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International spillovers of corporate scandal: evidence from the Harvey Weinstein event

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ABSTRACT

Exploiting a representative survey which overlapped with the revelation of the Harvey Weinstein scandal, we firstly discover that the scandal in the United States causally increased the preference for gender equality in Italy. Consistent with prospect theory, we then show that firms in the entertainment industry experienced excess loss in share value compared to their peers in other industries immediately following the revelation of the scandal. Further analyses suggest that this value impact is stronger for firms with a higher percentage of women executives. Our results are thus relevant for institutional investors holding a global portfolio.

1. Introduction

Corporate scandal and misconduct are both common and costly (e.g. Karpoff, Lee, and Martin 2008a; Dyck, Morse, and Zingales 2010; Cumming, Dannhauser, and Johan 2015a, 2016). For example, Dyck, Morse, and Zingales (2013) report that nearly 15% of U.S. firms engage in misconduct.[1] Karpoff, Lee, and Martin (2008a) and Dyck, Morse, and Zingales (2013) estimate that the cost of detected corporate misconduct ranges from 20% to 38% of a firm's value. However, these direct economic costs, albeit large, reflect only a fraction of the negative repercussions of corporate scandal. In a recent study, for instance, Giannetti and Wang (2016) discover that corporate scandal decreases household stock market participation, with negative ramifications on the cost of capital for all firms.

In this study, we contribute to this line of research by examining the international spillover effects of corporate scandal, another consequence of firm misconduct previously overlooked in the literature. In particular, drawing on prospect theory, we examine whether the revelation of the Harvey Weinstein scandal in the United States had a value impact on foreign companies similar to The Weinstein Company. This is an important question to ask because the amount of assets invested in global equity portfolios by US-based mutual funds has increased dramatically, from US$28 billion in 1990 to US$2776 billion in 2020.[2] The fundamental rationale for investing in a global portfolio stems from the average low level of global equity return correlations (e.g. Grubel 1968; Levy and Sarnat 1970; Goetzmann, Li, and Rouwenhorst 2005; Bekaert and Hodrick 2017). Our study on whether corporate scandal has a spillover value impact internationally is thus relevant to large institutional investors (e.g. mutual funds) and is closely related to the research that investigates the determinants of the recent increase in global equity return correlations (Goetzmann, Li, and Rouwenhorst 2005; Quinn and Voth 2008; Solnik and McLeavey 2009; Bekaert and Hodrick 2017).

The Harvey Weinstein scandal is ideal for our study for several reasons. First, it reflects classic agency conflicts underlying most types of corporate misconduct (e.g. Cumming, Dannhauser, and Johan 2015a). The agent

(i.e. Harvey Weinstein) benefits himself through sexual harassment at the expense of the firm and its shareholders. Indeed, shortly after the revelation of the scandal, The Weinstein Company reportedly had difficulties in raising additional capital, attracting high-quality projects and managing various liquidity issues before its bankruptcy in 2018.[3] Second, while financial misconduct has been researched extensively (e.g. Karpoff, Lee, and Martin 2008a, 2008b; Dyck, Morse, and Zingales 2010, 2013; Cumming, Dannhauser, and Johan 2015a, 2020), misconduct related to a toxic corporate culture and business ethics has received little attention in the current literature.[4] Lastly, the Harvey Weinstein scandal has attracted a substantial amount of media attention[5], yet scholarly research on the event is scarce.

Our hypotheses are embedded in prospect theory, developed by Tversky and Kahneman (1981, 1992) and recently advanced by Barberis, Mukherjee, and Wang (2016, 2020). These authors document that prospect theory has stronger empirical relevance in predicting asset prices than the expected utility framework. According to the theory, investors typically make investment decisions in two steps, what Barberis, Mukherjee, and Wang (2016) term 'representation' and 'valuation'. For any given investment (or risk), investors first form a mental representation of the gains and losses they associate with it ('representation'). This mental representation highly resembles a probability density function of investment returns. In the second step ('valuation'), investors weight all possible returns using the density function prescribed by the mental representation and make investment decisions based on the weighted value and the cost of the investment. Another notable element of the theory is that investors often overweight the tail outcomes and have a greater sensitivity to losses rather than to gains (Barberis, Jin, and Wang 2020).

Building on prospect theory, we predict that, immediately after the revelation of the Harvey Weinstein scandal, foreign investors (relative to the US) formed an updated mental representation of the gains and losses of their portfolio. This updated density function of portfolio returns captured two important features of the scandal: (a) change in preference for gender equality in the workplace, and (b) the risk of exposure to similar scandals in the near future.[6] Upon updating their mental distribution of portfolio returns, these investors then calculated the weighted returns with higher probability assigned to the lower tail (i.e. overweighting extreme losses), since The Weinstein Company had suffered various negative shocks to its future cash flows. Lastly, by comparing the weighted value to the share price, they adjusted their portfolio by selling firms similar to The Weinstein Company, which, in turn, decreased the value of those firms. To summarize, we conjecture that the revelation of the Harvey Weinstein scandal decreased the value of similar firms overseas.

Empirically assessing the impact of the Harvey Weinstein scandal on firm value in other countries is challenging due to the lack of data on investors' preference for gender equality in the workplace and the difficulty in estimating the causal impact of the scandal on such preference. Yet it is crucial to test this causal relationship because (a) it forms an important first step in investment decision making under prospect theory, as elaborated above; and (b) it helps alleviate the omitted variable concern arising from potential concurrent events overseas that may exert similar value impact on firms. In other words, it is less likely that an event other than the scandal can drive both the change in investors' preference for gender equality in the workplace and firm value.

Italy provides an ideal setting that enables us to address these empirical challenges. In particular, the European Social Survey (ESS), a large-scale, representative survey conducted every 2 years in Europe since 2002, offers information on people's attitudes towards gender equality. Crucial to our identification strategy, the revelation of the Harvey Weinstein scandal during 5–6 October 2017 accidentally overlapped with the fieldwork of the ESS in Italy.[7] Among the respondents, this created a random exposure to the Harvey Weinstein scandal before being interviewed. Therefore, by comparing the preference for gender equality of respondents surveyed before and after the revelation of the scandal, we can credibly estimate the causal effect of the Harvey Weinstein scandal on people's attitudes towards gender equality.

To preview our results, we firstly document that the revelation of the Harvey Weinstein scandal causally increased people's preferences for gender equality in the workplace in Italy. This result is robust when we control for respondents' age, years of education, type of employment and size of household, and when we restrict our sample to those respondents interviewed within 60, 30 and 15 days before and after the revelation of the scandal.

Next, we examine the value implication of the scandal on Italian firms. To conduct our analysis, we firstly obtain information on daily stock prices from the Compustat Global database. Following the literature (e.g. Lins et al. 2020), we restrict our analysis to the period from 1 September to 30 November 2017 and use 5–6 October as

the revelation window of the scandal. We define a firm as similar to The Weinstein Company if it is classified as an entertainment company by the North American Industry Classification System (NAICS). As an alternative, we also use the Global Industry Classification Standard (GICS) classification system.

We discover that immediately after the revelation of the Harvey Weinstein scandal, firms in the entertainment industry suffered from a substantial price reduction compared to their otherwise similar peers. In this analysis, we are able to control for firm and date fixed effects; thus, our result is not influenced by firm-level time-invariant characteristics, such as manager ability and firm culture. In addition, since our sample covers a relatively short period of time (i.e. 1 September to 30 November 2017), our results are also not influenced by firm financials typically measured at annual intervals.[8] In further analysis, we find that entertainment industry firms headquartered in regions with higher increases in workplace gender equality preference suffered greater excess losses, implying that the value reduction is indeed due to the increased preference for gender equality. The analysis thus provides evidence for the underlying channel and further alleviates the concern that our results might be driven by concurrent events.

Lastly, we examine whether the negative impact of the Harvey Weinstein scandal on firm value varies across firms in a theoretically consistent manner. This analysis helps us isolate the effect of the scandal on firm value from industry-specific time-variant confounders by allowing the inclusion of industry∗date fixed effects. Particularly, if the Harvey Weinstein scandal negatively affected firm value through altering investors' mental representation of the risk of being exposed to similar scandals, then such value impact should be more pronounced among firms with a relatively higher proportion of women managers (when the majority of executives are men), since women are more likely to be at risk of being sexually harassed. In other words, investors may see firms with a relatively larger share of women managers as having higher exposure to sexual scandals in the future, and thus readjust their portfolios accordingly. Our results are consistent with this conjecture. We find that the adverse value impact of the scandal is mainly driven by firms with a relatively large share of female executives. We also conduct a similar test on the extensive margin and find that firms with one or more women managers (as proxied by a female manager indicator) are particularly affected by the scandal in general. In addition, our results remain robust when we perform the estimation with a matched sample, where firms with a larger share of female executives are matched to otherwise similar firms with a smaller share using the propensity score matching (PSM) method.[9]

This paper is closely related to two strands of literature. First, it contributes to the literature that studies the causes and consequences of corporate misconduct (e.g. Persons 2006; Karpoff, Lee, and Martin 2008a; Sims 2009; Dyck, Morse, and Zingales 2010; Soltani 2014; Cumming, Dannhauser, and Johan 2015a; Cumming, Leung, and Rui 2015b; Cumming, Hou, and Lee 2016; Blanc et al. 2019). For example, Persons (2006) finds that upon the revelation of fraud and lawsuits, firms involved in such events have higher executive turnover and lower compensation compared to a group of matched peers. In a recent work, Blanc et al. (2019) document a change of disclosure practices at Siemens AG following the revelation of a corruption scandal in 2006. While insightful, none of the existing studies examines the international spillover effects of corporate scandal. Our paper fills this gap by presenting evidence that the Harvey Weinstein scandal causally reduced the value of similar firms overseas through altering investors' preferences for gender equality in the workplace. The results of our study are thus highly relevant for large institutional investors (e.g. mutual funds) holding a global equity portfolio. Relatedly, our study also speaks to the literature assessing the determinants of the recent increase in global equity return correlations (Goetzmann, Li, and Rouwenhorst 2005; Quinn and Voth 2008; Solnik and McLeavey 2009; Bekaert and Hodrick 2017).

