To Know or Not to Know: The Role of Salary Disclosure on the Gender Wage Gap

Carolina Wiegand C.

PONTIFICIA UNIVERSIDAD CATOLICA DE CHILE
INSTITUTO DE ECONOMIA
MAGISTER EN ECONOMIA

TESIS DE GRADO
MAGISTER EN ECONOMIA

Wiegand Cruz, Carolina

Enero, 2020

TO KNOW OR NOT TO KNOW:
THE ROLE OF SALARY DISCLOSURE ON THE GENDER WAGE GAP

Carolina Wiegand Cruz

Comisión

Tomás Rau y Alejandra Traferri

Santiago, enero de 2020

To Know or Not to Know:

The Role of Salary Disclosure on the Gender Wage Gap

Thesis

Carolina Wiegand*

January 17, 2020

Abstract

Following a worldwide tendency to disclose public information, in May of 2012 the new Brazilian transparency law, *Lei de acesso à informação* came into force, making public information available for all citizens. Using a rich dataset containing worker and employer information from both the private and public sector, this paper implements a difference in differences approach to measure how this information shock had an impact on the gender wage gap. Main results show that the law had null or negative effects on men's remunerations, while women experienced gains of 2.8 to 3.7 percentage points. The estimations are mainly driven by workers who stay in the public sector throughout the entire sample period and change entities within the sector, providing further supporting evidence of reallocation of workers between and within sectors.

1 Introduction

By 2012, 42 percent of Brazilian women had completed secondary education, compared to 38 percent of men. Even with higher educational attainment, women still lag behind in public representation, labor force participation, and wages. In that same year, only 8.6 percent of parliament positions were held by women (World Bank, 2018), even when they represent 60 percent of public employment according to own estimations. Women in Brazil earn on average 74 percent of what men earn (IBGE, 2018), difference which decreases but does not vanish when comparing within occupations, with a gender pay gap of 20 percent in the private sector. This scenario is not particular to Brazil, with gender pay gaps that remain persistent even in advanced economies (Blau and Kahn, 2017).

Some literature suggests that higher levels of wage transparency might help improve the gender wage gap by exposing inequalities which would otherwise be harder to notice (Baker et al., 2019; Bennedsen et al., 2019). Furthermore, increased accountability or aversion to remunerations perceived as excessive can push remunerations downward (Mas, 2017), providing an additional channel to contract the gap if this effect is larger form men than for women.

This paper contributes to said literature by estimating the effects of a transparency law in Brazil, namely, the *Lei de acesso à informação*, which made all public servants remunerations open to public knowledge, and its impact on the gender wage gap. Using a three dimensional difference in differences approach (DDD), I exploit the timing of the law and the differences in transparency between the public and the private sector to test whether the transparency law had any impact in salaries and, particularly, how it affects women.

I find that women sustain a 2.8 to 3.7 percentage point increase in their average remunerations after the law came into force, while men experience either null or small decreases in their compensations. Further estimations show that these results are mainly driven by workers who are not in managerial positions, and who change entities within the public sector. Additionally, I find an economically important effect in the share of layoffs, with the law increasing the probability of being fired by 2 percentage points, consistent with reallocation of workers within the public sector. This is an economically large effect as public sector jobs are highly stable, with only around 2.7 percent of workers being fired during pre-treatment years.

The findings of the present paper could have important policy implications for reducing the gender wage gap, specially because of its persistent character, even in most developed countries. Though historically human capital was considered the main driver behind the gap, the reversal of education attainment between men and women and the rapid gains in women's work experience have opened path to new research concerning other channels through which the gender pay gap perpetuates (Blau and Kahn, 2017). More specifically, differences can arise between and within occupations, meaning that women have lower returns because they choose worse paid positions (i.e. the sorting channel), or because in a given position are unable to extract the same rents as their male counterparts (i.e. the bargaining channel). For example, Del Bono and Vuri (2011) study the case of Italy and find that men experience higher wage growth during the first years of their careers, with larger gains when moving across firms, results which are consistent with evidence found in the U.S. (Loprest, 1992) and in Spain (Hospido, 2009). On the other hand, Bowles et al. (2007) find that women are more penalized for initiating wage negotiations, while Babcock and Laschever (2009) show that they are less effective when bargaining, even when there are no gender differences in productivity.

Most of OECD countries have taken the gender pay gap into consideration by passing laws that aim to guarantee equal pay for equal work, making wage differences based in sex or race illegal (eg. Bassanini and Saint-Martin (2008); Pay Equity Comission (1987); EEOC (1963)). Nonetheless, these laws are not easily enforced as wages are not of public knowledge and thus complaints for unequal payment can arise only if the victim is aware and willing to claim for the existing disparities (Bassanini and Saint-Martin, 2008). Article 461 of the CLT (*Consolidação das Leis do Trabalho*) regulates equal payment in Brazil; however, the conditions under which employers are obliged to compel with equal pay are very restrictive, with only employers with same position, under same employer and same firm as subject to the law (Decreto-lei N 5.452, 1943). This is particularly relevant in the case of high positions, which are usually occupied by only one person in the company, thus making the former legislation inapplicable in an important number of cases.

In this sense, information can emerge as an important tool to combat the gender wage gap: first by exposing pay discrimination and boosting women's bargaining power, and second by highlighting sectors or industries where women suffer less from gender penalties.[1] Some

---

[1]For example, Egan et al. (2017) find that in the financial adviser industry, women face harsher punishments

countries have made important advances in this matter by requiring companies to report wages broken down by gender[2], compelling them to fix any existing gaps on a certain amount of time. For example, Bennedsen et al. (2019) analyze a Danish policy that required firms to disclose employee salaries broken down by gender, finding a 7 percent decline on the average gender wage gap compared to pre-legislation period. This is an important result considering that wages in this setting are visible only on average and not specified by worker and position.

A more drastic example of pay disclosure arises with the approval of transparency laws, which enable citizens to access and request information about public official's wages. In an aim to increase accountability and decrease corruption, information on remunerations can be usually accessed individually via government portals, which provide a detailed description of position, duties and wages related to a particular official. With the 2011 *Lei de acesso à informação*, Brazil became one of the six South American countries to enact a transparency law (CEPAL, 2018), with the federal *Portal da Transparencia* fully functional by June of 2012.

It is not trivial to extrapolate the effects of private sector salary disclosure to the public sector. Mainly, there are other actors different from the actual employers and employees who are interested in the employment transaction: the public. To illustrate, Card et al. (2012) study the effects that peer salaries have on job satisfaction, finding that workers below the median have lower satisfaction and are more likely to start looking for a new job, result which is consistent with the hypothesis that individuals care about their absolute but also about their relative pay. This effect can be exacerbated in the case of the public sector, where citizens are interested in the wages of public officials not only as a potential benchmark for their own, but also a way to measure whether their remunerations are appropriate for the job they are entitled to do.

As mentioned previously, there are two main reasons why salaries can change after a public sector transparency law. The first one refers to higher accountability, where the public can hold elected officials responsible for gaps between pay and performance. This can also be true for appointed positions if the public feels their salaries are available through their own pocket by paying taxes. The second reason refers to the aversion to compensations

---

even though they commit misconduct less often and less severely than men.

