Firm and Worker Effects of Employment Equity Legislation

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Abstract

Post apartheid South Africa implemented the world's largest affirmative action policy of the labor market, operating through the private sector. Firms are required to represent the population by racial and gender composition in all seven hierarchical levels of the firm: top management, senior management, mid management/professionals, skilled, semi-skilled, unskilled, temporary. This paper analyzes the effects of such policy on firms and workers using matched employer-employee data, exploiting a natural experiment where certain firms unexpectedly no longer were subject to the legislation. Within a regression discontinuity framework, we find that the removal of the employment equity legislation improves firm productivity by 11%, with heterogeneous results by broad industry. Firms in those industries that respond to the legislation change, alter the composition of their workforce. Over a four year horizon this results in a productivity increase in some industries, and a decrease in others. Tracking individuals over time, we find a positive effect on individuals exposed to the legislation change: workers exposed to the removal of the legislation because their employer is no longer subject to it, experience an increase in their wages over the four year period following the policy change.

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1 Introduction

Apartheid ended in South Africa as the first free elections took place in 1994. African people were given the right to vote, they achieved political equality. However, not only was apartheid a politically oppressive regime, it was also an economically oppressive regime towards African people. At the dawn of democracy, the question was how the country becomes more economically equal, after the political equality was granted. The market, in a few years' time after 1994 did not prove to achieve a sufficient level of equality. As a consequence the government introduced several pieces of legislation, whose goal was to incentivize employers to participate in creating a labor market that is a long term solution for the inequality problems of South Africa.

The employment equity legislation is a piece of legislation which outsources affirmative action on the labor market to private firms. The groups affected by the legislation are females, Black people[1] and people with a disability. It was introduced in 1998 and is still in effect today. It has two parts (i) firms should not discriminate; (ii) firms' employment composition should reflect the composition of the population in South Africa. This paper studies the effect of the second part of the legislation, on workers and firms. The second part of the legislation is broad based: it is compulsory for a large share of private firms. In terms of contribution to the literature, to my knowledge this is the first paper that studies broad based labor market affirmative action policy in in a developing country. In other parts of the world, to my knowledge there is not such broad based affirmative action policy in the labor market, even though the lack of representation of certain groups of individuals, and potential affirmative action is a very contemporary topic across many countries of the world. Because this policy is so broad based, if we want to study the effects of an affirmative action policy on the labor market, the South African context can be very informative. The closest policy that has been studied in the literature to my knowledge is a board quota for women in Norwegian public firms (Bertrand et al., 2018). The policy studied in this paper, in contrast, is broad based and affects the overwhelming majority of the labor market, at all levels of hierarchy within the firm, not only the board of companies. This paper is also related to (Hsieh et al., 2019), in that it also focuses on the effect of potential labor market discrimination on aggregate oucomes. Other than the setting being in a different country, this paper differs in that it studies an affirmative action policy with causal identification.

What is the reason that the market does not allocate people within South Africa according to the population composition of the country at different levels of the hierarchy of employment? In other words, why is such a legislation in effect? There

[1]For the purposes of the legislation Black means African, Indian, Asian, Coloured.

are three potential reasons: (i) the existence of statistical or taste based discrimination towards designated groups; (ii) designated groups lack skills in demand; (iii) designated groups are unwilling to supply their labor. Figure 1 shows the persistent high unemployment rate in South Africa, therefore the third potential reason can be ruled out. How does legislating employment equity potentially help solve the economic inequality problem in South Africa? Supporting previously disadvantaged people to start on the job ladder or ascend on it can provide both income and more skills to the individual via learning on the job. A justification for such a policy can be that despite its short term cost to employers, if it provides an improvement on the long term employment prospects of the supported individual, then there is a trade-off between the cost to the firm and the benefit to the individual. It is this trade-off that the current paper sets out to measure.

The findings of the paper are that firms, once they are no longer subject to the employment equity legislation, experience an approximately 11% increase in labor productivity. This effect is heterogeneous by broad industry. Independent of the industry-specific productivity effects, firms change the composition of their employment: manufacturing firms increase their employment on net, via increased hiring, but also increased separations. The new employment profile is characterized by younger workers, lower wages and more people hired out of unemployment, relative to the control firms. Overall, the average treated firm in the manufacturing sector expands, while experiencing a decrease in labor productivity. In contrast, the transportation sector, relative to the control group slows down separations, thereby retaining more of its workers. It also slows down hiring, and overall, experiences shrinking of the average firm, with no change in labor productivity. The finance sector, also decreases both hiring and separations, and new hires are hired at a higher wage than new hires of the control group, and separating employees are also coming from a higher part of the wage distribution, compared to separating employees of control firms. This is consistent with the finance sector replacing employees at higher hierarchical levels, which overall results in higher labor productivity.

The findings in terms of effects on employees as opposed to on firms, is that employees exposed to the policy via their employer no longer being subject to the legislation experience a wage gain in the years following the policy change. Whether this is realized in the original employer or individuals capitalize on this via moving jobs is work in progress.

The outline of the paper is as follows. Section 2 explains the employment equity legislation in detail, together with the changes to it which allow for causal identification. Section 3 describes the data used and provides descriptive statistics. Section 4 gives more detail about the empirical strategy and presents the baseline results, together with various robustness checks. Section 4.2 explores what mechanisms are

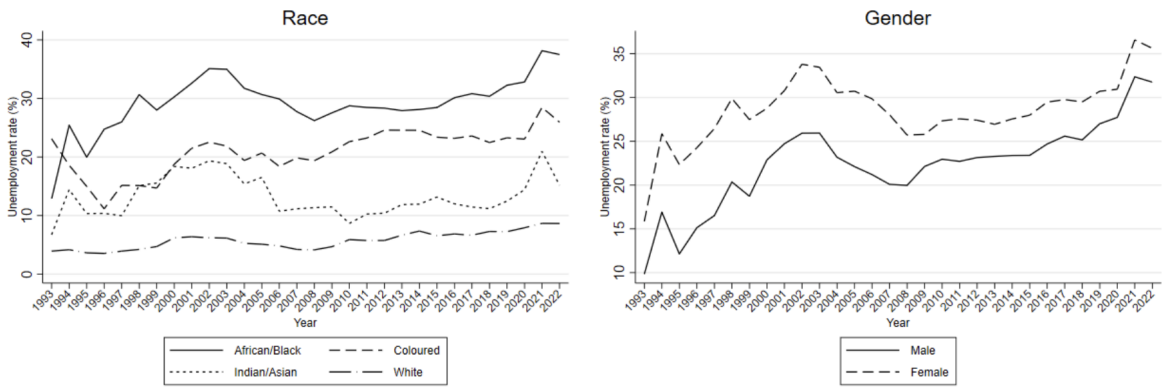


FIGURE 1: THE LEFT PANEL SHOWS THE UNEMPLOYMENT RATE BY POPULATION GROUP, WHILE THE RIGHT PANEL SHOWS THE SAME BY GENDER. SOURCE: OWN CALCULATIONS BASED ON LABOR FORCE SURVEY.

responsible for the findings. Section 5 concludes.

2 Background, Research Design and Conceptual Framework

The employment equity legislation has been in effect since its inception in 1998 and it consists of two parts (i) no discrimination; (ii) the composition of a firm's labor force should reflect the composition of the South African population by race and gender, at every level of employment (top management, senior management, middle management/professionals, skilled, semi-skilled, unskilled, temporary workers). Part (ii) of the legislation is compulsory for employers that have at least 50 employees. For firms with fewer than this many employees, it is compulsory if their sales is high enough. The first column in Table 1 shows the thresholds by industry above which firms are subject to the employment equity legislation (EE) even when they have fewer than 50 employees.

Those firms that are subject to the EE legislation need to submit an Employment Equity Report every year, along with an Employment Equity Plan. The former details the breakdown of employment within a firm in that year by gender, population group and level of employment. An example is shown in Appendix Figure 9. The Employment Equity Plan, on the other hand, illustrates the goal number of employees within each of these three dimensional cells for the company. The goal numbers are numbers that the company initiates, these are not externally set, but are decisions of the firm.

On January 14, 2014 new thresholds were signed into legislation, as shown in column 3 of Table 1. The new thresholds tripled relative to the old ones, and were effective from August 1, 2014. South Africa's tax year ends at the end of February, therefore the new thresholds were announced close to the end of the 2014 tax year,

and were effective from the middle of the 2015 tax year. The thresholds had been unchanged since the inception of the legislation in 1998. Given that price levels increased in South Africa over time, but the thresholds had not, the legislation was initially relatively less strict, in that firms at the higher end of the sales distribution were subject to it, if they had fewer than 50 employees, but as the years passed, the legislation became more stringent. The announcement of 2014 is a de facto relaxation of the legislation among the firms which had fewer than 50 employees.