Our study also adds to the literature on prospect theory. Developed by Kahneman and Tversky (1979) and Tversky and Kahneman (1981, 1992), prospect theory has recently been shown to better describe the empirical patterns in asset prices than the expected utility framework (Barberis, Mukherjee, and Wang 2016, 2020). For example, Barberis, Mukherjee, and Wang (2016) document that in 47 national stock markets, a firm whose past share return distribution has a high prospect theory value (calculated using the mental probability density function of all possible returns), on average, earns a low subsequent return. Using the Harvey Weinstein scandal as a natural experiment, we provide new evidence that supports prospect theory. In particular, we show that the revelation of the scandal has caused investors to update their mental representation with regard to the risk of exposure to similar scandals and the change of preference for workplace gender equality. This in turn leads

investors to adjust their investment portfolio, which is ultimately reflected in the negative returns for firms that are similar to The Weinstein Company.

A contemporaneous paper by Lins et al. (2020) also studies the value impact of the Harvey Weinstein scandal, but focuses on US firms. Building on the literature that has studied the relationship between firm culture and value, Lins et al. (2020) find that in the US, firms with women among the top five highest paid executives, which the authors use as a proxy for nonsexist culture, earned excess returns during the revelation of the Harvey Weinstein scandal. Our paper is distinct from Lins et al. (2020) on two fronts. First, while Lins et al. (2020) study the value implication within the US, we focus on the international spillover effects of the event, with important implications on the investment strategy of mutual funds and other large institutional investors. Second, our empirical analysis is built on prospect theory, which predicts that foreign investors would adjust their portfolios based on the updated representation of the risk of exposure to similar scandals. Our results, therefore, provide important empirical support to the theory.

The rest of the paper is organized as follows. Section 2 describes the sample and data. Section 3 examines the effects of the Harvey Weinstein scandal on people's preferences for gender equality in the workplace. Section 4 investigates the value impact of the scandal on firms in Italy and conducts robustness checks. Section 5 concludes.

2. Sample, data and variable definitions

Our sample is constructed using data obtained from the European Social Survey (ESS), Compustat Global database and ORBIS, complemented by hand-collected information on the gender composition of executive-level managers. Table 1 presents the summary statistics.

2.1. The ESS and the gender equality measure

We obtain data on people's preference towards workplace gender equality from the ESS. The ESS is a large-scale, representative survey conducted every 2 years in Europe since 2002. In the current paper, we use the 2016 wave (i.e. the eighth round of the survey), because its fieldwork in Italy overlapped with the revelation date of the Harvey Weinstein scandal. This created a source of random exposure to the scandal for the respondents.

To measure workplace gender equality attitudes, we construct a variable, *Equal Gender Rights*, using the answers to the question 'Do you agree that men should have more right to a job than women when jobs are scarce?'. The variable *Equal gender rights* ranges from 1 to 5, which corresponds to 'Agree strongly', 'Agree', 'Neither agree nor disagree', 'Disagree' and 'Disagree strongly'. As shown in Table 1 panel A, *Equal Gender Rights* has a mean of 3.76 (3.39) for female (male) respondents. This suggests that, on average, female respondents are more likely to disagree with gender inequality at the workplace.

The ESS also provides information on the number of people living regularly in the respondent's household (*No. of Household Members*), the respondent's age (*Age*), years of full-time education completed (*Education*) and employment type (*Employment*). There are four employment types: employed, self-employed, running own family business and others. We construct three indicator variables for the first three types. Table 1 panel A presents the summary statistics of the variables. We also compare in the Appendix Table A2 the mean values of the variables between pre- and post-scandal periods for the female and male respondents. Since all the characteristics are found to be important influencing factors for people's attitudes (e.g. Nunn and Wantchekon 2011), we make sure to control for them in our analysis.

2.2. Measures of stock returns and the entertainment industry

To test the effects of the Weinstein scandal on firm value, we obtain daily share price information for Italian firms from the Compustat Global database. Our primary measure for stock returns, *Raw Daily Stock Returns*, is calculated using the following formula, where i denotes firm and t represents date:

$$Raw\ Daily\ Stock\ Returns_{i,t} = \frac{Closing\ share\ price_{i,t}}{Closing\ share\ price_{i,t-1}} - 1$$

Table 1. Summary statistics.

Panel A: Survey results and respondents' characteristics

| | Female Respondents | | | | | Male Respondents | | | | |
| | (N = 3253) | | | | | (N = 2589) | | | | |
	Mean	Median	SD	Min	Max	Mean	Median	SD	Min	Max
Equal Gender Rights	3.76	4.00	1.16	1.00	5.00	3.39	4.00	1.19	1.00	5.00
No. of Household Members	2.47	2.00	1.26	1.00	11.00	2.60	2.00	1.19	1.00	8.00
Age	50.75	51.00	18.87	15.00	96.00	48.06	48.00	18.62	15.00	97.00
Education	12.02	12.00	3.74	1.00	40.00	12.11	12.00	3.50	1.00	39.00
Employed	0.90	1.00	0.31	0.00	1.00	0.83	1.00	0.38	0.00	1.00
Self-employed	0.08	0.00	0.28	0.00	1.00	0.15	0.00	0.36	0.00	1.00
Family business	0.02	0.00	0.15	0.00	1.00	0.02	0.00	0.13	0.00	1.00

Panel B: Entertainment industry and gender composition of executive teams of Italian listed firms

| | Italian Listed Firms (N = 31,518) | | | | |
	Mean	Median	SD	Min	Max
Entertainment Industry (NAICS)	0.01	0.00	0.10	0.00	1.00
Entertainment Industry (GICS)	0.03	0.00	0.17	0.00	1.00
Indicator Female Executives	0.45	0.00	0.50	0.00	1.00
Fraction Female Executives	0.12	0.00	0.18	0.00	1.00

The sample consists of interviews of the European Social Survey (ESS), eighth round, which took place during the ±60 days surrounding 5 October 2017 when the Harvey Weinstein scandal was first widely reported in the media. Panel A shows the summary statistics of survey results and respondents' characteristics in the period by respondents' gender. *Equal Gender Rights* is an ordered variable indicating respondent's attitude to the claim 'Men should have more right to a job than women when jobs are scarce'. 0 suggests 'Agree strongly' and 5 suggests 'Disagree strongly'. *No. of Household Members* is the number of people living regularly as a member in the respondent's household. *Age* is the age of the respondent. *Education* is the years of full-time education completed. *Employed, self-employed* and *family business* are dummy variables indicating if the respondent's employment status falls into the relevant type. Panel B shows the summary statistics for entertainment industry and female leadership variables of Italian listed firms. *Entertainment Industry* is a dummy variable equal to 1 if a firm is categorized into the entertainment industry under NAICS or GICS. *Indicator Female Executives* is a dummy variable set to 1 for firms that have at least one female executive. *Fraction Female Executives* is the percentage of women in the executive teams.

We drop observations with missing returns from the sample. Our sample spans from 1 September to 30 November 2017 and, as shown in Table 1 panel B, has 31,518 firm-date observations for raw daily stock returns of Italian listed firms.

We also compute abnormal returns as the differences between raw returns and expected returns, where the expected returns are estimated by the market model specified as follows:

$$R_{i,t} = \alpha_i + \beta_i R_{m,t} + \varepsilon_{i,t}$$

where $R_{i,t}$ is the raw daily stock returns and $R_{m,t}$ is the daily market returns. For each firm *i*, the model is estimated over a 180-day estimation window ending 10 trading days prior to the event date, with the FTSE MIB index as the market proxy. The abnormal returns are computed as the differences between the daily stock returns ($R_{i,t}$) and the predicted value of the model ($\widehat{R_{i,t}} = \widehat{\alpha_i} + \widehat{\beta_i} R_{m,t}$). By requiring the number of observations in the estimation window to be at least 150 trading days, we end up with 28,250 firm-date observations for the abnormal daily stock returns.

In a robustness test, we use abnormal returns estimated by the Fama–French three-factor (Fama and French 1993) or five-factor model (Fama and French 2015). The market factors are Fama–French European factors obtained from the data library of Kenneth R. French.