[2]Some examples are the United Kingdom (Gender Pay Gap Service, 2017), Australia (Workplace Gender Equality Agency, 2012), or Germany (Bundesgesetzblatt, 2017).

perceived as excessive, which may lead to a decrease of the rate of growth of salaries or a direct compression of remunerations (Mas, 2017). For example, Mas (2017) studies the effect of a transparency mandate in California that required all municipal salaries to be posted online. He finds a 7 percent decline in average compensation of top managers, and a 75 percent increase in their quit rate, results which are consistent with the hypothesis of aversion to excessive remunerations. In this same line, Baker et al. (2019) examine a similar policy that disclosed salaries of university faculties in Canada when they exceed specified thresholds, finding a decrease in average salaries and also a contraction of the gender wage gap. These results suggest that transparency, rather than increasing bargaining power of women, decreases bargaining power of men. The two results depicted above are consistent with what Bennedsen et al. (2019) find for the case of the private sector in Denmark, suggesting that even though public and private sector's remunerations are driven by different forces, the effects of salary disclosure may not differ from one another.

Notwithstanding, these mentioned cases are restricted to very particular situations in which only a selected set of public workers are subject to salary disclosure. The Brazilian Access to Information Law thus provides a unique setting in which all public servants are affected by the law. Though other countries have enacted similar policies, usually salary information is only available for research after transparency laws have come into force, thus precluding any potential analysis of its effects. Because of the richness of the present dataset, this article can contribute to existing literature by providing a causal channel through which information can affect salaries, and how it can specifically help reduce the gender wage gap in a developing country. Results presented here are consistent with hypotheses that state how transparency can be useful for advancing in gender matters.

The rest of the article is structured as follows. Section 2 provides an overview of the Brazilian setting, with a brief overview of the transparency law and the main characteristics the public sector. Section 3 describes the data, while Section 4 explains the identification strategy. Section 5 shows the results and potential mechanisms. Finally, section 6 concludes with a discussion of further research and policy implications.
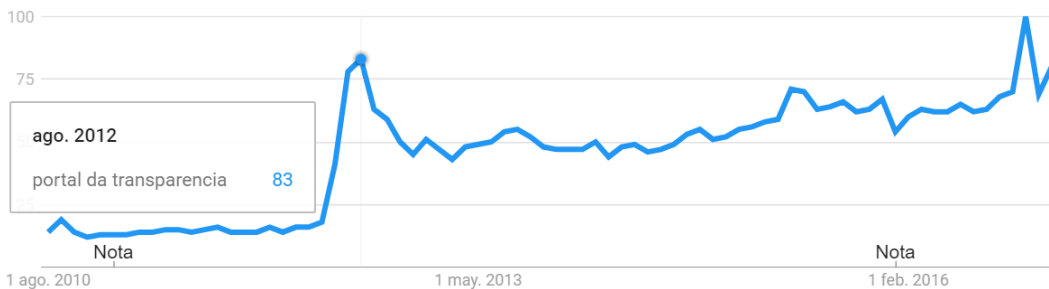
2 The Brazilian Setting

2.a The Access to Information Law

Lei de acesso à informação was enacted by the Brazilian parliament on November of 2011, coming into force less than a year later, on May of 2012. With the new legislation, all government produced information, such as public procurement, budgets, and remunerations, bacame public domain. The data could be accessed via transparency portals or by specific petitions, depending mostly on the type of information requested and the government level to with it corresponded.[3] Figures 1 and 2 display the public reaction of citizens after the law came into force, with Google searches regarding public servants remunerations and transparency portals increasing sharply short after the law came into force.[4]

Source: Google Trends Search

Figure 1 – Google searches for "salarios dos servidores publicos"

Source: Google Trends Search

Figure 2 – Google searches for "Portal da Transparencia"

The disclosure of remunerations and compensations was not well received by a number

---

[3]Appendix A contains a more detailed description of the law, with the refusal conditions, the organisms affected and other more technical specifications.

[4]The lagged reaction is explained by the delay of the portals to start functioning properly. For example, Portal da Transparencia, which contained information at the federal level, was available by the end of June 2012 (Governo Federal, 2012).

of public servants, who claimed that personal disclosure of their salaries was an invasion to their privacy and could be potentially harmfull to their safety (Maltchik, 2012). However, the claims where dismissed by the Federal Courts, which declared that the disclosure was perfectly constitutional and that the suspension of information could cause harm to public order (Hubert, 2012).

2.b Public Administration

In order to seize the scope of impact of the law, it is key to understand the rules that govern remuneration of those who provide services to Brazilian public entities. First of all, there are two types of public officials: public employees and public servants. The former correspond to workers who are ruled by the same laws as any other private employee, with the only distinction that they work in a state-owned company. Public servants, on the other hand, correspond to a special kind of worker as their contracts depend on the government entity they work for, with their payment receiving a particular term: statute remunerations (Notari, 2019).

Statute remunerations, as the name suggests, are regulated by a variety of laws and decrees that state the payment a worker should receive depending on job characteristics and responsibilities, education, administrative level, and more. The upper bound for all public servants' remunerations is the one received by the ministers of the Federal Supreme Court (Senado Federal, 2008), which on November of 2018 reached R$39,200 (Lei N 13.752, 2018), or around US$9,800.

In spite of these regulation, all public servants can legally receive additional benefits for vacation, transportation, food aid, and more. These benefits are significantly less regulated than remunerations and thus are subject to discretion. For example, an article published on January of 2012 by Globo (2012), stated that 72 of the 178 judges of Rio de Janeiro received R$100,000 in compensations, when the legal limit was set on R$24,000. It is key to note that eventual benefits are within the legal framework and are thus displayed both in the transparency portals and in the database used in this article. Figure 3 displays the difference between contract hourly remuneration vs. effective hourly remuneration in the public sector, which stabilized after 2007 at around 40 percent.
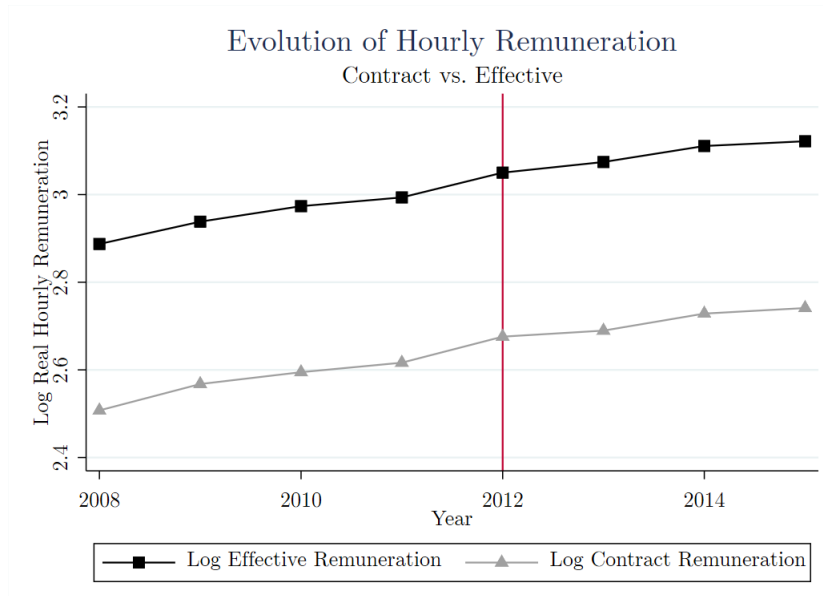
Figure 3 – Evolution of contract and effective remunerations in the public sector. From 2008 onwards, effective remunerations stabilize and are 40 percent higher than contract remunerations. Source: Annual Report on Social Information of Brazil (2008-2015), 5 percent random sample.