For identification purposes we exploit the fact that in every industry, among firms with fewer than 50 employees there is a significant number of firms that are in between the old and the new sales thresholds, such that these firms were subject to the employment equity legislation until the threshold change, but are not subject to it after. As such, we are identifying the effect of the relaxation of the employment equity legislation of firms and workers. According to the legislation, a period for the purposes of the legislation starts on October 1 of each year and ends exactly one year after. The submission deadline is October 1 of each year, except when filing electronically, in that case it is January 15 of the following year. The above means that newly exempt firms are no longer required to submit their EE plan on October 1, 2014 for the following year.

Figures 10, 11, and 12 and the last two columns of Table 2 show where in the firm size distribution the new and old thresholds fall, the new thresholds fall between 46.7 percentile in agriculture to 91.2 percentile for wholesale.

We employ a regression discontinuity design to identify the effect of the removal of a firm from being subject to the EE, where the running variable is the ratio of a firm's sales relative to the industry specific threshold. We normalize this to be 0 when the sales value is exactly the same as the industry specific threshold. Figures 10, 11, and 12 show the sales distributions of firms by industry, together with where the thresholds lie in the distributions of sales. Not only are the sales distributions centered around different values by industry, but the sales thresholds are also at different points of the distributions depending on the industry. Therefore, an absolute difference in Rands from a threshold normalized to zero will capture a very different share of the firm size distribution across industries: 1M Rands is a different share of the total firm size distribution for an industry with a small sales mean vs for an industry with a large sales mean. Since we do not want to rely disproportionately on one industry in the estimation, instead of using Rand values as the running variable we will normalize the running variable to be a ratio: the ratio of the sales of a firm to the threshold of the industry it belongs to. As standard, we recenter this variable to zero. Thus a firm -10% away from the threshold means that within the specific industry, the firm's sales is 10% lower than the threshold. For example, -10% away from the threshold where the threshold is 30M is a firm with

27M sales, and -10% away from the threshold in an industry where the threshold is 75M puts us to a firm with 67.5M Rand sales.

3 Data and Descriptive Statistics

We use two datasets. The first one is comprised of the submitted employment equity reports for 2013-2022. These contain information on the number of employees of eligible firms by gender, population group and occupation level (top management, senior management, middle management/professionals, skilled, semi-skilled, unskilled, temporary workers). This dataset contains information on the plans of firms: within an occupation, how many people is the firm planning on employing in the next period, by gender and population group. Since this is a panel dataset, we can then investigate the extent to which firms follow through with their plans in the following period. We use this dataset to provide descriptive statistics about general trends among firms which are subject to the employment equity (EE) legislation.

The second dataset is a matched employer employee dataset which covers the period 2011-2018. This contains information on firms' balance sheets, and the complete employment trajectory for the duration of the dataset of people that are employees at a given firm. We use this dataset for identification purposes.

3.1 Firms' Adherence to the Employment Equity Legislation

Figure 2 shows that even though on aggregate the Black employment share across firms subject to the EE legislation is not very far from the legislation's goal of 90% Black, 10% white (the population composition of South Africa), the Black share is significantly lower than 90% as we ascend the hierarchy inside the firm. Among top management the Black employment share is close to 0%. This same pattern is true within the firm, as well, as shown in Appendix Figure 7. Firms do express in their plans that they will change their Black share, and this is true across occupations (Figure 3), and also firm size categories (Appendix Figure 8). Firms follow up on their promises: Figure 4 shows a fitted line in orange between the measure "goal-current" Black share and "future-current" Black share, the slope of the line is 0.6. This means that if firms promise they will change their Black share in a given occupation category by the next reporting period, they achieve on average 60% of what they promised. This is true across industries, firm size categories and occupation categories. Both the median and the average firm promises to increase their Black share across occupation categories, as evidenced by Figure 5. Across occupations, there is a remarkable pattern: the lower the current share (higher levels

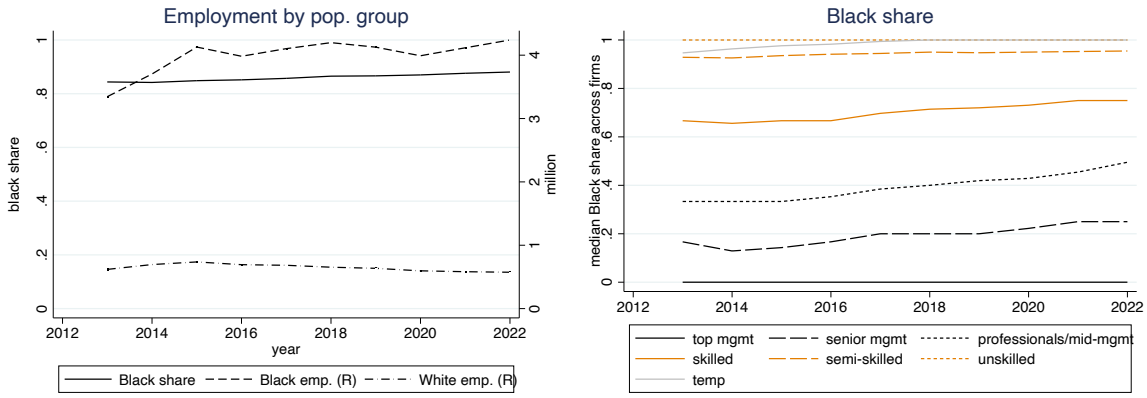


FIGURE 2: THE LEFT PANEL SHOWS THE SHARE OF BLACK WORKERS AMONG THE SET OF FIRMS SUBJECT TO THE EE LEGISLATION, ALONG WITH THE NUMBER OF BLACK EMPLOYEES AND WHITE EMPLOYEES (IN MILLIONS) AMONG THE SAME FIRMS. THE RIGHT PANEL SHOWS THE SHARE OF BLACK WORKERS AT DIFFERENT HIERARCHICAL LEVELS INSIDE THE FIRM, AVERAGED ACROSS ALL FIRMS SUBJECT TO THE EE LEGISLATION.

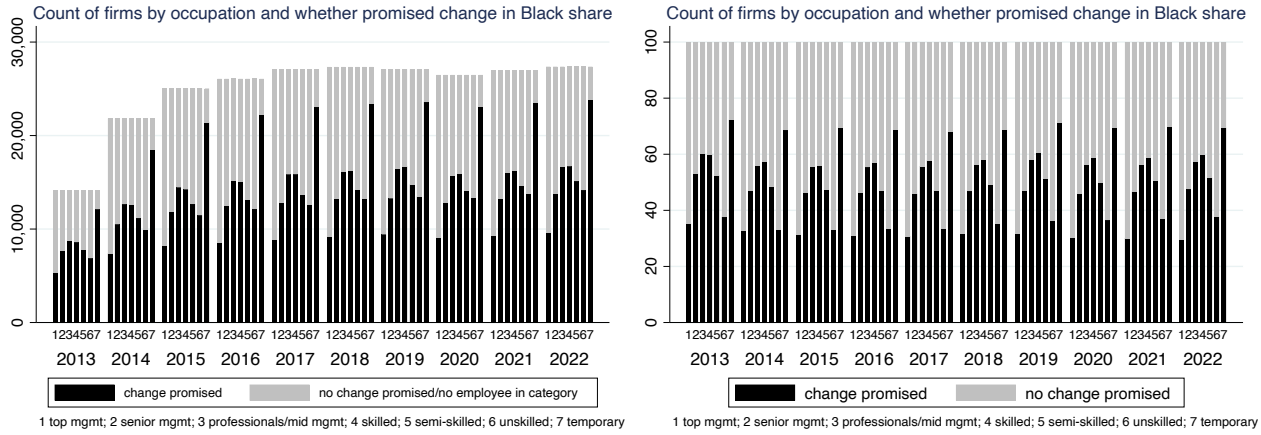


FIGURE 3: THE LEFT PANEL SHOWS THE COUNT OF FIRM BY OCCUPATION, INDICATING WHAT SHARE OF FIRMS PROMISED TO CHANGE THE BLACK EMPLOYMENT SHARE WITHIN THAT OCCUPATION. THE RIGHT PANEL SHOWS AMONG THE FIRMS THAT HAVE AT LEAST ONE PERSON IN A GIVEN OCCUPATION CATEGORY, WHAT IS THE SHARE OF FIRMS THAT INTEND TO CHANGE THEIR BLACK SHARE. THE FIGURE IS BASED ON THE EMPLOYMENT EQUITY REPORTS.

in the firm hierarchy), the higher the promised increase is.