To identify firms similar to The Weinstein Company, i.e. entertainment industry firms, we employ two industry classification systems widely used in the prior literature, the NAICS and the GICS. The dummy variable *Entertainment industry* is set to 1 for firms with the relevant industry codes. Table 1 panel B shows that according to the NACIS (GICS), 1% (3%) of our sample are entertainment industry firms, which corresponds to 315 (946) firm-date observations.

2.3. Variables of gender composition of the executive team

To assess whether the effect of the scandal is more pronounced among firms with a relatively higher proportion of female executives (i.e. C-suite managers), we collect data on C-suite managers from two sources.

We first obtain executives' name, gender and tenure of all Italian listed firms in 2017 from ORBIS, a database maintained by the Bureau van Dijk (BvD).[10] We then merge the ORBIS data with the Compustat data by firm names through three rounds of matching. We first conduct exact name matching, then employ a fuzzy name-matching algorithm for the unmatched firms, and finally we manually check if any remaining unmatched firms are in the ORBIS managers database. Of the Compustat firms, 80% are successfully matched with the manager data in ORBIS.

We then hand-collect managers' information of the remaining 20% of firms from their 2017 annual reports. We will read through the director report, strategy report and renumeration report to obtain managers' names and positions if a firm does not list C-suite managers' names in a separate section in the report. Most firms report names, titles and sometimes photos of C-suite managers, through which we can judge their gender. However, if the executives' gender cannot be determined from the information provided in the annual reports, we conduct Google searches and judge by photos associated with the names. Based on these evaluations, we find no instances of ambiguous gender for the purposes of constructing the variables of gender composition.

We measure the gender composition of executive teams by *Fraction Female Executive*, calculated as the percentage of women in the executive teams. The variable captures both intensive and extensive margins. We also construct a dummy variable, *Indicator Female Executive*, indicating whether a firm has at least one female executive, which captures the extensive margin.

As shown in panel B of Table 1, the variable *Fraction Female Executive* has a mean of 12%, and the mean of *Indicator Female Executive* is 0.45, suggesting that 45% of our sample firms have at least one female executive. The statistics imply that women are on average underrepresented to a large extent in the executive teams of Italian listed firms.

## 3. The Harvey Weinstein Scandal and preference for gender equality

We start by assessing whether people's preference towards workplace gender equality have changed in Italy following the revelation of the Harvey Weinstein Scandal in the US.

The Weinstein scandal was first widely revealed to the public on 5 October 2017.[11] Figure 1(a) shows that the volume of Google search for 'Harvey Weinstein' in 2017 experienced a spike in October. Figure 1(b) demonstrates the Google search trend of 'Harvey Weinstein' in October 2017 for different regions in Italy. As shown, recognition of the Harvey Weinstein scandal reached every region in Italy, and the most affected areas were Lazio and Friuli-Venezia Giulia. In sum, the Google search trends show that the American corporate scandal attracted public attention in Italy. We next provide evidence on the impact of the scandal on the gender equality preference.

As discussed earlier, our empirical strategy exploits the exogenous overlap on timing of the ESS fieldwork in Italy with the Weinstein scandal revelation. The overlap enables us to compare respondents' attitudes towards gender equality between two relatively short periods before and after the scandal's revelation and thereby credibly estimate the causal effect of the scandal on gender equality. Our proxy for gender equality preference is the variable *Equal Gender Rights*, which measures to what extent a respondent disagrees with the claim that 'Men should have more right to a job than women when jobs are scarce'. A higher value suggests stronger disagreement (i.e. stronger preference for workplace gender equality). We expect that people are more likely disagree with the statement after the revelation of the scandal.

Figure 2 plots the change in the average disagreement level before and after the scandal of the full sample over the period from 5 August to 5 December 2017 (i.e. ±60 days of the event date). The figure reveals a rise in the preference for workplace gender equality, evident by an increase in the disagreement level from 3.4 to 3.7 after the Weinstein scandal revelation. We also perform a placebo test by splitting the sample by respondents' gender. If the shift in gender equality preference is indeed a result of the scandal revelation, we should observe a larger increase in gender equality among female respondents, as they are more likely to be affected by the event because

(a) Country-level Google search trend of "Harvey Weinstein" in 2017
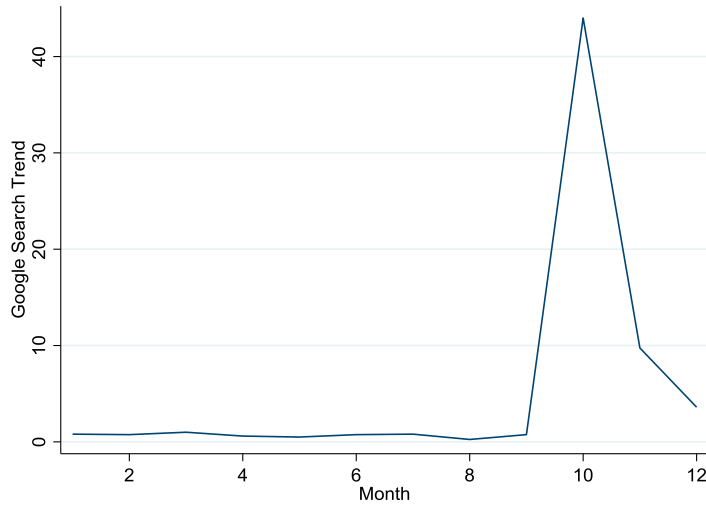
(b) Google search trend of "Harvey Weinstein" in October 2017 by region

Figure 1. Google search trend of 'Harvey Weinstein' of 2017 in Italy.

Note: This figure plots (a) the aggregated country-level weekly Google search trend of 'Harvey Weinstein' over the year 2017 in Italy, and (b) the Google search trend in October 2017 for the 20 regions of Italy.

the victims were women. This is precisely what we find. As shown in Figure 2, the increase in gender equity preference is primarily driven by the female group, where the average disagreement score exhibits a substantial rise from 3.5 to 3.9. On the other hand, the increase in the disagreement level among male respondents is trivial, less than 0.1.

Next, to examine whether the increase in gender equality preference revealed by Figure 2 is statistically significant, we employ a regression framework and estimate the following specification using survey data in the period from 5 August to 5 December 2017:

$$Equal\ Gender\ Rights_{i,t} = \alpha + \beta Post_t + \varepsilon_{i,t} \tag{1}$$

where *Post* is a dummy variable that equals 1 for 5 October 2017 and all days after. Our coefficient of interest, β, measures the impact of the event on gender equal rights preference. We estimate equation (1) using the ordered logistic regression, as *Equal Gender Rights* is an ordinal variable, and cluster the standard errors at the region
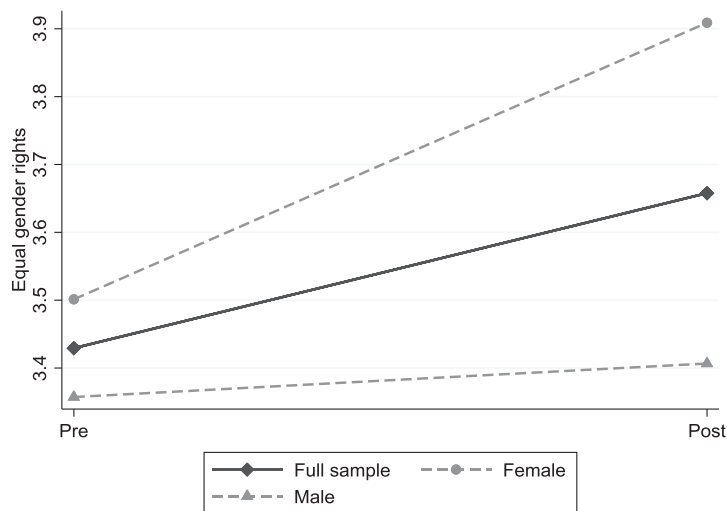
Figure 2. The Harvey Weinstein scandal and preference for gender equality: univariate analysis.

Note: This figure plots the average value of *Equal Gender Rights* in the 60-day period before and 60-day period after the scandal revelation date (5 October 2017) for the full, female and male samples, respectively. Variable definitions are shown in Table 1.

level to allow for heteroskedasticity. Detailed definitions are discussed in Section 2 and shown in the Appendix Table A1.

We estimate the specification by the full sample and also subsamples split by gender. As reported in Table 2 column (1), the regression results suggest that the preference for workplace gender equality increased significantly in Italy after the US corporate scandal, and thus support our findings from the univariate analysis. Specifically, the coefficient on *Post,* estimated by the full sample, is positive and significant at the 5% level. The estimate ($\hat{\beta} = 0.325$) is also economically large. The mean of the disagreement level is 3.4, which represents a natural position towards gender inequality, and an increase of 0.325 takes the natural position to one explicitly against gender inequality. Furthermore, as shown in columns (2) and (3), the coefficient estimate becomes larger when we run the regression with the female sample ($\hat{\beta} = 0.557$), whilst the estimate is much lower and statistically insignificant in the estimation of the male sample ($\hat{\beta} = 0.044$). This confirms our previous finding that the increase in gender equality preference is driven by the female group.

