

Applying behavioral science to increase compliance and reports of gifts received by public servants in Mexico

Working paper

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Abstract

With empirical findings, behavioral sciences bring new ways to understand and reduce undesirable behaviors such as dishonesty and corruption. This study applies insights from behavioral sciences to increase the report of gifts received by public servants in Mexico. Through a field experiment, we answer the question: What kind of message, informed by behavioral sciences, is more effective to change public servants' behavior to comply with the regulation of gifts in Mexico? We sent five behaviorally informed messages to 157,586 public servants during the Christmas holiday season 2016-2017. The results show that a simple email informing public servants of their obligation to report and return the received gifts had the greatest effect on compliance with the regulation. This intervention not only increased the number of gifts reported but also the sum of their price and the number of the public servants who complied with the law. Likewise, we found that making salient the impact of gifts on public servants' impartiality have a significant effect on the number of reports of gifts.

1. Introduction

From the paradigm of the individual rational choice, it has been explained that corruption arises when the expected gains of participating in a corrupt act, both of bureaucrats and citizens, are greater than their costs. According to the traditional economic model, the expected gains from participating in an act of corruption are greater when: the reward for being dishonest is greater, the probability of being discovered is lower or the punishment for being discovered is lower (Becker, 1968; Rose-Ackerman, 1975). This approach has shown to be limited as it overlooks the psychological and social elements that make corruption a persistent problem (World Bank, 2015).

Behavioral science provides empirical evidence to demonstrate that corrupt acts are not necessarily committed by those whom we could likely picture as self-interested people, but that social pressure, specific context and the rationalization of behaving a corruption act have an impact on how we behave (Halpern, 2016). Behavioral sciences therefore offer a more realistic model of human behavior and decision making.

In Mexico, corruption is the second most important problem just behind insecurity. 39% of Mexicans think that corruption is getting worse despite the significant increase in government spending to fight it. On average, 14% of the income of a Mexican family is spent on corruption activities.

Corruption in the public service arises in a variety of manners, from direct payments to bribes, favors and gifts. This study applies insights from behavioral sciences to change public servants' behavior relate to the gifts they get and the truthfulness of the reports that they are required by law to provide. The research question this study addresses is: what kind

of message, informed by behavioral sciences, is more effective to change public servants' behavior to comply with the regulation of gifts in Mexico?

There is evidence of the prevalence of gifts in different sectors and their impact in individual's behavior and preferences. Also, it is known that the mechanism by which preferences are affected by gifts has its origin in unconscious neural responses. Moreover, studies show that receiving gifts detonates reciprocity mechanisms, so that the person receiving a gift feels obliged to give something in return. For a public administration, this is problematic. Gifts to public servants can be perceived differently than bribes; nonetheless they can lead to preferential treatment and, in that manner, corruption. Public officials in Mexico receive more presents in December compared to other months because of Christmas celebration. Therefore, during this period we conducted a field experiment to measure the impact of different types of messages, informed by behavioral sciences, to motivate Mexican public servants to report gifts and encourage compliance with the law. For that purpose, from December to January we sent to public servants' emails a range of messages. The messages were of five types and each one constituted a treatment condition: (1) appealing to the importance of law compliance, (2) social norms, (3) honesty and moral norms, (4) the impact of gifts on impartiality, and (5) the possibility of being sanctioned and accused by someone else.

There are several successful experiences of interventions based in reminder messages to change behavior and increase law compliance in a variety of issues such as energy conservation, tax payment, medical treatments and dishonesty. Unlike previous studies on gifts, this one is an experiment with real public servants, set outside a laboratory environment. This study thus gives solid insights to design cost-effective interventions against corruption.

The results show that a simple and timely email informing public servants of their obligation to report and return the received gifts had the greatest effect on the compliance with the regulation. Likewise, making salient the impact of gifts on public servants' impartiality had a significant effect on the number of public servant that reported the received gifts. This intervention not only increase the number of gifts reported, but also the sum of their price and the number of the public servants who complied with the law.

2. Context of corruption in Mexico

In 2010, the average Mexican household spent 14% of its income to extraordinary payments caused by corruption (Transparencia Mexicana, 2010). In Mexico, corruption is perceived as the most socially pressing problem only behind insecurity and crime (INEGI, 2015). In addition, there is pessimism regarding the success of anti-corruption policies: 39% of Mexicans believe that the problem is greater than six years ago and 64.7% predict that it will continue growing (INEGI, 2015).

Kauffman (2015) points out that improvements regarding macroeconomic policies and democratic development are overshadowed by stagnation in the fight against corruption in Mexico and other Latin American countries such as Chile, Colombia, and Peru. In the Corruption Perceptions Index, made by *Transparency International* (2010), Mexico scored 30 and was ranked as the 123rd out of 176 countries¹. With respect to Latin American

¹ The Corruption Perceptions Index scores from 0 to 100 where zero implies an environment of absolute corruption and 100 an environment completely free of corruption. Scores below 50 are interpreted by Transparency International as a sign that anti-corruption measures are not getting the expected results.

countries, its ranked as the 25th out of 30 countries. Its score has declined in recent years (Transparency International, 2016).

One way in which corruption appears is through gifts to public servants. This is because gifts can appear as an attempt to influence decision makers and a form of concealing bribes that affect the impartiality of decision makers. In recent years, several cases in Mexico have put a spotlight on gifts and favors to public servants. For example, Grupo Higa, a firm that has been awarded with government contracts worth millions, sold under financially favorable conditions houses to the wife of the President and to a Secretary of State. Even though in both cases the sale was made in accordance with the law, the appearance of a favor has raised questions about the fairness of the contracts it has won. In another example, the senator and union leader Carlos Romero Deschamps was questioned after giving gifts made of silver to other legislators. In addition, in 2013 legislators received electronic devices from the major firm of telecommunications, Telmex, during the discussion of the reform of a law that regulated its activity. Finally, Javier and Cesar Duarte, two exgovernors of different states in Mexico that are being prosecuted for corruption activities, were also identified as the two persons that more gifts have sent to the President's office.

Other countries have also shown concern about gifts to public officials. For example, in the United States of America the senator Tim Kaine received gifts such as vacations from political supporters and government contractors. In the United Kingdom, the National Audit Office led an investigation that confirmed that senior civil servants frequently have received gifts from organizations and firms that have been investigated for corruption. In Spain, King Felipe prohibited his family from receiving gifts that can compromise their functions. This

was after it became known that his father, former King Juan Carlos, received a yacht from a group of businessmen and two ferraris from the Prime Minister of the United Arab Emirates.

2.1 Regulation of gifts to public servants in Mexico

Acknowledging the consequences that gifts can have on public servants' impartiality, the Mexican government has regulated the reception of gifts. The *Code of Ethics of Public Servants of the Federal Government in Mexico (2015)*² states honesty as a fundamental principle and from that it made the implication that public servants should not receive gifts from any person or organization. The reason for it, according to the same code, is the recognition that gifts can compromise the impartiality of their decisions. The origin of the regulation about gifts to public servants in the Federal Government of Mexico is contained in the *Federal Law of the Responsibilities of Public Servants*³. The Federal Law states that public servants should abstain, during their time in charge and one year after finishing it, of receiving gifts given by people whose activities are directly related to them and with whom they have a conflict of interest. That same law defines "conflict of interest" as a situation in which "the personal, familiar or business interest of the public servant can affect the impartiality of his decisions."

Despite the above, the same Federal Law makes an exception and establishes that public servants can receive a gift if the aggregated value of the gift does not exceed ten times the minimum wage (734 Mexican pesos, 35 us dollars). If the price of the gift exceeds this amount, they should report and return them to the Ministry of Public Service (SPF, *Secretaría de la Función Pública*). A secondary regulation sets the procedure to make the report and

² Código de Ética de los Servidores Públicos del Gobierno Federal.

³ Ley Federal de Responsabilidades de los Servidores Públicos

return the gifts. That regulation states that public servants have 15 days to report and deliver to the Ministry of Public Service the gifts whose prices are higher of the permitted amount. Also, it establishes that the SFP must has a registry of the gifts and defines how the reported gifts can be redistributed to other government agencies. It is worth noticing that the relevant regulation does not contemplate specific sanctions to public servants that fail to report their gifts. Nonetheless, the regulation says that sanctions from misdemeanors of public servants can be from a private warning to the expulsion from public service.

There is a lack of consistency in the regulation regarding gifts. Also, it is important to stress that the illegal behavior is to receive gifts and not reporting them, not to give them. Since no regulation forbids anyone to give or offer gifts to public servants, the present laws are targeting just one side of the problem. The compliance of the law is responsibility solely of the public servant, who is tempted from the gifts he receives and who does not have a clear guide of any mechanism of sanctions.

3. Behavioral science, corruption and honesty

3.1 Why to apply the insights of behavioral sciences?

Traditional anti-corruption policies, such as reducing the benefits, increasing the spending on supervision and rising punishment, have demonstrated to be not very effective to reduce corruption in the world (World Bank, 2015). In general, public policies consider corruption as acts committed by autonomous individuals, however these efforts have missed the social and psychological elements of corruption. Behavioral scientist such as Mazar and Ariely (2008), Halpern (2016), Bazerman and Gino (2012) have stated that corrupt acts are not necessarily committed by those whom we could likely picture as self-interested or bad people, according with Ariely (2012), frequently “corruption is a tale of protagonist of these

behaviors that gradually slide into habits, without thinking of them as a wrongdoing”. The behavioral sciences’ approach brings to the discussion of corruption a new perspective as it demonstrates that people do not always behave according to the rational choice model, individuals do not necessarily seek to maximize individual benefits and do not have stable or independent preferences of the context in which decisions are made. We must understand corruption as the result of a set of individual behaviors that occur in a specific context and decision moment. We should not think of it as an ingrained or unsolvable problem, or an individual conscious decision.

In general, corruption is defined as the abuse of public office to obtain a private benefit. Behavioral sciences have studied corruption from the dishonesty that it implies. The main result of these studies is that, unlike traditional models, dishonesty and corruption behaviors are also affected by elements of context, social norms and intrinsic motivations. The multiple efforts made to tackling corruption have shown that it is necessarily to think about corruption from a different perspective, in this context tackling corruption requires a better understanding of human decision making and what influences it; the psychology of honesty, the social effects on individual behaviors and the impact of the context (Halpern, 2016).

Behavioral sciences can help us to “study the systematic and predictable ways in which individuals make ethical decisions and judge the ethical decisions of others that are at odds with intuition and the benefits of the broader society” (Bazerman & Gino, 2012). Therefore, to understand and design effective anti-corruption policies it is necessary to examine not only the decisions that people make, but also their judgement of the decision of others, their self-perception of honesty and the social influence on their behavior.

The literature of the behavioral sciences provides four main arguments for understanding dishonesty: (1) existence of two forces that regulate honesty, (2) the fudge factor and self-deception behavior, (3) the blind spot and limited attention, and (4) the effect of social norms and context on human behavior.

3.1.1 Two forces regulate honesty

First, behavioral sciences recognize that there are two forces that regulate dishonesty: on the one hand individuals seek to maximize their well-being according to external selfish motivations according to the rational choice model; however, on the other hand they are affected by intrinsic motivations such as the need to maintain a self-concept of honesty, social pressure, reciprocity behaviors, moral beliefs and behavioral bias (Mazar & Ariely, 2006).

3.1.2 Fudge factor and self-deception

Individuals have the ability to rationalize some dishonesty as long as they cheat just a little bit (Ariely, 2012). The average person does not set out to take a series of corrupt actions; rather, they likely just start with one small step that they can rationalize and justify (Mazar, Amir & Ariely, 2008; Ariely, 2012). There is evidence that people value maintaining a certain self-concept of honesty. Therefore, they make use of several mechanisms that allow them to engage in a limited amount of dishonest acts while allowing them to keep a positive vision of themselves.

In an experimental context, it was observed that people seek to maintain a conception of themselves as honest people (Mazar et al., 2008). In the experiment, individuals had the opportunity to lie without consequences to the participants. When the benefits for lying increased, the proportion of people who decided to be dishonest was reduced. When the

participants did not receive money directly but tokens that later turned into money, the proportion of dishonest people increased. When the impact of your dishonest act is not direct (money is not robbed but tokens) and when the amount obtained is less, it is easier to justify the lie. If individuals feel that they are getting money or that the amount that they are getting is very large, it is more difficult to maintain their self-concept as an honest individual (Mazar et al., 2008).

The moral behavior of people is affected by their beliefs because they can or cannot self-justify their behavior. When people believe in free will they are less likely to fall into acts of dishonesty as opposed to those who believe in determinism. This is because the belief in free will makes the person responsible for their actions (Vohs & Schooler, 2008). Moreover, individuals do not tend to think on the long term consequences of their acts. For this reason they will not be deterred by higher sanctions such as long prisons sentences or higher fines (Ariely, 2012). This finding helps to explain why policies focused on increasing sanctions might have not the expected impact on individuals' behaviors.