4 Regression Discontinuity Design and Results

Our baseline specification is a regression discontinuity specification that compares firms that on the eve of the announcement of the new thresholds were to the left of the threshold, with firms that were on the right of the threshold, in years after the threshold change, i.e. 2015, 2016, 2017, 2018.

We classify firms to be in the treated and control category based on their 2013 position relative to the new thresholds. This is because during part of the 2014 fiscal year the new thresholds were known. Using 2013 as the baseline year allows us to make the assumption that the thresholds were a surprise, which is underpinned by

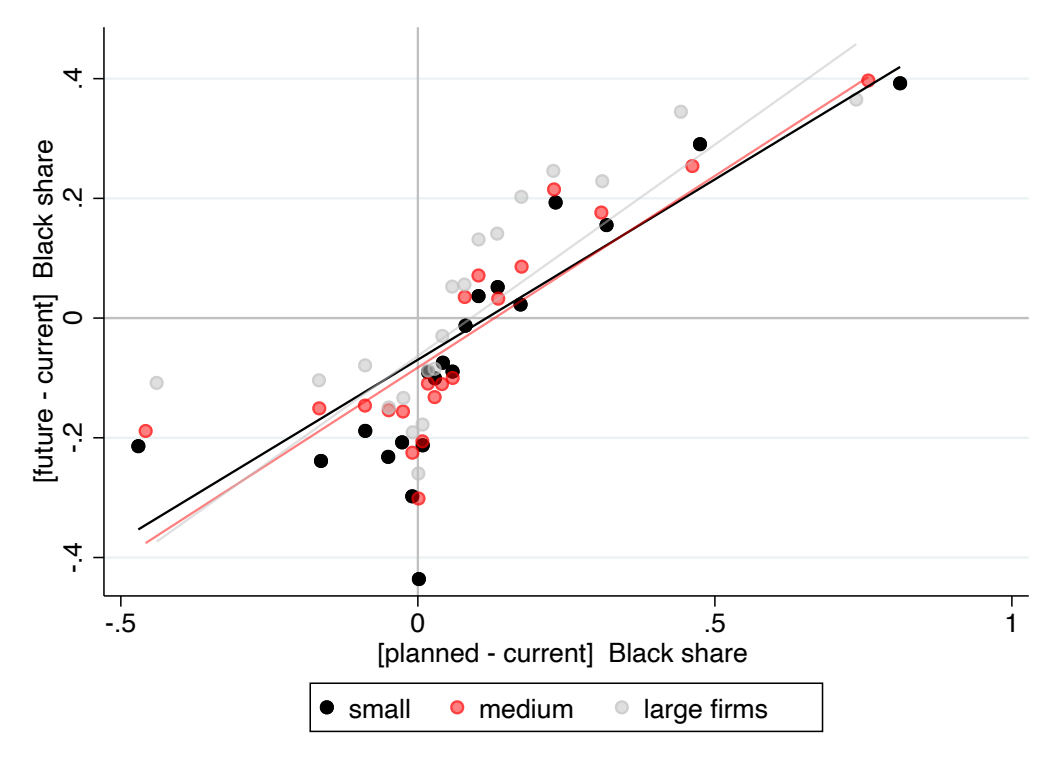


FIGURE 4: THE FIGURE PLOTS "PLANNED - CURRENT" BLACK SHARE AGAINST "FUTURE - CURRENT" BLACK SHARE IN THE YEAR 2015, FOR FIRMS WHICH ARE SUBJECT TO THE EE LEGISLATION. FIRMS WHICH DO NOT HAVE ANY EMPLOYEE IN A GIVEN OCCUPATIONAL CATEGORY OR DO NOT PLAN ANY CHANGES TO THEIR CURRENT BLACK SHARE ARE EXCLUDED.

showing no bunching at the new threshold (Figure 13). Similarly, as will be shown in subsequent parts of the paper (Figure 6), there is no discontinuity in relevant outcomes variables in 2013, prior to the threshold change.

Formally, the specification is

$$Y_{i(j)t} = \beta_1 T_{i(j)} + \beta_2 X_{i(j)2014} + \beta_3 T_{i(j)} X_{i(j)2014} + u_{j(i)} \times \delta_t + \epsilon_{i(j)t} \tag{1}$$

where i is firm, j is industry, T is treatment indicator, X is the running variable (deviation of sales from the threshold in percentage terms, normalized to the industry specific threshold), u is an industry fixed effect, δ is a year fixed effect. The results for ln(sales), ln(workers), ln(sales/workers) are displayed in columns 2-3 in Table 1. The identifying assumption behind the regression discontinuity specification is that the outcome variable of firms to the left and to the right of the threshold on the eve of the announcement of the new thresholds, evolve continuously at the threshold. In other words, there is no discontinuity in variables related to the outcome, prior to the threshold change. We show this in Figure 6: the first panel in the figure shows the evolution of labor productivity prior to the threshold change, on the two sides of the new threshold. The second panel of the figure shows the same, but after the threshold change happens, 2015-2018, showing a discontinuity of approximately

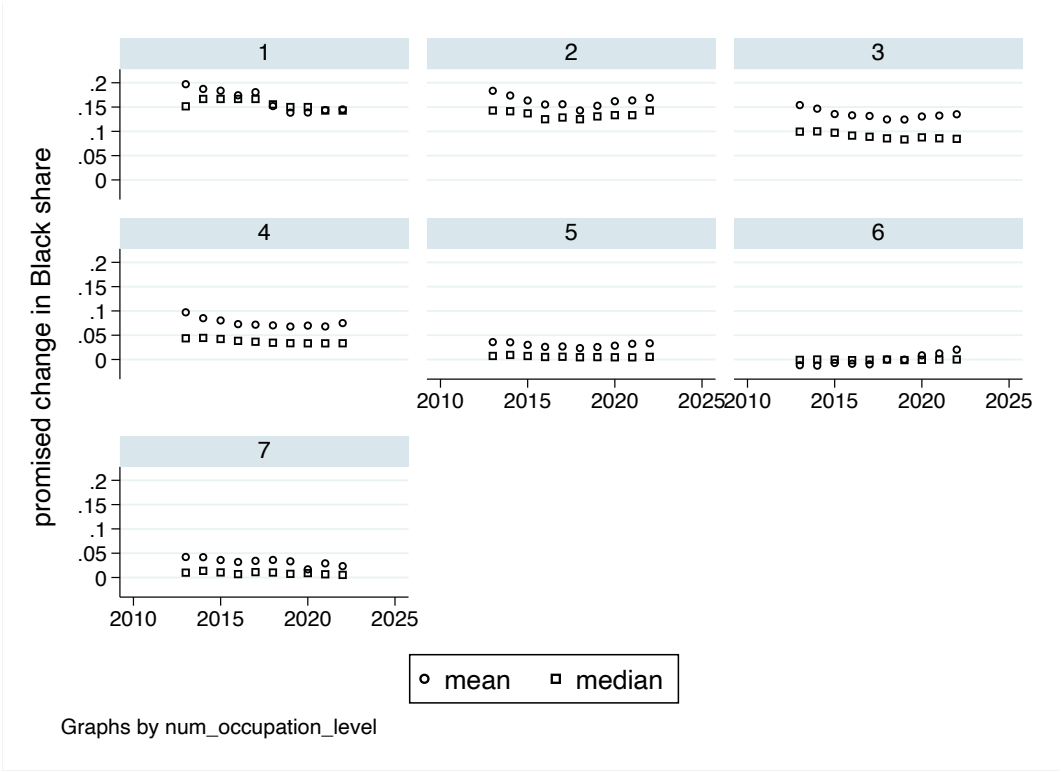


FIGURE 5: THE FIGURE PLOTS FIRMS' PROMISED CHANGE IN BLACK SHARE OVER TIME, ACROSS OCCUPATION CATEGORIES: THE MEDIAN FIRM, AND THE AVERAGE FIRM. 1 "TOP MANAGEMENT", 2 "SENIOR MANAGEMENT", 3 "MID MANAGEMENT/PROFESSIONALS", 4 "SKILLED", 5 "SEMI SKILLED", 6 "UNSKILLED", 7 "TEMPORARY".

0.1 log points. Table 1 shows the outcome of formally estimating the regression discontinuity specification. Appendix Table **??** repeats the same specification with a running variable in millions of rands. Appendix Figure 13 further supports the validity of the research design by showing that there is no bunching in the pre period at the new thresholds.

To confirm the validity of the research design, we show balance tests, as well: Appendix Table **??** shows that on the two sides of the threshold the count of firms belonging to the same industry is balanced. Appendix Table **??** shows that firms on the two sides of the threshold are similar in terms of predetermined characteristics, such as age, and in terms of characteristics measured prior to the threshold change.

4.1 Regression Discontinuity Comparing The Same Firms Over Time

To make use of the panel nature of the data, we implement a differences in discontinuity approach in which we compare the discontinuity prior to the threshold change to the discontinuity after the threshold change, within firm. The regression model is as below.

