by companies in the private sector, such as Google, Amazon, and Netflix, suggests that users appreciate a personalized provision of services despite the extensive use of personal data. Conversely, as shown by surveys and legislative activity, there has been growing concern about the way public and private institutions use citizens' data. This scenario raises an important question in the development of new public services: how do we reconcile the desire for better, more personalized services with growing concerns about personal data use? Finding an answer is crucial; it not only shapes the design of personalized services but also guides the strategies for their dissemination.

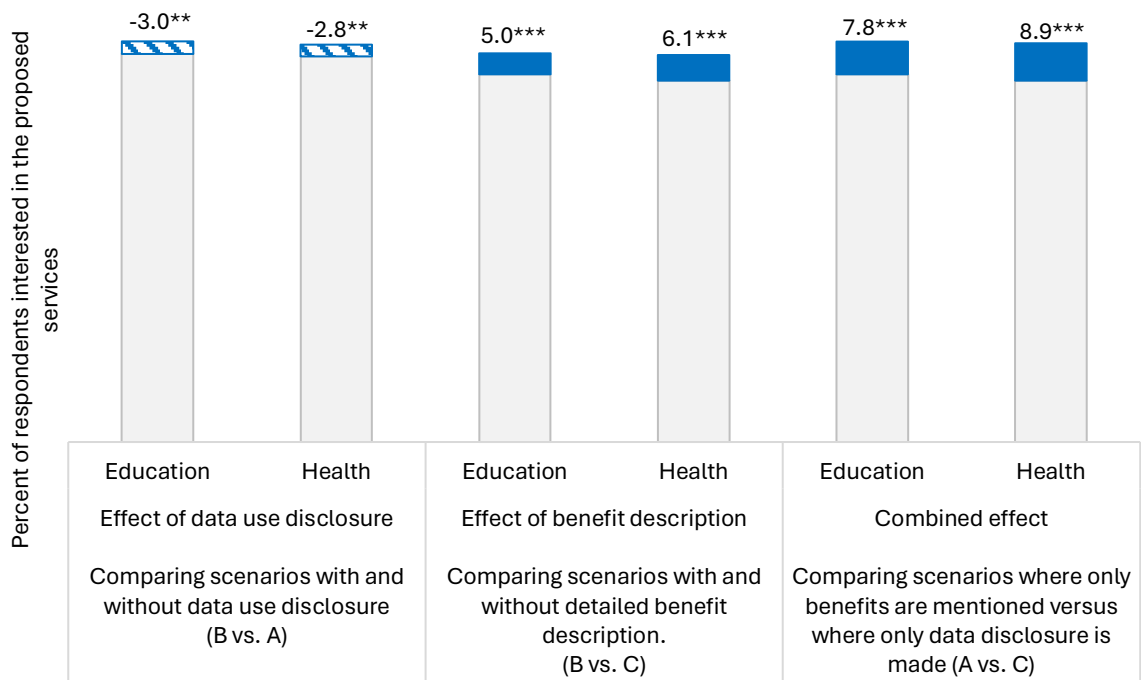
Various factors suggest a potential tension between privacy and personalization in Latin America and the Caribbean (LAC), a region characterized by high levels of distrust in government (Keefer and Scartascini, 2022). There is also serious concern about the abuse of personal data (Roseth, Reyes, and Yee-Amézaga, 2021). On a global level, IPSOS (2023: 43) survey found that 81 percent of people “feel that it is inevitable that we will lose some privacy in the future because of what new technology can do.” However, the region has a very high penetration of social networks, whereby personal data serves as currency. In the same vein, Prince and Wallsten (2022) found that in Latin America people are willing to *pay* for personalized advertisements, unlike in Europe, where individuals would *demand payment* for the same thing, suggesting a preference for personalized attention over privacy in the region.

This study assesses the extent of the tension between service personalization and personal data privacy. It also explores whether elucidating the benefits of a service can mitigate this tension, particularly when services have the potential to utilize data with varying degrees of sensitivity. Using a survey experiment, we assigned nearly three thousand citizens in the region to one of three intervention groups. Group A (*benefit*) received detailed information about a hypothetical new public service without any mention of personal data usage. Group B (*benefit + disclosure*) not only received detailed information about the service but was also informed that accessing it would require the government to collect some sensitive personal data. Group C (*disclosure*) was only informed that the government would need access to their personal data if they expressed interest in the service, without providing details about the benefits.

After receiving their respective prompts, all groups were asked if they were interested in accessing this service.

In this experiment, comparing Groups A and B made it possible to quantify the impact of the data use disclosure, while keeping the description of its benefits constant. Similarly, comparing Groups B and C enables us to measure the impact of describing the benefits of the service, while maintaining constant the mention of personal data use). Lastly, comparing Groups A and C demonstrates the extremes, showing how interest in the service varies when a description of its benefits is included without a mention of personal data use, compared to when the benefits are not detailed but personal data use is specified. Each group was presented with two types of services that could potentially have different levels of sensitivity to the use of data: an educational service (a scholarship) and a health service (a checkup).

Figure 1. Impact of the Experimental Study on Interest in Proactive Services



Source: Authors' elaboration.

Note: The grey portion of the bar indicates the average level of interest in the proposed services for the control group. On the other hand, the blue portions show the coefficients from independent linear regressions, where the variable of interest is the level of interest in the education and health services offered. Positive coefficients, shown in full color, indicate a positive relationship between the intervention and interest in services, while negative coefficients are denoted by diagonal lines. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

We found a widespread interest among citizens in accessing personalized services, with approximately 85 to 95 percent of respondents expressing such interest regardless of their treatment status. However, data use disclosure had a detrimental effect on their interest in education and health services, decreasing it by approximately 3.0 and 2.8 percentage points (pp), respectively. We find modest evidence indicating a greater reluctance to share relatively sensitive personal data, as is the case of health-related information compared to education-related data. The evidence strongly suggests that a potential solution to alleviating concerns about sharing data lies in communicating in detail the benefits citizens will receive from accessing personalized public services. As shown in Figure 1, there are increases in interest in education and health services of 5.0 and 6.1 pp, respectively, when service benefits are specified.

This finding may be attributed to the additional information serving as a signal of quality, which, in turn, fosters greater trust among prospective users. Alternatively, it may alter the cost-benefit analysis for citizens. They may be more willing to bear the “cost” of granting access to their personal data when they have greater clarity about the benefit they will receive from the service. Additionally, when comparing the two extremes (the combined effect), the group receiving only benefits versus the group not provided with benefit descriptions but receiving the data use disclosure, we observe the most significant gains in service interest. These gains amount to 7.8 and 8.9 pp for education and health services, respectively. In sum, this paper concludes that data use disclosures tend to discourage service adoption primarily when sensitive data is involved. However, elucidating the benefits serves as a strong incentive for service adoption, effectively outweighing the reduction in interest caused by data use disclosures. These findings hold consistently across different population groups.

This paper contributes to policy discussions and existing literature in several ways. First, it adds to the literature on the tradeoffs between personalization and privacy, which has its roots in studies on commercial interactions prior to the Internet era. Laufer and Wolf (1977) pose a cost-benefit relationship in which the disclosure of personal data represents a loss, while the personalization of services stands as a benefit. Other benefits that users expect in exchange for the disclosure of personal data include higher content relevance (Tam and Ho, 2006), increased service quality (Sheehan and Hoy, 2000), and time savings (Hui et al., 2006). Dinev and Hart (2006) and Dinev et al. (2006) refine the cost-benefit framework to an Internet context, arguing that willingness to provide personal data in online transactions is contingent on users’ perception of the privacy risk and their overall trust on the Internet. Taylor, David, and

Jillapalli (2009) argue that granting consumers more control over how their personal data is used can alleviate privacy concerns in commercial transactions.

Treiblmaier and Pollach (2011) find that the cost-benefit relationship between the disclosure of personal data and the personalization of services depends on several factors. These include whether the type of data to be disclosed is deemed sensitive or not, the individual's underlying level of concern around the disclosure of personal data, and the degree of clarity provided about the type of information to be disclosed and how it will be used. Sutanto et al. (2013) coin the term "personalization-privacy paradox" in the context of a field experiment in which they find that personalizing content increased the usage of an advertising app, while greater privacy controls resulted in a higher rate of users saving product messages. Goldfarb and Que (2023) and Acquisti et al. (2016) provide reviews of the literature on the economics of data privacy, including concepts such as consumer valuation of privacy, the personalization-privacy paradox, personalized pricing, and the externalities of data, among others.

To our knowledge, this is the first causal study specifically addressing the tension between privacy and personalization in public services. This is a relevant distinction, given that public services are frequently monopolistic, meaning that users dissatisfied with how their data is managed have limited recourse. Moreover, the potential uses of personal data by governments generally surpass those of private companies. Furthermore, it is the first paper on the personalization-privacy tension in the past decade—a decade during which a raft of new data protection laws has been implemented worldwide, and advancements in artificial intelligence and other technologies have significantly facilitated data manipulation.