3.1.3 Blind spots and limited attention

Another insight from the behavioral sciences is that often people's unethical behavior is the result of limited attention to ethical considerations, which result in an ethical blind spot (Pitarello, et. al., 2015). Due to this limited attention, ambiguous settings can shift people's attention toward tempting information or actions and lead to ethical failures. This blind spots generate lack of awareness, which affects people's ability to evaluate the ethical implications of a specific situation (Pitarello, et.al., 2015; Bazerman, 2014; Bazerman & Tenbrunsel, 2011; Chugh, Bazerman, & Banaji, 2005).

This argument is connected with the self-deception and self-serving arguments,

because when people fail to pay sufficient attention to ethics they justify their unethical actions or decisions due to the existence ambiguity (Kunda, 1990; Shafir, Simonson, & Tversky, 1993). Therefore, they can do wrong, but feel moral (Pitarello, et.al., 2015). This ambiguity allow people to justify their actions and their perception of reality, at the same time to avoid negative feelings of guilty and preserve their self-concept of honesty (Von Hippel, Lakin, & Shakarchi, 2005; Mazar, Amir, & Ariely, 2008).

Several studies have documented that people systematically act unethically without their own awareness and fail to notice the unethical behavior around their actions (Bazerman & Tenbrunsel, 2011; Chugh, Bazerman, & Banaji, 2005; Gino, Moore, & Bazerman, 2009). This lack of awareness leads people to create psychological barriers to recognize the presence of dishonesty action such as conflict of interest. People engage in behaviors that they would condemn and consider unethical upon further reflection or awareness.

3.1.4 Social norms and context effects

An additional argument of behavioral sciences is that dishonest behavior is influenced by what people perceive as common or accepted in their social group. When people see someone in their social group being dishonest, they assume it as part of the social norm and become more prone to dishonesty; by the contrary, when they see that dishonesty behavior is part of people outside their social group, their tendency towards honesty increases (Gino, Ayal & Ariely, 2009). As a consequence, people's behavior is more influenced by whether or not they feel cheating is socially acceptable within their social group than by the probability of being caught (Ariely, 2012).

Empirical studies have shown that individuals' behavior can be influenced by the moral actions of just one other person from their group (Gino et. al., 2009; Gino & Galinsky,

2012). Gino et.al (2009) showed that people act dishonestly according to the behavior they observe in their group. In the experiment, participants tended to be more dishonest when they observed that a person within their group was lying and succeeding. However, dishonesty was reduced when they saw that a person from another group was lying. This can be explained by the effect of social norms. Seeing a person of the group lying and succeeding generates the perception that this is the social norm (Cialdini, Reno & Kallgreen, 1990; Cialdini & Trost, 1998). An additional finding is that even when the bond that individuals share is subtle, the act of one person can have an important impact on others' behavior. Gino and Galinsky (2012) demonstrated that sharing the same birthday or first name of a person who behaved dishonestly lead individuals to act unethically as well.

Regarding the effects of context, people can be also affected by the elements of their environment, which can modify their behavior of dishonesty. For example, it has been observed that dishonesty decreases when people are exposed to images with religious or moral symbols or that remind them of moments of honesty and their moral standards (Desai, S., & Kouchaki, M. 2016). Likewise, Cialdini, Reno and Kallgreen (1990) found that the amount of litter in an environment activates norms prescribing appropriate or inappropriate littering behavior in a given setting and, as a result, regulates littering behavior. Another study found that the presence of graffiti lead to more littering and, in fact, to more theft (Keizer, Lindenberg, & Steg, 2008). This studies show how situational factors influence people's behavior without they even notice it.

3.2 Behavioral sciences, corruption and gifts

As we mentioned, corruption in public service arises in a variety of forms, from direct payments to bribes, favors and gifts. Studies have shown that receiving gifts detonates

reciprocity mechanisms, so that the person receiving a gift feels obliged to return it. For public administration, this is problematic. Gifts to public servants can be perceived differently than bribes; none the less they can cause preferential treatment and, in that manner, corruption.

Several experiments have shown that gifts or favors have an important effect on how people behave. Research done by Ariely (2012) demonstrates that the simple fact of giving someone something (for example a sandwich) makes that the other person starts to seeing the world from a most similar perspective as the gift giver. Ariely (2012) concludes that in the moment that “you do favors for somebody, the moment you put them in a different situation”, therefore their views change.

Additional research supports these findings. Pharmaceutical companies have the custom of giving to doctors and physicians gifts even when they are still students arguing that by this they give information about their medicines. Wazana (2000) analyzed 29 studies that tried to identify the impact of the relationship between pharmaceutical agents and physicians on the knowledge, attitude and behavior of physicians. The analysis found that physicians deny that pharmaceutical firms can influence their behavior and argue that their relation is beneficial because they get knowledge about new drugs. Nonetheless, Wazana found studies that show that benefits, like gifts, from pharmaceutical companies increase the probability that the receiver will prescribe their drugs. This supports the hypothesis that the behavior of physicians is affected by a self-serving bias (Dana & Loewenstein, 2003). This means that beliefs of physicians are biased towards the ones that gives them benefits.

Likewise, gifts generate reciprocity responses even when the recipient is unaware of it. Studies in neuroeconomics show that social preferences have a neuronal origin that works

in an independent way from consciousness and reason (Fehr & Camerer, 2007; van den Bos et al., 2009). Harvey et al. (2010) show that the revealed preferences of the recipients of monetary gifts are biased in favor of the giver and that this bias is related to brain areas in charge of judgements on preferences like the ventromedial prefrontal cortex.

The focus our study on gifts is relevant because, as behavioral sciences have demonstrated, people find easier to rationalize stealing or act unethically when they are taking things rather than cash. In this context, receiving a gift can be considered by the public servants as an acceptable action. Therefore, it is easier to justify their actions and to do wrong but feel moral. This allows people to rationalize dishonesty to a much, much higher degree.

4. Applying behavioral sciences to increase compliance and report gifts

There are several successful experiences of interventions based on reminding messages to change behavior and increase law compliance in a variety of themes such as energy conservation, tax payment, medical treatments and dishonesty (Cadena & Schoar, 2011; Karlan, 2010; Torgler, 2004; Fellner et al., 2011; Blumenthal et al. 2001). To design our experiment, we consider these insights and proved five different messages to motivate public servants to comply and report the gifts that they receive during Christmas holiday season. The messages designed appeal to the following insights from the behavioral science:

(1) Appealing to the importance of law compliance

One reason why individuals do not comply could be because they do not know how to do it. Therefore, given them the right information, timely and easy, will change their behavior and increase compliance. The email was designed using three key principles: (1) making the message personal, (2) making the messages and actions required simple (Gabaix and Laibson, 2005), and (3) introducing clear message about what is stated in the law.

(2) Appealing to social norms

Humans tend to act according with the behavior that they perceive as acceptable by their social group. As Ariely (2012) states people are more likely to cheat if they feel that cheating is the norm than if they feel that they can be caught. The email was designed using information about the number of public servants that report the gifts to the Ministry of Public Service. The message makes salient the fact that “more than 1000 public servants” report the received gifts. We expect that public servants will report more gifts when they know the number of public servants that have already complied the law.

(4) Appealing the impact of gifts on impartiality

According to behavioral sciences, people has limited awareness of the implications of their ethical actions, therefore, we designed an email to make salient to public servants that receiving a gift can have a negative impact in their impartiality without they even noticing (Dana & Loewenstein, 2003; Fehr & Camerer, 2007; Van Den Bos et al., 2009). As Bazerman and Gino (2012) showed there are blind spots that lead to ethical failure. In this context, we argue that if public servants are more aware of the consequences of their decisions and the potential negative effect of gifts on their behavior they will change their behavior.

(5) Appealing the possibility of being sanctioned and accused by someone else (deterrence message)

There is evidence that shows that mailings with “threat” messages tend to be effective to change people’s behavior (Fellner et al., 2011). The design of this email appeals to the possibility of being sanctioned due to the violation of the law. Likewise, we added the possibility that someone else can report the gifts received by another public servant, that is

the possibility of whistleblowing (Waytz, Dungan, & Young, 2013). Whistleblowing can be defined as reporting unethical behavior within one's own group to a third party, often an outside authority (Waytz et al., 2013).

The next section presents the experiment design and its result. Unlike previous studies on gifts, this one is an experiment with real public servants outside a laboratory environment. Thus, this study gives solid insights to design cost-effective interventions against corruption.

5. Experiment Design

The objective of the field experiment was to answer two questions:

1. What kind of message, informed by behavioral science, is more effective to change public servants' behavior to comply with the regulation of gifts?
2. How does the frequency of the messages affect the number of reports from the public servants?

To answer these questions, we sent emails to 157,586 public servants from the Federal Government in Mexico during Christmas season: from December 13th, 2006 to January 11th, 2017. This period was chosen because during Christmas is socially allowed to give and receive gifts and in previous years was the one when more gifts were reported (Appendix B). All the messages had the purpose to motivate public servants to comply with the regulation of gifts. In other words, the messages motivate public servants to declare and return to the Ministry of Public Service the gifts they have received.

The emails were divided into five groups according with the five different types of messages. Each one of them constituted a treatment in the experiment. These groups were subdivided in three groups considering three levels of frequency of sending the emails

(intensity): high, medium and low. Consequently, we randomized the public servants' emails in our database into 16 groups: 15 groups corresponding the five treatments in the three levels of intensity and the control group. However, because of technological limitations the high-intensity level received eight emails during the period, the medium-intensity level received seven emails, and the low-intensity level received four emails. Due to the small difference in the number of received emails between the high and medium level in comparison with the low-intensity level, in the results analysis, we integrated the high and medium level as one.

The messages were the following:

1. Message appealing to the law: this message reminds the public servant her legal obligation to report and turn over the received gifts (Appendix A.1).
2. Message appealing to social norms: this message informs that, in average, every year 1000 gifts are reported and turned over the Ministry of Public Service and invites the recipient to do the same as her peers (Appendix A.2).
3. Message appealing to honesty and moral norms: this message recognizes the honesty of the public servant and invites her to show it by reporting and turning over the received gifts (Appendix A.3).
4. Message appealing to the impact of gifts on impartiality: this message informs the public servants that receiving gifts compromises their impartiality and invites them to report them and turn them over to the Ministry of Public Service (Appendix A.4).
5. Message appealing to the possibility of being sanctioned: this message tells the public servant that in the case of not reporting a gift, someone else could do it for them and that could result in a sanction. After that, they are invited to comply with the law (Appendix A.5).

All messages included four images: the logo of the Ministry of Public Service, a picture of a Christmas basket with food and a wine bottle, a picture of gift boxes and the photograph of a watch. The only exception was made in the Message appealing to the possibility of being sanctioned, in which the picture of the gift boxes was substituted with a picture of eyes. Also, the messages included a hyperlink to a form with instructions to make a gift report (Appendix C). Finally, all the messages were personalized. The subject of the mail was “Gifts to (name of the public servant)” and inside the text appeared the name and the public office of the recipient.

To measure the impact of the messages, in this experiment we used as a dependent variable the number of public servants that reported gifts; this is the measure of public servants that complied with the law. Additionally, we present the effect of the messages on three complementary variables: (1) the number of gifts reported, (2) the sum of the prices of the reported gifts and (3) public servants’ email responses.

6. Data

6.1 Directory of public servants

The database with the email addresses of the public servants was obtained by the integration of two sources:

- The Ministry of Public Service (SFP for its Spanish acronym): provided a directory with 202,737 email addresses.
- The National Institute for Access to Public Information and Data Protection (INAI for its Spanish acronym): we downloaded 18 public databases that corresponded to the directories of the state secretaries with 16,433 email addresses.

Both bases included the variables: Government Office, Name of the Public Servant, Job Position, and Email Address. To integrate the databases, we cleaned them to minimize the possibility of repeated records of public servants with more than one email address. The final database had 175,636 registries.

We randomized the directory to choose 16 groups of 10,978 email addresses each. After sending the emails, we discovered that 4% of the email addresses from the treatment groups was not valid. In average this meant the loss of 4.3% (SD 0.22%) of email addresses in each group (Appendix Z) of the email addresses. As a result, 157,586 different public servants received the messages.

6.1.1 Weaknesses of the directory and the sending of the messages

Our database of emails presents three shortcomings. In the first place, as mentioned above, we know how many invalid emails exist in the directories of the treatment groups, however, since no email was sent to the control group, it is not possible to know how many invalid emails exist in it. Also, it was not possible to identify whether two registries of identical names in the databases corresponded to two different individuals or if it was the same person who had recently changed job. Because of that, the addresses of public servants with the same names were not deleted. The database has 1,328 of these cases.

Finally, the process of sending the messages varied in time due to the operation of the software we used, which limited the planning of what day and at what time each was sent. Therefore, emails were sent on the weekend, and it was possible for a person to receive more than one message on the same day. Due to this, it is not possible to differentiate between the impact of the sending frequency.

6.2 Database of gift reported

The results of the experiment were registered from December 13, the day on which the emails began to be sent, to February 28. The choice of the final date responds to the fact that the area in charge of receiving the reports and gifts commented that some Christmas gifts arrive in February because some people send them from outside of Mexico City or made the reports at the end of January. This is supported by the fact that by observing the reporting timeline from 2012, February still has a larger reporting volume than the following months, although not as high as January or December (Appendix B).