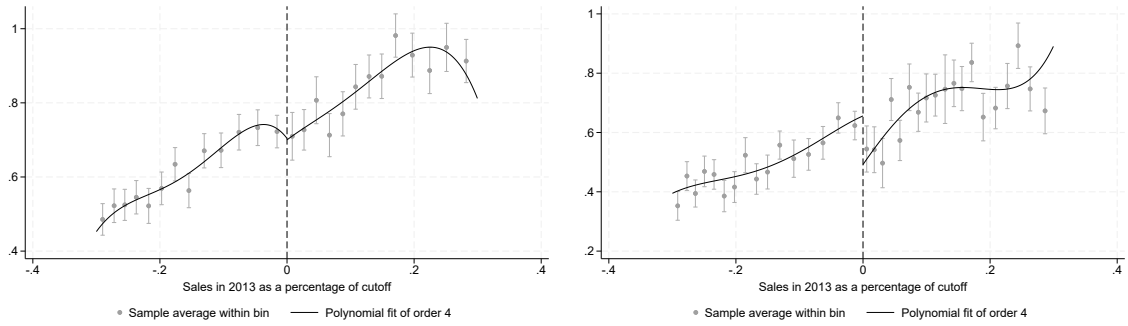


FIGURE 6: THE OUTCOME VARIABLE IS LN(LABOR PRODUCTIVITY). THE LEFT PANEL OF THE FIGURE PLOTS A FOURTH ORDER POLYNOMIAL FITTED ON OBSERVATIONS THAT WERE TO THE LEFT OF THE THRESHOLD IN 2013, AND SIMILARLY ON OBSERVATIONS THAT WERE TO THE RIGHT OF THE THRESHOLD IN 2013. THE LEFT PANEL REFERS TO THE PRE PERIOD, YEARS 2011-2013. THE RIGHT PANEL SHOWS THE SAME FOR THE PERIOD 2015-2018. 1 DIGIT INDUSTRIES INCLUDED ARE AGRICULTURE, MANUFACTURING, CONSTRUCTION, TRADE, TRANSPORTATION, FINANCE, PERSONAL SERVICES, AND TRADE.

$$Y_{i(j)t} = \beta_1 T_{i(j)} + \beta_2 X_{i(j)2014} + \beta_3 T_{i(j)} X_{i(j)2014} + \beta_4 T_{i(j)} \text{Post}_t + \beta_5 \text{Post}_t X_{i(j)2014} + \beta_6 T_{i(j)} X_{i(j)2014} \text{Post}_t + u_{j(i)} \times \delta_t + \kappa_i + \epsilon_{i(j)t} \tag{2}$$

where i is firm, j is industry, T is treatment indicator, X is running variable, Post is a dummy for post 2014, u is 2d industry fixed effect, δ year fixed effect, κ firm fixed effect.

The results are displayed in Table 6. Similarly to the cross firm comparison we repeat this specificatioon using the running variable in rands. We implement a dynamic specification of the same, and plot the estimated year by year coefficients in Figure 12, and display them in Table **??** (available upon request). In the dynamic specification, we run the following RD year by year and report the coefficients in table

$$Y_{i(j)t} = \beta_1 T_{i(j)} + \beta_2 X_{i(j)2014} + \beta_3 T_{i(j)} X_{i(j)2014} + \beta_{4,k} \sum_{k=2011}^{2018} T_{i(j)} \delta_k + \beta_{5,h} \sum_{h=2011}^{2018} \delta_h X_{i(j)2014} + \beta_{6,m} \sum_{m=2011}^{2018} T_{i(j)} X_{i(j)2014} \delta_m + u_{j(i)} \times \delta_t + \kappa_i + \epsilon_{i(j)t} \tag{3}$$

where i is firm, j is industry, T is treatment indicator, X is running variable, u is 2d industry fixed effect, δ year fixed effect, κ firm fixed effect.

Table 6 shows that even using within firm variation, the productivity improving effect of the relaxation of the employment equity legislation is approximately 4%

Table 1: Baseline RD specification

period	T=2011-13	T=2015-18
RD coeff ln(labor productivity)	0.00	0.11**
std error RD coeff	(0.05)	(0.05)
FE	2d ind x yr	2d ind x yr
# obs	181855	157770
Effective # obs	15501	13728
BW	0.21	0.20
BW method	MSE	MSE
kernel	triangular	triangular

Notes: This table shows the results of the RD specification according to equation 1. Standard errors are clustered at the firm level. 1 digit industries included are agriculture, manufacturing, construction, trade, transportation, finance, personal services, and trade. Where indicated fixed effects are included. The running variable is the ratio of a firm's sales to the industry specific threshold, centered around zero.

(p-value 0.13).

4.2 Mechanisms

The findings of the paper are that firms, once they are no longer subject to the employment equity legislation, experience an approximately 11% increase in labor productivity. This effect is heterogeneous by broad industry. Independent of the industry-specific productivity effects, firms change the composition of their employment: manufacturing firms increase their employment on net, via increased hiring, but also increased separations. The new employment profile is characterized by younger workers, lower wages and more people hired out of unemployment, relative to the control firms. Overall, the average treated firm in the manufacturing sector expands, while experiencing a decrease in labor productivity. In contrast, the transportation sector, relative to the control group slows down separations, thereby retaining more of its workers. It also slows down hiring, and overall, experiences shrinking of the average firm, with no change in labor productivity. The finance sector, also decreases both hiring and separations, and new hires are hired at a higher wage than new hires of the control group, and separating employees are also coming from a higher part of the wage distribution, compared to separating employees of control

Table 2: Industry Specific Thresholds

	old	new	old	new
	Mn Rands		percentiles of sales distribution	
agriculture	2	6	16.2	46.7
mining and quarrying	7.5	22.5	–	–
manufacturing	10	30	52.4	85.1
electricity, gas and water	10	30	–	–
construction	5	15	40.5	78.4
retail and motor trade and repair services	15	45	55.5	81.1
wholesale trade, commercial agents, and allied services	25	75	67.5	91.2
catering, accommodation and other trade	5	15	51.5	90.1
transport, storage and communications	10	30	48.1	78.2
finance and business services	10	30	66.8	90.8
community, special and personal services	5	15	50.5	81.1

Notes: This table shows the thresholds in millions of rands above which firms are subject to the second part of the employment equity legislation. Old means effective prior to 1 August, 2014, new means effective after this date. Mining and quarrying and electricity, gas and water are excluded, as these sectors have a low number of firms.

firms. This is consistent with the finance sector replacing employees at higher hierarchical levels, which overall results in higher labor productivity.

4.3 Effect on Individuals

In order to understand how the EE policy impacts individuals, we follow those people over time that were employed at the treated firms, and compare their trajectory to people that were employed at control firms. To do this, we run the following RD specification, where the set of treated people are those that on the eve of the threshold change were employed at firms which will no longer be subject to the EE legislation from 2015 onwards.

$$
\begin{aligned}
Y_{i(j(k))t} =& \beta_1 T_{i(j(k))} + \beta_2 X_{i(j(k))2014} && (4)\\
&+\beta_3 T_{i(j(k))} X_{i(j(k))2014} + \beta_4 T_{i(j(k))} \text{Post}_t + \beta_5 \text{Post}_t X_{i(j(k))2014} && (5)\\
&+\beta_6 T_{i(j(k))} X_{i(j(k))2014} \text{Post}_t + u_{j(i(k))} \times \delta_t + \kappa_i + \epsilon_{i(j(k))t}
\end{aligned}
$$

where i is individual, j is firm, k is industry, T is treatment indicator, X is the running variable, *Post* is a dummy for post 2014, u is 2d industry fixed effect,

δ year fixed effect, κ individual fixed effect. The version of this regression that does not include individual fixed effects, only industry fixed effects, identifies the effect on the individual of the individual's firm no longer being subject to the EE legislation, compared to those individuals whose firm continues to be subject to the EE legislation. The individuals in this comparison are employed in the year 2013 by firms that are just to the left of the new threshold (treated individuals) versus by firms that are just to the right of the new threshold (control individuals). The coefficient of interest, β_6, identifies the outcome of interest for the treated individuals "post minus pre", compared to the control individuals' outcome of interest "post minus pre". Including individual fixed effects changes the interpretation of the estimated coefficient in that it only includes in the estimate within individual comparisons, whereas without the individual fixed effect we are comparing the average individual "post minus pre" that worked for a treated firm in 2013, to the average individual "post minus pre" that worked for a control firm in 2013.

We investigate individuals' employment probability, wage trajectory, probability that they are directors, and that they change jobs. Individuals experience a significant increase in their earned wages post the policy change, as per Table 3.