We next conduct several robustness tests to show that our baseline finding is robust when we control for additional variables and when we restrict our sample to a shorter period. As our baseline results are mainly driven by the female group, we perform the robustness checks within the subsample of female respondents. First, since the revelation of the Harvey Weinstein scandal was followed by the #MeToo movement, we control for a dummy variable set to 1 for 15 October 2017, the day when the #MeToo movement was launched, and all days after. This addresses the concerns that our baseline results might be driven by the #MeToo event rather than the scandal revelation.[12] Table 3 column (1) shows that our finding is robust to including the event dummy variable for the #MeToo movement. In addition, the estimated coefficient on the #MeToo variable is neither economically nor statistically significant. This indicates that the revelation of the scandal, rather than the #MeToo movement, was the event that raised people's preference for workplace equal gender rights in Italy.

Another concern is that the findings might be driven by the changes in respondents' characteristics that affect preference for gender equal rights. However, as the survey respondents were randomly drawn and our sample covers a short period within a year, it is unlikely that respondents' characteristics would change significantly before and after the event. Indeed, as shown in the Appendix Table A2, most of the respondents' characteristics are statistically indifferent before and after the event. Nevertheless, we re-estimate equation (1) by controlling for *No. of Household Members*, *Age*, *Education*, the three indicator variables for *Employment* and region fixed effects. All variables are defined in Section 2 and Table A1 of the Appendix. In addition, we include region fixed

Table 2. The Harvey Weinstein Scandal and preference for gender equality: baseline results.

	Equal Gender Rights		
	Full sample	Female	Male
	(1)	(2)	(3)
Post Oct 5	0.325**	0.557***	0.044
	(0.159)	(0.150)	(0.210)
Observations	5842	3253	2589
Pseudo R^2	0.003	0.007	0.000
Clustering	Region	Region	Region

This table presents the change in the attitude of female and male respondents to equal gender rights to jobs after the revelation of the Harvey Weinstein scandal. The dependent variable, *Equal Gender Rights*, is defined in Table 1. *Post Oct 5* is an indicator variable set to 1 for 5 October 2017 and all days after. Columns (1)–(3) ((4)–(6)) report the results estimated by the sample of female (male) respondents during the ±60 days surrounding the scandal revelation day (5 October 2017). Standard errors are clustered at the region level and are reported in parentheses. ***,**,* denote significance levels at 1%, 5% and 10%, respectively.

Table 3. The Harvey Weinstein scandal and preference for gender equality: robustness checks.

	Equal Gender Rights			
	(1)	(2)	(3)	(4)
Post Oct 5	0.408***	0.469**	0.528***	0.748**
	(0.092)	(0.189)	(0.188)	(0.307)
Post Oct 15	0.025			
	(0.118)			
Observations	3253	2573	1252	670
Pseudo R^2	0.007	0.066	0.050	0.060
Controls	No	Yes	Yes	Yes
Region F.E.	No	Yes	Yes	Yes
Sample window	±60 days	±60 days	±30 days	±15 days
Clustering	Region	Region	Region	Region
Sample	Female	Female	Female	Female

This table demonstrates the change in the preference for workplace gender equality after the revelation of the Harvey Weinstein scandal of female respondents. The dependent variable, *Equal Gender Rights*, is defined in Table 1. *Post Oct 5* is defined in Table 2. *Post Oct 15* is a dummy variable equal to 1 for 15 October 2017, the day when the #MeToo movement was launched, and all days after. Columns (1) and (2) show the results estimated by the sample of women respondents ±60 days of the event window. Results in column (2) are estimated by the model after controlling for region fixed effects and respondents' characteristics. Columns (3) and (4) report results estimated by the women respondent sample in the periods of 30 and 15 days prior and after the event, respectively, controlling for region fixed effects and additional controls. Additional controls are *No. of Household Members*, *Age*, *Education*, and three dummy variables indicating employment type, all defined in Table 1. Standard errors are clustered at the region level and reported in parentheses. ***,**,* denote significance levels at 1%, 5% and 10%, respectively.

effects in the regression to control for time-invariant region-specific factors. Table 3 column (2) reports the results, which suggest that our result is robust to controlling for the respondents' characteristics and region fixed effects.

Finally, as for most shock-based empirical design, one concern is that the shock could happen simultaneously with other events, which may affect the outcome variable. To isolate the effects of the event from other factors, we further limit our sample to a period ±30 or ±15 days surrounding the scandal revelation. As shown in Table 3 columns (3) and (4), the estimated coefficients on *Post* are economically and statistically significant. In fact, when

we use the ±15 days sample the estimate is 0.748, larger than our baseline estimate (i.e. 0.557). This indicates that the disagreement level increased to a larger extent within a shorter period surrounding the scandal revelation, and hence provides strong evidence for our causal inference on the relationship between the Weinstein scandal revelation and the increase in the preference for gender equality at the workplace.

Overall, the results reported in Tables 2 and 3 provide compelling evidence that the Harvey Weinstein scandal causally increased the preference for workplace gender equality in Italy. We next assess the value implication of the scandal on Italian listed firms.

4. The Harvey Weinstein scandal and firm value

### 4.1. The Harvey Weinstein scandal and entertainment industry firms

In this section, we assess whether and how the revelation of the Harvey Weinstein scandal affected the stock performance of listed firms in Italy. We start by presenting graphical evidence which shows that firms similar to The Weinstein Company, i.e. entertainment industry firms, experienced excess losses over the period when the Weinstein scandal unfolded. Figure 3 plots the daily stock returns of firms in entertainment industry and the other industries within ±3 days relative to 5 October 2017. We use raw returns adjusted for firm fixed effects to capture excess returns during the event window. As shown, on October 5, entertainment firms on average suffered an excess loss of −0.7% while firms in the other industries on average earned an excess return of 0.1%; on October 6 entertainment firms suffered a further excess loss of −2.5% whilst firms in the other industries had a much smaller excess loss of −0.4%.

4.1.1. Empirical specification and baseline results

We then use ordinary least squares (OLS) regressions to further assess the value reduction of the entertainment industry following the revelation of the Harvey Weinstein scandal. We estimate the following specification with the raw daily returns of Italian firms over a 3-month period from 1 September to 30 November 2017:

$$Raw\ Daily\ Stock\ Returns_{i,t} = \alpha + \beta\ Entertainment_i \times Oct5 - 6_t + \delta_t + \varphi_i + \varepsilon_{i,t} \tag{2}$$

where *Raw Daily Stock Returns* is daily percentage change in share price. *Entertainment* is a dummy variable set to 1 for firms classified in the entertainment industry by either the NAICS or GICS. *Oct 5–6* is a dummy
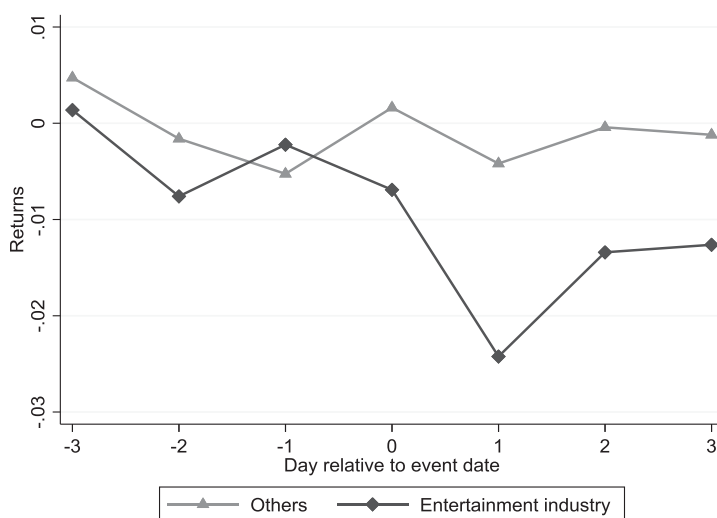
Figure 3. Daily stock returns surrounding 5 October 2017.

Note: This figure plots the average daily excess returns +/−3 days surrounding, 5 October 2017, for entertainment industry firms and firms in the other industries. Excess returns are measured by the raw returns adjusting for firm fixed effects. Entertainment industry firms are classified by the NAICS.

variable set to 1 for a 2-day event window, 5 and 6 October 2017. Although the scandal was first made public on 5 October, we define the event window as the 2 days as there were more stories about the scandal on 6 October than on 5 October.[13]

We include time (daily) fixed effects (δ_t) in the specification to control for market movements, and firm fixed effects (φ_i) to control for time-invariant firm characteristics. As we restrict the estimation to a relatively short period (i.e. 3 months), most firm characteristics, such as size, leverage, profitability and corporate governance, are likely to remain unchanged over the period and are thus captured by the firm fixed effects. The entertainment industry indicator itself is also captured by the fixed effects and is not explicitly included in the specification.