The results were obtained from two databases provided by the SFP that was complemented with public information:

1. Database of gift reported: SFP provided a database with all the reports of gifts that were reported and physically delivered at their offices from January 1, 2012, to February 28, 2017. The database included information about who made the report (name, public office, and position), as well as the description of the gift and its price, which was reported by the public servant.

For the Christmas period of the years 2016-2017, when the experiment was done, the database was complemented with the variables: gender, treatment group and net income of the public servant. Likewise, the gift was classified according to its type (for example, alcohol, clothing, books) and the price of the gift was searched in online stores to compare its price with the price reported by the public servant.

2. Responses by e-mail: The SFP provided 270 emails that were received in response to the messages from the experiment. These emails were systematized in a database that includes the date and time of reception of the mail, its subject, the estimated price of

the gift that was being reported, the name, the ministry or office of the public servant, her treatment group and gender.

7. Results

7.1 Comparison with previous years

During the period of interest, from December 13th, 2016 to February 28th, 2017, 438 reports of gifts were made. This is a lower number than the previous year (445) and, in fact, it is the lowest in all periods since 2012. Since that year, on average there were 680.4 reports per period (Appendix D). However, the period 2016-2017 was the one in which more public servants reported gifts (72). That is, in which more public servants complied with the law. In the previous period (2015-2016), only 22 public servants reported gifts (Appendix E). On average, from 2012 to 2017, 50 public servants made a report.

The same happened with the number of government offices from which reports were sent: during the period 2016-2017 gifts were reported from 40 different agencies, while in 2015-2016 only 13 government offices reported gifts (Appendix F). On average, since 2012 26.8 different government offices reported gifts during the this period. In the period 2016-2017, 84.72% of the public servants who reported gifts reported less than 10, while in the period 2015-2016 that percentage was 77.27%.

The database of gift reported includes a price variable declared by the public servant. It should be noted that providing this variable is optional for the public servant. On average, since 2012 each period a 25.49% of public servants who reported a gift also reported its price. However, on the period 2016-2017 that percentage fell to 13.93% after reaching a maximum in the previous period, where 40% reported a price (Appendix G).

These results, even when do not reveal a causal relationship, do suggest that during the period 2016-2017, public servants performed differently than in previous years. More of them reported gifts and did so from more government offices, although in general the reports contained less information as suggested by the decrease in reports that included the prices of reported gifts.

7.2 Characteristics of public servants who reported gifts

During the period of the intervention, 2016-2017, 64% of the people who reported gifts were men, and 36% were women (Appendix H). It is important to notice that this figure is close to the proportion of men and women in the entire federal government (62% men versus 38% women).

In the federal government, the income is correlated with the hierarchical level and the level of responsibility. Thus, although the database does not have a variable that indicates the hierarchical level of public servants and the names of their positions are not in all cases comparable, their income can function as a proxy. Regarding this, it is observed that 46.6% of those who reported gifts have a monthly net income of between 100 and 150 thousand Mexican pesos (between 5,362 and 8,043 dollars approximately), which corresponds to high-level positions. In contrast, 19.2% have incomes below 50 thousand Mexican pesos (roughly 2,681 dollars), which corresponds to positions of the medium and low level (Appendix I).

Regarding the type of gifts that were reported, 40% are food, and 36% are alcoholic beverages (Appendix J). This is explained by the custom of giving Christmas baskets that typically include various food products and, usually, alcoholic beverages. The database provided by the SFP disaggregate the baskets in different reports, so it does not allow us to know what gifts were delivered together. In a regression analysis that relates the number of

reports sent by a public servant with their income and gender, only income had a positive and significant coefficient at 10% (coef.: 0.0000525, p-value: 0.074, N = 65).

7.3 Responses by email during the period 2016-2017

As mentioned above, between December 13th, 2016, when the intervention began, and January 30th, 2017, the SFP received 270 emails as a response to the experiment. These emails were concentrated at the beginning of the intervention (Appendix K), on the first days of each week (Appendix L) and between 8 and 6 pm (Appendix M). However, since we did not control when the public servants read the messages, we do not know if this is because they read the messages on those moments and decided to answer or because another reason (i.e., they had more free time on those moments).

The main reason why public servants sent an email was to inform that they did not receive any gifts during the year (61.11% of the emails had this purpose). 51.51% of the public servants that reported not having received any gifts did so by using the format attached to the messages. The second reason was to report receiving gifts (29%). The third most frequent topic in the emails was to express some doubt about the procedure or the messages of the email (15%). Finally, 3% of the emails were complains about why they have received the emails (Appendix N). The sum of the percentages exceeds 100% because the same mail could have more than one purpose. For example, to report not having received gifts and to ask if a report should be sent.

The format attached to the emails to report the reception of gifts asked the name of the person who gave the gift to the public servant. Of the 80 reports sent by e-mail, 55% corresponded to gifts given by private companies or people that were not public servants. Public servants and government institutions gave 30%, while foreign governments gave 5%

of the reported gifts. The remaining 10% corresponds to reports where the sender was not stated (Appendix O).

The content of the emails showed that there is a little knowledge of the regulation regarding gifts. The main doubt expressed was if despite not receiving gifts they needed to send the format. It is notable that the messages from the experiment generated, in some public servants, the belief that all gifts should be reported. Two examples of the above are a person who reported a small family gift and another person who reported his Christmas Bonus. Another belief that is observed in the emails is that receiving gifts is related to the position or the functions. Specifically, some public servants express the belief that receiving gifts is related to high-level positions and not with operative and low-level jobs. Also, in four emails it is mentioned that they do not receive gifts because of their moral convictions. The most recurring complaint was the frequency of the emails sent.

Finally, some emails reveal that the person assumed that the message had been personally sent to him for some reason. For example, in one of the emails, the public servant asks if there is a list of people who receive gifts in which he is included by mistake.

7.4 Experiment results

The purpose of the experiment was to know what kind of message is most effective to increase compliance with gift regulations among public servants. We consider as a dependent variable the number of people who made the reports because it allows us to assess the impact of the intervention on the goal of increasing compliance with the law (behavioral change). Other variables, like the price of the gifts and the number of gifts that a public servant receives, and therefore that can report, do not depend entirely on her. These variables are also affected by who offers the gift, for that reason they were treated as complementary variables.

The two messages that had the biggest impact on increasing compliance with the regulation regarding gifts were the ones that appeal to the law and the one that appeals to the consequences of the gifts on impartiality. Although in all treatment groups more public servants reported their gifts than in the control group, only the two messages mentioned (Law and Impartiality) had statistically significant results (Appendix V; Appendix Y). Additionally, it was tested whether the frequency of the messages had any effect on the number of public servants who reported gifts. However, the results were not statistically significant (Appendix W). This can be explained by the fact that technological limitations in the sending of the messages prevented the frequency levels from being substantially different.

7.4.1 Complementary variables

When considering the first complementary variable, the number of gifts reported, the message that appealed to the Law was the one that obtained a higher response (99 reports). In addition to this message, those appealing to the impact of gifts on impartiality (85 reports) and social norms (55 reports) had results superior to the control group (46 reports) (Appendix P). Regarding the intensity of the treatment, the group to which more emails were sent is related to more reports for messages appealing to the Law (93 in the High-intensity group vs 6 in the Low-intensity group), social norms (41 vs. 14) and the possibility of sanction (22 vs. 4). In the other two types of messages (moral norms and impact of gifts on impartiality), the opposite occurred (Appendix Q). For 81 reports it was not possible to find out which treatment group they belonged to because the database did not include the name of the person who delivered them.

Regarding the second complementary variable, the sum of the prices of the 295 gifts for which it was possible to verify them is of \$539,746.98 Mexican pesos (approximately

\$28,919.10). The messages that appealed to the Law (\$298,961.96) and the one that appealed to the impact of gifts on impartiality (\$54,791.47) were related to a higher monetary value of gifts in comparison with the control group (\$28,781). The other three messages were related to a lower monetary value than the control group (Appendix R). As for the intensity of the treatment, in all the treatment groups it is observed that those who received more e-mail reported gifts for a higher monetary amount (Appendix S). For this analysis, the 143 gifts for which, due to the vagueness of their description, a price could not be found, were not considered.

During the analysis period, no email was received from a public server in the control group. The treatment group who send more emails was the one who received the message appealing to the Law (82 emails), followed by the one appealing to Moral Norms (65), Social Norms (58), Impartiality (33) and Possibility of sanction (24) (Appendix T). In all treatment groups, it was observed that the group that received four emails sent fewer responses than those who received 7 or 8 emails (Appendix U).

8. Discussion and conclusions

Public policy insights

The problem of corruption is one of the biggest challenges facing in Mexico. Traditional anti-corruption strategies are not enough and can be very costly. Behavioral sciences provide an alternative perspective for understanding and studying the problem. With behavioral sciences, simple and not so costly interventions can be designed, tested and implemented in order to effectively help in the fight against corruption.

The multiple efforts made to tackling corruption have shown that it is necessarily to think about corruption from a different perspective, in this context tackling corruption

requires a better understanding of human decision making and what influences it; the psychology of honesty, the social effects on individual behaviors and the impact of the context.

The insights from behavioral science can help to see things differently. Allowing to develop new strategies to tackle public servants' unethical acts. There is an entire new perspective to explore and experiment.

Experiment design

Since we didn't test the messages before sending them, we cannot be sure about the possible interpretations that the public servants made. Qualitative research is needed.

The intervention may have caused indirect effects: It could be possible that public servants rejected the gifts instead of making reports. Likewise, we don't know if agencies gave additional instructions to public servants regarding receiving gifts, motivated by the experiments. We do not know how many gifts were offered.

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Ley Federal de Responsabilidades Administrativas de los Servidores Públicos.

http://www.diputados.gob.mx/LeyesBiblio/pdf/240_180716.pdf

Acuerdo por el que se establece el procedimiento para la recepción y disposición de obsequios, donativos o beneficios en general, que reciban los servidores públicos de la Administración Pública Federal

http://www.dof.gob.mx/nota_detalle.php?codigo=5304461&fecha=28/06/2013

Acuerdo que tiene por objeto emitir el Código de Ética de los servidores públicos del Gobierno Federal, las Reglas de Integridad para el ejercicio de la función pública, y los Lineamientos generales para propiciar la integridad de los servidores públicos y para implementar acciones permanentes que favorezcan su comportamiento ético, a través de los Comités de Ética y de Prevención de Conflictos de Interés.

http://www.dof.gob.mx/nota_detalle.php?codigo=5404568&fecha=20/08/2015

Appendix

A. Sent messages

A.1

Illustration 1: Message with reference to the Law



Translation:

Hello #name# #surname#

#Company#

*By **Law**, you are **obliged** to inform and turn over the gifts that you are given through out the year*.*

Fulfill your obligation!

Inform us about your gift here.

**When the accumulated value within a year exceed ten times the current daily minimum wage (today called as Measurement and Actualization Unit) in Mexico City (\$730 in 2016), articles 8, fraction XII and 45 of the Federal Law of Administrative Responsibilities of Public Servants*

A.2

Illustration 2: Message with reference to social norms



Translation:

Hello #name# #surname#

#Company#

*Every year, your teammates inform and turn over, in average, **1000 gifts***.*

Do the same!

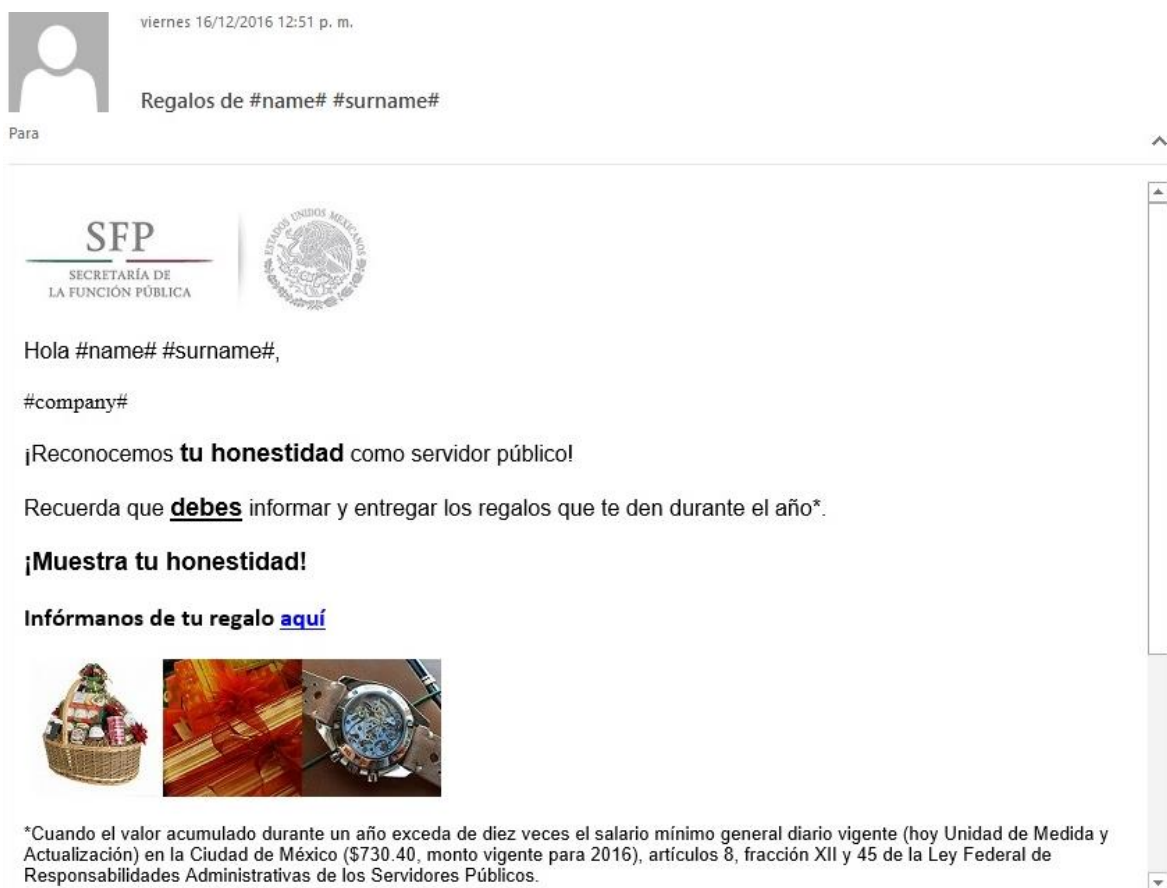
We trust you!