We also focus on individuals who were employed as directors on the eve of the threshold change, and investigate separately their outcomes. Altogether, we run individual level RD regressions on four types of people

- all people at treated/control firms
- people that leave treated/control firms post treatment
- all directors at treated/control firms
- directors that leave treated/control firms post treatment

5 Conclusion

Post apartheid South Africa implemented the world's largest affirmative action policy of the labor market, operating through the private sector. This paper analyzes the effects of such policy on firms and workers using matched employer-employee data, exploiting a natural experiment where certain firms unexpectedly no longer were subject to the legislation. Within a regression discontinuity framework, we find that the removal of the employment equity legislation improves firm productivity by 11%, with heterogeneous results by broad

Table 3: Effects on Individuals

	ln(wage)
2011	-0.06**
s.e.	(0.03)
2012	-0.01
s.e.	(0.03)
2014	-0.04
s.e.	(0.03)
2015	-0.07*
s.e.	(0.04)
2016	-0.06
s.e.	(0.05)
2017	-0.09**
s.e.	(0.05)
2018	-0.09*
s.e.	(0.05)
Effective # obs	976,873
BW	0.25

Notes: Coefficient estimates corresponding to specification 4, dynamic differences in discontinuity.

industry. Firms in those industries that respond to the legislation change, alter the composition of their workforce. Over a four year horizon this results in a productivity increase in some industries, and a decrease in others. Tracking individuals over time, we find a positive effect on individuals exposed to the legislation change: workers exposed to the removal of the legislation because their employer is no longer subject to the it, experience an increase in their wages over the four year period following the policy change.

6 Appendix

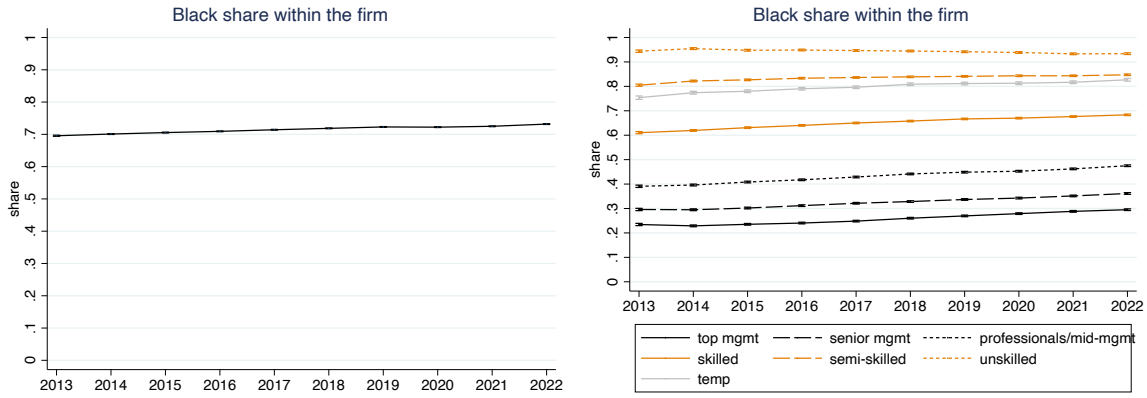


FIGURE 7: THIS FIGURE SHOWS HOW THE BLACK SHARE WITHIN FIRM CHANGED OVER TIME, AVERAGED ACROSS FIRMS, BASED ON THE SET OF FIRMS THAT ARE SUBJECT TO THE EE LEGISLATION.

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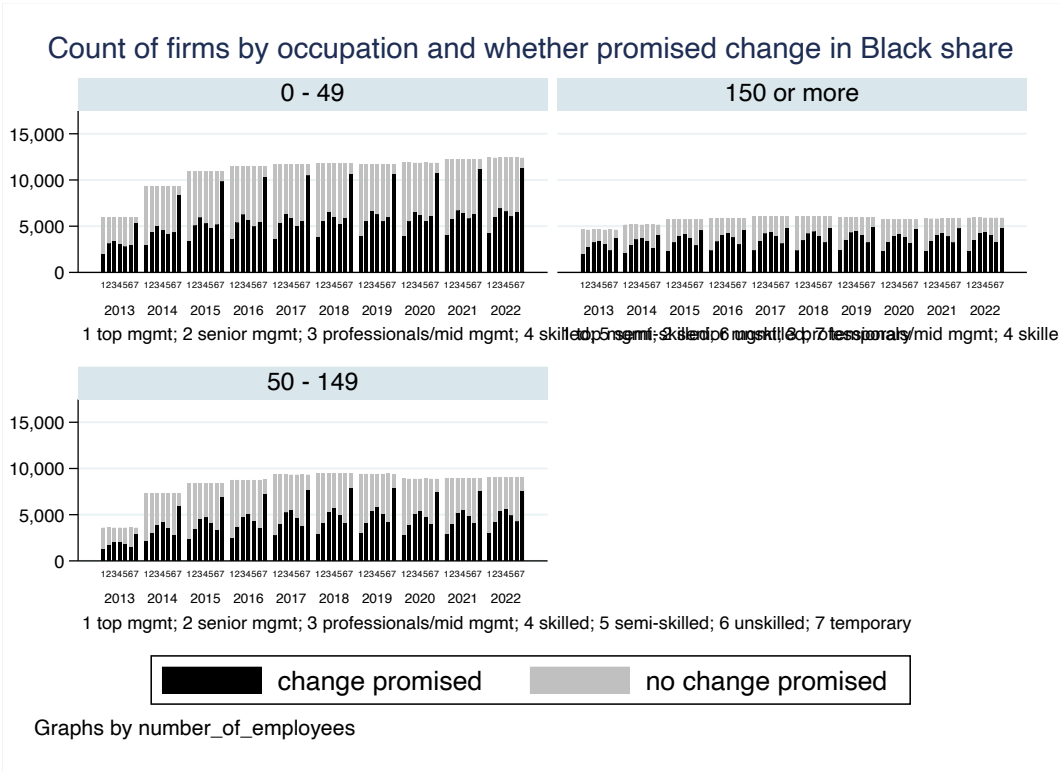
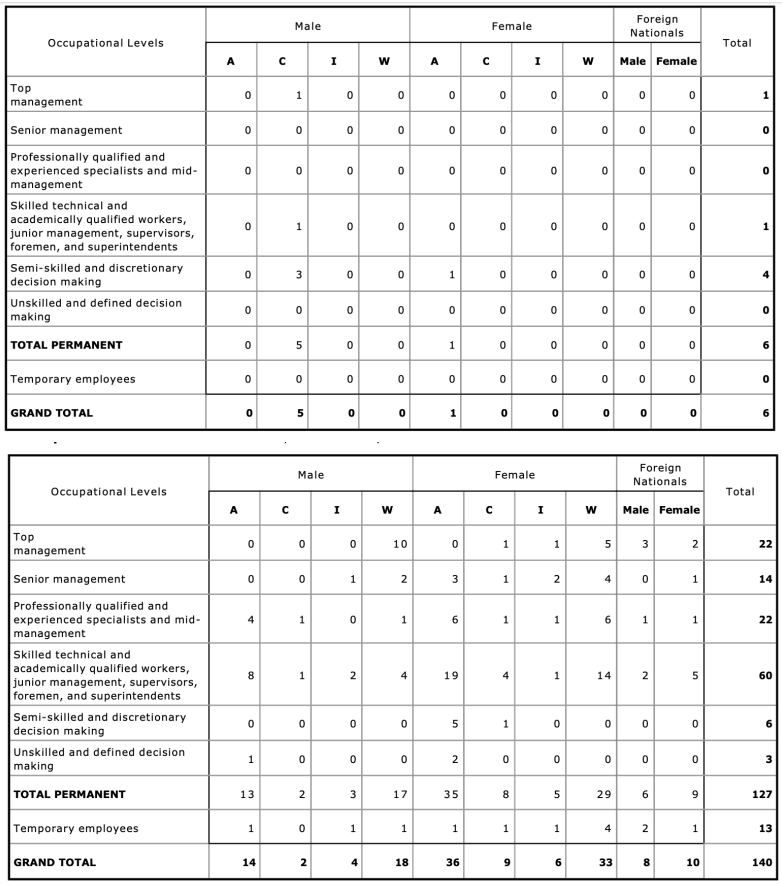


FIGURE 8: THE FIGURE SHOWS THE COUNT OF FIRM BY OCCUPATION, INDICATING WHAT SHARE OF FIRMS PROMISED TO CHANGE THE BLACK EMPLOYMENT SHARE WITHIN THAT OCCUPATION. THE FIGURE IS BASED ON THE EMPLOYMENT EQUITY REPORTS.