To stress, by including the time and firm fixed effects, we essentially compare the raw returns during the 2-day event window to the average returns outside the window, adjusting for market movements. To wit, we use the average return outside the event window as the benchmark return for each firm. Therefore, our coefficient of interest, β, in equation (2) measures a difference-in-difference on returns, where the first difference is between during and outside of the event window, and the second is between firms in the entertainment industry and those in the other industries. However, the method is subject to a concern that a firm may experience abnormal gains or losses due to significant events that happened outside the scandal revelation window. For robustness, in some regressions we use the abnormal returns defined in Section 2 as the dependent variable. Standard errors are clustered at the industry level to allow for heteroskedasticity in all the regressions.

Our results, as shown in Table 4, suggest that entertainment industry firms in Italy suffered additional excess losses relative to their peers in other industries during the revelation of the Weinstein scandal. For example, when the entertainment industry firms are classified by the NAICS, as presented in column (1) of Table 4, the estimate of β is negative and significant at the 1% level. The estimated coefficient ($\hat{\beta} = -0.015$) suggests that on average an entertainment industry firm had a 1.5% additional excess loss relative to firms in the other industries on each day during the revelation window. The additional daily loss is equivalent to more than half of the standard deviation of daily returns of entertainment industry firms (i.e. 2.6%). Over the 2-day window, an entertainment industry firm on average suffered a total additional loss of approximately 3% (i.e. 1.5% each day * 2 days). Overall, the estimates imply that the effect of the Weinstein scandal on firm value is economically significant. Moreover, as shown in column (2) of Table 4, the coefficient β estimated by using the GICS as the classification system is also negative and significant at 1%.

In Table 4 columns (3) and (4), we present the regression results with market-model abnormal returns as the dependent variable, for robustness. The estimates are statistically and economically similar to the ones shown in columns (1) and (2). We also use the abnormal returns estimated by the Fama–French three-factor or five-factor

Table 4. Firm value and entertainment industry.

Industry Classification System =	Raw Daily Stock Returns		Abnormal Daily Stock Returns	
	NAICS	GICS	NAICS	GICS
	(1)	(2)	(3)	(4)
Entertainment industry × *Oct 5–6*	−0.015***	−0.004***	−0.015***	−0.005***
	(0.001)	(0.001)	(0.002)	(0.001)
Observations	31,518	31,518	28,250	28,250
R-squared	0.022	0.022	0.057	0.057
Firm F.E.	Yes	Yes	Yes	Yes
Time F.E.	Yes	Yes	Yes	Yes
Clustering	Industry	Industry	Industry	Industry

This table shows the regression estimates of daily stock returns of Italian firms on the interaction of the entertainment industry indicator and the time window indicator, controlling for firm and time (daily) fixed effects. The sample period spans from 1 September to 30 November 2017. The entertainment industry is classified by either the NACIS or the GICS. Daily stock returns are measured by either the raw returns or market-model abnormal returns with the FTSE MIB index as the market proxy. *Oct 5–6* is set to 1 for the 2-day window 5 and 6 October 2017, when the scandal was first widely revealed to the public. Standard errors are clustered at the industry level and reported in parentheses. ***,**,* denote significance levels at 1%, 5% and 10%, respectively.

model as the dependent variable. As shown in the Appendix Table A4 panel A, our results are robust to altering estimation models of abnormal returns.

In addition, although the firm characteristics are controlled by including the firm fixed effects, we further perform propensity score matching (PSM), where the entertainment industry firms are matched to their peers in other industries on size and leverage as of the start of our sample period (e.g. An 2020). Variable definitions are shown in the Appendix Table A1. The balancing check and the results estimated by the matched sample are presented in the Appendix Table A3. As shown, the differences in financial characteristics between the two groups are statistically insignificant in the matched sample, and our results remain robust after the PSM.[14,15]

4.1.2. Mechanism: increases in preference for workplace gender equality

So far, we have provided reduced-form evidence showing that the corporate scandal has international spillover effects. To further alleviate the concern that the price reduction we observe might be driven by concurrent events, we present evidence in this section on the underlying mechanism.

As predicted by prospect theory, immediately following the revelation of the Weinstein scandal, firms similar to The Weinstein Company were assigned lower value because investors updated their mental representation of the gains and losses, capturing changes in workplace gender equality preference and risks of exposure to similar scandals. We document in Section 3 that the scandal indeed increased preference for workplace gender equality in Italy. We now link the increases in gender equality preference and the stock performance by estimating the following specification:

$$
\begin{aligned}
\textit{Raw Daily Stock Returns}_{i,t} = {} & \alpha + \gamma \ \textit{Entertainment}_i \ \times \textit{High increase region}_i \times \textit{Oct } 5 - 6_t \\
& + \beta \ \textit{Entertainment}_i \times \textit{Oct } 5 - 6_t \\
& + \eta \textit{High increase region}_i \times \textit{Oct } 5 - 6_t + \delta_t + \varphi_i + \varepsilon_{i,t}
\end{aligned}
\tag{3}
$$

where the *High-increase region* is a dummy variable set to 1 for firms headquartered in regions where the increases in workplace gender equality are above the sample median. The increases are computed by first taking the differences in gender equality preference before and after the revelation of the scandal, and then taking the differences in the changes between women and men respondents. The difference-in-difference changes thus capture the increases in gender equality preference adjusted for the common time trend in each region. All the other variables are the same as those used in equation (2). In particular, standard errors are double-clustered at the industry and region level to allow for heteroskedasticity in both industries and regions. The coefficient of interest, γ, measures the impact of the increases in gender equality on the additional excess losses entertainment industry firms suffered over the event window relative to firms in the other industries.

We summarize the results in Table 5. Columns (1) and (2) of Table 5 present regressions using the raw daily returns as the dependent variable, with the NAICS and GICS as the industry classification system, respectively. Columns (3) and (4) present regressions using market-model abnormal returns as the dependent variable. The estimates of our coefficient of interest, γ, are negative and statistically significant at the 1% level in all the regressions. The estimates are also economically large. Consider the estimate in column (1) for an example: if an entertainment industry firm moves from a low-increase to a high-increase region, the firm will further suffer an additional excess loss of -1.1% during the event window relative to its peers in the other industries. The results thus imply that entertainment industry firms headquartered in regions with larger increases in gender equality preference suffer from greater value reduction. The evidence on the underlying channels alleviates the concerns of the results being driven by concurrent events, as such a claim would require that the events, if any, drive both the change in investors' workplace preference for gender equality and firm value.

Overall, our results presented in Tables 4 and 5 provide robust evidence supporting our argument that the Weinstein scandal had international spillover effects on foreign firms similar to The Weinstein Company.

Table 5. Firm value, entertainment industry and increases in preference for gender equality.

Industry Classification System =	Raw Daily Stock Returns		Abnormal Daily Stock Returns	
	NAICS	GICS	NAICS	GICS
	(1)	(2)	(3)	(4)
Entertainment industry × High-increase region × Oct 5–6	−0.011***	−0.019***	−0.014***	−0.021***
	(0.000)	(0.000)	(0.000)	(0.000)
Entertainment industry × Oct 5–6	−0.010***	−0.003***	−0.010***	−0.003**
	(0.001)	(0.001)	(0.001)	(0.001)
High-increase region × Oct 5–6	0.003	0.003	0.003	0.003
	(0.002)	(0.002)	(0.003)	(0.002)
Observations	31,518	31,518	28,250	28,250
R-squared	0.022	0.022	0.058	0.058
Firm F.E.	Yes	Yes	Yes	Yes
Time F.E.	Yes	Yes	Yes	Yes
Clustering	Industry/Region	Industry/Region	Industry/Region	Industry/Region

This table presents the regression estimates of daily stock returns on the three-way interaction *Entertainment industry × High-increase region × event window indicator*, controlling for *Entertainment industry × event window indicator*, *High-increase region × event window indicators*, as well as firm and time (daily) fixed effects. High-increase region is a dummy variable set to 1 for firms headquartered in regions where the increase in gender equality preference is above the sample median. The sample period spans from 1 September to 30 November 2017. The entertainment industry is classified by either the NACIS or the GICS. Daily stock returns are measured by either the raw returns or market-model abnormal returns with the FTSE MIB index as the market proxy. The event window indicator, Oct 5–6, is defined in Table 4. Standard errors are double-clustered at the industry and region level and reported in parentheses. ***,**,* denote significance levels at 1%, 5% and 10%, respectively.

4.2. The Harvey Weinstein scandal, entertainment industry firms and women executives

In this section, we assess how the adverse impact of the Harvey Weinstein scandal on firm value varies across firms. This analysis also aids in isolating the effect of the scandal on firm value from time-variant industry-specific confounders by allowing the inclusion of industry∗time (daily) fixed effects.