Inform us about your gift here.

**When the accumulated value within a year exceed ten times the current daily minimum wage (today called as Measurement and Actualization Unit) in Mexico City (\$730 in 2016), articles 8, fraction XII and 45 of the Federal Law of Administrative Responsibilities of Public Servants*

A.3

Illustration 3: Message with reference to moral norms



Translation:

Hello #name# #surname#

#Company#

*We recognize **your honesty** as a public servant!*

*Remember that **you must** inform and turn over the gifts you get throughout the year*.*

Show your honesty!

Inform us about your gift here.

**When the accumulated value within a year exceed ten times the current daily minimum wage (today called as Measurement and Actualization Unit) in Mexico City (\$730 in 2016), articles 8, fraction XII and 45 of the Federal Law of Administrative Responsibilities of Public Servants*

A.4

Illustration 4: Message with reference to the impact of gifts on impartiality



Translation:

Hello #name# #surname#

#Company#

*Receiving gift **compromises your impartiality** as a public servant*.*

*If someone gave you a gift, **you must** inform and turn over it.*

Inform us about your gift here.

**When the accumulated value within a year exceed ten times the current daily minimum wage (today called as Measurement and Actualization Unit) in Mexico City (\$730 in 2016), articles 8, fraction XII and 45 of the Federal Law of Administrative Responsibilities of Public Servants*

A.5

Illustration 5: Message with reference to the possibility of sanction



Translation:

Hello #name# #surname#

#Company#

*Watch out! If someone gives you a gift and you don't inform not turn over it, **someone else** could tell*.*

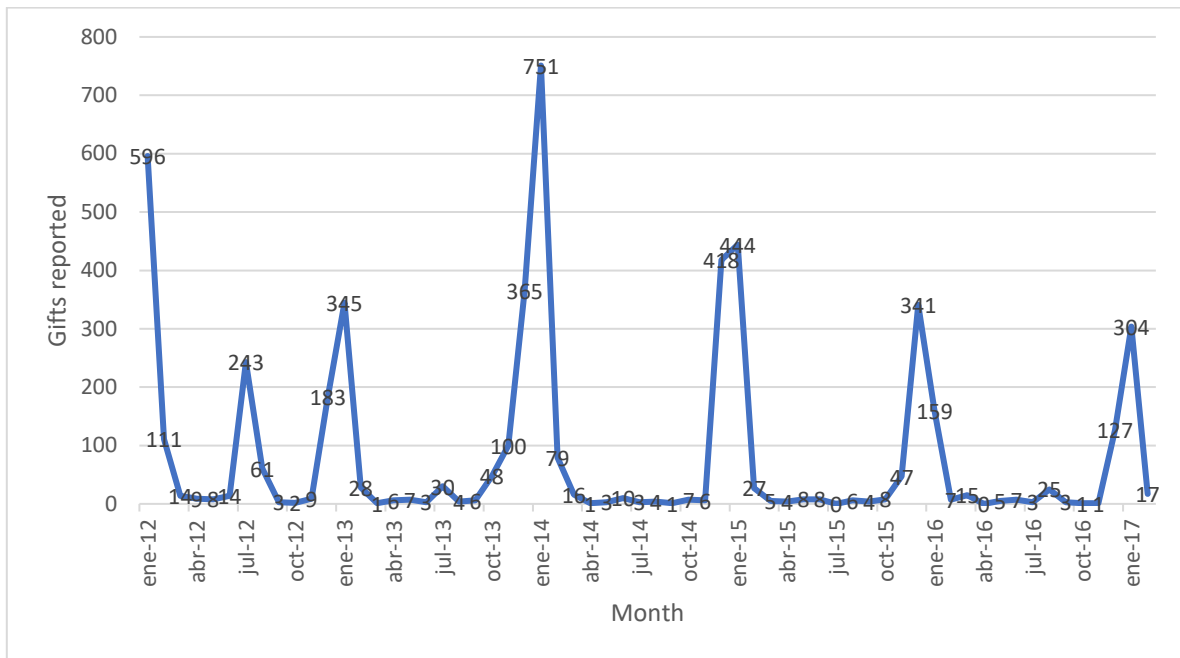
Don't get sanctioned!

Inform us about your gift here.

**When the accumulated value within a year exceed ten times the current daily minimum wage (today called as Measurement and Actualization Unit) in Mexico City (\$730 in 2016), articles 8, fraction XII and 45 of the Federal Law of Administrative Responsibilities of Public Servants*

B.

Graph 1: Gifts reported by month (January 2012-February 2017)



Source: own elaboration with data from SFP. The graph shows the number of gifts reported to the SFP by year from 2012 to February 2017.

C.

Illustration 6: Form sent to report gifts

2 1 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 18 19

FORMATO Y GUIA DE APOYO PARA EL ENVIO DE OBSEQUIOS, DONATIVOS O BENEFICIOS A LA SFP

Lugar [día] de [mes] del [año]

Firma

SECRETARÍA DE LA FUNCIÓN PÚBLICA
Dirección General de Responsabilidades y
Situación Patrimonial
P r e s e n t e

En cumplimiento al Acuerdo por el que se establece el procedimiento para la recepción y disposición de obsequios, donativos o beneficios en general que reciban los servidores públicos de la Administración Pública Federal, publicado en el Diario Oficial de la Federación el veintiocho de junio de dos mil trece, me permito poner a disposición de esa Secretaría lo siguiente:

Datos del obsequio, donativo o beneficio:

Descripción	
Valor estimado	
Fecha de recepción	

Datos del donante

Nombre, denominación, Razón social	
---------------------------------------	--

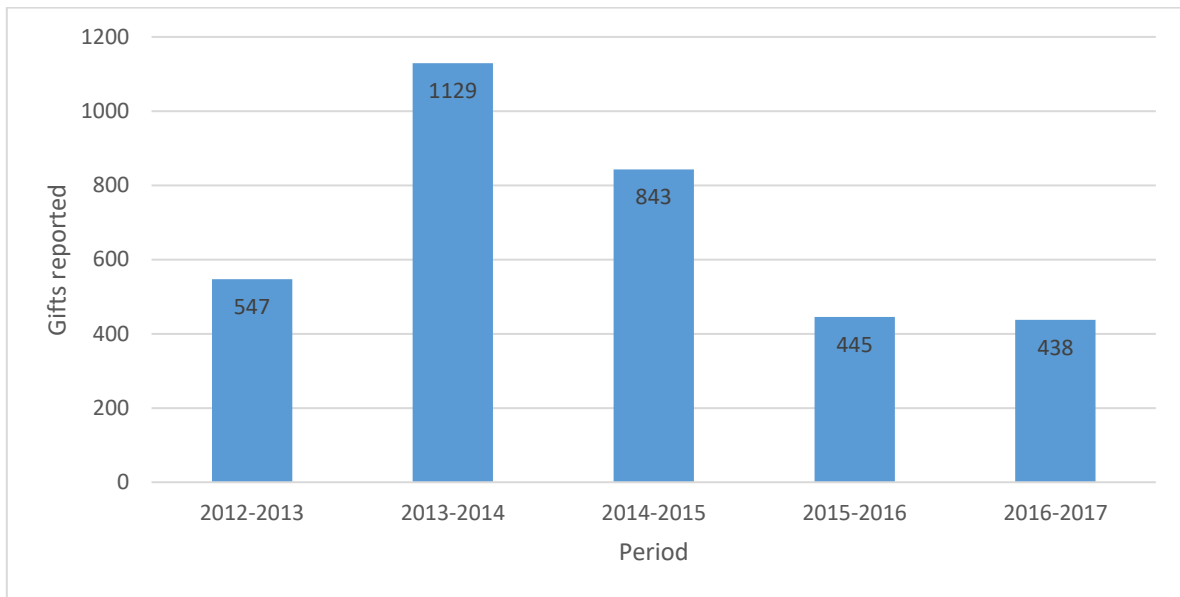
Datos del servidor público que reporta el obsequio, donativo o beneficio:

Nombre	
Cargo	
Dependencia o entidad	

The form was sent in .docx format with instructions. The form asks for a description of the gift, its estimated price, the date when the gift was received, the name of the person who gave the gift and the name, position and public office of the public servant reporting the gift.

D.

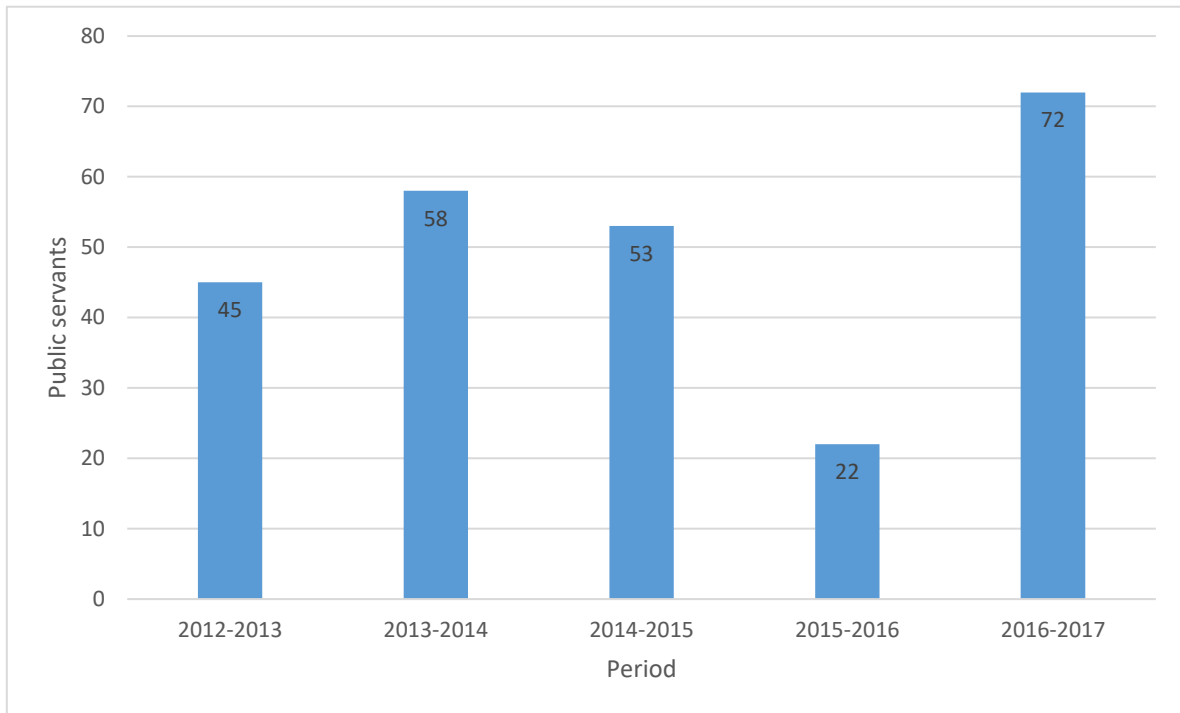
Graph 2: Gifts reported between december 13th and february 28th



Source: own elaboration with data from SFP. The graph sows the number of gifts reported to the SFP by year from 2012 to February 2017 in each Christmas season (Dec. 13 to Feb. 28).

E.