FIGURE 9: EXAMPLES: EMPLOYMENT EQUITY REPORT SUBSET

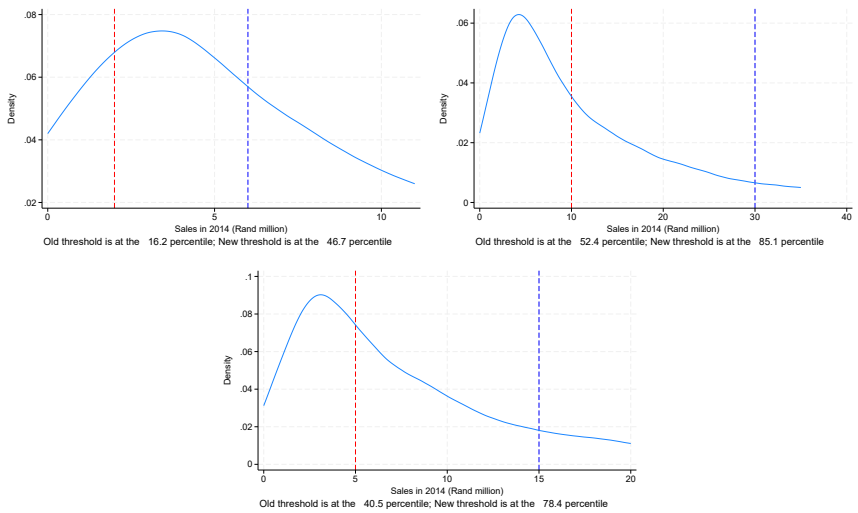


Occupational Levels	Male				Female				Foreign Nationals		Total
	A	C	I	W	A	C	I	W	Male	Female	
Top management	0	1	0	0	0	0	0	0	0	0	**1**
Senior management	0	0	0	0	0	0	0	0	0	0	**0**
Professionally qualified and experienced specialists and mid-management	0	0	0	0	0	0	0	0	0	0	**0**
Skilled technical and academically qualified workers, junior management, supervisors, foremen, and superintendents	0	1	0	0	0	0	0	0	0	0	**1**
Semi-skilled and discretionary decision making	0	3	0	0	1	0	0	0	0	0	**4**
Unskilled and defined decision making	0	0	0	0	0	0	0	0	0	0	**0**
TOTAL PERMANENT	0	5	0	0	1	0	0	0	0	0	**6**
Temporary employees	0	0	0	0	0	0	0	0	0	0	**0**
GRAND TOTAL	**0**	**5**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**6**

Occupational Levels	Male				Female				Foreign Nationals		Total
	A	C	I	W	A	C	I	W	Male	Female	
Top management	0	0	0	10	0	1	1	5	3	2	**22**
Senior management	0	0	1	2	3	1	2	4	0	1	**14**
Professionally qualified and experienced specialists and mid-management	4	1	0	1	6	1	1	6	1	1	**22**
Skilled technical and academically qualified workers, junior management, supervisors, foremen, and superintendents	8	1	2	4	19	4	1	14	2	5	**60**
Semi-skilled and discretionary decision making	0	0	0	0	5	1	0	0	0	0	**6**
Unskilled and defined decision making	1	0	0	0	2	0	0	0	0	0	**3**
TOTAL PERMANENT	13	2	3	17	35	8	5	29	6	9	**127**
Temporary employees	1	0	1	1	1	1	1	4	2	1	**13**
GRAND TOTAL	**14**	**2**	**4**	**18**	**36**	**9**	**6**	**33**	**8**	**10**	**140**

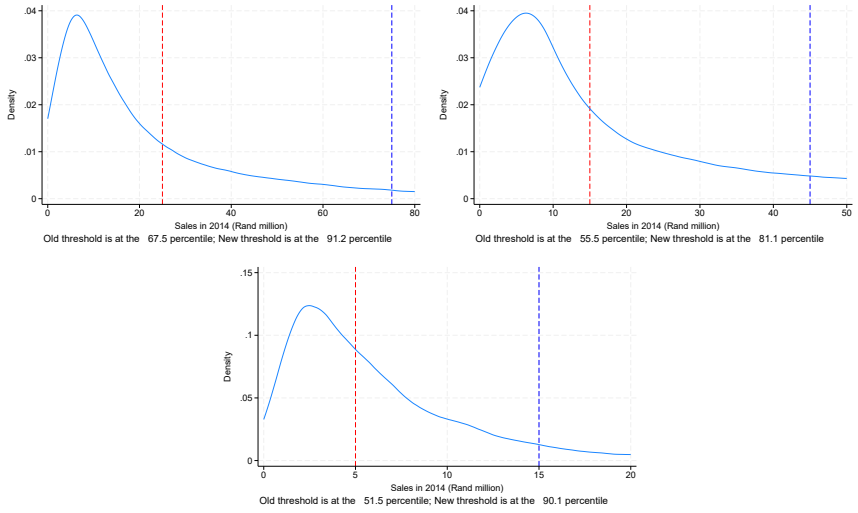
Notes: The occupational composition section of the Employment Equity Reports for two employers.

FIGURE 10: SALES DISTRIBUTIONS BY INDUSTRY



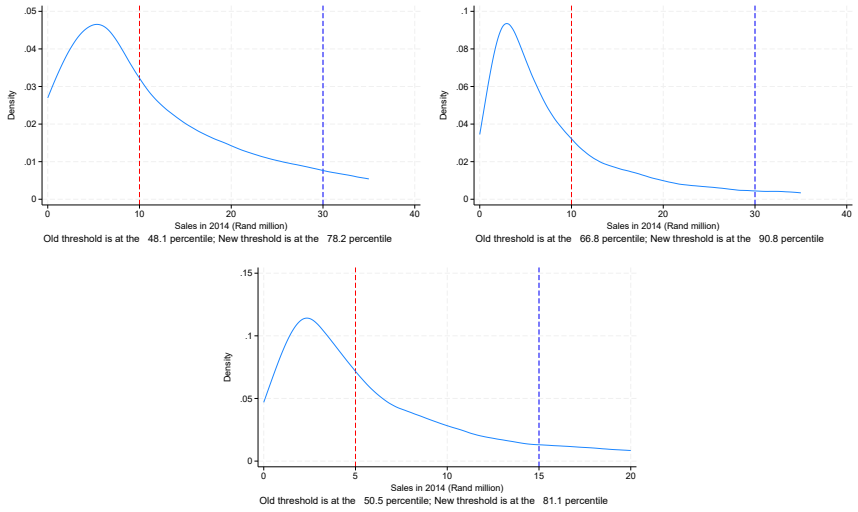
Notes: This figure shows the sales distribution of firms in "agriculture", "manufacturing" and "construction", for firms that have fewer than 50 employees. The red line shows the original sales threshold, and the blue line shows the new sales threshold.

FIGURE 11: SALES DISTRIBUTIONS BY INDUSTRY



Notes: This figure shows the sales distribution of firms in "wholesale trade, commercial agents and allied services", "retail and motor trade and repair services", "catering, accommodation and other trade", for firms that have fewer than 50 employees. The red line shows the original sales threshold, and the blue line shows the new sales threshold.

FIGURE 12: SALES DISTRIBUTIONS BY INDUSTRY



Notes: This figure shows the sales distribution of firms in "transport, storage and communications", "finance and business services", "community, special and personal services", for firms that have fewer than 50 employees. The red line shows the original sales threshold, and the blue line shows the new sales threshold.

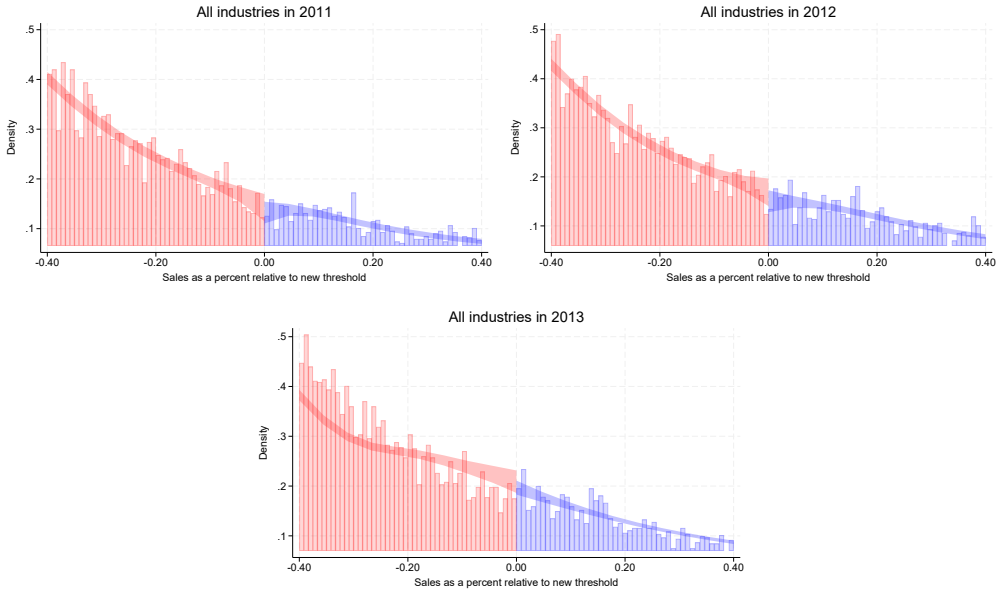


FIGURE 13: THE FIGURE SHOWS THE COUNT OF FIRM BY OCCUPATION, INDICATING WHAT SHARE OF FIRMS PROMISED TO CHANGE THE BLACK EMPLOYMENT SHARE WITHIN THAT OCCUPATION. THE FIGURE IS BASED ON THE EMPLOYMENT EQUITY REPORTS.