Public servants can then be classified not only according to the administrative level they work for (federal, state or municipal) but also according to the nature of their contract: effective or commissioned. Effective servants are hired through public contests, with strict contractual and dismissal conditions. Commissioned servants, on the other hand, are subject to a more flexible regime, and can be freely appointed or removed (Senado Federal, 2008).

Taking into account the above mentioned, there are two potential channels through which compensations can change. The first one refers to direct modifications to payments via benefits, as contract remunerations are more strictly determined by law. The second one refers to changes due to employee rotation in the commissioned positions, which can be specially important if these positions are of political trust and are thus of much more interest to the public eye.

3   Data

The Annual Report on Social Information of Brazil (RAIS for its acronym in Portuguese) is a matched employee-employer dataset which contains information of Brazilian formal sector

workers, both in the private and public sector. For the purpose of this article, the dataset selected spans from 2008 to 2015 (corresponding to four pre-treatment years and four post-treatment years), and includes annual information on contract wages, effective wages, contract hours, education, age, separation from firms, and more. Employers are required to fill in the data and at least specify the average monthly remunerations.

Workers are identified not only according to the sector and entity they are employed, but also according to their occupation and worker category. First of all, as stated in Section 2, public sector workers can be categorized as public servants and as public workers. This difference is important as there is reason to believe that public workers were less affected by the law. For example, Banco do Brasil, the biggest state-owned company and the third overall, declares that, according to the Interministerial Ordinance 233 of May of 2012[5], companies of mixed ownership that compete in the market do not need to divulge their workers' salaries. Due to this, the analysis is restricted to only public servants and private workers, with the first being clearly affected by the law, and the second working as a control group. Both type of employees can be clearly identified in the data as their are explicitly categorized as such.

Public entities and firms are assigned an identification number, called CNPJ,[6] thus identifying whether employees change their workplace and, additionally, the reasons why they left their previous organization. Finally, the database includes around 2,500 occupation classifications given by the *Classificação Brasileira de Ocupações*, which not only enables for a comparison within activities, but can be also used to group workers into broader categories such as managers and bureaucrats.[7] This last classification is particularly useful as it allows to compare same occupation categories in both sectors.

Table 1 provides descriptive statistics of the dataset stratified by gender, sector and type of public worker. As specified by Panel A, workers of the public sector are on average older, more educated, have higher wages and are substantially more stable in their positions, with an average of around 13 years of tenure compared to four years in the private sector. A particularly striking difference between the two sectors is the share of women, with the public sector doubling the participation of women. Considering the differences by gender, women in both sectors are more educated, with higher rates of high school completion rates. However,

---

[5]Banco do Brasil - Lei de acesso à informação, question 31.

[6]*Cadastro Nacional da Pessoa Jurídica* in Portuguese.

[7]This clasiffication was done following Colonnelli et al. (2019).

Table 1 – Descriptive Statistics

| | Panel A: Public | | | | Panel B: Private | | | | Difference |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
	All	Women	Men	P-value	All	Women	Men	P-value	P-value
Age	41.66	41.83	41.43	0.00***	33.30	32.31	33.87	0.00***	0.00***
Share with high school	0.33	0.32	0.35	0.00***	0.43	0.50	0.39	0.00***	0.00***
Share with college	0.39	0.45	0.31	0.00***	0.10	0.13	0.07	0.00***	0.00***
Tenure (Years)	10.52	10.31	10.82	0.00***	2.72	2.63	2.77	0.00***	0.00***
Effective hourly wage (2012 R$)	19.20	17.31	21.87	0.00***	9.39	8.45	9.93	0.00***	0.00***
Contract hours	35.66	34.68	37.03	0.00***	42.35	41.48	42.85	0.00***	0.00***
Times separated from firm	1.38	1.45	1.28	0.00***	3.00	2.58	3.28	0.00***	0.00***
Share of women	0.58	1.00	0.00	.	0.36	1.00	0.00	.	0.00***
Firm size: <250 workers	0.17	0.16	0.18	0.00***	0.80	0.81	0.80	0.00***	0.00***
Firm size: 250-500 workers	0.09	0.09	0.09	0.00***	0.08	0.07	0.09	0.00***	0.00***
Firm size: 500-1000 workers	0.12	0.12	0.12	0.08*	0.07	0.06	0.07	0.00***	0.00***
Firm size: >1000 workers	0.71	0.72	0.70	0.00***	0.13	0.13	0.13	0.00***	0.00***
Obs (in millions)	6.87	4.02	2.85		38.19	14.08	24.11		

Notes: Table presents descriptive statistics for panel data. Columns (1) through (3) and (5) through (7) display sample means. Columns (4) and (8) present difference p-values between men and women, while column (9) shows difference p-values between public and private sector statistics. Observations are for each worker× year in the dataset. ***Significant at the 1 percent level. ** Significant at the 5 percent level. * Significant at the 10 percent level.

Source: Annual Report on Social Information of Brazil (2008-2015), 5 percent random sample.

hourly wages are lower for women in both sectors, with a more drastic difference in the public sector. As expected, all differences between genders and sectors are statistically significant.

The present article uses a 5 percent random sample consisting of 4.3 million individuals and 27.7 million worker-year observations from 2008 to 2015.[8] Considering that employees can have more than two contracts at the same time, individuals can appear more than once on any given year, or either not appear at all if they have left the formal sector. The size and the richness of the data allows for the addition of a wide range of controls and fixed effects, providing a cleaner estimation of the treatment effects.

4 Identification Strategy

The straightforward strategy to consider is a difference in differences approach that exploits the before and after of the law implementation, with the public sector having its salaries disclosed as opposed to the private sector that faces no changes. This is, the private sector works as the control group, which illustrates how the public sector would have evolved in absence of the law. This strategy already takes into consideration the *a priori* differences between the two sectors discussed in the previous section.

An important caveat of the approach is that there might be spillover effects to the private

---

[8]Though there is available information from 2003, previous years had to be left out due to computational limitations.

sector as, even when their salaries are not made public, all workers in Brazil can access the information on remunerations, thus potentially affecting the relationship between employers and employees. The results from the estimation should then be carefully interpreted considering that any changes found in public sector salaries might be driven by simultaneous changes in the private sector. This might be due to, for example, changes in bargaining power of employees, or due to movement of workers from the private sector to the public sector or viceversa, mechanisms which will be studied in the next section.

Considering the above, the triple difference equation to estimate is:

$$y_{ifot} = \alpha + \beta_1 Post_t \times Public_{ift} \times Female_{ifot} + \beta_2 Post_t \times Public_{ift} \qquad (1)$$
$$+ \beta_3 Post_t \times Female_{ifot} + \beta_4 Public_{ift} \times Female_{ifot} + \gamma_1 Public_{ift} + \gamma_2 Female_{ifot}$$
$$+ \xi X_{it} + \nu_t + \mu_i + \eta_f + \lambda_o + u_{ifot}$$

Where y_{ifot} is the outcome of interest of employee i, working in establishment f in occupation o during year t. $Post$ is a dummy variable that takes the value 1 after the enforcement of the transparency law (2012 onwards),[9] $Public$ is a dummy that takes value 1 if the entity f of employee i is in the public sector in year t, $Female$ is a dummy that takes value 1 if the individual is a woman, and X is a vector of covariates that change over time for employee i, such as experience and returns to education, and firm size. Finally ν_t, μ_i, η_f, and λ_o are time, worker, establishment and occupation fixed effects, respectively.