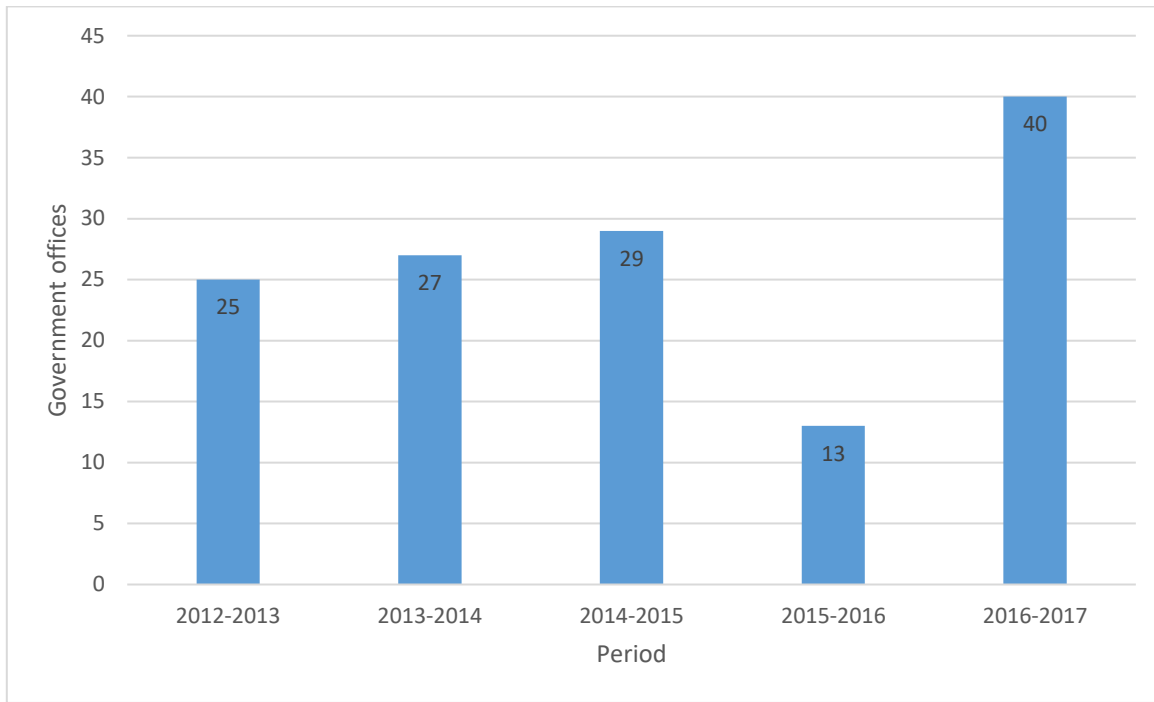
**Graph 3: Public servants who reported gifts between
december 13th and february 28th**



Source: own elaboration with data from SFP. The graph shows the number of public servants that reported gifts to the SFP by year from 2012 to February 2017 in each Christmas season (Dec. 13 to Feb. 28).

F.

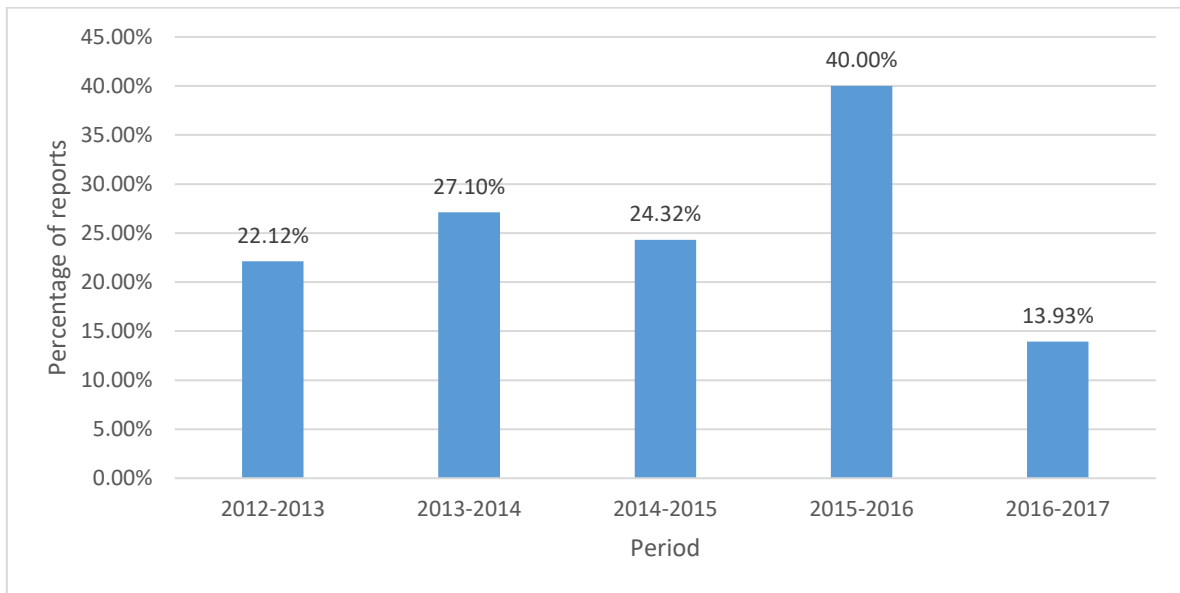
Graph 4: Government offices from which gifts were reported between December 13th and February 28th



Source: own elaboration with data from SFP. The graph shows the number of different government offices that reported gifts to the SFP by year from 2012 to February 2017 in each Christmas season (Dec. 13 to Feb. 28).

G.

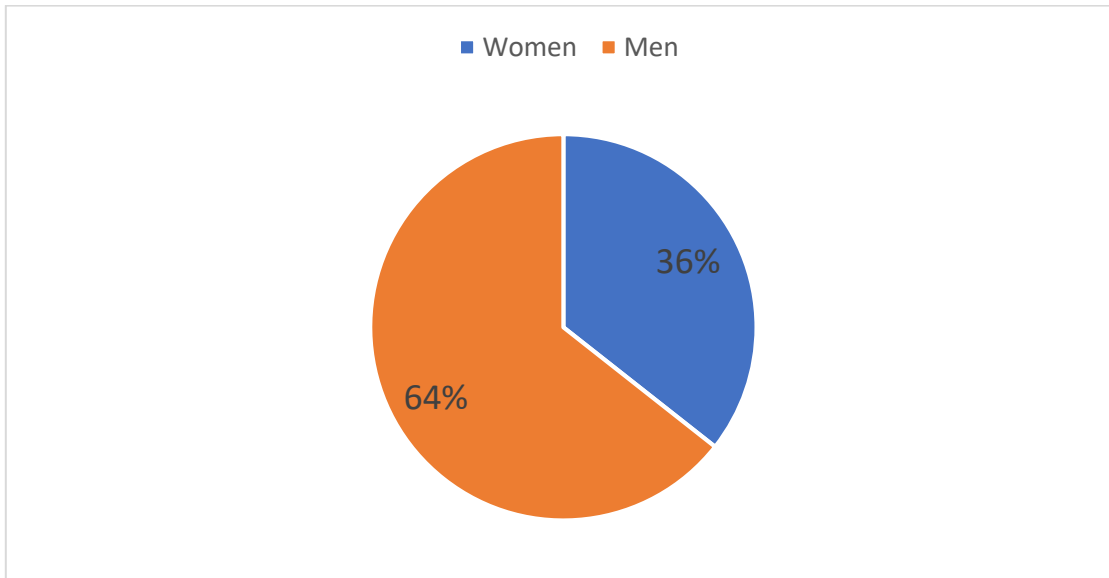
Graph 5: Percentage of reports that included price by period



Source: own elaboration with data from SFP. The graph shows the number of reports of gifts that also reported its estimated price by Christmas season (from 2012 to 2017)

H.

Graph 6: Gender of public servants who reported gifts



Source: own elaboration with data from SFP. The graph shows the gender of public servants that reported gifts between Dec. 13, 2016 and Feb. 28, 2018.

I.

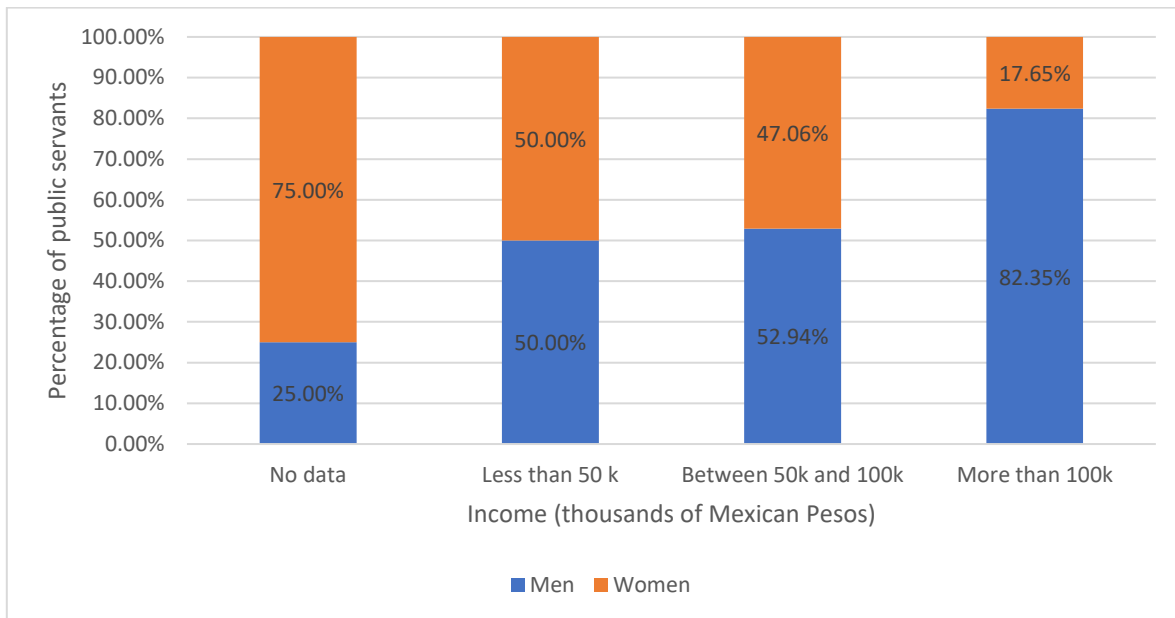
Table 1: Income of the public servants who reported gifts
(thousands of Mexican pesos)

	Total
Less than 50 k	19.2%
Between 50k and 100k	23.3%
Between 100k and 150k	46.6%
No data	11.0%

Source: own elaboration with data from SFP and INAI. The table presents the income of public servants that reported gifts between Dec. 13, 2016 and Feb. 28, 2018.

J.

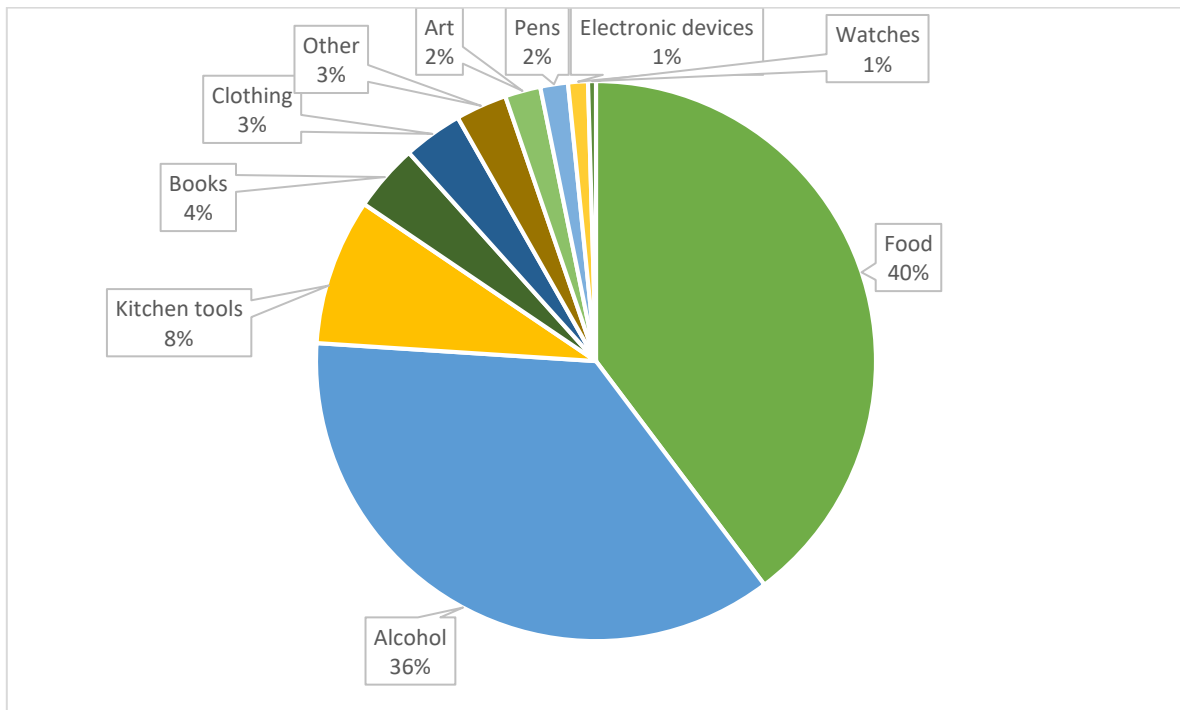
Graph 7: Income and gender of public servants who reported gifts



Source: own elaboration with data from SFP. The graph presents the income and gender of public servants that reported gifts between Dec. 13, 2016 and Feb. 28, 2018.

K.