Table 4: Differences in Discontinuity Specification

	All	Agriculture	Manufactyring	Construction	Transportation	Finance	Personal Serv	Wholesale	Retail	Auto Rep., Sales	Hospitality
Panel A: Productivity											
ln(labor prod.)	0.04	0.07	-0.12***	0.06	-0.09	0.25***	0.1**	-0.03	-0.02	0.14**	-0.17**
s.e.	(0.02)	(0.09)	(0.04)	(0.07)	(0.09)	(0.07)	(0.05)	(0.08)	(0.04)	(0.07)	(0.07)
ln(sales)	0.04*	0.10	0.13***	0.06	-0.29***	0.21***	0.04	-0.05	0.02	0.07	-0.26***
s.e.	(0.02)	(0.08)	(0.04)	(0.07)	(0.09)	(0.08)	(0.04)	(0.08)	(0.05)	(0.07)	(0.08)
ln workers	0.00	0.04	0.22***	0.03	-0.26***	-0.05	0.00	-0.02	-0.01	-0.08*	-0.18**
s.e.	(0.02)	(0.04)	(0.04)	(0.05)	(0.07)	(0.05)	(0.03)	(0.05)	(0.05)	(0.04)	(0.08)
Panel B: Workers											
med ln(w)	-0.01	-0.09*	-0.09***	-0.09**	0.04	0.13***	0.02	-0.09**	0.04	0.10	0.08
s.e.	(0.01)	(0.05)	(0.03)	(0.04)	(0.05)	(0.04)	(0.04)	(0.04)	(0.03)	(0.06)	(0.07)
avg ln(w)	-0.01	-0.11	-0.13	0.11	0.13	0.21**	0.18**	-0.14	0.01	0.18	-0.23**
s.e.	(0.01)	(0.14)	(0.09)	(0.10)	(0.12)	(0.10)	(0.08)	(0.12)	(0.09)	(0.14)	(0.11)
avg age	0.01	-0.51	-1.10***	1.44***	2.54***	0.26	-0.15	-0.38	0.13	-1.03***	1.44***
s.e.	(0.10)	(0.39)	(0.25)	(0.36)	(0.43)	(0.28)	(0.30)	(0.37)	(0.27)	(0.36)	(0.45)
ln(female workers)	-0.01	0.02	0.13***	0.02	-0.05	-0.13**	-0.11**	-0.03	0.03	-0.16**	-0.15*
s.e.	(0.02)	(0.09)	(0.04)	(0.06)	(0.08)	(0.06)	(0.04)	(0.06)	(0.06)	(0.07)	(0.09)
ln(male workers)	0.00	0.10*	0.26***	0.02	-0.38***	0.02	0.02	-0.07	-0.04	-0.08	-0.28***
s.e.	(0.02)	(0.06)	(0.04)	(0.05)	(0.07)	(0.05)	(0.04)	(0.06)	(0.05)	(0.05)	(0.08)
Panel C: Separations											
separations	0.33	1.99	3.07***	0.62	-4.12**	-3.77***	2.94***	0.14	0.31	-2.09*	-0.11
s.e.	(0.45)	(1.76)	(0.84)	(1.29)	(1.84)	(1.41)	(1.13)	(1.16)	(0.99)	(1.18)	(1.47)
ln(separations)	-0.02	0.17	0.18*	0.05	-0.60***	-0.19*	0.09	-0.15	0.01	-0.24	-0.07
s.e.	(0.04)	(0.15)	(0.10)	(0.11)	(0.18)	(0.11)	(0.09)	(0.15)	(0.10)	(0.17)	(0.15)
avg ln(wage leavers)	0.02	-0.09	-0.00	0.10	-0.07	0.24**	0.13	-0.25**	0.04	0.10	-0.17*
s.e.	(0.03)	(0.12)	(0.09)	(0.11)	(0.12)	(0.11)	(0.10)	(0.12)	(0.08)	(0.14)	(0.10)
female separations	0.37	2.41*	1.09***	0.17	-0.55	-1.89**	0.71**	0.51	0.82	0.13	0.27
s.e.	(0.23)	(1.41)	(0.39)	(0.31)	(0.55)	(0.80)	(0.35)	(0.58)	(0.56)	(0.41)	(0.86)
male separations	-0.05	0.53	1.99***	0.59	-3.31**	-1.95**	2.12**	-0.20	-0.46	-2.09**	-0.31
s.e.	(0.29)	(1.00)	(0.56)	(1.06)	(1.52)	(0.78)	(0.89)	(0.62)	(0.54)	(0.89)	(0.79)
ln(fem. sep.)	0.11**	0.29	0.27**	0.16	0.13	-0.26**	0.17*	0.28*	0.13	-0.16	0.03
s.e.	(0.05)	(0.23)	(0.11)	(0.13)	(0.18)	(0.12)	(0.10)	(0.17)	(0.12)	(0.19)	(0.18)
ln(mal. sep.)	-0.04	0.03	0.19*	0.08	-0.44**	-0.18*	0.15*	-0.37**	0.03	-0.23	-0.24*
s.e.	(0.04)	(0.15)	(0.11)	(0.12)	(0.18)	(0.11)	(0.08)	(0.16)	(0.10)	(0.19)	(0.15)
ln(yg sep.)	0.03	0.30	0.39***	-0.03	-0.59***	-0.23*	0.10	0.29*	0.01	0.03	0.08
s.e.	(0.04)	(0.20)	(0.12)	(0.11)	(0.18)	(0.13)	(0.10)	(0.16)	(0.11)	(0.15)	(0.14)
ln(old sep.)	-0.02	-0.04	0.10	0.04	-0.29*	-0.01	0.02	-0.20	-0.02	-0.22	0.05
s.e.	(0.04)	(0.13)	(0.10)	(0.10)	(0.15)	(0.12)	(0.10)	(0.14)	(0.10)	(0.19)	(0.15)
ln(b50 sep.)	0.00	0.09	0.20**	0.02	-0.35**	-0.15	0.11	-0.00	0.02	-0.28	0.03
s.e.	(0.04)	(0.15)	(0.10)	(0.10)	(0.15)	(0.10)	(0.08)	(0.13)	(0.10)	(0.20)	(0.15)
ln(t50 sep.)	0.01	0.42**	0.13	0.09	-0.15	-0.02	0.17**	-0.15	-0.13	-0.12	0.07
s.e.	(0.04)	(0.18)	(0.10)	(0.11)	(0.13)	(0.13)	(0.08)	(0.14)	(0.10)	(0.15)	(0.14)

TABLE 5: DIFFERENCES IN DISCONTINUITY SPECIFICATION (CONT.)