The second contribution pertains to the measurement of the impact of data use disclosures on the service uptake. A significant branch of personal data protection literature has focused on the impacts of the most well-known personal data protection regime globally: the European Union's General Data Protection Regulation (GDPR). Aridor, Che, and Salz (2020) analyzed the impact of the GDPR on consumer behavior on websites. The main finding, derived via a difference-in-differences model, is that the implementation of GDPR, which requires website users to actively agree to share their personal data, led to a decrease in the number of consumers by 12.5 percent. For their part, Goldberg, Johnson, and Shriver (2019) analyzed online shopping behavior on the websites of 1,084 European firms and found that the implementation of consumer information measures outlined in the GDPR reduced both page views and online sales by 12 percent. This dynamic—where the implementation of data protection regulations

constitutes a barrier to access services—is one of the focal points of analysis of this study, particularly in a public sector context. The present study contributes by demonstrating that data use disclosures can negatively impact service adoption. In addition, this study further extends this literature by testing whether the willingness to accept data use disclosures varies depending on the sensitivity of the data to be shared. We find that citizens are not reluctant to share non-sensitive data, as is the case with educational data, but they exhibit some reluctance to share highly sensitive data, particularly pertaining to health.

The third contribution of the paper revolves around how decision architecture affects the willingness to accept the use of personal data. Adjerid et al. (2013) present experimental evidence indicating that how the intended use of personal data is disclosed can affect individuals' willingness to share personal data. They conclude that disclosures about the use of personal data are not an effective method to mitigate concerns about privacy. For their part, Martinez et al. (2021) causally demonstrate that attempting to assuage users' concerns about the privacy of their data can have the opposite effect by drawing more attention to the risks. Prior research shows that the Latin American context is distinctive in several dimensions. Prince and Wallsten (2022) present causal evidence that, compared to individuals from Germany and the United States, people from Latin America (specifically, Argentina, Brazil, Colombia, and Mexico) are much less concerned about the use of their personal information. While Germans demanded payment in exchange for receiving personalized advertisements to their cell phones, Latin Americans would be willing to pay to receive the same type of advertisement. Our paper is consistent with this finding, demonstrating that Latin Americans are generally in favor of using personal data to access personalized services. Furthermore, even if concerns about data usage constrain service demand, we demonstrate that this barrier can be easily overcome by communicating the benefits of the services in a detailed manner.

A fourth contribution focuses on the measurement of citizens' interest in proactive services. Two experimental studies showcase the potential of proactivity to facilitate the adoption of critical services. In one experimental study on the use of different types of SMS messages to promote uptake of cervical cancer screening in Uruguay, Gallegos et al. (2023) find that a proactive approach is highly effective, resulting in three times more women undergoing the screening compared to the reactive status quo. Reyes, Roseth, and Vera-Cossio (2021) tested a proactive approach in Panama to promote timely ID card renewal, finding causal evidence that usability issues undermined uptake of the proactively distributed service. Our paper expands on this literature by

confirming the widespread interest in proactive services and showing that interest in proactive services typically outweighs concerns about data privacy.

The results from this document will also enrich policy discussions regarding the tension between personalized services and data protection in the public sector. Many LAC governments are making substantial investments in interoperability schemes, which in principle would enable the use of personal data for the personalization of public service; in addition, they are implementing tools such as the citizen folder and notification systems, which would facilitate the delivery of such services (Roseth, Reyes, and Santiso, 2018). However, simultaneously, many citizens express concern about data privacy, as reported in opinion polls (Porrúa and Roseth, 2022), and many countries are tightening their data privacy regulations (10 LAC countries have regulations stipulating that data cannot be used for a purpose other than that for which it was provided). Our paper presents evidence as to what, from the citizen perspective, is more important: data privacy or personalized services. In broad terms, we find that citizens prefer personalized services and that addressing data use concerns can be effectively achieved by communicating the benefits of accessing these services.

The remainder of this paper proceeds as follows. Section 2 describes the methodology. Section 3 provides the summary of the results. Lastly, Section 4 draws the main conclusions and outlines the policy lessons.

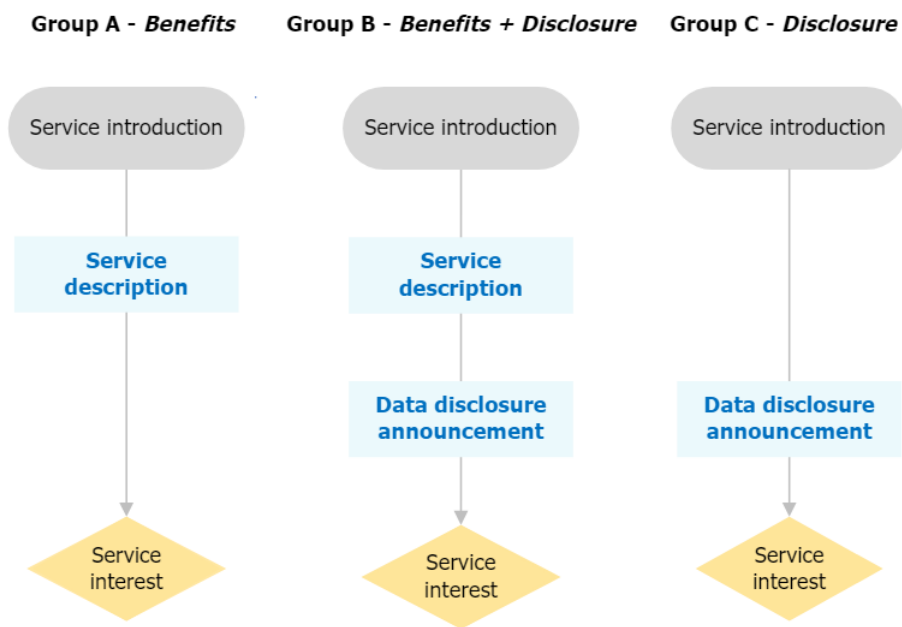
2. Description of the Study

We conducted a survey experiment to measure the impact of data use disclosures on the service uptake, as well as to explore the potential for benefit explanations to address reservations citizens may have about sharing data with governments. The participants in the experiment were 54,500 subscribers to three e-mail lists that the Inter-American Development Bank (IDB) manages.¹ Subscribers were randomly assigned into three intervention groups within each list. Between December 2021 and February 2022, each intervention group received three emails containing a survey link.

¹ The three groups of subscribers are: (i) subscribers to the GobernArte blog, which can be visited through this link: <https://blogs.iadb.org/administracion-publica/en/>; (ii) people enrolled in the EdX courses provided by the Inter-American Development Bank "Digital Government" and "Digital Government Project Designs", which can be accessed through this link: <https://www.edx.org/es/school/idbx>; and (iii) people enrolled in the Coursera course "Digital Government", which can be visited here: <https://es.coursera.org/learn/gobierno-digital>. The survey was sent to people who had previously authorized receiving communications from the IDB.

Prior to the randomization process, we did not have demographic information necessary for stratifying the sample. A total of 2,813 subscribers completed the survey, yielding a response rate of 5.1 percent. This sample size provides sufficient statistical power to detect a mean difference of 0.001 between two groups, as indicated in the power calculations provided in Annex Table C1.

Figure 2. Presentation of the Service Description and Interest Question Across Intervention Groups



Source: Authors' elaboration.

The survey inquired about interest in accessing two personalized public services: one for education and the other one for health (Table A1). The rationale behind offering two services was to test the hypothesis under two different scenarios with possible differences in the sensitivity of data required for access. Initially, all intervention groups received a basic introduction to the services. Subsequently, each group experienced a combination of benefits explanation and/or disclosures regarding the use of personal data for service access. Survey respondents were evenly distributed among the three intervention groups, suggesting that exposure to different prompts in the experiment did not affect the likelihood of survey completion.

In addition to the initial brief introduction to the service, each group was presented with the following:

- Group A (*Benefit*): Participants received a detailed explanation of the service benefits.
- Group B (*Benefit + Disclosure*): Participants received a detailed explanation of the service benefits along with a disclosure emphasizing the need to provide personal data to the government to access the service.
- Group C (*Disclosure*): Participants were only informed of the requirement to provide personal data to the government to access the service.

After being exposed to their respective prompts, each participant was queried about their interest in accessing each service. As a robustness check (although not illustrated in Figure 2), participants in Group A were additionally subjected to a data use disclosure announcement, followed by a second inquiry regarding their interest in each service.

Table 1 shows the text that was presented to the interviewees, according to the sequence in Figure 1, for each of the services under analysis. Examining these two services allows us to compare individuals' willingness to share data with the government in two areas that may be perceived differently by citizens in terms of the sensitivity of the data they may share. Educational services may be considered less sensitive as interventions often aim to improve school performance or enhance education attainment. On the other hand, health services often focus on prevention, diagnosis, or treatment of diseases. The information required to achieve these objectives is highly sensitive, which is why physicians cannot disclose related information of their patients to third parties without prior authorization from the user. Therefore, this comparison will provide insights into whether the perception of data use differs between services with varying sensitivities.