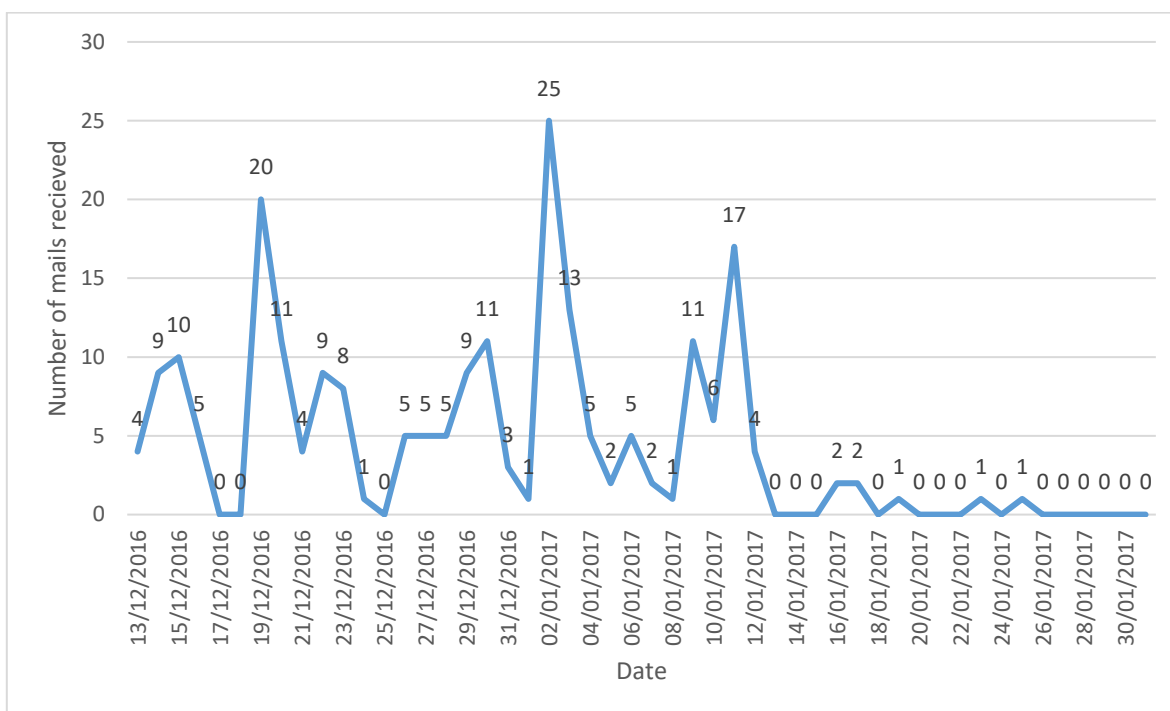
Graph 8: Type of the reported gift



Source: own elaboration with data from SFP. The graph presents percentage by each type of gift that were reported between Dec. 13, 2016 and Feb. 28, 2018.

L.

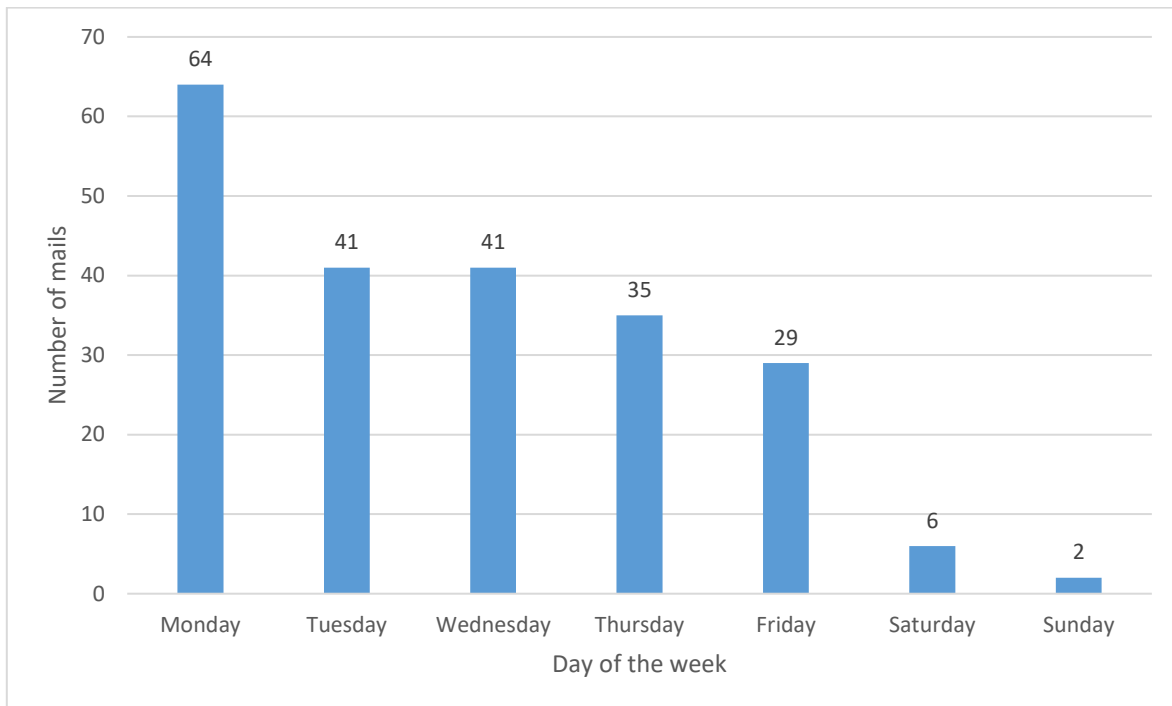
Graph 9: Number of received mails by date



Source: own elaboration with data from SFP. The graph presents the number of email responses by day to the intervention messages between Dec. 13, 2016 and Feb. 28, 2018.

M.

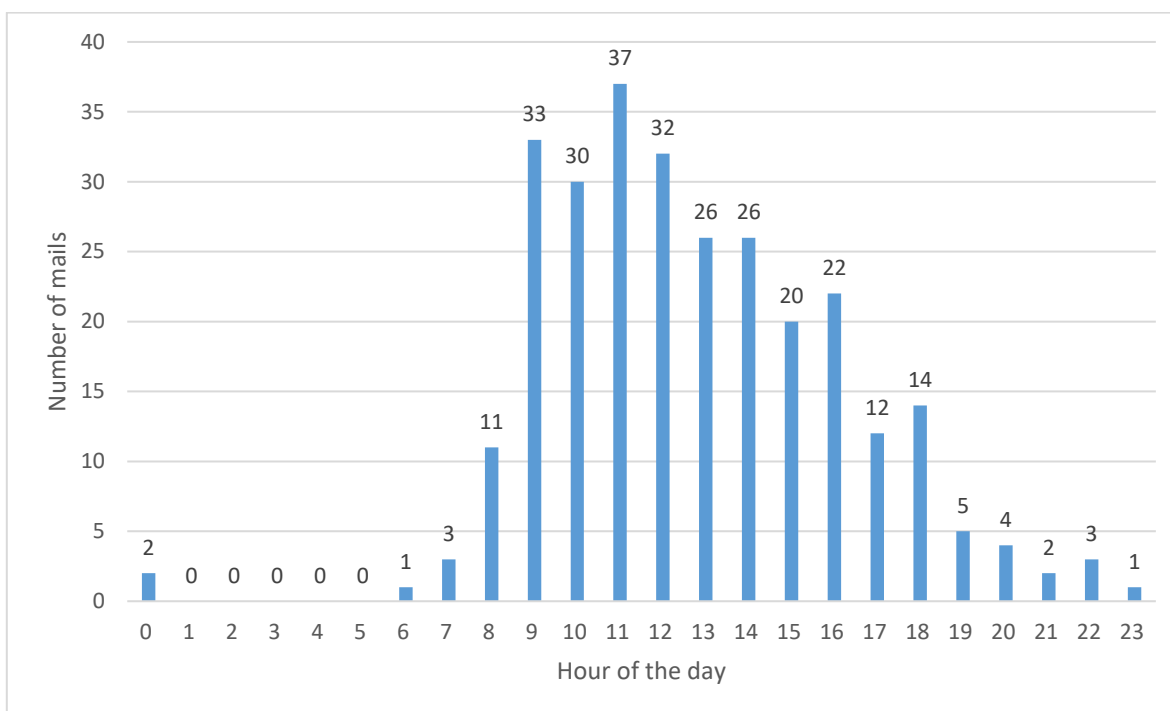
Graph 10: Number of received mails by day of the week



Source: own elaboration with data from SFP. The graph presents the number of email responses by day of the week to the intervention messages between Dec. 13, 2016 and Feb. 28, 2018.

N.

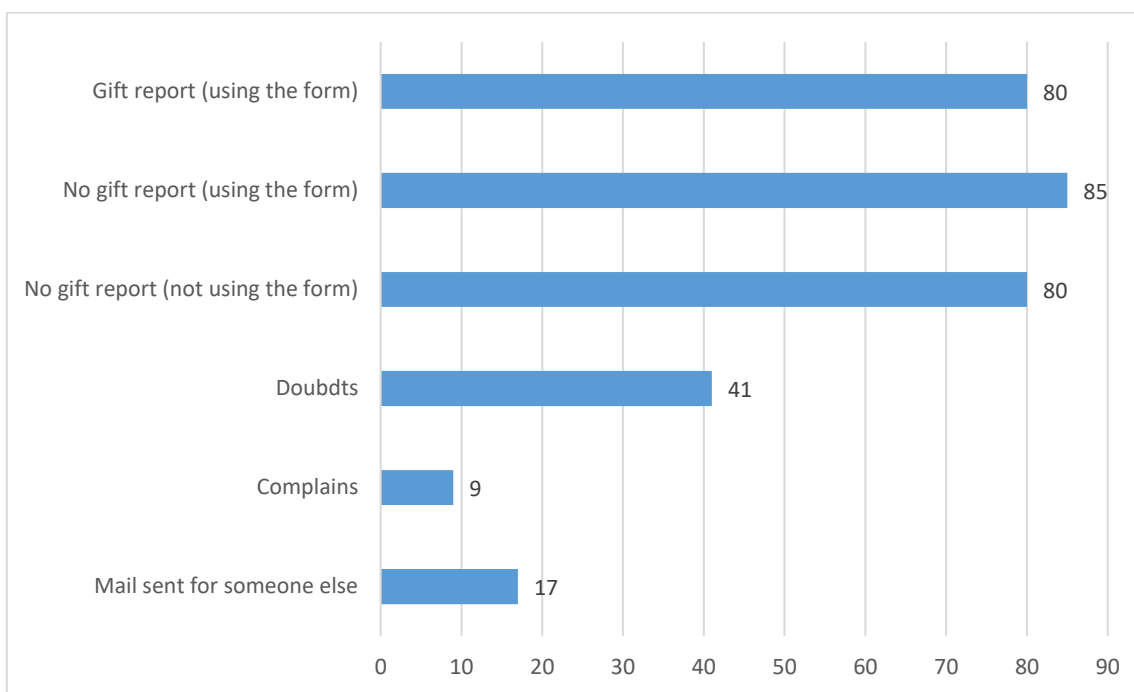
Graph 11: Number of received mails by hour of the day



Source: own elaboration with data from SFP. The graph presents the number of email responses by hour of the day to the intervention messages between Dec. 13, 2016 and Feb. 28, 2018.

O.

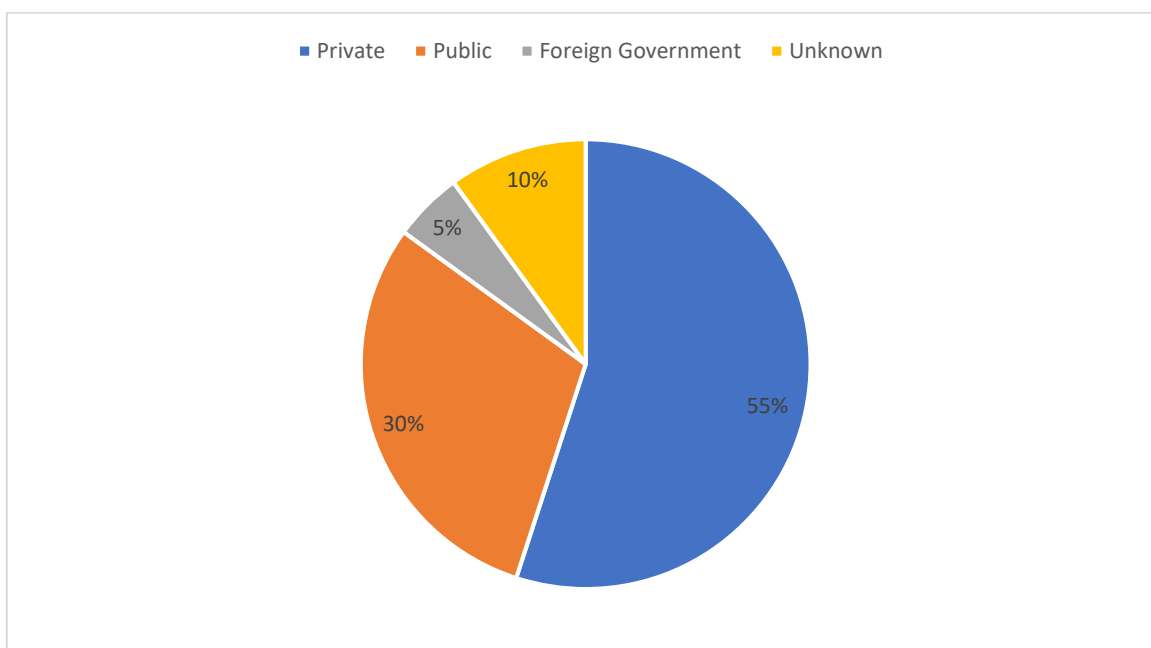
Graph 12: Subject of the received mails



Note: One mail could have more than one subject. *Used the form* means that the public servant used the form sent to report gifts. *Doubt* means that the public servant asked for something in the mail. *Complain* means that the public servant complained about the sent mails. *Mail sent for someone else* means that the sender of the mail is not the same than the person who is reporting something. *No gift report* means that the public servant reported that she didn't received any gift. Source: own elaboration with data from SFP.