The first set of results estimates the effect on hourly remunerations of workers in 2012 reales. The coefficient of interest in equation (1) is β_1, which measures the additional change of women's salaries relative to men's salaries in the public sector, *compared to* the private sector. The wide range of controls and fixed effects makes the estimated effect account for differential wages between years and occupations, as well as for payment disparities between individuals and firms that cannot be accounted by observable characteristics such as education or firm size. Individual and firm fixed effects are of particular importance as a growing body of literature has assigned differences in wages to unobservable individual and firm characteristics (Abowd et al., 1999; Card et al., 2018, 2015). Because the source of variation that accounts for entity fixed effects is the movement of workers between firms, the estimation needs individuals

---

[9]$Post$ is collinear with the time fixed effects and thus not included in the regression.

who change from one firm to another and firms that change their worker composition, the sample is reduced. With this in mind, the largest connected set of workers includes around 3.7 million workers, while the complete sample has 4.3 million individuals.

The validity of this coefficient relies on the key underlying assumption that the change in wages of women relative to men in the public sector follows the same trend as the change in wages of women relative to men in the private sector. As noted by Muralidharan and Prakash (2017) in their study, though the first difference may not comply with the parallel trends assumption (mainly, the salaries in the public sector may not be following the same pattern of the private sector wages) this may not be the case for the third difference, which is the parameter of interest for the purpose of estimating the effect in the gender gap.

To illustrate, Figure 4 shows the evolution of average hourly wages in the public sector compared to the private sector, showing a slightly faster rate of growth of the private sector wages compared to the public sector. In contrast, Figure 5 displays the evolution of the gender wage gap controlling by occupation in the private and the public sector, showing that the gap in the private sector maintained relatively constant in 20 percent compared to the public sector which was stable in 10 percent. There is a slight change from 2012 onwards where the public sector gap decreases, but it is unclear whether the difference changes as the private sector also experiences a downwards shift.
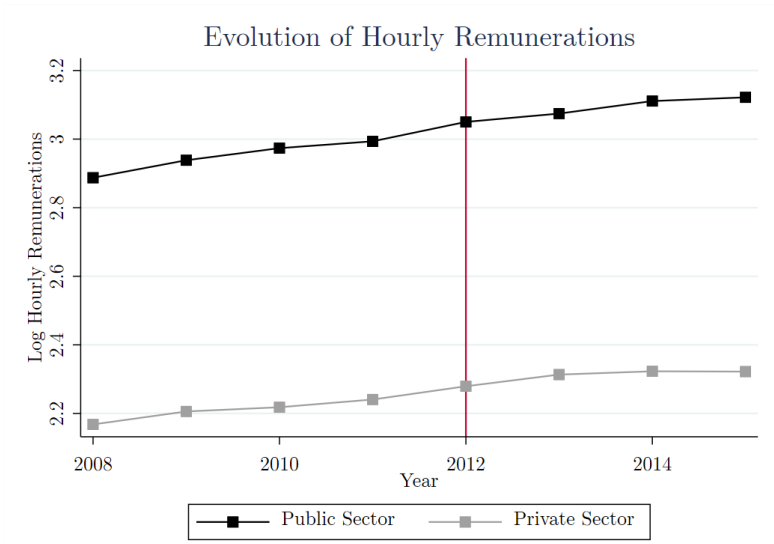

Figure 4 – Raw evolution of public and private sector wages. Rate of growth is higher for the public sector than the private sector. Source: Annual Report on Social Information of Brazil (2008-2015), 5 percent random sample.

Figure 5 – Evolution of the gender wage gap within occupations of the public and the private sector, not controlling for any other variables. Source: Annual Report on Social Information of Brazil (2008-2015), 5 percent random sample.

The results provided by any difference in differences estimation that cannot account for parallel trends are biased, as the control group cannot be used as a proper counterfactual. Considering this potential violation, equation (1) can be more precisely estimated by accounting for group specific time trends, namely, that women's salaries relative to men's salaries in the public sector are changing at a different rate than in the private sector. The addition of linear time trends can be tricky as the estimation may not be able to disentangle the effects of the time trend from those of the treatment. However, as noted by Pischke (2005), this can be done if there are sufficient pre-treatment periods, as is the case of the used sample. With the addition of group specific trends, the coefficient of interest β_1 is interpreted as the additional change in salaries due to the law, as it controls for the pre-existing differential trend.

5 Results

5.a Main Findings

Table 2 displays the main results of the difference in differences estimation on log hourly wages considering a range of specifications. Columns (1) through (4) present results of equation (1) with the addition of different sets of fixed effects, while column (5) also includes the inclusion of a group specific linear time trend for women in the public sector. Coefficients are stable

13

TABLE 2 – FIRST RESULTS

	(1)	(2)	(3)	(4)	(5)
Post × Public	−0.025	−0.018**	−0.011*	−0.000	−0.026*
	(0.017)	(0.007)	(0.006)	(0.006)	(0.014)
Post × Public × Female	0.020	0.023***	0.026***	0.029***	0.039***
	(0.014)	(0.007)	(0.005)	(0.005)	(0.012)
Obs	24,702,250	24,272,663	24,192,816	23,835,823	23,835,823
No. of Workers	4,169,034	3,739,447	3,736,802	3,711,947	3,711,947
R^2	0.467	0.854	0.860	0.897	0.897
Year FE	X	X	X	X	X
Individual FE		X	X	X	X
Occupation FE			X	X	X
Entity FE				X	X
Trend×Public×Female					X

Notes: Table presents difference in differences estimation results. Dependent variable is log effective remuneration in 2012 reales. Clustered standard errors at the entity level in parenthesis. ***Significant at the 1 percent level. ** Significant at the 5 percent level. * Significant at the 10 percent level. Source: Annual Report on Social Information of Brazil (2008-2015), 5 percent random sample.

across specification, with the law having a positive effect on women's remunerations from around 3 to 4 percent.

The differential effect is economically large, as the adjusted gender wage gap (controlling by occupation, firm, firm size, education and tenure) in the public sector was close to 9.4 percent in 2011, and thus a differential increase of women's remunerations after the law of 3.7 percentage points represents an overall reduction of the gap in 39 percent.

To understand whether the effects are persistent over time or if there is a dynamic element that should be considered, Figure 6 depicts the results of the preferred specification in column (5) allowing for dynamic effects by replacing *Post* with dummies by year. As discussed above, there is a slight differential trend in the years prior to 2011 (which are not significant at the 5 percent confidence interval), but then in year 2012 the differential effect for women jumps to 2.9 percent and decreases each year, with 2015 having no significant differential effect.