Table 1. Description of Education and Health Services Presented

	Education	Health
Service presentation	Suppose that the Ministry of Education is interested in promoting services to facilitate access to university education among young people.	Suppose that the Ministry of Health is interested in promoting personalized preventive health services.
Benefit mention	To this end, the Ministry will grant a subsidy to families with young people in their last year of high school based on different factors, such as ethnicity, place of residence or family income level. This subsidy will cover either partial or full expenses of university education for the duration of the degree, irrespective of the university or the field of study chosen. Eligible families will receive the subsidy promptly upon qualification.	To this end, you will receive an annual invitation to attend an in-person medical appointment. During this appointment, your vital signs will be checked, and you will undergo routine examinations to detect and prevent diseases based on your individual background. The appointment will be scheduled at the same location and with the doctor you last visited. You will have the option to modify the date and time of the appointment, and the attending doctor through a virtual portal that will be provided for your convenience.
Data use disclosure	To determine if your family qualifies for this service, the Ministry of Education would need to access your personal information held by other public institutions, which may include: your biographical information (name, age, gender, and ethnicity); the geographic location of your residence; your work history; and your income level.	For the Ministry of Health to provide you with the personalized health service, it would need to access your personal information held by other public institutions, which may include: your biographical information (name, age, gender, and ethnicity); the geographic location of your residence; information from your health insurer or health provider; details regarding your last clinic/hospital visit and your last general practitioner/internist visit.

Source: Authors' elaboration.

It is worth noting that survey respondents may not be representative of the LAC population. The median recipient holds a professional degree, indicating a higher level of education compared to an average citizen in the region. Also, all respondents accessed the survey online, through listservs comprised of people with a manifest interest in public policy issues. As such, the findings presented in this paper are specific to this particular population, which may have unique preferences when it comes to sharing personal data. Nevertheless, data from Roseth, Reyes, and Yee-Amézaga (2021),

derived from representative surveys conducted in 13 LAC countries, reveal no correlation between the educational level and the concern over the risks associated with sharing personal data. This suggests that, despite the non-representative nature of the sample, the findings from this study may be relevant for the LAC population overall.

There are no discernable differences in the demographic distribution among the three intervention groups. As shown in Table 2, roughly 67 percent of respondents are male, while the remaining 33 percent are female. The majority of responses were provided by individuals aged between 40 and 59, accounting for 57 percent of the sample when combining these two age groups (40–49 and 50–59). Additionally, over 6 out of 10 respondents hold a postgraduate degree. Among the respondents, 40 percent are public employees, followed by 24 percent who are self-employed. Lastly, 35 percent of respondents have children in high school. The sample included residents from 23 countries, with 95 percent of respondents residing in LAC countries (Table A1).

Table 2. Sociodemographic Characteristics of the Sample

	Intervention group			Total
	<i>Benefit</i> (Group A)	<i>Benefit+</i> <i>disclosure</i> (Group B)	<i>Disclosure</i> (Group C)	
Sex				
Male	67%	68%	66%	67%
Female	33%	32%	34%	33%
Age				
18–29	3%	3%	3%	3%
30–39	13%	15%	15%	14%
40–49	29%	26%	27%	27%
50–59	30%	30%	29%	30%
60–69	19%	22%	20%	20%
70 or more	6%	5%	5%	5%
Education				
Secondary or less	7%	7%	8%	7%
College Degree	27%	28%	27%	27%
Postgraduate	66%	65%	65%	65%
Occupation				
Private Employee	14%	16%	13%	14%
Public Employee	40%	39%	41%	40%
Unemployed	9%	8%	9%	9%
Student	1%	1%	1%	1%
Self-Employed	23%	25%	23%	24%
Retired or Pensioner	10%	9%	9%	9%
Another	3%	2%	3%	3%
Children in high school				
No	63%	66%	65%	65%
Yes	37%	34%	35%	35%
Frequency	958	904	951	2,813
	34%	32%	34%	100%

Source: Authors' elaboration.

Note: The table presents descriptive statistics of 2,813 survey respondents, showing the distribution of the sample within each characteristic.

3. Results

This section answers three key questions relevant to the study. First, we discuss the effect of disclosing the use of personal data to access personalized services. Then, we outline the findings about the importance of benefit descriptions in fostering interest in proactive services. Finally, we examine how perceptions of data use and trust in government affect sensitivity to different interventions.

3.1. Does Mentioning the Use of Personal Data Discourage Interest in Personalized Services?

In general, personalized services garnered significant interest among respondents: approximately 9 out of 10 participants expressed interest in both educational and health-related personalized services (Table 3). While no differences were observed according to the type of the service offered (either education or health), the level of interest in these services varied depending on how information was presented to respondents. For example, both Group A and Group B were provided with comprehensive information on the service benefits. However, Group B additionally received a data use disclosure. Table 3 shows that prior to the announcement of the data use disclosure, the average level of interest in Group A was 3 pp higher than that of Group B, across both educational and health services. Similarly, within-group comparison for Group A indicates that the announcement of the data use disclosure reduced interest in educational services from 95 to 89 percent, and from 94 to 88 percent in health services. These preliminary results suggest that data use disclosures indeed may diminish interest in public services.

Table 3. Percentage of People Who Expressed Interest in Personalized Public Services

	Intervention group			Total
	<i>Benefit</i> (Group A)	<i>Benefit + disclosure</i> (Group B)	<i>Disclosure</i> (Group C)	
Interest in the educational service				
Before the data use disclosure	95% (0.7%)	-	-	91% (0.5%)
After the data use disclosure	89% (1.0%)	92% (0.9%)	87% (1.1%)	89% (0.6%)
Interest in the health service				
Before the data use disclosure	94% (0.8%)	-	-	90% (0.6%)
After the data use disclosure	88% (1.1%)	91% (1.0%)	85% (1.2%)	88% (0.6%)

Source: Authors' elaboration.

Note: The table displays the percentage of individuals who expressed interest in each personalized public service, along with the respective standard deviation in parenthesis. Note that Group A was asked to express their interest in the services twice: once before the data use disclosure and again after being informed that accessing these services would require providing some data, as explained in Section 2.

In addition, Table 3 shows the interest of Group C, which was only exposed to the initial prompt of the services and the data use disclosure announcement. A comparison between this group and Group B, which received both the data use disclosure announcement and the detailed description of the benefit, may provide insights into the effects of describing benefits. The comparison suggests that announcing the benefits increased interest in the educational service from 87 to 92 percent and in the health service from 85 to 91 percent.

When examining the reasons behind individuals' reluctance to access the educational service, it becomes apparent that in the group exclusively exposed to the data use disclosure (Group C), 84 percent of those disinterested in the personalized service cited concerns about the use of their data as the primary factor (refer to Table B3 in Annex B). Conversely, in the other intervention groups, the predominant reason for declining the service was a lack of interest or a perceived unnecessary need. Interestingly, when it comes to personalized health service, the reasons for disinterest diverge.

To quantify the extent to which the personal data use disclosure influences interest and potential adoption of public services, we use the experiment to draw inference through linear regressions. Specifically, we compare the level of interest in each public service between the group that received the detailed benefits (Group A) and the group that received the detailed benefit plus an announcement about the need to use personal data to access said hypothetical service (Groups A and B). A comparison using a linear regression model allows us to quantify the statistical difference between these two groups. The model to be estimated is the following:²

$$Y_i = \alpha + \beta Disclosure_i + X_i' \gamma + \varepsilon_i \quad (1)$$

where Y_i is a *dummy* that takes the value of 1 if the respondent expresses interest in accessing the personalized service, and 0 otherwise; $Disclosure_i$ takes the value of 1 if the respondent received the survey with the detailed benefits and the data use disclosure (Group B) and 0 if the respondent received the survey containing only the

² We chose to use linear probability models (LPMs) because they provide estimates similar to the marginal effects from probit and logit models. Typically, the reasons for favoring logit or probit models over LPMs are: (i) The error term in LPMs can have a Bernoulli structure. However, LPMs that correct for heteroscedasticity, as ours do, mitigate this issue; (ii) Predicted values from LPMs can fall below 0 or exceed 1, complicating forecasting, but our goal is not to predict future probabilities of interest in government services; (iii) LPMs assume a linear relationship between the dependent and independent variables, whereas logit/probit models assume a non-linear relationship. Since we have no strong reason to prefer one structure over the other, we opted for LPMs due to their simplicity, computational efficiency, and ease of interpreting coefficients.

benefit explanation without the advertisement (Group A); X_i is a set of control variables that includes respondent demographic characteristics; ε_i is a vector of standard errors estimated using robust standard errors. In this case, the estimated value of β will measure the percentage point difference in interest in receiving a personalized service when data reuse is mentioned compared to a scenario in which it is not.