P.

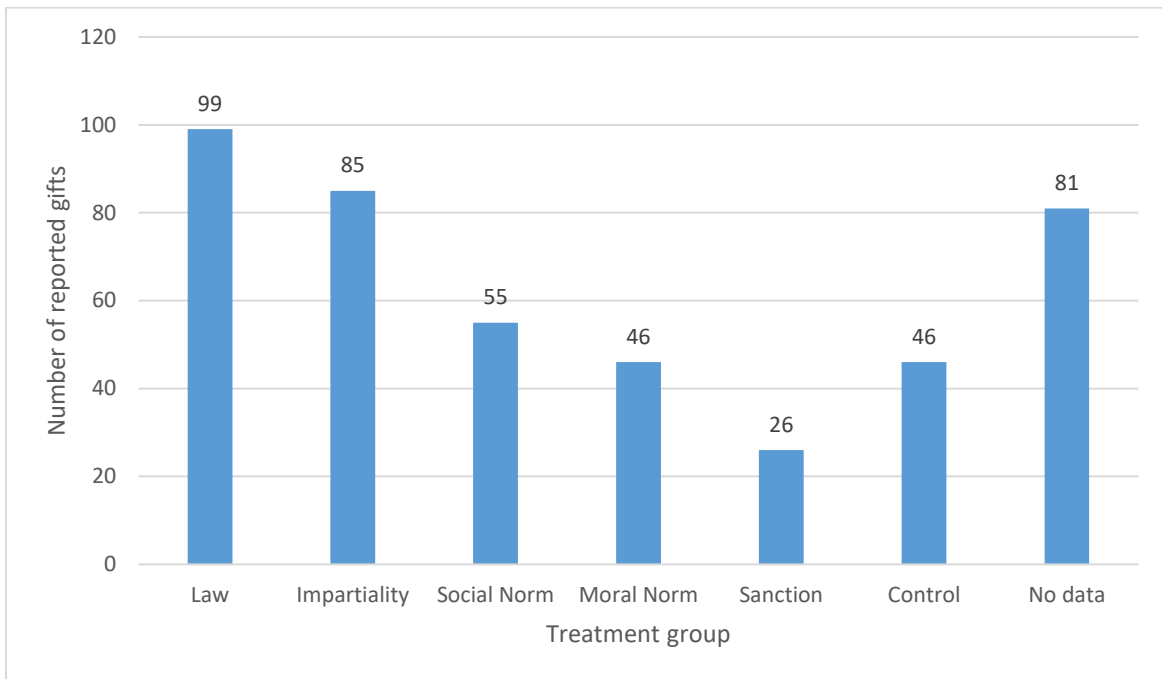
Graph 13: Sender of the gifs reported in the mails



Source: own elaboration with data from SFP. The graph presents the sender of the gifs reported by email as a response to the intervention between Dec. 13, 2016 and Feb. 28, 2018.

Q.

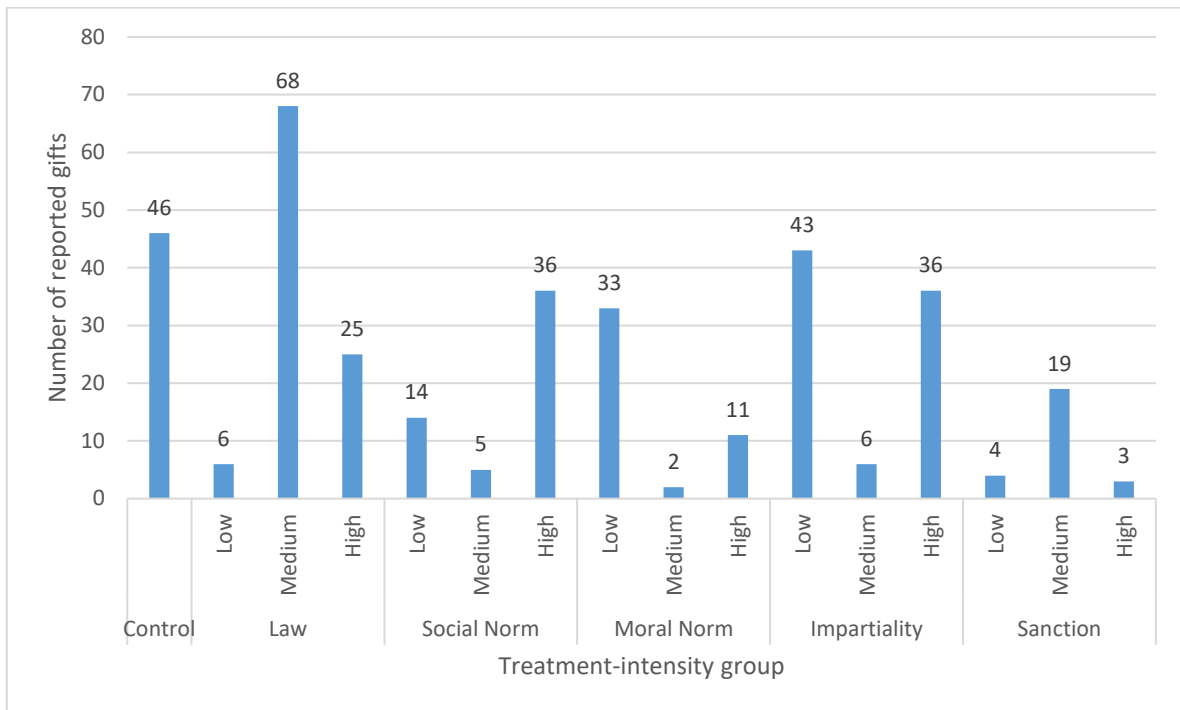
Graph 14: Reported gifts by treatment group



Source: own elaboration with data from SFP. The graph presents the number of reported gifts by treatment group.

R.

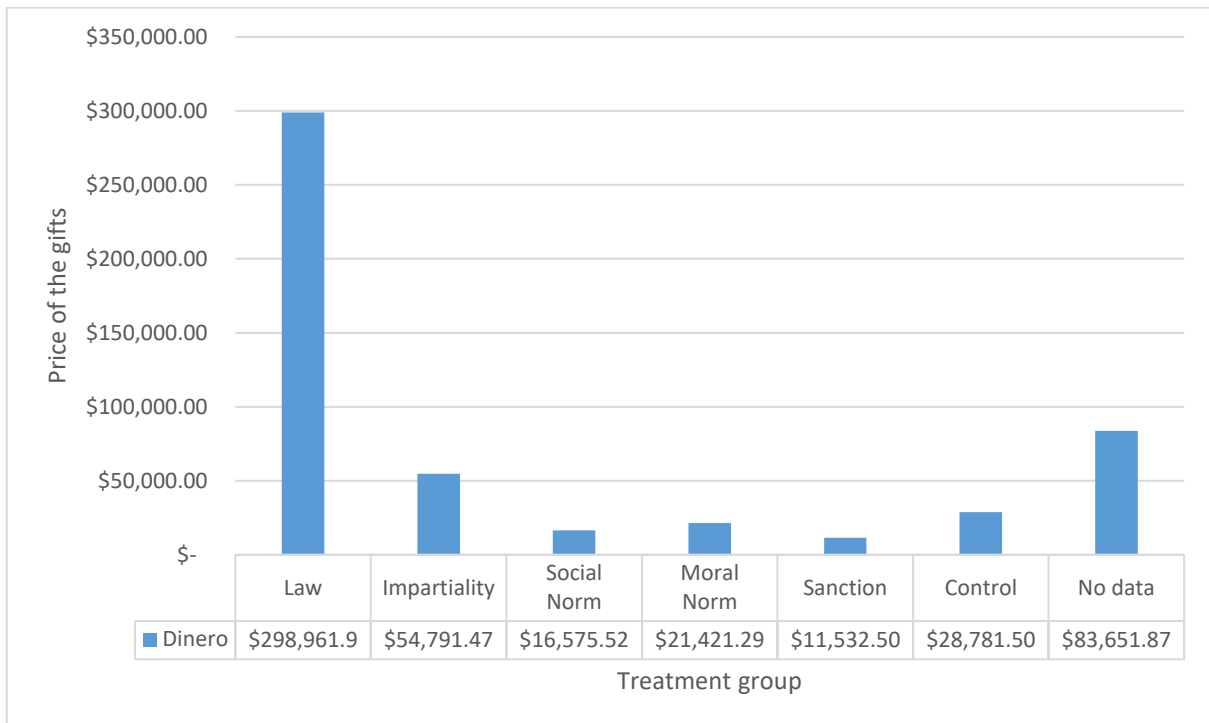
Graph 15: Reported gifts by treatment-intensity group



Source: own elaboration with data from SFP. The graph presents the number of reported gifts by treatment-intensity group.

S.

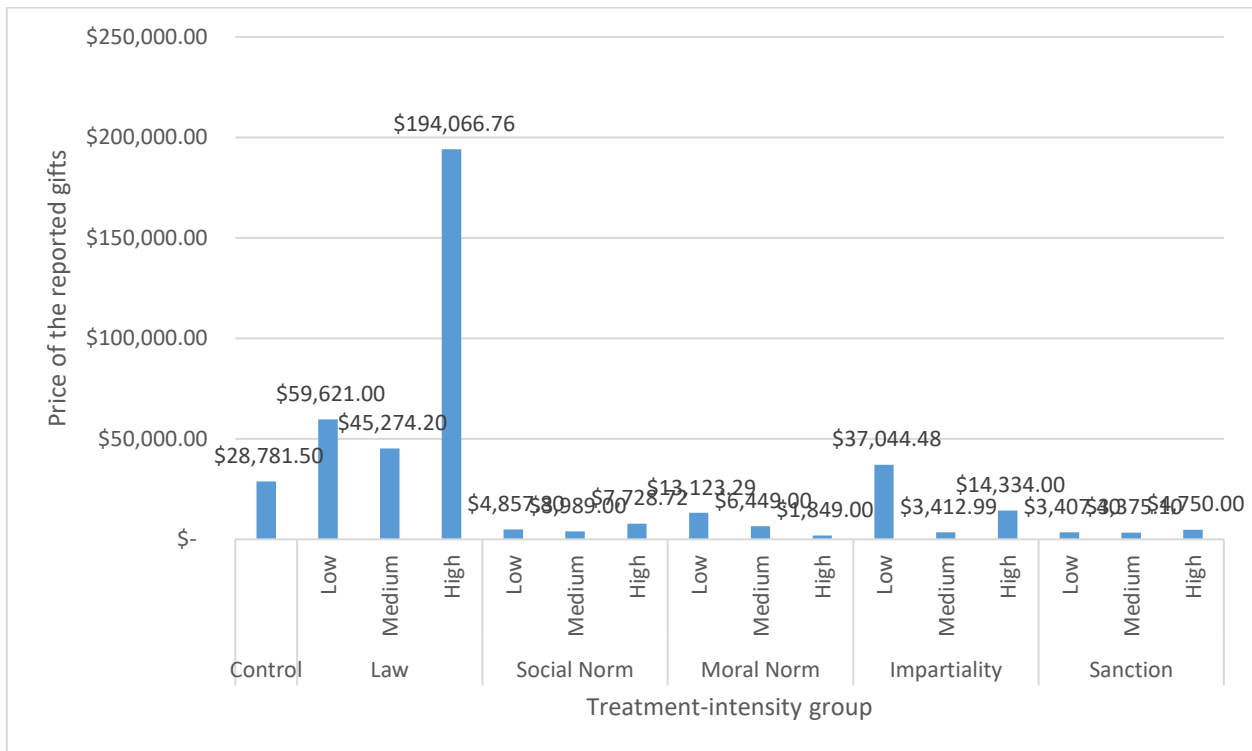
Graph 16: Price of the reported gifts by treatment



Source: own elaboration with data from SFP. The graph presents the sum of the price of the reported gifts by treatment group.

T.