The vanishing effect of the law is consistent with transparency acting as a tool to disclose gender disparities that should be corrected overtime, with remaining differences in payment which cannot be directly attributed to discrimination. Overall results are consistent with those found by Baker et al. (2019) where the transparency policy for Canadian universities narrowed the gap both by decreasing men's wages and boosting women's. The following sections will explore for potential mechanisms that explain the source of the effect.
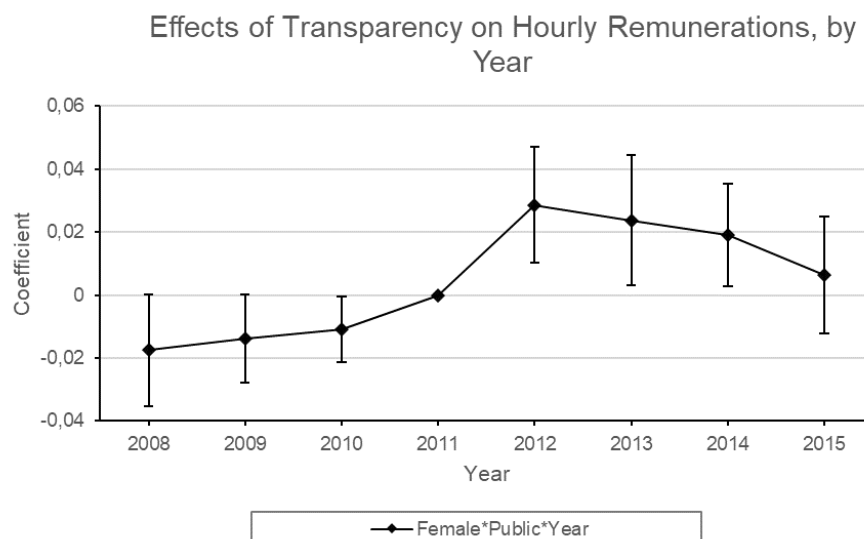
14

Figure 6 – Dynamic effects of the transparency law on hourly remunerations, with 2011 (prior to the law) as base year. Coefficients are calculated as equation (1) by replacing *Post* with dummys. Source: Annual Report on Social Information of Brazil (2008-2015), 5 percent random sample.

5.b Heterogeneous Effects and Mechanisms

Composition Effects

The main concern that arises with the results presented above is whether transparency can actually boost incumbent women's remunerations, or rather the disclosure of salaries is attracting better qualified women who either demand higher salaries or fill better paid positions.

In an attempt to disentangle these mechanisms, I run the equation of interest in log real hourly remunerations separating the data in five sub samples: (1) workers who join sectors during the sample period, (2) workers who stay in their sector throughout the entire sample period, which includes workers who may or may not have changed the entity they work for, (3) workers who stay in their sector but shift between entities, (4) workers who do not change sector nor firm, but change their occupation category, and (5) workers who do not change their sector, firm nor occupation status throughout the entire sample period. With this, I expect to identify if the changes in overall remunerations are mainly driven by reallocation between or within sectors, firms and occupations.

Table 3 shows estimated results of described samples in columns (1) through (5). Only columns (2) and (3) show significant effects, similar in magnitude to those presented in Table 2. These findings suggest that changes in remunerations are entirely explained by workers

15

TABLE 3 – EFFECTS ON REMUNERATIONS: STAYERS VS. JOINERS

	(1) Sector joiners	(2) Sector stayers	(3) Sector stayers & firm joiners	(4) Sector and firm stayers & position joiners	(5) Sector, firm and position stayers
Post × Public	0.007	−0.025**	0.005	−0.055	−0.025
	(0.023)	(0.012)	(0.016)	(0.069)	(0.027)
Post × Public × Female	0.011	0.044***	0.039***	0.110	0.039
	(0.014)	(0.012)	(0.008)	(0.068)	(0.025)
Obs	407,327	20,790,149	7,337,045	138,687	1,626,282
No. of Workers	99,842	3,308,271	1,588,057	54,535	433,459
R^2	0.893	0.913	0.875	0.941	0.961
Year FE	X	X	X	X	X
Individual FE	X	X	X	X	X
Occupation FE	X	X	X	X	X
Entity FE	X	X	X	X	X
Trend×Public×Female	X	X	X	X	X

Notes: Table presents difference in differences estimation results. Dependent variable is log effective remuneration in 2012 reales. Clustered standard errors at the entity level in parenthesis. ***Significant at the 1 percent level. ** Significant at the 5 percent level. * Significant at the 10 percent level.
Source: Annual Report on Social Information of Brazil (2008-2015), 5 percent random sample.

who stay in the public sector, and, most importantly, those who change entities within the sector. Columns (4) and (5) show results for workers who stay in their firm, and though point estimates are positive in both cases, coefficients are not significant.

Results presented above suggest that there is an important component of reallocation of workers within the public sector, and that movement across public entities is the main source of salary variation after the law. With this, there are two other channels through which workers might be earning better salaries. On the one hand, female workers might be filling-in better positions in recently joined firms, or, on the other, they could maintain their hierarchical position in higher-paying firms, increasing their remunerations while performing similar duties.

To formally test these mechanisms, I first measure whether the law had an impact on the probability of being promoted as this usually implies an increase in remunerations. Although the available data does not include descriptions of the exact position of the employee within a firm, the occupation categories allow for a hierarchy classification that can thus be used for the purpose of measuring promotions. Table A1 shows the average wages of employees by sector and gender for each of the four occupational categories, showing a monotonic increase

of remunerations from lower to higher levels.

Secondly, I estimate whether women are more likely to move to higher-paying institutions after the law, this is, whether workers moved to a firm which payed higher average salaries than the previous period. Average salaries were calculated using only the pre-legislation period as to isolate the effect from any changes that might have affected salaries after the law came into force.

Results are depicted in Table 4. Column (1) shows a negative effect in the probability of being promoted after the law, thus rejecting this channel as potential mechanism. This result is not necessarily inconsistent with the main findings, since, as previously mentioned, workers might have increased their remunerations by shifting jobs with the same category description but in higher paying institutions. The estimated coefficients are shown in column (2), with a positive and significant differential effect on the probability that women in the public sector moved to a higher-paying institution or "transitioned up".

TABLE 4 – EFFECT ON PROMOTION PROBABILITY OF STAYERS

	(1)	(2)
	Promoted	Transitioned up
Post × Public	0.006	−0.108***
	(0.005)	(0.033)
Post × Public × Female	−0.019***	0.071**
	(0.005)	(0.029)
Obs	19,555,566	21,749,142
No. of Workers	3,065,809	3,417,742
R^2	0.502	0.4542
Year FE	X	X
Individual FE	X	X
Occupation FE	X	X
Entity FE	X	X
Trend×Public×Female	X	X

Notes: Table presents difference in differences estimation results. Dependent variable is probability of being promoted and probability of moving to a higher paying firm. Clustered standard errors at the entity level in parenthesis. ***Significant at the 1 percent level. ** Significant at the 5 percent level. * Significant at the 10 percent level.
Source: Annual Report on Social Information of Brazil (2008-2015), 5 percent random sample.

Results are consistent with what AKM literature has found on the sources of the gender wage gap, with Card et al. (2015) showing that the differences in payments are mainly driven

by negative sorting of women into lower paying firms. With this, positive sorting has the potential to decrease the gap if women chose to move to entities where they have better remuneration opportunities. Moreover, the fact that there are no significant changes for workers who do not move from their entity or position is consistent with the rigid character of the public sector in Brazil, where salaries have less scope for discretionary modification.