Table 4. Effects of Data Use Disclosure on the Interest in a Public Service

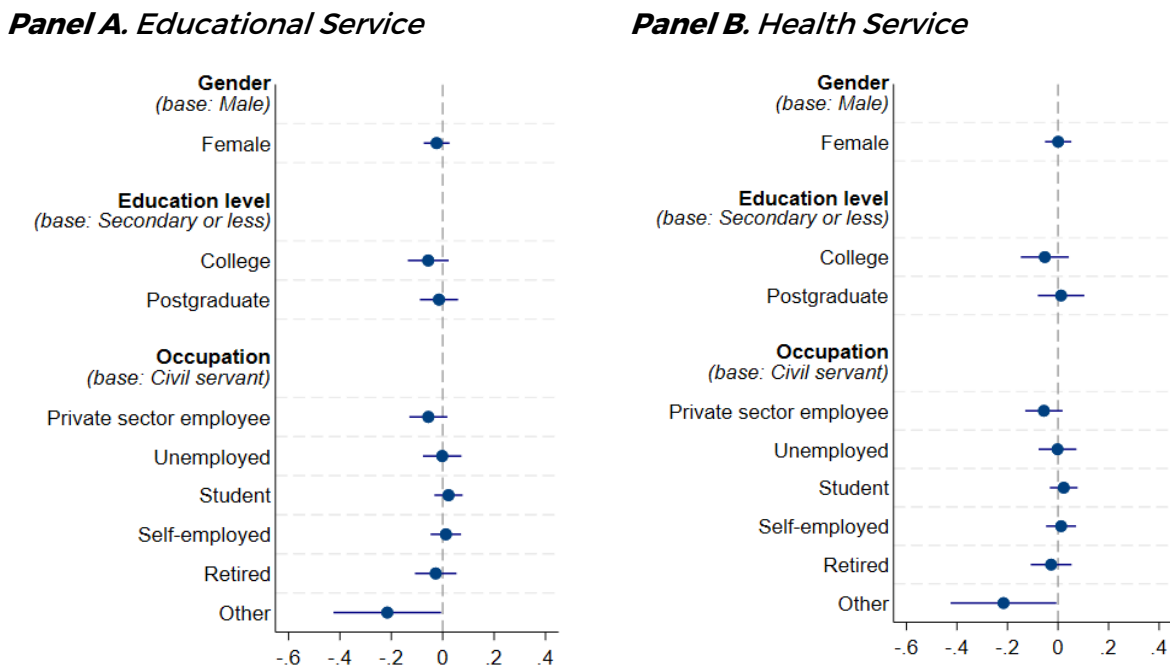
	(1)	(2)
Panel A. Educational Service		
Data use disclosure	-0.032*** (0.012)	-0.030** (0.012)
Average interest of Group A	0.954	0.954
R-Squared	0.004	0.032
Observations	1710	1710
Panel B. Health Service		
Data use disclosure	-0.030** (0.012)	-0.028** (0.012)
Average interest of Group A	0.947	0.947
R-Squared	0.004	0.045
Observations	1710	1710
Panel C. Effect Comparison		
p-value ($\beta_{education} = \beta_{health}$)	0.885	0.888
Demographic characteristics		Yes

Source: Authors' elaboration.

Note: This table presents four linear regression models. Panel A shows the results using interest in educational service as the dependent variable, while Panel B uses interest in health service. Column 1 shows the results of the regressions without controls, while column 2 shows the results when controlling for gender, age, educational level, occupation, presence of high school children in the respondent's household, and country-level fixed effects. The independent variable is a *dummy* that takes the value of 1 for respondents in Group B (*benefits + Disclosure*) and 0 for those in Group A (*benefits*). Panel C shows the p-values resulting from testing the hypothesis that the coefficients obtained for both services are equal. Robust standard errors are displayed in parenthesis. ***p<0.01, **p<0.05, *p<0.1.

The findings suggest that announcing data use results in a decrease in interest in public services. Table 4 presents the results for the educational service in Panel A, showing a significant 3 pp decrease in interest attributed to data use disclosure. Similarly, in Panel B for the health service, there is a comparable decline of 2.8 pp. These results remain robust even after incorporating demographic controls and country-level fixed effects. Furthermore, a test of the difference between coefficients (in Panel C) indicates that the difference between the coefficients for both services does not reach statistical significance. Essentially, data use disclosure undermines the likelihood of uptake for both educational and health services to a similar extent.³

Figure 3. Heterogeneous Effects of Requesting Personal Data on the Interest in a Public Service



Source: Authors' elaboration.

Note: The dots in the graph represent the estimated coefficients associated with the interaction between the row variable and the intervention *dummy*. Each group of *dummies* comes from an independent regression in which gender, age, educational level, occupation, and presence of high school children in the respondent's household are used as controls, along with country-level fixed effects. The base group for each set of coefficients is specified in parentheses in the graph. The lines associated with each point represent the 95 percent confidence interval, calculated using robust standard errors.

³ It is worth acknowledging that questions about the health service were asked after the educational service experiment was conducted. Such sequence of events might have influenced respondents' susceptibility to accept the use of data, but we have no way of either confirming or denying this hypothesis.

We observe no variations in the effects across different demographic groups. Figure 3 illustrates the heterogeneous effects of the above model by gender, educational level, and occupation for both the educational service (Panel A) and the health service (Panel B). The confidence interval of all coefficients shown intersects with the vertical line centered at zero. In the case of health service, this indicates that the drop in interest caused by the announcement of data use holds regardless of gender, education level, or occupation of the respondent. Columns 1 and 2 of Tables B5 and B6 also exhibit the heterogeneous effects of the announcement regarding the perception of the quality of public education services, public health services, and public services in general. We also find no differences in the decline of interest attributable to the announcement of data use among individuals with a positive perception of government services and those with a negative or neutral perception.

Although assignment to treatment groups was randomized, an alternative method to ensure that the effects of the data use disclosure are solely associated with the treatment, rather than differences across groups, is to examine the within-group effects. As outlined in Section 2, participants in Group A were asked about their interest in public services on two occasions: once prior to the data disclosure announcement and again afterward. As shown in Table B4, the findings reveal that data use disclosure also negatively impacts within-group interest in the services, with this effect particularly noticeable in the case of public health services. Specifically, the results indicate a statistically significant decrease in interest in health services ranging from 2.8 to 3.4 pp across different specifications. In contrast, the effects on interest in educational services, while negative, are only weakly significant. This variance might be attributed to the sensitivity typically associated with health data.

3.2. How Important is it to Detail the Benefits that the Individual Will Receive?

To answer this question, we compare intervention Group B, which received the service introduction along with extensive information about the benefit of the proactive service, against intervention Group C, which received only the service introduction. In this case, both intervention groups were informed that their personal data would need to be reused to access the service. Therefore, comparing these two groups allows us to estimate the likelihood of wanting to access a personalized public service when presented with detailed benefit descriptions. The comparison between these two groups is done using the following linear regression model:

$$Y_i = \alpha + \gamma \text{Benefit}_i + X_i' \beta + \varepsilon_i \quad (2)$$

where $Benefit_i$ is a *dummy* that takes the value of 1 if the person was randomly assigned to Group B (a brief service introduction + detailed explanation of the benefit) and 0 if assigned to Group C (a brief service introduction only).

Table 5. Effects of Information Provision on Interest in a Public Service

	(1)	(2)
Panel A. Educational service		
Benefit	0.046*** (0.015)	0.050*** (0.015)
Average interest of Group C	0.876	0.876
R-Squared	0.006	0.055
Observations	1672	1672
Panel B. Health Service		
Benefit	0.057*** (0.015)	0.061*** (0.015)
Average interest of Group C	0.860	0.861
R-Squared	0.008	0.058
Observations	1672	1672
Panel C. Effect Comparison		
p-value ($\beta_{education} = \beta_{health}$)	0.466	0.431
Demographic characteristics		Yes