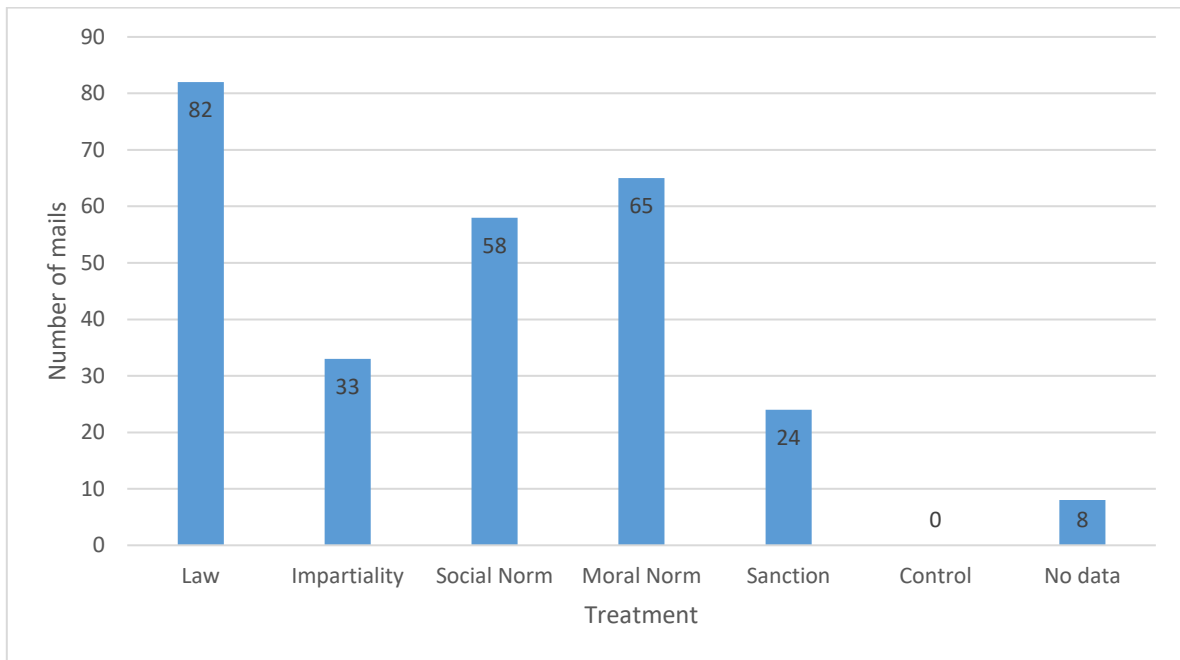
Graph 17: Price of the reported gifts by treatment-intensity group



Source: own elaboration with data from SFP. The graph presents the sum of the price of the reported gifts by treatment-intensity group.

U.

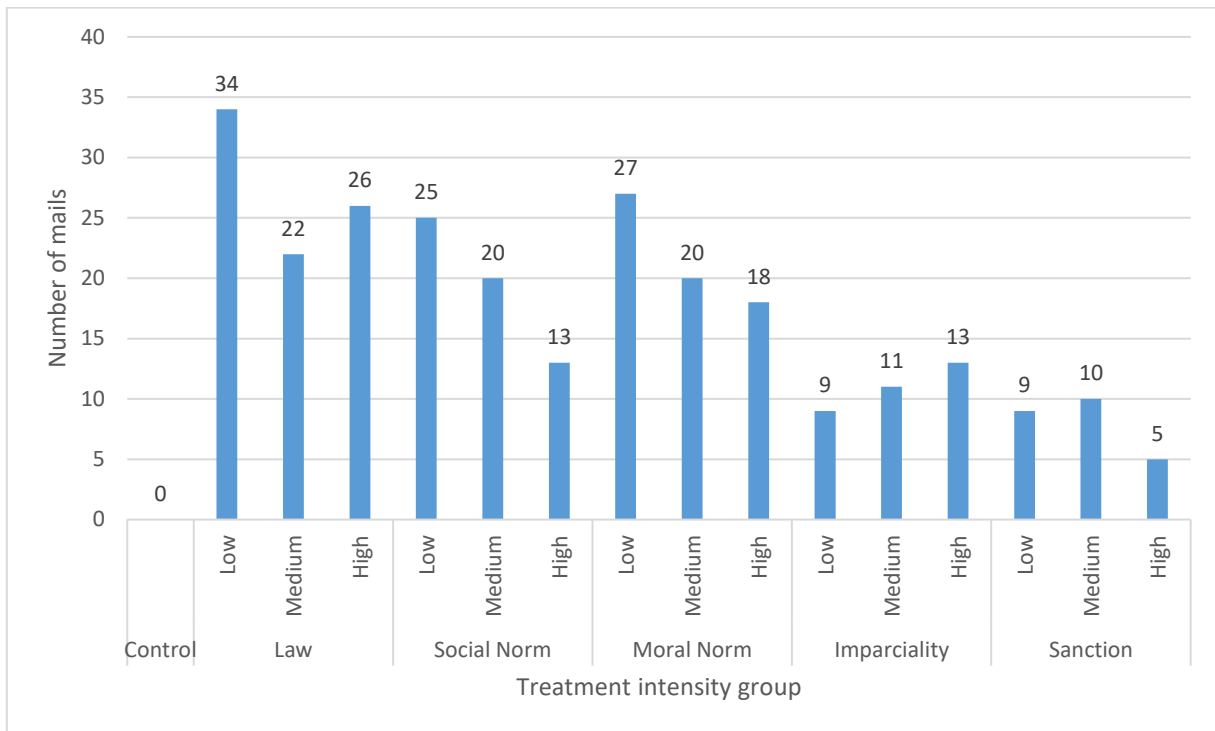
Graph 18: Received mails by treatment group



Source: own elaboration with data from SFP. The graph presents the number of emails received as a response of the experiment by treatment group.

V.

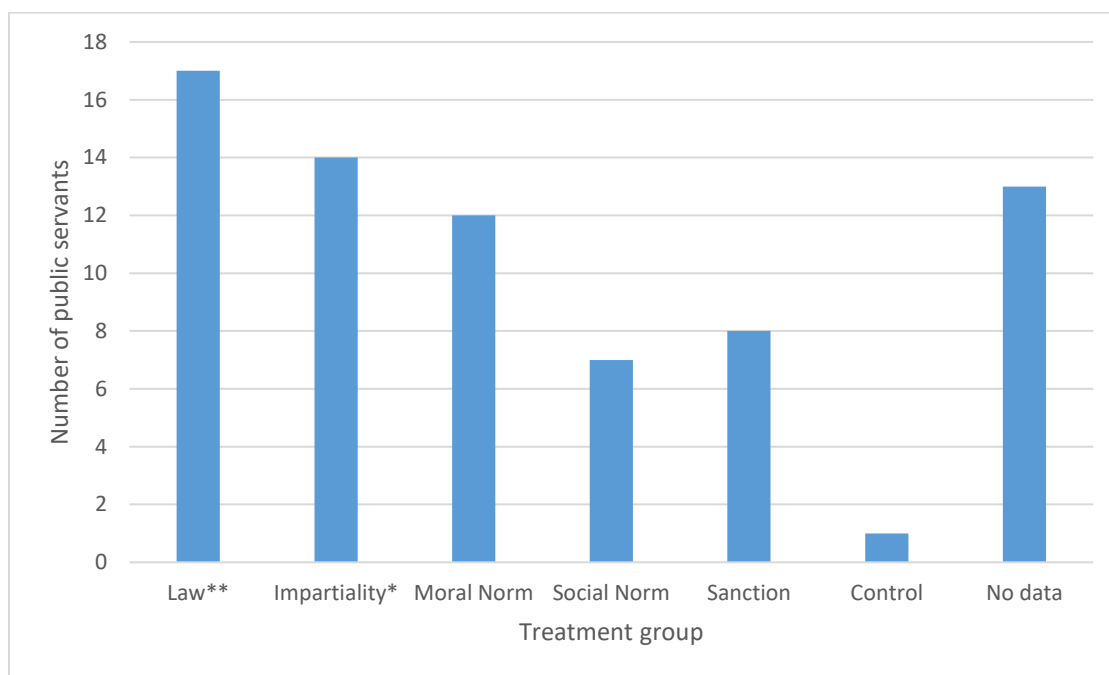
Graph 19: Received mails by treatment-intensity group



Source: own elaboration with data from SFP. The graph presents the number of emails received as a response of the experiment by treatment-intensity group.

W.

Graph 20: Number of public servants who reported gifts by treatment group

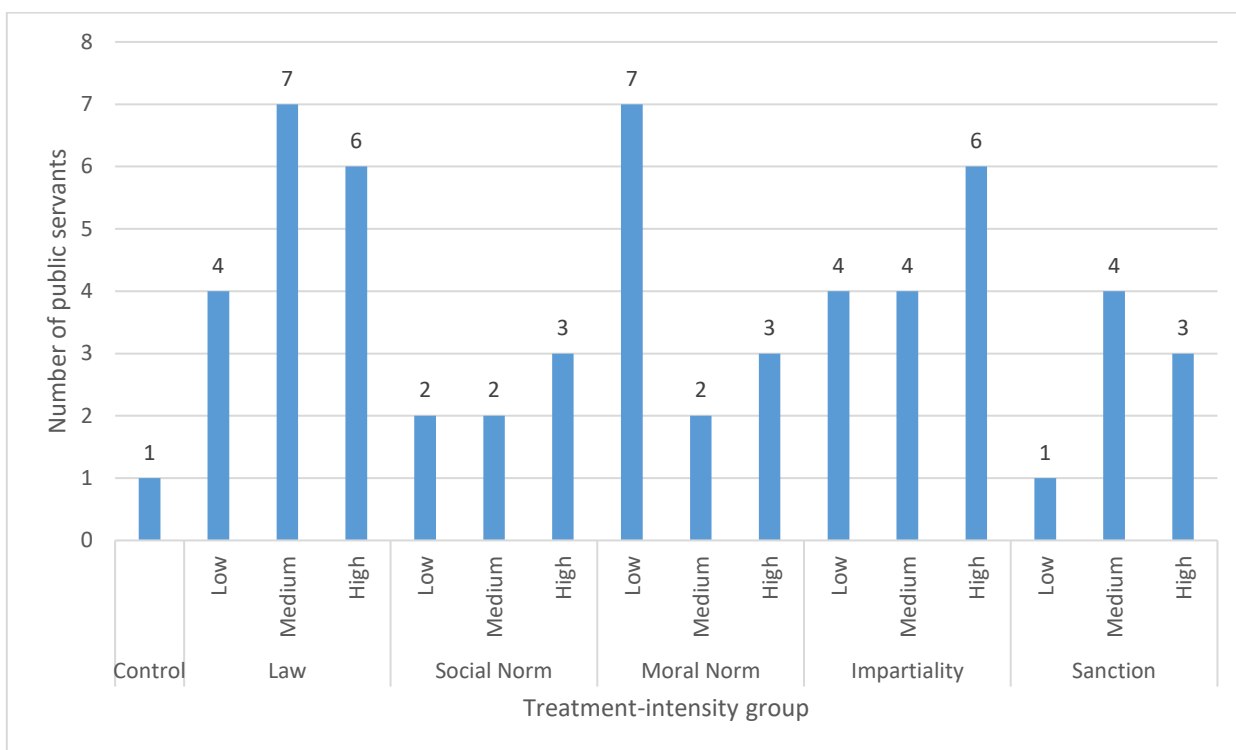


Source: own elaboration with data from SFP. The graph presents the number of public servants that reported gifts by treatment group.

Note: * significant at 10%, ** significant at 5%.

X.

Graph 21: Number of public servants who reported gifts by treatment-intensity group



Source: own elaboration with data from SFP. The graph presents the number of public servants that reported gifts by treatment-intensity group.

Y.

Table 1: Proportion tests between groups (Number of public servants who reported gifts

	Law	Social Norm	Moral Norm	Impartiality	Sanction	Control
Law						
Social Norm	0.0414					
Moral Norm	0.3551	0.2508				
Impartiality	0.5944	0.1258	0.6932			
Sanction	0.0732*	0.7923	0.3735	0.2017		
Control	0.0496**	0.3893	0.1351	0.0897*	0.3119	

Note: this table shows the p-values of the proportion test of the dependent variable (number of public servants that reported gifts) between groups. The only differences statistically significant in comparison with the control group are the ones with the treatment “Law” and the treatment “Impartiality”. * significant at 10%, ** significant at 5%. Source: own elaboration with data from SFP.

Z.

Table 2: Number of mails by group

		Sent mails per mail account	Number of mail accounts	Number of useful mail accounts	Total of mails sent
Control Group		0	10,978	?	0
Law	High	8	10,978	10,523	84,184
	Medium	7	10,978	10,561	73,927
	Low	4	10,978	10,485	41,940
Social Norm	High	8	10,978	10,507	84,056
	Medium	7	10,978	10,492	73,444
	Low	4	10,978	10,541	42,164
Moral Norm	High	8	10,978	10,489	83,912
	Medium	7	10,978	10,523	73,661
	Low	4	10,978	10,511	42,044
Imparciality	High	8	10,978	10,477	83,816
	Medium	7	10,978	10,509	73,563
	Low	4	10,978	10,510	42,040
Sanctions	High	8	10,978	10,489	83,912
	Medium	7	10,978	10,497	73,479
	Low	4	10,978	10,472	41,888
Total		95		157586	998,030

Source: own elaboration.