Prospect theory predicts that firms with a relatively higher proportion of women in the executive teams in which the majority of executives are men suffer greater excess losses during the scandal revelation window. This is because women are more likely to be at risk of being sexually harassed, and hence investors may see those firms as having higher risks of exposure to similar scandals in the future and readjust their portfolios accordingly.[16] To assess the conjecture, we differentiate entertainment industry firms by the gender composition of executives and estimate the following specification:

$$Raw\ Daily\ Stock\ Returns_{i,t} = \alpha + \gamma\ Entertainment_i \times Oct5 - 6_t \times Female\ Executive_i$$
$$+ \delta_{j,t} + \varphi_i + \varepsilon_{i,t} \tag{4}$$

Female executive is either the percentage of women in the executive team (*Fraction Female Executive*), or a dummy variable set to 1 for firms with at least one female executive (*Indicator Female Executive*). Other variables are the same as those used in equation (2). Unlike in the industry-level analysis, we include industry∗time (daily) fixed effects in the regressions, in addition to firm fixed effects, to control for the time-variant industry-specific factors. The interaction term *Entertainment ∗ Oct 5–6* is captured by the industry∗time fixed effects and thus is not explicitly included in the specification. Standard errors are clustered at the firm level. The coefficient of interest, γ, measures how the adverse value impact of the Weinstein scandal on the entertainment industry firms varies across firms with different gender composition of executives.

Table 6 summarizes our results. Columns (1)–(4) present regressions with the raw daily stock returns as the dependent variables. The coefficient estimate shown in column (1) is estimated by using *Fraction Female Executive* as the proxy for the gender composition of executives, and NAICS as the industry classification system. The estimate, −0.163, is statistically significant at the 1% level and suggests that a one-standard-deviation (i.e. 18%) increase in the percentage of female executives leads to on average a further 3% (i.e. 18%∗−0.163) additional excess loss in an entertainment industry firm relative to firms in the other industries on each day over

Table 6. Firm value, entertainment industry and gender composition of executives.

Female Variable =	Raw Daily Stock Returns				Abnormal Daily Stock Returns			
	Fraction		Indicator		Fraction		Indicator	
Industry Classification System =	NAICS	GICS	NAICS	GICS	NAICS	GICS	NAICS	GICS
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Entertainment industry × Female variable × Oct 5–6	−0.163***	−0.022**	−0.012***	−0.016***	−0.206***	−0.022**	−0.015***	−0.017**
	(0.029)	(0.010)	(0.002)	(0.006)	(0.027)	(0.010)	(0.002)	(0.007)
Observations	26,263	26,263	26,263	26,263	24,356	24,356	24,356	24,356
R-squared	0.359	0.126	0.359	0.126	0.284	0.250	0.284	0.249
Firm F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry-time F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Clustering	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm

This table presents the regression estimates of daily stock returns on the three-way interaction *Entertainment industry × Female variables × event window indicator,* controlling for firm fixed effects and industry-time (daily) fixed effects. The female variable is either *Fraction Female Executive* or *Indicator Female Executive*. Detailed variable definitions are shown in the Appendix Table A1. The sample period spans from 1 September to 30 November 2017. The entertainment industry is classified by either the NACIS or the GICS. Daily stock returns are measured by either the raw returns or market-model abnormal returns with the FTSE MIB index as the market proxy. The event window indicator, *Oct 5–6*, is defined in Table 4. Standard errors are clustered at the firm level and reported in parentheses. ***,**,* denote significance levels at 1%, 5% and 10%, respectively.

5–6 October 2017. The results remain robust when we use the alternative proxy for the gender composition of executives, *Indicator Female Executive*, and the alternative industry classification system, GICS.

The estimates of γ estimated by using the market-model abnormal returns as the dependent variable, displayed in columns (5)–(8), are statistically and economically similar to the ones shown in columns (1)–(4). We also replicate the regressions by using the abnormal returns estimated by the Fama–French three-factor or five-factor method as the dependent variable. The coefficient estimates, tabulated in the Appendix Table A4 panel B, remain robust. Our results thus indicate that entertainment industry firms with a higher proportion of female executives suffered additional excess losses during the scandal revelation window to a larger extent.

Although the firm-level control variables are captured by the firm fixed effects due to our short estimation period, for robustness, we perform PSM to match firms with above-median percentage of female executives to those with below-median percentage of female executives. We employ 1:1 nearest-neighbor matching on firm size, leverage, returns on assets (ROA) and market-to-book ratio (MTB) as of the beginning of the sample period (i.e. 1 September 2017). All the matching covariates are defined in the Appendix Table A1. Table 7 panel A presents the balancing check. It shows that, in the matched sample, the differences in the mean value of the covariates between the two groups are statistically insignificant. Panel B of Table 7 contains the results estimated by the matched sample. Columns (1) and (2) show the regressions with the raw stock returns as the dependent variable, with the industry classified by NAICS and GICS, respectively. Columns (3) and (4) show the regressions with the market-model abnormal returns as the dependent variable. All the estimates are negative and significant at the 1% level. The PSM thus provides additional evidence that our results are not driven by firm-level confounders.

Finally, we perform another robustness test to re-estimate equation (4) with a restricted sample consisting of firms with the percentage of female executives falling into the lowest quartile (i.e. *Fraction Female Executive* ≤ 20%). By doing so, we make sure all the sample firms have male-dominated executive teams. We conduct the test using only GICS because under NAICS all entertainment firms would fall into the lowest quartile, such that the results would be the same as the ones shown in Table 6. As reported in the Appendix Table A5, the coefficients estimated by the restricted sample are all negative and statistically significant at the 1% level, and the absolute values of the estimates are much larger. Overall, we find that the effect is concentrated in firms with male-dominated executive teams, which is in line with our conjecture that firms with a larger percentage of women in male-dominated executive teams are associated by investors with greater risks of being exposed to similar scandals in the future.

Table 7. Firm value, entertainment industry and gender composition of executives: propensity score matching.

Panel A: Balancing check on the matched sample

	Fraction Female Executive > Median	Fraction Female Executive ≤ Median	P-value of difference-in-mean
Size	6.17	5.68	(0.216)
Leverage	0.27	0.30	(0.199)
ROA	0.01	0.00	(0.285)
MTB	2.36	3.03	(0.269)

Panel B: Regression results

	Raw Daily Stock Returns		Abnormal Daily Stock Returns	
Industry Classification System =	NAICS	GICS	NAICS	GICS
	(1)	(2)	(3)	(4)
Entertainment industry × *Fraction Female Executive* × *Oct 5–6*	−0.200***	−0.033***	−0.239***	−0.033***
	(0.000)	(0.000)	(0.000)	(0.008)
Observations	4288	5120	3930	4915
R-squared	0.531	0.400	0.581	0.425
Firm F.E.	Yes	Yes	Yes	Yes
Industry-time F.E.	Yes	Yes	Yes	Yes
Clustering	Firm	Firm	Firm	Firm

This table presents results estimated by a matched sample where companies with above-median and below-median percentage of female executives are matched on size, leverage, returns on assets (ROA) and market-to-book ratio (MTB) as of 1 September 2017, using nearest neighbor propensity score matching (PSM) method with replacement. All the matching covariates are defined in the Appendix Table A1. Panel A shows the mean value of the covariates in the matched sample and the *P*-values of the difference-in-mean tests for the two groups. Panel B presents the regression estimates, obtained by regressing daily stock returns of Italian firms on three-way interaction *Entertainment industry* × *Female variables* × *event window indicator,* controlling for firm fixed effects and industry-time (daily) fixed effects. The female leadership variable is *Fraction Female Executive*. Detailed variable definitions are shown in the Appendix Table A1. The sample period spans from 1 September to 30 November 2017. The entertainment industry is classified by either the NACIS or the GICS. Daily stock returns are measured by either the raw returns or market-model abnormal returns with the FTSE MIB index as the market proxy. The event window indicator, *Oct 5–6*, is defined in Table 4. Standard errors are clustered at the firm level and reported in parentheses. ***,**,* denote significance levels at 1%, 5% and 10%, respectively.

5. Conclusion

In this paper we study whether corporate scandals have spillover effects on the value of foreign companies outside of the US. To examine the question, we exploit the overlap of a representative survey conducted in Italy in 2017 with the revelation of the Harvey Weinstein scandal. The exogenous overlap allows us to establish a causal relationship between the scandal and its impact on gender equality preference overseas, and this causal effect is an important stepping stone for us to assess the impact of the US scandal on the firm value of foreign companies.

By comparing the survey responses obtained in the short periods before and after the Harvey Weinstein scandal revelation, we discover that the preference for workplace gender equality significantly increased subsequent to the revelation of the scandal, particularly among women. We then document that Italian listed firms in the entertainment industry suffered excess losses relative to their peers during the 2-day event window when the scandal unfolded. In addition, we discover that entertainment industry firms headquartered in regions with higher increases in the gender equality preference suffered greater excess losses. Overall, our results suggest that the revelation of the Harvey Weinstein scandal had value impact on foreign companies similar to The Weinstein Company. We further find that firms similar to The Weinstein Company with a larger female presence in male-dominated executive teams suffered greater value reduction. Our findings are consistent with prospect theory.

Our paper contributes to the literature on the consequences of corporate misconduct by providing evidence on the international spillover effects of corporate scandals. We also contribute to the prospect theory literature by documenting new empirical evidence obtained through a natural experiment for the theory. Finally, our findings have implications for institutional investors holding a global portfolio. We highlight that returns of domestic and foreign equity assets may have higher correlations than expected.