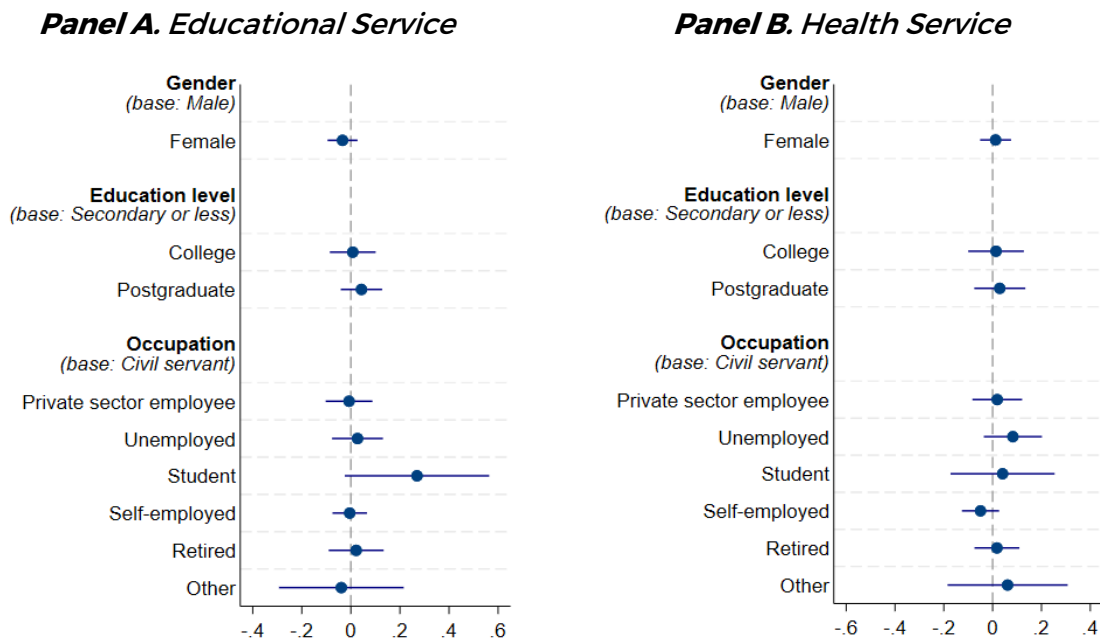
Source: Authors' elaboration.

Note: This table presents four linear regression models. Panel A shows the results using interest in educational service as the dependent variable, while Panel B uses interest in health service. Column 1 shows the results of the regressions without controls, while column 2 exhibits the results when controlling for gender, age, educational level, occupation, presence of high school children in the respondent's household, and country-level fixed effects. The independent variable is a *dummy* that takes the value of 1 for respondents in Group B (*benefits+ data*) and 0 for those in Group C (*data*). Panel C shows the p-values resulting from testing the hypothesis that the coefficients obtained for both services are equal. Robust standard errors are displayed in parenthesis. ***p<0.01, **p<0.05, *p<0.1.

We find that describing the benefits generates an increase in interest in the educational service of 5.0 pp and in the health service of 6.1 pp. Table 5 shows that the effects found are robust across specifications. It is also worth noting that the magnitude of these effects is larger than the magnitude of the effect of data use announcement. Thus, the evidence suggests that it is relatively more important to provide detailed information about the service for which personal data use will be

needed than to eliminate the disclosure of personal data use, which may not be feasible depending on national laws. When we test to identify potential differences in the magnitude of the effect between educational and health services, we find that the coefficients are statistically indistinguishable.

Figure 4. Heterogeneous Effects of the Data Use Disclosure on Public Service Interest



Source: Authors' elaboration.

Note: The dots in the graph represent the estimated coefficients associated with the interaction between the row variable and the intervention *dummy*. Each group of *dummies* comes from an independent regression in which gender, age, education level, occupation, and presence of high school children in the respondent's household are used as controls, along with country-level fixed effects. The base group for each set of coefficients is specified in parentheses in the graph. The lines associated with each point represent the 95 percent confidence interval, calculated using robust standard errors.

With respect to heterogeneous effects by demographic group, Figure 4 shows that students may be particularly sensitive to the announcement of benefits in the case of the education service. Announcing proactive service benefits makes them about 3 pp more likely to want to receive the service compared to public sector workers, although this coefficient is not statistically significant. This is likely due to the greater propensity of students and their parents to be interested in educational services. Also, this may be an indication that providing detailed explanations of the benefits is especially important for the populations for which the service is designed. We also assess

whether there are heterogeneous effects according to respondents' perception of the quality of public services (Columns 3 and 4 of Tables B5 and B6), but we find no statistically significant difference.

Table 6. Effects of Benefit Description Compared to No Description with Data Use Disclosure

	(1)	(2)
Panel A. Educational Service		
Benefit + data use disclosure	0.078*** (0.013)	0.078*** (0.014)
Average interest of Group C	0.876	0.876
R-Squared	0.020	0.055
Observations	1742	1742
Panel B. Health Service		
Benefit + data use disclosure	0.087*** (0.019)	0.089*** (0.020)
Average interest of Group C	0.861	0.861
R-Squared	0.022	0.055
Observations	1742	1742
Panel C: Effect Comparison		
p-value ($\beta_{education} = \beta_{health}$)	0.545	0.434
Demographic characteristics		Yes

Source: Authors' elaboration.

Note: This table presents four linear regression models. Panel A shows the results using interest in educational service as the dependent variable, while Panel B uses interest in health service. Column 1 shows the results of the regressions without controls, while column 2 displays the results when controlling for gender, age, educational level, occupation, presence of high school children in the respondent's household, and country-level fixed effects. The independent variable is a *dummy* that takes the value of 1 for respondents in Group A (*benefits*) and 0 for those in Group C (*data*). Panel C exhibits the p-values resulting from testing the hypothesis that the coefficients obtained for both services are equal. Robust standard errors are displayed in parenthesis. ***p<0.01, **p<0.05, *p<0.1.

Finally, we compared the two extremes—that is, interest in services of those who received detailed benefits but no data use disclosure (Group A) and those who received the data use disclosure but no information of the benefits (Group C). This comparison reveals the largest differences in interest in both educational and health services. The linear regression model takes the same form as in Equation 2; however, the intervention variable takes the value of 1 for Group A and the value of 0 for Group C.

We found that providing information only about the benefit, granting the service, and then making the consultation regarding the use of the data could be the scenario in which the proactive services provided by governments are best received (Table 6). Specifically, when comparing the scenario in which the use of personal data is mentioned (without mentioning benefits) with the scenario in which only benefits are provided, we observe an increase in interest in the services offered of 7.8 and 8.9 pp in education and health services, respectively. This effect remains robust across different specifications.

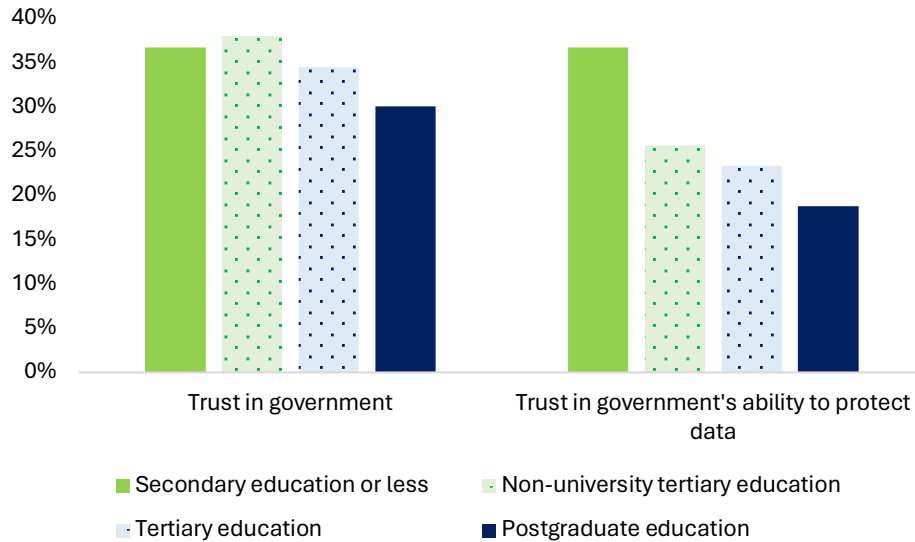
It is worth noting that differences in the results between the health service and education service mentioned above may be, at least in part, due to the different framings used. Whereas the health service is of universal relevance, the education service is relevant for a limited population, requiring a respondent for whom the education service is not directly relevant to speculate how they might behave if it were relevant for them—potentially introducing noise into the results. Also, the health service does not explicitly state that it is free, which may have dampened interest. In this scenario, the baseline interest in the proactive service would be a lower bound (likely to be higher if respondents were informed it was free), and the effect size could be an upper bound, if individuals were more sensitive to the disclosure of personal data if they had to pay for the service.

3.3. Are there Differences Between Audiences with Different Levels of Trust in Government?

Following the presentation of hypothetical scenarios, we asked respondents about their perception and use of public services, their trust in government, and other attitudes and behaviors toward personal data protection (Annex A). Note that, due to the order of the questions, responses to these questions may have been partially influenced by the scenario faced by the respondent. In terms of trust, a distinction was made between citizens' trust in the government in general and their trust in its ability to protect their personal data. The majority of respondents (68 percent) stated that they have little or no trust in the government. Distrust increases when it comes to the protection of personal data: 80 percent of respondents expressed little or no trust in the government's ability to safeguard the privacy of personal data. Confidence levels do not vary significantly by gender or age of the respondent. However, they do vary depending on their level of education. Figure 5 shows that distrust in the government increases the higher the level of education a person has attained. This difference is especially marked for trust in the government to protect its citizens' data: while 21

percent of individuals with a graduate degree expressed confidence in the government's ability to protect data, 37 percent of those with high school education level or less said they had confidence in said ability.