It is key here to note the strong negative effect of the law on the overall probability of transitioning to a higher paying firm, depicted by the coefficient of $Post \times Public$ in column (2) of Table 4. This finding is consistent with the overall negative effect of the law on salaries (shown in column (5) of Table 2) and with the findings of previously mentioned literature (Bennedsen et al., 2019; Baker et al., 2019) that show a contraction in remunerations due to transparency. As described above, the negative effect might be due to increased accountability or public pressure, forces which are channeled through a less convenient sorting of men, compared to women, into high paying entities. The differential outcomes by gender can be explained by the beneficial effect that salary disclosure has for women: it can help expose wage inequalities and discrimination cases which are otherwise likely to pass unnoticed.

Effects by Occupation Category

In order to understand the degree to which transparency can help decrease the gender wage gap, it is key to identify those workers who are more likely to be affected by these kind of policies. Particularly, there is evidence that the gap is larger in higher hierarchical levels of firm administration (Blau and Kahn, 2017; Bertrand and Hallock, 2001). This is also true for the case of the Brazilian public sector, with a controlled gender pay gap for managers of 13 percent, while the rest of the occupation categories has an average gap of 10 percent in 2011.

If transparency is more effective in higher hierarchical levels, then this policy has a higher potential to decrease the gap, especially if this effect can trickle down to lower ranks.

Considering that all of the effect is explained by workers who stay in the public sector throughout the entire sample period, the rest of the analysis will be restricted to them. Table 5 shows the estimation results of equation (1) for each of the four occupation categories. Results are interesting as transparency seems to have no effect on the remunerations of managers, providing no evidence to support the hypothesis of the aversion of the public to remunerations perceived as excessive. These results are different for lower levels of responsibility, with women

TABLE 5 – HETEROGENOUS EFFECTS BY OCCUPATION CATEGORY OF STAYERS

	Managers - Bureaucrat	Frontline Provider - High Skills	Lower Level Bureaucrat	Frontline Provider - Low Skills
	(1)	(2)	(3)	(4)
Post × Public	0.009	0.015	−0.015***	−0.007*'
	(0.013)	(0.014)	(0.006)	(0.004)
Post × Public × Female	0.009	0.030***	0.015**	0.012***
	(0.013)	(0.006)	(0.006)	(0.005)
Obs	703,984	3,067,546	3,699,850	12,359,603
No. of Workers	171,612	593,244	844,540	2,232,413
R^2	0.972	0.929	0.935	0.859
Year FE	X	X	X	X
Individual FE	X	X	X	X
Occupation FE	X	X	X	X
Entity FE	X	X	X	X
Trend×Public×Female	X	X	X	X

Notes: Table presents difference in differences estimation results. Dependent variable is log effective remuneration in 2012 reales. Clustered standard errors at the entity level in parenthesis. ***Significant at the 1 percent level. ** Significant at the 5 percent level. * Significant at the 10 percent level.
Source: Annual Report on Social Information of Brazil (2008-2015), 5 percent random sample.

experiencing positive changes in their remunerations relative to men's in columns (2) through (4) of Table 5.

The lack of effects in the higher managerial positions might be due to other forces which determine compensations in higher ranks that are harder to alter with policies such as transparency. This can be specially true in the case of the public sector, where political connections have an important impact on the probability of being hired (Colonnelli et al., 2019). Though transparency should help avoid this sort of corrupt behavior, its specific effects in this matter is beyond the scope of the present article.

Effects by Government Levels

Similar to industries in the private sector, public sector government levels have substantial heterogeneity regarding the education, gender, and pay of their employees. In particular, as shown in Table A2, the federal government pays higher remunerations, has a much lower share of women and has employees with higher educational attainment, specially compared to the municipal government. These differences *a priori* would suggest that the federal government, where wages are higher and women are underrepresented, has a higher gender pay gap than lower ranks. However, this is not the case. In particular, there is evidence of a smaller gender pay gap in the federal government of around 3 percent within occupations, with the state

and municipal government displaying a gap of 11 and 7 percent respectively prior to the law. This might be due to a positive selection of higher qualified women into the federal level; nevertheless, women have higher educational attainment in all three government levels.

With this, the effects of transparency broken down by government bodies are not trivial. If there is a smaller unexplained gap at the federal level, then transparency should have a smaller effect in this selected group of workers. Table 6 displays exactly this, with the third difference for the federal government positive but not significant. This is not the case for the state and municipal governments, which display a positive and significant effect of the law on women's remunerations. Importantly, the entire negative effect on men's remunerations seems to be explained by the effect on the federal government, which could be related to transparency acting as a tool to combat corruption or, in the hypothesis of Mas (2017), to the aversion of the public to remunerations perceived as excessive. This is specially true if the federal government is more exposed to public scrutiny than the rest of the government levels.

TABLE 6 – HETEROGENOUS EFFECTS BY GOVERNMENT LEVELS

	(1) Federal	(2) State	(3) Municipal
Post $\times$ Public	-0.119^{***}	-0.002	0.001
	(0.026)	(0.028)	(0.004)
Post $\times$ Public $\times$ Female	0.031	$0.042^{*'}$	0.013^{***}
	(0.027)	(0.023)	(0.003)
Obs	20,476,544	21,441,170	22,326,224
No. of Workers	3,309,573	3,429,638	3,548,831
R^2	0.908	0.905	0.898
Year FE	X	X	X
Individual FE	X	X	X
Occupation FE	X	X	X
Entity FE	X	X	X
Trend $\times$ Public $\times$ Female	X	X	X

Notes: Table presents difference in differences estimation results. Dependent variable is log effective remuneration in 2012 reales. Clustered standard errors at the entity level in parenthesis. ***Significant at the 1 percent level. ** Significant at the 5 percent level. * Significant at the 10 percent level.
Source: Annual Report on Social Information of Brazil (2008-2015), 5 percent random sample.

Further Results

In spite of the fact that all the effect in salaries can be attributed to women who stay in the public sector, there can still be reallocation effects through different channels. Firstly, female workers can choose to move to the public sector if they perceive they have better remuneration opportunities there. Secondly, the disclosure of salaries might increase the demand for better qualified workers in the public sector if there is a higher need to justify payment to public servants, thus attracting workers with higher educational attainment. Finally, transparency can affect the rate of layoffs if there is evidence of corruption or discrimination.

I formally test for these mechanisms by running equation (1) on three dummy variables on whether the worker was fired, joined the sector, and had college education (only for joiners). Table 7 shows regression results for the three models. Results in column (1) show that the law increased the probability of being fired after the law, with a small differential effect of 0.5 percentage points for women. These estimates are economically important as employment in the public sector is highly stable, with only 2.7 percent of workers being fired each year during the period prior to the law (corresponding to 3 percent for men and 2.6 percent for women). Findings show that transparency increased the probability of being fired from the public sector in around 80 percent for men and women.

TABLE 7 – FURTHER RESULTS

	(1) Fired	(2) Joined	(3) College if Joined
Post × Public	0.025***	0.014***	−0.022
	(0.002)	(0.002)	(0.015)
Post × Public × Female	−0.005**	−0.001	−0.008
	(0.002)	(0.002)	(0.008)
Obs	23,652,433	22,216,959	462,502
No. of Workers	3,714,728	3,428,491	109,418
R^2	0.366	0.489	0.8734
Year FE	X	X	X
Individual FE	X	X	X
Occupation FE	X	X	X
Entity FE	X	X	X
Trend×Public×Female	X	X	X

Notes: Table presents difference in differences estimation results for linear probability models. Clustered standard errors at the entity level in parenthesis. *** Significant at the 1 percent level. ** Significant at the 5 percent level. * Significant at the 10 percent level.
Source: Annual Report on Social Information of Brazil (2008-2015), 5 percent random sample.