Notes

1. Focusing on listed firms, Cumming and Johan (2013) document that about 2%–5% of companies in the US are involved in fraud litigations.
2. See Investment Company Institute (ICI) Fact Book published in 2020.
3. See the *Forbes* article from 8 October 2017.
4. Lins et al. (2020) is a notable exception. We will discuss their work in more detail later in the Introduction.
5. See, for example, *The New York Times*, *The Wall Street Journal*, *The Washington Post*, the BBC, *The Guardian*, *The New Yorker*, *Independent*, *The Telegraph*, Sky News, *Financial Times* and *The Sun*.
6. As emphasized by Barberis, Jin, and Wang (2020), prospect theory is often implemented with narrow framing in experimental studies, where investors (re-)evaluate a new risk in isolation, separately from other concurrent risks.
7. We use 5–6 October 2017 as the revelation window of the Harvey Weinstein scandal, following the existing literature (Lins et al. 2020).
8. As a robustness check, we match entertainment industry firms to their peers in other industries on observable firm characteristics as of the beginning of the sample period, using the propensity score matching (PSM) method. Our results hold.
9. In a robustness check, we find similar results when we restrict our sample to firms that are dominated by male managers. Consistent with our conjecture that women are at higher risk of being victimized by sexual harassment in an environment dominated by males, the estimated magnitude of the value impact is much stronger in this subsample.
10. BoardEx-Europe maintained by WRDS also provides data on managers, but we find data in ORBIS are more comprehensive for Italian firms and provide greater ease of distinguishing C-suite managers from other senior managers.
11. We follow Lins et al. (2020) to determine the revelation date and verify it by searching relevant news on Google and Factiva. We do not find any news about the scandal before 5 October 2017.
12. The #MeToo event is a social media movement launched following the revelation of the Weinstein scandal. It was started in the US and later grew to a global event. However, a Google search trend suggests that the movement attracted less attention in Italy compared to the Weinstein scandal.
13. According to Lins et al. (2020), which we verified via Google search and Factiva, there were 72 stories on Oct 5 and 144 stories on Oct 6.
14. We choose size and leverage as the matching covariates because the entertainment industry firms and firms in the other industries are significantly different in terms of the two variables pre-matching. As shown in panel A of the Appendix Table A3, after the matching, in addition to size and leverage, the differences in returns on assets (ROA) and market-to-book ratio (MTB) are also statistically insignificant between the two groups.
15. We do not include in our baseline analyses the #MeToo movement launched following the Harvey Weinstein scandal revelation. This is because (a) the #MeToo movement attracted less attention than the Harvey Weinstein scandal in Italy and we do not find any evidence that the movement had significant impact on the gender equality preference, and (b) the value impact of #MeToo on entertainment industry firms relative to firms in the other industries was ambiguous, as the movement affected firms beyond a single industry (see, for example, *The New York Times*). Nevertheless, for robustness, we present in the Appendix Table A3 a regression controlling for the launch of the #MeToo movement. As shown, the estimate of the coefficient on the interaction of the entertainment industry indicator and the #MeToo event window indicator is neither economically nor statistically significant, and our baseline results remain unaffected.
16. The mean (median) percentage of female executives is 0.25 (0.2) among firms that have at least one female executive. Only 10% of such firms have more than 50% female managers. This indicates that the majority of firms with female managers have male-dominated executive teams. We acknowledge alternative variables that may capture the probability of a firm having unrevealed sexual harassment issues, for instance, the gender composition of board members or employees. We choose executives because (a) female managers have more interactions with male executives on a daily basis, and (b) if any scandal with the victim as a female top manager is exposed, it will be salient and result in greater losses.

Disclosure statement

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References

An, J. 2020. "Is There an Employee-Based Gender Gap in Informal Financial Markets? International Evidence." *Journal of Corporate Finance* 65: 101737.

Barberis, N., L. Jin, and B. Wang. 2020. *Prospect Theory and Stock Market Anomalies*. Working paper. National Bureau of Economic Research.

Barberis, N., A. Mukherjee, and B. Wang. 2016. "Prospect Theory and Stock Returns: An Empirical Test." *Review of Financial Studies* 29 (11): 3068–3107.

Bekaert, G., and R. Hodrick. 2017. *International Financial Management*. Cambridge: Cambridge University Press.

Blanc, R., C. Cho, J. Sopt, and M. Branco. 2019. "Disclosure Responses to a Corruption Scandal: The Case of Siemens AG." *Journal of Business Ethics* 156 (2): 545–561.

Cumming, D., R. Dannhauser, and S. Johan. 2015a. "Financial Market Misconduct and Agency Conflicts: A Synthesis and Future Directions." *Journal of Corporate Finance* 34: 150–168.

Cumming, D., W. Hou, and E. Lee. 2016. "Business Ethics and Finance in Greater China: Synthesis and Future Directions in Sustainability, CSR, and Fraud." *Journal of Business Ethics* 138 (4): 601–626.

Cumming, D., S. Ji, R. Peter, and M. Tarsalewska. 2020. "Market Manipulation and Innovation." *Journal of Banking & Finance* 120: 105957.

Cumming, D., and S. Johan. 2013. "Listing Standards and Fraud." *Managerial and Decision Economics* 34 (7–8): 451–470.

Cumming, D., T. Y. Leung, and O. Rui. 2015b. "Gender Diversity and Securities Fraud." *Academy of Management Journal* 58 (5): 1572–1593.

Dyck, A., A. Morse, and L. Zingales. 2010. "Who Blows the Whistle on Corporate Fraud?" *The Journal of Finance* 65 (6): 2213–2253.

Dyck, A., A. Morse, and L. Zingales. 2013. *How Pervasive is Corporate Fraud?* Working Paper. Toronto: University of Toronto.

Fama, E., and K. French. 1993. "Common Risk Factors in the Returns on Stocks and Bonds." *Journal of Financial Economics* 33 (1): 3–56.

Fama, E., and K. French. 2015. "A Five-Factor Asset Pricing Model." *Journal of Financial Economics* 116 (1): 1–22.

Giannetti, M., and T. Y. Wang. 2016. "Corporate Scandals and Household Stock Market Participation." *The Journal of Finance* 71 (6): 2591–2636.

Goetzmann, W. N., L. Li, and K. G. Rouwenhorst. 2005. "Long-Term Global Market Correlations." *The Journal of Business* 78 (1): 1–38.

Grubel, H. G. 1968. "Internationally Diversified Portfolios: Welfare Gains and Capital Flows." *American Economic Review* 58 (5): 1299–1314.

Kahneman, D., and A. Tversky. 1979. "Prospect Theory: An Analysis of Decision Under Risk." *Econometrica* 47 (2): 263–292.

Karpoff, J. M., D. S. Lee, and G. S. Martin. 2008a. "The Cost to Firms of Cooking the Books." *Journal of Financial and Quantitative Analysis* 43 (3): 581–611.

Karpoff, J. M., D. S. Lee, and G. S. Martin. 2008b. "The Consequences to Managers for Financial Misrepresentation." *Journal of Financial Economics* 88 (2): 193–215.

Levy, H., and M. Sarnat. 1970. "International Diversification of Investment Portfolios." *American Economic Review* 60 (4): 668–675.

Lins, K., L. Roth, H. Servaes, and A. Tamayo. 2020. *Gender, Culture and Firm Value: Evidence from the Harvey Weinstein Scandal and the #MeToo Movement*. Working paper. *ECGI Working Paper Series in Finance*.

Nunn, N., and L. Wantchekon. 2011. "The Slave Trade and the Origins of Mistrust in Africa." *American Economic Review* 101 (7): 3221–3252.

Persons, O. S. 2006. "The Effects of Fraud and Lawsuit Revelation on U.S. Executive Turnover and Compensation." *Journal of Business Ethics* 64 (4): 405–419.

Quinn, D. P., and H. J. Voth. 2008. "A Century of Global Equity Market Correlations." *American Economic Review* 98 (2): 535–540.

Sims, R. 2009. "Toward a Better Understanding of Organizational Efforts to Rebuild Reputation Following an Ethical Scandal." *Journal of Business Ethics* 90 (4): 453.

Solnik, B. H., and D. W. McLeavey. 2009. *Global Investments*. Boston: Pearson Prentice Hall.

Soltani, B. 2014. "The Anatomy of Corporate Fraud: A Comparative Analysis of High Profile American and European Corporate Scandals." *Journal of Business Ethics* 120 (2): 251–274.

Tversky, A., and D. Kahneman. 1981. "The Framing of Decisions and the Psychology of Choice." *Science* 211 (4481): 453–458.

Tversky, A., and D. Kahneman. 1992. "Advances in Prospect Theory: Cumulative Representation of Uncertainty." *Journal of Risk and Uncertainty* 5 (4): 297–323.

Appendix

Table A1. Variable definitions and sources.