Figure 5. Citizen Trust in the Government and Its Ability to Protect Data, by Education Level



Source: Authors' elaboration.

Note: This figure depicts the percentage of individuals who expressed varying degrees of trust, ranging from some to a great deal (compared to those reporting little or no trust). The first four bars represent trust in the government overall, while the subsequent set of four bars denote trust in the government's capacity to safeguard personal data.

Table 7. Effects of Interventions on Overall Trust in Government and Trust in Its Ability to Safeguard Personal Data

	Type of intervention					
	Effect of data use disclosure (B vs. A)		Effect of benefit description (B vs. C)		Combined effect (A vs. C)	
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. Dependent Variable: Trust in Government						
Effect of the intervention	-0.036 (0.022)	-0.033 (0.021)	0.025 (0.022)	0.021 (0.021)	0.062*** (0.019)	0.053** (0.023)
Control group average	0.349	0.349	0.289	0.289	0.289	0.289
R-Squared	0.001	0.150	0.001	0.132	0.004	0.120
Observations	1759	1759	1762	1762	1813	1813
Panel B. Dependent Variable: Confidence in the Government's Ability to Protect Personal Data						
Effect of the intervention	-0.037* (0.020)	-0.041** (0.019)	0.007 (0.019)	0.005 (0.018)	0.045** (0.019)	0.046** (0.018)
Control group average	0.235	0.235	0.191	0.191	0.191	0.191
R-Squared	0.002	0.092	0.000	0.094	0.003	0.108
Observations	1759	1759	1762	1762	1813	1813
Demographic characteristics		Yes		Yes		Yes

Source: Authors' elaboration.

Note: Each effect in the box is derived from a separate regression controlling for gender, age, education level, occupation, the presence of high school children in the respondent's household, and country-level fixed effects. The regressions in Panel A use as the dependent variable a *dummy* that takes the value of 1 if the respondent reported having some or a lot of trust in the government, and 0 if the respondent reported having little or no trust in this area. Similarly, Panel B uses as the dependent variable a *dummy* that takes the value of 1 if the citizen expressed having some or a lot of confidence in the government's ability to protect their personal data, and 0 otherwise. The explanatory variables of each model are listed in each column of the table. Robust standard errors are displayed in parenthesis. ***p<0.01, **p<0.05, *p<0.1.

When evaluating whether the trust indicator changes depending on the scenario faced by the respondent, we observe different effects. Table 7 shows that the announcement of the use of data did not generate changes in the levels of trust in government overall. However, it did marginally reduce trust in the government's ability to protect data (a drop of 3.6-3.8 pp or from 15.2 percent to 16.1 percent). This drop is not particularly robust as it is only significant at 10 percent level of significance. Columns 3 and 4 of

Table 6 show that presenting detailed benefits of the personalized service does not prompt any change in respondents' confidence. Columns 5 and 6 indicate that the joint effect of these interventions (presenting the benefit without showing the data announcement) generates significant increases in trust in both the government and in its ability to safeguard personal data. We find that providing the benefit without a data disclosure increases levels of trust in the government by 5 to 6 pp (representing a 17.3 to 20.7 percent increase in trust). Similarly, providing benefits without data announcements improves trust in the government's ability to protect personal data by 4.3 to 4.4 pp (representing 22.4 to 22.9 percent).

4. Conclusions and Policy Implications

This study presents findings that can inform the design of public policies concerning digital services. At a descriptive level, the study shows that personalized and proactive services are in high demand across all scenarios tested. This occurs despite a widespread distrust in government and its ability to safeguard personal data. This implies that citizens' preferences for public services are similar to those for private services: they want personalization even though they are aware of weaknesses in the protection of personal data. In the case of companies, this pertains to data being reused for many purposes not expressly approved by users; and in the case of governments, it relates to a perception of limited data protection capacity. Beyond the experimental results, this is the most important message for policymakers: when weighing the desire for personalization against concerns about the use of personal data, personalization takes precedence.

The main experimental finding is that the manner in which personal data requirements are presented significantly influences the preferences expressed by citizens. Mentioning the need for access to personal data decreases interest in the personalized service, whereas emphasizing the benefits of the service increases interest in it.

These results pose a challenge for policymakers: how should interactions with citizens about data protection be managed in the context of providing a public service? From a practical standpoint, it can be used as a tool: to promote maximum adoption of the service, less emphasis should be placed on the personal data involved and more emphasis on the benefits. Conversely, if, for some reason, you want to restrict the provision of a service to those less concerned about the protection of personal data

(e.g., for a pilot program), emphasizing the personal data use disclosure can serve as a filter.

Policymakers would also find it compelling to consider the underlying reasons behind the experimental findings. One possible interpretation is that citizens distrust the government's ability to manage their personal data responsibly. Consequently, some citizens opt out of accessing a personalized service when they are more aware of the requirement to disclose their data. Whether due to skepticism regarding regulatory controls of personal data processing, or distrust in the government's ability to safeguard their data against potential cyberattacks, a perception of some aspect of institutional deficiencies leads some people to decide that, in the absence of these concerns, would be against their interests.

The paper also opens possibilities for future research. On the one hand, given the non-representative nature of the sample studied, it would be of great interest to replicate the study with a representative sample of citizens from a specific country. This would enable an analysis to determine whether a representative sample exhibits similar trends to those observed in the current study. On the other hand, this paper only examines two services. However, there is a wide range of other public services where personal data can have a strong impact, such as taxation and social protection. Finally, a field experiment, as opposed to a survey experiment, could provide a more precise understanding of people's decision-making when confronted with real-life contexts.

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Annex A. Surveys for Each Intervention Group

Module 1: Questions on the Implementation of Personalized Services in the Education and Health Sector

Group A: <i>Benefit</i>	Group B: <i>Benefit + Disclosure</i>	Group C: <i>Disclosure</i>
<p>Q1. Suppose the Ministry of Education is interested in promoting services to facilitate access to university education among young people.</p> <p>To this end, it will grant a subsidy to families with young people in their last year of high school based on different factors, such as ethnicity, place of residence or family income level. This subsidy will cover either partial or full expenses of university education for the duration of the degree, irrespective of the university or the field of study chosen. Eligible families will receive the subsidy promptly upon qualification.</p> <p>Suppose you have a child in their last year of high school, would you be interested in accessing a service like this?</p> <ol style="list-style-type: none"> Yes No I don't know/ I prefer not to answer. 	<p>Q1. Suppose the Ministry of Education is interested in promoting services to facilitate access to university education among young people.</p> <p>To this end, it will grant a subsidy to families with young people in their last year of high school based on different factors, such as ethnicity, place of residence or family income level. This subsidy will cover either partial or full expenses of university education for the duration of the degree, irrespective of the university or the field of study chosen. Eligible families will receive the subsidy promptly upon qualification.</p> <p>To determine if your family qualifies for this service, the Ministry of Education would need to access your personal information held by other public institutions, including:</p> <ul style="list-style-type: none"> Your biographical information (name, age, gender, and ethnicity) The geographic location of your residence Your employment history Your income level 	<p>Q1. Suppose the Ministry of Education is interested in promoting services to facilitate access to university education among young people in their last year of secondary school.</p> <p>To determine if your family qualifies for this service, the Ministry of Education would need to access your personal information held by other public institutions, including:</p> <ul style="list-style-type: none"> Your biographical information (name, age, gender, and ethnicity) The geographic location of your residence Your employment history Your income level <p>Suppose you have a child in their last year of high school, would you be interested in accessing a service like this?</p> <ol style="list-style-type: none"> Yes No I don't know/ I prefer not to answer.

	<p>Suppose you have a child in their last year of high school, would you be interested in accessing a service like this?</p> <p>a. Yes b. No c. I don't know/ I prefer not to answer.</p>	
<p>Q2. (If Q1=Yes) To determine if your family qualifies for this service, the Ministry of Education would need to access your personal information held by other public institutions, including:</p> <ul style="list-style-type: none"> • Your biographical information (name, age, gender, and ethnicity) • The geographic location of your residence • Your employment history • Your income level <p>Would you like to access a service like this?</p> <p>a. Yes b. No c. I don't know/ I prefer not to answer.</p>	<p>N/A</p>	<p>N/A</p>

Q3. (If Q1=No or NSNR) For what reasons might you prefer not to have access to this service? Please select the option that best applies to your situation.

- a. I am not interested in accessing scholarships.
- b. I prefer to look for scholarships myself.
- c. I am concerned about the use that the Ministry of Education may make of my data.
- d. Other.
- e. I don't know/ I prefer not to answer.