Additionally, column (2) shows an increased probability of joining the public sector in 1.4 percentage points, with no differences by gender. Estimates in column (3) display no evidence of a higher probability of joiners being college educated. Taken together, findings displayed in Table 7 show that even when movers are not the source of change in salaries, there some degree of reallocation of workers between sectors via layoffs and hiring, with no support for an increase in the qualification of workers who are joining the public sector. The lack of differential effects between genders suggests that these effects are more consistent with transparency acting as a tool to disclose cases of corruption in general rather than as manner of disclosing discrimination against women.

6 Placebo Tests

The results presented to this point have all been attributed to the differences in transparency between the public and the private sector, with no evidence of changes in the quality of workers or the rate at which they choose to leave or join any sectors. Particularly, effects are found in workers who do not change sectors but do change firms, suggesting that women that move to higher paying firms are those that are most benefited by the transparency law.

It is possible for the changes to be driven by other underlying differences in the private and the public sector, or for these changes to have started before the transparency law even came into force. Table 8 shows estimated results of placebo tests that aim to tackle these concerns. Panel A uses only pre-treatment years to estimate equation (1), with columns (1) to (3) displaying different years for which *Post* begins. There are no significant effects for either of the three specifications, with point estimates that change sign and magnitude and thus do not provide any evidence of a pre-existing pattern.

Panel B, on the other hand, uses public workers, instead of public servants, as control group. As discussed above, public workers were left out of the analysis as there was evidence that transparency did not apply to public companies, leaving their workers salaries undisclosed. If the transparency status did indeed not change for these workers, then the transparency law should have no effect in either men or women's salaries. Column (4) of Table 8 shows that the transparency law had no effect on the salaries of public workers, supporting the hypothesis that changes in the public sector are driven by the new disclosure of

TABLE 8 – PLACEBO TESTS

	Panel A: Pretreatment Years			Panel B: Public Workers as Control Group
	(1) $t=0$: 2009	(2) $t=0$: 2010	(3) $t=0$: 2011	(4)
Post × Public	0.019	0.000	−0.011	0.011
	(0.025)	(0.010)	(0.012)	(0.009)
Post × Public × Female	−0.000	−0.012	0.012	0.007
	(0.020)	(0.009)	(0.008)	(0.007)
Obs	9,077,345	9,077,345	9,077,345	20,641,266
No. of Workers	2,565,588	2,565,588	2,565,588	3,329,694
R^2	0.932	0.932	0.932	0.899
Year FE	X	X	X	X
Individual FE	X	X	X	X
Occupation FE	X	X	X	X
Entity FE	X	X	X	X
Trend×Public×Female	X	X	X	X

Notes: Table presents difference in differences estimation results. Dependent variable is log effective remuneration in 2012 reales. Clustered standard errors at the entity level in parenthesis. ***Significant at the 1 percent level. ** Significant at the 5 percent level. * Significant at the 10 percent level.
Source: Annual Report on Social Information of Brazil (2008-2015), 5 percent random sample.

salaries and not by other changes between the public and the private sector.

7   Conclusions

Even though public transparency laws arise as a tool to combat corruption and increase accountability of public officials, they can also be particularly useful to understand how higher levels of wage information can affect gender pay discrimination. Results presented in this article are consistent with hypotheses that state how higher levels of wage transparency can decrease the gender pay gap by exposing cases of discrimination. Findings are economically large as an effect of 2.9 to 3.9 percent on women's remunerations translates to a 30 to 40 percent decrease of the public sector pay gap, which had an average pre-legislation gap of 9.4 percent.

Moreover, due to the rigid character of employment in the Brazilian public sector, as in most countries, effects are mainly driven by workers who move from entities, thus potentially boosting their remunerations via moving to higher paying institutions. This result is partic-ularly interesting as it shows that the gap can be reduced by increasing positive selection of

women into higher paying entities, as literature has found that the sorting channel is what explains the largest fraction of the gender gap (Card et al., 2015). The general contraction of remunerations might be due to higher accountability or public pressure; however, more research needs to be done in order to disentangle these underlying forces from one another. Results presented here are consistent with all mechanisms acting in a complementary manner, with reallocation as the channel through which these forces translate into wage changes.

Additional evidence shows that transparency had no effect on high hierarchical levels, suggesting that it might not be enough to close the gap in jobs where other elements, such as political connections, may have a higher influence.

On the other hand, the law had an effect on measures of job stability, increasing the probability of being fired by 2.5 percentage points for men and 2 percentage points for women, while also increasing the overall probability of joining the public sector. These are important results as jobs in the public sector are highly stable, with a layoff rate of 3 percent for pre-treatment years and workers having three times more tenure in the public than in the private sector. These findings suggest that transparency can help boost reallocation and movement of workers within and between sectors, which is one of the main channels through which workers can increase their payment.

Results depicted above have important policy implications as they provide evidence of a channel through which societies can help reduce the persistent gap between genders. It is key to notice that transparency is bureaucratically and administratively demanding, and thus the state apparatus needs to be sufficiently effective and qualified to meet the requirements of citizens. Because the disclosure of salaries in the private sector has shown that it can have adverse effects in motivation and work productivity, (Card et al., 2012), policies such as periodic publications of salaries broken down by gender, ethnicity and positions can help reduce compensation inequalities at the workplace while avoiding unwanted effects. Moreover, as is the case of the public sector, transparency has other desirable effects in the role of controlling corruption and embezzlement both in the public and the private sector.

Appendix

Transparency Law

On November 18th of 2011 the new Brazilian Transparency Law, *Lei de acesso à informação* was finally approved by the Brazilian Government (Lei N 12.527, 2012), coming into force on May 16th of 2012[10]. This new legislation regulates the constitutional right to access information, specifying the entities, channels and types of data citizens are entitled to ask for.

Article 1 of the law states that the legislative, executive and judiciary branches of the federal, state and municipal governments are subject to the transparency regime. Public prosecutors, foundations and companies which may be completely or partially controlled by any public entity are also included.

The release of information has two formats: active and passive. Active transparency refers to the explicit availability of information through different channels, mainly transparency web pages which contain information on budgets and salaries of public officials. Passive transparency, in contrast, refers to the information that is available only upon request, particularly through the SIC portals that receive requests from citizens.

Entities have a 20 day time limit to respond to requests, either by specifying the method through which the information will be provided, directly handing it over, or indicating the reasons to completely or partially deny the request. The solicitor can appeal to this resolution during a 10 day period after informed.

According to article 27 of LAI only a limited number of officials can classify information as reserved, secret and top secret, starting from officials with level DAS 101.5 or higher. Article 23 states the eight reasons why information can be classified, which include endangering national security and economic stability, to risking investigation and scientific projects.

It is key to note that there is an important amount of heterogeneity in the enforcement of the law across states and across public entities. Michener et al. (2018) evaluate compliance five years after the law came into force. They show that only 16 of the 27 states assign de jure statues for oversight of the LAI implementation, with federal bodies having a high response rate (91 percent) compared to state and municipal bodies (53 and 44 percent respectively). Understanding the overall compliance of the law is key as it limits the scope of impact.