Variable	Definition	Source
Survey Respondent Characteristics		
Equal Gender Rights	An ordered variable ranging from 1 to 5 and indicating respondent's attitude to the claim 'Men should have more right to a job than women when jobs are scarce'. 0 suggests 'Agree strongly' and 5 suggests 'Disagree strongly'.	European Social Survey (ESS)
No. of Household Members	The number of people living regularly as a member in the respondent's household.	
Age	The age of the respondent.	
Education	Years of full-time education completed by the respondent.	
Employed	A dummy variable set to 1 if the respondent is employed by an institution, or 0 otherwise.	
Self-employed	A dummy variable set to 1 if the respondent is self-employed, or 0 otherwise.	
Family business	A dummy variable set to 1 if the respondent runs own family business, or 0 otherwise.	
Firm Level		
Raw Daily Stock Returns	(Closing share price$_t$ /closing share price$_{t-1}$)-1	Compustat Global
Abnormal Daily Stock Returns	Differences between the raw daily stock returns and the expected daily returns estimated by the market model or the Fama–French factor models. The estimation window is $[-190, -10]$ relative to the event date, 5 October 2017, and the market proxy is the FTSE MIB index.	
Entertainment Industry (NACIS)	A dummy variable set to 1 for firms with North American Industry Classification System (NAICS) code as '711211', '713290', '713', or 0 otherwise.	
Entertainment Industry (GICS)	A dummy variable set to 1 for firms with Global Industry Classification System (GICS) code as '50202010' or '50202020', or 0 otherwise.	
Size	Natural logarithm of total assets	
Leverage	(Short-term debt + long-term debt)/ Total assets	
Returns on Assets (ROA)	Net income/total assets	
Market-to-book Ratio (MTB)	(Closing share price∗total common shares outstanding)/Book value of equity	
High Change Region	A dummy variable set to 1 for firms headquartered in regions where the increase in gender equality preference after the revelation of the Harvey Weinstein scandal is above the sample median.	Compustat Global, ESS
Fraction Female Executive	The percentage of women in an executive team.	ORBIS and Information hand-collected from annual reports and Google
Indicator Female Executive	A dummy variable set to 1 for firms with at least one female executive, or 0 otherwise.	
Time dummies		
Post Oct 5	A dummy variable set to 1 for 5 October 2017 and all days after, and 0 otherwise.	Lins et al. (2020), Google search and Factiva
Post Oct 15	A dummy variable set to 1 for 15 October 2017 and all days after, and 0 otherwise.	
Oct 5–6	A dummy variable set to 1 for 5 and 6 October 2017, and 0 otherwise.	

Table A2. Respondents' characteristics pre- and post-Harvey Weinstein scandal.

	Female Respondents			Male Respondents		
	Pre	Post	P-value of diff.	Pre	Post	P-value of diff.
No. of Household Members	2.54	2.44	(0.027)	2.69	2.56	(0.005)
Age	51.26	50.47	(0.248)	48.86	47.65	(0.112)
Education	11.42	12.36	(0.000)	11.76	12.29	(0.000)
Employee	0.90	0.89	(0.986)	0.86	0.82	(0.017)
Self-employed	0.08	0.09	(0.357)	0.13	0.17	(0.010)
Family business	0.03	0.02	(0.092)	0.02	0.02	(0.802)

This table compares the mean values of the respondents' characteristics between pre- and post-scandal periods for the female and male respondents, respectively. Variable definitions are shown in Table A1.

Table A3. Firm value and entertainment industry: propensity score matching.

Panel A: Balancing check on the matched sample

	NAICS			GICS		
	Entertainment industry firms	Other firms	P-value of diff.	Entertainment industry firms	Other firms	P-value of diff.
Size	6.34	6.34	(0.999)	4.94	5.09	(0.740)
Leverage	0.43	0.40	(0.641)	0.26	0.27	(0.835)
ROA	−0.00	0.00	(0.655)	−0.00	0.00	(0.620)
MTB	2.78	2.04	(0.571)	2.86	2.62	(0.776)

Panel B: Regression results

	Raw Daily Stock Returns				Abnormal Daily Stock Returns			
Industry Classification System =	NAICS	NAICS	GICS	GICS	NAICS	NAICS	GICS	GICS
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Entertainment industry × Oct 5–6	−0.018***	−0.018***	−0.012***	−0.012***	−0.017***	−0.017***	−0.012***	−0.012***
	(0.004)	(0.004)	(0.003)	(0.003)	(0.004)	(0.004)	(0.004)	(0.004)
Entertainment industry × Oct 16–17		−0.001		−0.002		0.000		−0.002
		(0.003)		(0.005)		(0.003)		(0.005)
Observations	1216	1216	2880	2880	1161	1161	2780	2780
R-squared	0.117	0.117	0.076	0.076	0.146	0.146	0.103	0.103
Firm F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Clustering	Industry	Industry	Industry	Industry	Industry	Industry	Industry	Industry

This table shows results estimated by a matched sample where entertainment industry firms are matched to firms in other industries on size and leverage as of 1 September 2017, using the nearest neighbor propensity score matching (PSM) method with replacement. Panel A shows the mean value of the financial variables in the matched sample and the *P*-values of the difference-in-mean tests for the two groups. Panel B presents the estimates obtained by regressing daily stock returns of Italian firms on the interaction of entertainment industry indicator and time window indicators, controlling for firm and time (daily) fixed effects. The sample period spans from 1 September to 30 November 2017. The entertainment industry is classified by either the NACIS or the GICS. Daily stock returns are measured by either the raw returns or market-model abnormal returns with the FTSE MIB index as the market proxy. *Oct 5–6* is defined in Table A1. *Oct 16–17* is set to 1 for 16 and 17 October 2017, the two trading days following the launch of the #MeToo movement on 15 October 2017. Standard errors are clustered at the industry level and reported in parentheses. ***,**,* denote significance levels at 1%, 5% and 10%, respectively.

Table A4. Alternative methods to calculate abnormal daily stock returns.

Panel A: Firm value and entertainment industry

	Three-factor model		Five-factor model	
Industry Classification System =	NAICS	GICS	NAICS	GICS
	(1)	(2)	(3)	(4)
Entertainment industry × *Oct 5–6*	−0.013***	−0.003***	−0.014***	−0.004***
	(0.001)	(0.001)	(0.002)	(0.001)
Observations	28,250	28,250	28,250	28,250
R-squared	0.063	0.062	0.061	0.061
Firm F.E.	Yes	Yes	Yes	Yes
Time F.E.	Yes	Yes	Yes	Yes
Clustering	Industry	Industry	Industry	Industry

Panel B: Firm value, entertainment industry and gender composition of executives

	Three-factor model				Five-factor model			
Female Variable =	Fraction		Indicator		Fraction		Indicator	
Industry Classification System =	NAICS	GICS	NAICS	GICS	NAICS	GICS	NAICS	GICS
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Entertainment industry × *Female variable* × *Oct 5–6*	−0.140***	−0.024***	−0.010***	−0.016***	−0.127***	−0.025***	−0.009***	−0.016***
	(0.020)	(0.009)	(0.001)	(0.006)	(0.027)	(0.009)	(0.002)	(0.005)
Observations	24,356	24,356	24,356	24,356	24,356	24,356	24,356	24,356
R-squared	0.288	0.253	0.288	0.252	0.288	0.253	0.288	0.252
Firm F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry-time F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Clustering	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm

This table presents results estimated by using the abnormal daily returns estimated by the Fama–French three-factor or five-factor model as the dependent variable. The factors are Fama–French European factors obtained from the data library of Kenneth R. French: Developed Market Factors and Returns. The specification of Panel A (B) is the same as that of Table 4 (6). All the variables are defined in Table A1. Standard errors are clustered at the industry level in Panel A, and at the firm level in Panel B. ***,**,* denote significance levels at 1%, 5% and 10%, respectively.

Table A5. Firm value, entertainment industry and gender composition of executives: male-dominated executive teams.

	Raw Daily Stock Returns		Abnormal Daily Stock Returns	
Female Variable =	Fraction	Indicator	Fraction	Indicator
Industry Classification System =	GICS	GICS	GICS	GICS
	(1)	(2)	(3)	(4)
Entertainment industry × *Female variables* × *Oct 5–6*	−0.340***	−0.024***	−0.372***	−0.027***
	(0.057)	(0.004)	(0.053)	(0.004)
Observations	21,178	21,178	19,489	19,489
R-squared	0.147	0.147	0.437	0.437
Firm F.E.	Yes	Yes	Yes	Yes
Industry-time F.E.	Yes	Yes	Yes	Yes
Clustering	Firm	Firm	Firm	Firm

This table presents results estimated by a subsample consisting of firms with male-dominated executive teams, i.e. firms with the percentage of women executives lower or equal to 20%. Estimates are obtained by regressing daily stock returns on the three-way interaction *Entertainment industry* × *Female variables* × *event window indicator,* controlling for firm fixed effects and industry-time (daily) fixed effects. The female variable is either *Fraction Female Executive* or *Indicator Female Executive*, both defined in Table A1. The sample period spans from 1 September to 30 November 2017. The entertainment industry is classified by the GICS. Daily stock returns are measured by either the raw returns or market-model abnormal returns with the FTSE MIB index as the market proxy. *Oct 5–6* is defined in Table A1. Standard errors are clustered at the firm level and reported in parentheses. ***,**,* Denote significance levels at 1%, 5% and 10%, respectively.