H e a l t h	<p>Q4. Suppose the Ministry of Health is interested in promoting preventive health services on a personalized basis.</p> <p>For the Ministry of Health to offer you the personalized health service, it would need to access your personal information held by other public institutions, including:</p> <ul style="list-style-type: none"> • Your biographical information (name, age, gender, and ethnicity) • The geographic location of your residence • Information from your health insurer or health care provider • Details regarding your last clinic/hospital visit and your last general practitioner/internist visit <p>Would you like to access a service like this?</p> <ol style="list-style-type: none"> a. Yes b. No c. I don't know/ I prefer not to answer. 	<p>Q4. Suppose the Ministry of Health is interested in promoting preventive health services on a personalized basis.</p> <p>To this end, you will receive an annual invitation to attend an in-person medical appointment. During this appointment, your vital signs will be checked, and you will undergo routine examinations to detect and prevent diseases based on your individual background. The appointment will be scheduled at the same location and with the doctor you last visited. You will have the option to modify the date and time of the appointment, and the attending doctor through a virtual portal that will be provided for your convenience.</p> <p>For the Ministry of Health to offer you the personalized health service, it would need to access your personal information held by other public institutions, including:</p> <ul style="list-style-type: none"> • Your biographical information (name, age, gender, and ethnicity) • The geographic location of your residence • Information from your health insurer or health care provider • Details regarding your last clinic/hospital visit and your last general practitioner/internist visit 	<p>Q4. Suppose the Ministry of Health is interested in promoting preventive health services on a personalized basis.</p> <p>To this end, you will receive an annual invitation to attend an in-person medical appointment. During this appointment, your vital signs will be checked, and you will undergo routine examinations to detect and prevent diseases based on your individual background. The appointment will be scheduled at the same location and with the doctor you last visited. You will have the option to modify the date and time of the appointment, and the attending doctor through a virtual portal that will be provided for your convenience.</p> <p>Would you like to access a service like this?</p> <ol style="list-style-type: none"> a. Yes b. No c. I don't know/ I prefer not to answer.
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		<p>Would you like to access a service like this?</p> <p>a. Yes</p> <p>b. No</p> <p>c. I don't know/ I prefer not to answer.</p>	
<p>H e a l t h</p>	<p>N/A</p>	<p>N/A</p>	<p>Q5. (If Q4=Yes) For the Ministry of Health to offer you the personalized health service, it would need to access your personal information held by other public institutions, including:</p> <ul style="list-style-type: none"> • Your biographical information (name, age, gender, and ethnicity) • The geographic location of your residence • Information from your health insurer or health care provider • Details regarding your last clinic/hospital visit and your last general practitioner/internist visit <p>Would you like to access a service like this?</p> <p>a. Yes</p> <p>b. No</p> <p>c. I don't know/ I prefer not to answer.</p>

Q6. (If Q4=No or NSNR) What are your reasons for preferring not to access this service?

Please select the option that best applies to your situation.

- a. I am not interested in accessing this type of service.
- b. I am concerned about the use that the Ministry of Health may make of my data.
- c. Other.
- d. I don't know/ I prefer not to answer.

Module 2: Habits and Attitudes Towards Online Privacy

Q7. In general, how would you assess the quality of public services in your area of residence?

Would you rate them as...

- a. Very good
- b. Good
- c. Neither good nor bad
- d. Bad
- e. Very bad
- f. I don't know/ I prefer not to answer.

Q8. How do you assess the quality of the following public services?

1. Public education
2. Public health

Response options

- a. Very good
- b. Good
- c. Neither good nor bad
- d. Bad
- e. Very bad
- f. I don't know/ I prefer not to answer.

Q9. During this year, have you or any of your children...

1. attended any level of public education?
2. used health services in public centers, hospitals, or clinics?

Response options

- a. Yes
- b. No
- c. I don't know/ I prefer not to answer.

Q10. How much confidence do you generally have in the government of your country?

- a. A great deal
- b. Some
- c. Limited
- d. None
- e. I don't know/ I prefer not to answer.

Q11. How confident are you in the government's ability to protect the privacy of your personal data?

- a. Very confident
- b. Somewhat confident
- c. Not very confident
- d. Not confident at all
- e. I don't know/ I prefer not to answer.

Q12. Do you support public institutions sharing your information among themselves to offer you a better service?

- a. Yes
- b. No
- c. I don't know/ I prefer not to answer.

Q13. Please indicate how much you agree with the following statements:

1. I know what personal data I share with the government.
2. I understand the purposes for which the personal data I share with the government is used.

Response options

- a. Very much in agreement
- b. Agreed
- c. Neither agree nor disagree
- d. Disagree
- e. Strongly disagree
- f. I don't know/ I prefer not to answer.

Q14. In the past month, did you engage in any of the following online activities?

1. You deleted your cookies and browsing history.
2. You deleted or edited something you posted online in the past.
3. You stopped using an application or website because of privacy concerns.

Response options

- a. Yes
- b. No
- c. I don't know/ I prefer not to answer.

Module 3: Sociodemographic Characteristics

Q15. Please indicate your gender

- a. Male
- b. Female
- c. Other
- d. I prefer not to answer.

Q16. Could you provide your age range?

- a. 18–29
- b. 30–39
- c. 40–49
- d. 50–59
- e. 60–69

- f. 70 or more

Q17. In which country do you currently reside?

Q18. What is the highest level of education you completed?

- a. Elementary school or less
- b. Secondary
- c. Technical or vocational education
- d. Non-university tertiary education
- d. Tertiary university
- e. Postgraduate
- g. I prefer not to answer.

Q19. What is your current occupational status? Please select the option that best applies to you.

- a. Public employee
- b. Private employee
- c. Self-employed/own account
- d. Student
- e. Unemployed
- f. Retired
- g. Other
- h. I prefer not to answer.

Q20. Do you have children or other dependents currently attending high school?

- a. Yes
- b. No
- c. I don't know/ I prefer not to answer.

Annex B. Additional Tables

Table B1. Distribution of Respondents by Country

	Frequency (1)	% (2)
Argentina	335	11.94
Bolivia	123	4.34
Chile	87	3.07
Colombia	281	9.96
Costa Rica	77	2.72
Ecuador	238	8.44
El Salvador	82	2.90
Guatemala	105	3.74
Honduras	69	2.47
Mexico	276	9.78
Nicaragua	53	1.87
Panama	60	2.19
Paraguay	104	3.71
Peru	559	19.92
Dominican Republic	78	2.79
Uruguay	84	3.00
Venezuela	155	5.51
Other countries	46	1.62

Source: Authors' elaboration.

Table B2. Perceptions of Government Services and Levels of Trust in the Government

	Intervention group			
	Benefit	Benefit +disclosure	Disclosure	Total
<i>Panel A. Perception and Use of Public Services</i>				
Overall quality of public services				
Poor	44%	46%	51%	47%
Neither poor nor good	29%	27%	27%	28%
Good	27%	27%	22%	25%
Quality of public education				
Poor	46%	47%	52%	49%
Neither poor nor good	29%	28%	25%	27%
Good	24%	26%	22%	24%
Quality of public health				
Poor	50%	52%	56%	53%
Neither poor nor good	26%	25%	23%	25%
Good	24%	23%	20%	22%
Use public education services	39%	41%	38%	40%
Use public health services	56%	60%	57%	57%
<i>Panel B. Trust in the Government</i>				
General trust in the government				
None	29%	33%	33%	32%
Little	36%	36%	38%	37%
Some	25%	22%	20%	22%
A lot	10%	10%	9%	9%
Trust in government's ability to protect personal data				
None	37%	41%	44%	40%
Little	40%	40%	38%	39%
Some	18%	15%	15%	16%
A lot	5%	4%	4%	4%
<i>Panel C. Perceptions and Attitudes Regarding Personal Data Use</i>				
Agrees That Public Institutions Should Share Information Among Themselves	81%	79%	76%	79%
Is aware of personal data shared with the government				
Disagree	34%	35%	38%	36%
Neither agree nor disagree	17%	15%	17%	16%
Agree	49%	50%	46%	48%
Understands the purposes of data sharing with the government				
Disagree	48%	54%	55%	52%
Neither agree nor disagree	22%	18%	19%	20%
Agree	30%	28%	26%	28%
Deleted cookies and browsing History in the past	62%	63%	60%	62%
Deleted or edited online posts in the past	37%	37%	37%	37%
Stopped using app or website due to privacy concerns	55%	53%	53%	53%

Source: Authors' elaboration.

Table B3. Reasons for Lack of Interest in Offered Services

	Intervention group			Total
	<i>Benefit</i> (Group A)	<i>Benefit + disclosure</i> (Group B)	<i>Disclosure</i> (Group C)	
<i>Panel A. Educational Service</i>				
Not interested or not needed	44%	55%	10%	26%
Data usage concerns	8%	18%	84%	53%
Government distrust	5%	9%	2%	4%
Prefer other policies	24%	11%	1%	9%
Require more information	1%	0%	1%	1%
Other reasons	18%	7%	1%	6%
<i>Panel B. Health Service</i>				
Not interested or not needed	7%	39%	6%	10%
Data usage concerns	72%	10%	85%	72%
Government distrust	4%	17%	1%	4%
Prefer other policies	7%	10%	3%	5%
Require more information	0%	0%	1%	1%
Other reasons	9%	24%	3%	8%

Source: Authors' elaboration.