---

[10]Source: Goberno Federal. LAI: A Lei de Acesso à Informação. www.acessoainformacao.gov.br. Accesed on 19-08-21.

Tables

TABLE A1 – REAL HOURLY WAGES BY SECTOR AND OCCUPATION CATEGORY

Category	Private	Public
Managers	26.52	24.85
Provider-High Skills	21.13	23.02
Bureaucrat - Lower Level	8.18	16.39
Provider-Low Skills	6.55	8.956

Source: Annual Report on Social Information of Brazil (2008-2015), 5 percent random sample.

TABLE A2 – SUMMARY STATISTICS BY ADMINISTRATIVE LEVEL

Level	Real hourly wage	Share with college	Share of women
Federal	36.47	0.47	0.33
State	21.74	0.47	0.57
Municipal	13.34	0.32	0.64

Source: Annual Report on Social Information of Brazil (2008-2015), 5 percent random sample.

References

Abowd, J. M., Kramarz, F., and Margolis, D. N. (1999). High wage workers and high wage firms. *Econometrica*, 67(2):251–333.

Babcock, L. and Laschever, S. (2009). *Women don't ask: Negotiation and the gender divide.* Princeton University Press.

Baker, M., Halberstam, Y., Kroft, K., Mas, A., and Messacar, D. (2019). Pay transparency and the gender gap. Working Paper 25834, National Bureau of Economic Research.

Bassanini, A. and Saint-Martin, A. (2008). The price of prejudice: Labour market discrimination on the grounds of gender and ethnicity.

Bennedsen, M., Simintzi, E., Tsoutsoura, M., and Wolfenzon, D. (2019). Do firms respond to gender pay gap transparency? Working Paper 25435, National Bureau of Economic Research.

Bertrand, M. and Hallock, K. F. (2001). The gender gap in top corporate jobs. *ILR Review*, 55(1):3–21.

Blau, F. D. and Kahn, L. M. (2017). The gender wage gap: Extent, trends, and explanations. *Journal of Economic Literature*, 55(3):789–865.

Bowles, H. R., Babcock, L., and Lai, L. (2007). Social incentives for gender differences in the propensity to initiate negotiations: Sometimes it does hurt to ask. *Organizational Behavior and human decision Processes*, 103(1):84–103.

Bundesgesetzblatt (2017). Gesetz zur förderung der transparenz von entgeltstrukturen. https://www.bgbl.de/xaver/bgbl/start.xav?startbk=Bundesanzeiger_BGBl&jumpTo=bgbl117s2152.pdf#__bgbl__%2F%2F*%5B%40attr_id%3D%27bgbl117s2152.pdf%27%5D__1568583464922.

Card, D., Cardoso, A. R., Heining, J., and Kline, P. (2018). Firms and labor market inequality: Evidence and some theory. *Journal of Labor Economics*, 36(S1):S13–S70.

Card, D., Cardoso, A. R., and Kline, P. (2015). Bargaining, sorting, and the gender wage gap: Quantifying the impact of firms on the relative pay of women. *The Quarterly Journal of Economics*, 131(2):633–686.

Card, D., Mas, A., Moretti, E., and Saez, E. (2012). Inequality at work: The effect of peer salaries on job satisfaction. *American Economic Review*, 102(6):2981–3003.

CEPAL (2018). Latin america and the caribbean: Countries with freedom of information laws. https://observatoriop10.cepal.org/es/recursos/america-latina-caribe-paises-que-cuentan-ley-acceso-la-informacion-publica-ano.

Colonnelli, E., Prem, M., and Teso, E. (2019). Patronage and selection in public sector organizations. *Available at SSRN 2942495*.

Decreto-lei N 5.452 (1943). Consolidação das leis do trabalho.

Del Bono, E. and Vuri, D. (2011). Job mobility and the gender wage gap in italy. *Labour Economics*, 18(1):130–142.

EEOC (1963). Equal pay act. https://www.eeoc.gov/eeoc/history/35th/thelaw/epa.html.

Egan, M. L., Matvos, G., and Seru, A. (2017). When harry fired sally: The double standard in punishing misconduct. Technical report, National Bureau of Economic Research.

Gender Pay Gap Service (2017). Search and compare gender pay gap data. https://gender-pay-gap.service.gov.uk/.

Globo (2012). Salário de magistrado do rj passa de r$ 600 mil, segundo levantamento. http://g1.globo.com/rio-de-janeiro/noticia/2012/01/salario-de-magistrado-do-rj-passa-de-r-600-mil-segundo-levantamento.html.

Governo Federal (2012). Remuneração de servidores federais já está disponível no portal da transparência. https://www.cgu.gov.br/noticias/2012/06/remuneracao-de-servidores-federais-ja-esta-disponivel-no-portal-da-transparencia.

Hospido, L. (2009). Gender differences in wage growth and job mobility of young workers in spain. *investigaciones económicas*, 33(1):5–36.

Hubert, M. (2012). Stf determina publicação de salários de servidores. https://congressoemfoco.uol.com.br/especial/noticias/stf-retoma-publicacao-de-salarios-de-servidores-publicos/.

IBGE (2018). Estatísticas de gênero: Indicadores sociais das mulheres no brasil. *Estudos e Pesquisas: Informação Demográfica e Socioeconômica*, (38).

Lei N 12.527 (2012). Presidência da república, casa civil, subchefia para assuntos jurídicos.

Lei N 13.752 (2018). Diário oficial da união, brasilia.

Loprest, P. J. (1992). Gender differences in wage growth and job mobility. *The American Economic Review*, 82(2):526–532.

Maltchik, R. (2012). Lei obriga a divulgação de salários de servidores do executivo federal. https://oglobo.globo.com/brasil/lei-obriga-divulgacao-de-salarios-de-servidores-do-executivo-federal-4922212.

Mas, A. (2017). Does transparency lead to pay compression? *Journal of Political Economy*, 125(5):1683–1721.

Michener, G., Contreras, E., and Niskier, I. (2018). From opacity to transparency? Evaluating access to information in Brazil five years later. *Brazilian Journal of Public Administration*, 52:610 – 629.

Muralidharan, K. and Prakash, N. (2017). Cycling to school: Increasing secondary school enrollment for girls in india. *American Economic Journal: Applied Economics*, 9(3):321–50.

Notari, G. (2019). Como funciona a remuneração de empregados e servidores públicos? https://www.politize.com.br/empregados-e-servidores-publicos-remuneracao/. Accessed on 2019-08-18.

Pay Equity Comission (1987). The pay equity act. http://www.payequity.gov.on.ca/en/AboutUs/Pages/the_act.aspx.

Pischke, J.-S. (2005). Empirical methods in applied economics: Lecture notes. *Downloaded July*, 24:2015.

Senado Federal (2008). *Legislação consolidada do servidor público*. Brasília: Subsecretaria de Edições Técnicas.

Workplace Gender Equality Agency (2012). Rerporting requirements. `https://www.wgea.gov.au/reporting/complying-with-the-act/reporting-requirements`.

World Bank (2018). Proportion of seats held by women in national parliaments (%). `https://data.worldbank.org/indicator/SG.GEN.PARL.ZS?locations=BR`.