	All	Agriculture	Manufactyring	Construction	Transportation	Finance	Personal Serv	Wholesale	Retail	Auto Repair, Sales	Hospitality
Panel D: New Hires											
new hires	0.03	3.04	4.22***	-0.35	-1.25	-2.82*	-0.60	0.27	0.66	-1.05	-0.87
s.e.	(0.51)	(1.92)	(0.93)	(1.73)	(1.88)	(1.49)	(1.40)	(1.06)	(1.20)	(0.83)	(1.39)
ln(new hires)	-0.01	0.23	0.39***	-0.06	-0.43**	-0.25*	-0.05	-0.14	0.06	-0.00	-0.15
s.e.	(0.05)	(0.16)	(0.12)	(0.15)	(0.17)	(0.13)	(0.11)	(0.15)	(0.11)	(0.14)	(0.15)
avg ln(wage new hires)	0.02	-0.11	-0.13	0.11	0.13	0.21**	0.18**	-0.14	0.01	0.18	-0.23**
s.e.	(0.03)	(0.14)	(0.09)	(0.10)	(0.12)	(0.10)	(0.08)	(0.12)	(0.09)	(0.14)	(0.11)
females new hires	0.14	2.62**	1.34***	-0.17	0.45	-1.68**	-0.35	0.55	0.88	-0.15	-0.12
s.e.	(0.20)	(1.29)	(0.43)	(0.44)	(0.50)	(0.78)	(0.51)	(0.65)	(0.70)	(0.36)	(0.86)
male new hires	-0.07	0.96	3.41***	0.12	-1.80	-0.87	0.09	-0.12	-0.26	-0.79	-0.71
s.e.	(0.35)	(1.08)	(0.69)	(1.37)	(1.57)	(0.81)	(1.10)	(0.75)	(0.59)	(0.61)	(0.91)
ln(fem. new hir.)	-0.01	0.45*	0.19*	-0.17	-0.14	-0.40***	0.01	0.09	0.13	-0.42**	-0.08
s.e.	(0.04)	(0.26)	(0.11)	(0.16)	(0.17)	(0.14)	(0.09)	(0.15)	(0.12)	(0.18)	(0.18)
ln(mal. new hir.)	-0.03	0.03	0.26**	-0.02	-0.47***	-0.17	-0.19	-0.02	0.08	-0.04	-0.25
s.e.	(0.05)	(0.18)	(0.10)	(0.16)	(0.17)	(0.13)	(0.13)	(0.17)	(0.13)	(0.15)	(0.17)
ln(yg. new hir.)	0.07*	0.39**	0.35***	-0.07	-0.40**	-0.14	0.05	0.10	0.05	0.22	0.03
s.e.	(0.04)	(0.19)	(0.11)	(0.14)	(0.17)	(0.11)	(0.11)	(0.15)	(0.12)	(0.17)	(0.20)
ln(old new hir.)	-0.03	0.05	0.36***	-0.04	-0.28*	-0.13	-0.08	-0.20	0.12	-0.31*	-0.11
s.e.	(0.05)	(0.16)	(0.11)	(0.15)	(0.16)	(0.13)	(0.10)	(0.15)	(0.11)	(0.16)	(0.17)
ln(b50 new hir.)	0.01	0.16	0.29***	0.03	-0.55***	-0.21*	0.09	0.01	-0.04	-0.04	0.00
s.e.	(0.04)	(0.17)	(0.11)	(0.13)	(0.17)	(0.12)	(0.10)	(0.15)	(0.12)	(0.15)	(0.18)
ln(t50 new hir.)	0.01	0.16	0.31***	0.04	-0.15	-0.18	-0.10	-0.02	0.09	-0.07	-0.28*
s.e.	(0.05)	(0.17)	(0.11)	(0.13)	(0.16)	(0.13)	(0.12)	(0.17)	(0.11)	(0.16)	(0.15)
unemp new hires for 1y or more	-0.16	-0.22	1.24***	0.04	-0.91**	-0.77**	-0.38	-0.59**	0.10	-0.21	-0.57
s.e.	(0.13)	(0.42)	(0.25)	(0.36)	(0.36)	(0.37)	(0.31)	(0.30)	(0.36)	(0.23)	(0.39)
avg ln(labor prod) of sending firms	0.05	0.21	0.12	0.06	-0.09	0.09	-0.13	0.25	-0.02	0.13	-0.05
s.e.	(0.05)	(0.23)	(0.12)	(0.15)	(0.19)	(0.16)	(0.12)	(0.19)	(0.12)	(0.18)	(0.16)
trained (0/1)	-0.01	-0.16	-0.03	-0.11	-0.17	0.18**	-0.02	-0.23**	0.01	0.29***	0.14
s.e.	(0.03)	(0.12)	(0.06)	(0.08)	(0.11)	(0.08)	(0.07)	(0.10)	(0.07)	(0.09)	(0.11)
ln (training/capita)	0.15	-0.34	0.04	1.06**	0.19	0.23	0.20	-0.44	-0.40	-0.41	1.50
s.e.	(0.14)	(0.63)	(0.25)	(0.43)	(0.49)	(0.34)	(0.38)	(0.48)	(0.40)	(0.40)	(0.93)
ln (capital)	-0.07**	0.04	0.10	-0.12	-0.33***	-0.11	-0.03	0.05	-0.19**	0.07	-0.24**
s.e.	(0.03)	(0.08)	(0.06)	(0.08)	(0.12)	(0.08)	(0.07)	(0.08)	(0.09)	(0.14)	(0.12)
ln(profit)	0.09	-0.07	0.07	-0.41**	-0.23	0.22	0.21*	0.08	0.14	0.09	-0.38*
s.e.	(0.06)	(0.26)	(0.10)	(0.18)	(0.24)	(0.17)	(0.11)	(0.16)	(0.13)	(0.22)	(0.20)

Notes: The table displays coefficient estimates for β_6 corresponding to specification 2. Each coefficient estimate is from a separate differences in discontinuity model. The bandwidth is MSE optimal bandwidth, potentially different for every regression. The effective number of observations potentially differs across all regressions. Both the MSE optimal bandwidth and the effective number of observations are available upon request (not displayed

TABLE 6: DIFFERENCES IN DISCONTINUITY SPECIFICATION (CONT.)

	All	Agriculture	Manufactyring	Construction	Transportation	Finance	Personal Serv	Wholesale	Retail	Auto Repair, Sales	Hospitality
Panel E: Wages											
med ln(w)	-0.01	-0.09*	-0.09***	-0.09**	0.04	0.13***	0.02	-0.09**	0.04	0.10	0.08
s.e.	(0.01)	(0.05)	(0.03)	(0.04)	(0.05)	(0.04)	(0.04)	(0.04)	(0.03)	(0.06)	(0.07)
avg ln(w)	-0.01	-0.11	-0.13	0.11	0.13	0.21**	0.18**	-0.14	0.01	0.18	-0.23**
s.e.	(0.01)	(0.14)	(0.09)	(0.10)	(0.12)	(0.10)	(0.08)	(0.12)	(0.09)	(0.14)	(0.11)
ln(avg w b50)	-0.01	-0.05	-0.09***	-0.04	0.03	0.20***	0.03	-0.16***	-0.02	0.07	-0.02
s.e.	(0.02)	(0.06)	(0.03)	(0.04)	(0.06)	(0.04)	(0.04)	(0.05)	(0.06)	(0.07)	(0.07)
ln(avg w t50)	-0.01	-0.03	-0.03	-0.02	0.05	0.11***	0.01	-0.09**	-0.01	0.08*	-0.18***
s.e.	(0.01)	(0.05)	(0.03)	(0.03)	(0.04)	(0.03)	(0.03)	(0.05)	(0.03)	(0.05)	(0.07)
ln(avg w director)	-0.23***	-0.05	-0.21	-0.99***	-0.11	-0.19	-0.55***	0.06	0.53*	0.49	-0.11
s.e.	(0.09)	(0.73)	(0.19)	(0.25)	(0.19)	(0.18)	(0.19)	(0.12)	(0.29)	(0.47)	(0.36)
Panel F: Types of Employees											
ln(directors)	0.01	0.05	0.01	0.03	-0.03	-0.08	0.09***	0.20***	0.02	0.09*	-0.27***
s.e.	(0.01)	(0.04)	(0.03)	(0.04)	(0.04)	(0.06)	(0.03)	(0.08)	(0.04)	(0.05)	(0.08)
ln(male dir.)	0.00	0.06**	0.05	0.05	-0.11**	-0.11**	0.04	0.14**	-0.03	0.04	-0.16**
s.e.	(0.01)	(0.02)	(0.03)	(0.04)	(0.05)	(0.05)	(0.03)	(0.06)	(0.04)	(0.04)	(0.08)
ln(born $<$ 1980)	0.00	-0.02	0.15***	0.08	-0.12**	0.01	-0.03	-0.04	0.01	-0.19***	-0.11*
s.e.	(0.01)	(0.05)	(0.03)	(0.05)	(0.06)	(0.04)	(0.04)	(0.05)	(0.04)	(0.05)	(0.07)
ln(born$\geq$1980)	-0.04*	-0.02	0.26***	-0.10	-0.53***	-0.02	0.03	0.02	-0.02	0.12*	-0.23**
s.e.	(0.02)	(0.07)	(0.06)	(0.07)	(0.11)	(0.07)	(0.05)	(0.08)	(0.07)	(0.07)	(0.10)

Notes: The table displays coefficient estimates for β_6 corresponding to specification 2. Each coefficient estimate i from a separate differences in discontinuity model. The bandwidth is MSE optimal bandwidth, potentially differen for every regression. The effective number of observations potentially differs across all regressions. Both the MSI optimal bandwidth and the effective number of observations are available upon request (not displayed here du to space limits). The different columns correspond to the different sectors the legislation names, and to which i assigns