Table B4. Interest in Services Before and After Data Use Disclosure in Group A

	(1)	(2)
<i>Panel A. Educational Service</i>		
Disclosure	-0.022 (0.014)	-0.024* (0.014)
R-squared	0.001	0.033
Observations	1708	1708
<i>Panel B. Health Service</i>		
Disclosure	-0.028* (0.014)	-0.034*** (0.014)
R-squared	0.002	0.042
Observations	1725	1725
Controls		
Demographic characteristics		Yes

Source: Authors' elaboration.

Note: This table presents four linear regression models. Panel A displays results using interest in the educational service as the dependent variable, while Panel B uses interest in the health service. Column 1 shows regression results without controls, and Column 2 presents results with controls for gender, age, educational level, occupation, the presence of high school children in the respondent's household, and country-level fixed effects. Group A was asked about their interest in the service twice: once before the data use disclosure and once after. Thus, the independent variable is a dummy indicating 1 for respondents in Group A after the data use disclosure announcement and 0 before. Robust standard errors are shown in parentheses. ***p<0.01, **p<0.05, *p<0.1.

Table B5. Heterogeneous Effects of Perceived Quality of Educational and General Public Services on Interest in the Educational Service

Type of comparison	Disclosure effect (B vs. A)		Benefit effect (B vs. C)		Combined effect (A vs. C)	
	Quality of educational services (1)	Quality of public services (2)	Quality of educational services (3)	Quality of public services (4)	Quality of educational services (5)	Quality of public services (6)
Heterogeneous Effect						
Intervention	-0.043 (0.027)	-0.045* (0.020)	0.057 (0.035)	0.041 (0.033)	0.091*** (0.024)	0.083*** (0.022)
Quality of service (base: poor)						
Neutral	0.012 (0.019)	0.027* (0.014)	0.036 (0.027)	0.014 (0.023)	0.033 (0.028)	0.015 (0.025)
Good	0.059*** (0.017)	0.038*** (0.013)	0.071*** (0.025)	0.058* (0.029)	0.064** (0.026)	0.052 (0.032)
Intervention x quality of service						
Neutral	0.025 (0.026)	0.022 (0.022)	-0.009 (0.044)	0.033 (0.036)	-0.024 (0.035)	0.011 (0.029)
Good	0.021 (0.037)	0.026 (0.031)	-0.005 (0.043)	0.002 (0.036)	-0.019 (0.030)	-0.028 (0.023)
Observations	1,726	1,734	1,702	1,713	1,758	1,777
R-squared	0.046	0.039	0.064	0.059	0.062	0.060

Source: Authors' elaboration.

Note: The dependent variable in these regressions is a dichotomous variable indicating the respondent's expressed interest in the proposed educational service. Each column presents the results of an independent linear regression in which the explanatory variables are (i) the intervention dummy; (ii) the service quality dummies, which use as a base category the perception that the quality is "poor or very poor"; (iii) interactions between the intervention dummy and the service quality dummies; and (iv) control variables such as sex, age, educational level, occupation, and country of residence. Columns (1), (3) and (5) use the perception of the quality of public educational services, while columns (2), (4) and (6) present the heterogeneous effects for the perception of the quality of public services in general. Robust standard errors are shown in parentheses. ***p<0.01, **p<0.05, *p<0.1.

Table B6. Heterogeneous Effects of Perceived Quality of Health and General Public Services on Interest in the Health Service

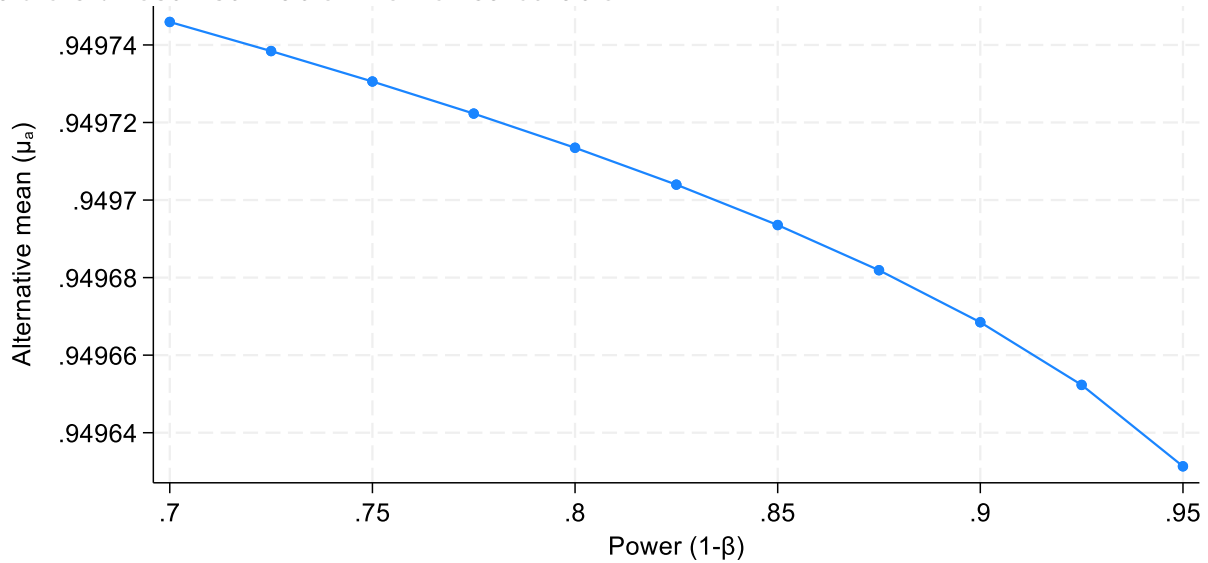
Type of comparison	Disclosure effect (B vs. A)		Benefit effect (B vs. C)		Combined effect (A vs. C)	
	Quality of health services (1)	Quality of public services (2)	Quality of health services (3)	Quality of public services (4)	Quality of health services (5)	Quality of public services (6)
Heterogeneous effect						
Intervention	-0.032* (0.011)	-0.036* (0.017)	0.064*** (0.023)	0.067*** (0.022)	0.095*** (0.023)	0.100*** (0.021)
Quality of service (base: poor)						
Neutral	0.019 (0.023)	0.033 (0.023)	0.015 (0.026)	0.041 (0.027)	0.025 (0.026)	0.047 (0.028)
Good	0.027 (0.029)	0.033 (0.029)	0.054* (0.030)	0.057* (0.033)	0.062* (0.031)	0.074* (0.037)
Intervention x quality of service						
Neutral	0.001 (0.028)	-0.005 (0.028)	-0.002 (0.047)	-0.020 (0.042)	-0.004 (0.035)	-0.012 (0.033)
Good	0.023 (0.026)	0.034 (0.032)	-0.020 (0.039)	-0.020 (0.034)	-0.037 (0.042)	-0.050* (0.029)
Observations	1,753	1,749	1,707	1,713	1,790	1,792
R-squared	0.058	0.063	0.064	0.064	0.066	0.070

Source: Authors' elaboration.

Note: The dependent variable in these regressions is a dichotomous variable indicating the respondent's expressed interest in the proposed health service. Each column presents the results of an independent linear regression in which the explanatory variables are (i) the intervention dummy; (ii) the service quality dummies, which use as a base category the perception that the quality is "poor or very poor"; (iii) interactions between the intervention dummy and the service quality dummies; and (iv) control variables such as sex, age, educational level, occupation, and country of residence. Columns (1), (3) and (5) use the perception of quality of public health services, while columns (2), (4) and (6) present the heterogeneous effects for the perception of quality of public services in general. Robust standard errors are shown in parentheses. ***p<0.01, **p<0.05, *p<0.1.

Annex C. Additional Graphs

Table C1. Post-Estimation Power Calculation



Source: Authors' elaboration.

Note: The graph illustrates the alternative mean on the y-axis, with power levels represented on the x-axis. This power calculation determines the alternative mean for a one-sample mean test, assuming the null hypothesis to be a mean of 0.95, with a standard sample deviation of 0.02. These values represent the mean and standard deviation of interest for services of Group A before exposure to the service benefits prompt. The minimum detectable effect is the difference between the alternative mean and the null hypothesis. For this test, we consider a sample size of 36,334, equivalent to two-thirds of the total subscriber sample, as this test assumes hypotheses tested between two groups. Additionally, the test assumes a sampling rate of 5 percent, corresponding to the response rate, and alpha set at 0.05.