

Supplemental Information

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Part I: Survey Excerpts

Here we include excerpts from the survey that provide a sense of how the choice experiments looked and how relevant information was contextualized for respondents. The full printed survey is available upon request.

Sometimes apparel companies ***respond unfavorably*** to workers' demands.



For example, it was recently reported that an ***H&M*** supplier brutally ***repressed workers*** when they tried to form a union in one of their factories.

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Here is the headline and a quote from a recent news article about the abuse workers faced at an H&M supplier's factory when they tried to form a union:


QUARTZ

BAD LOOK

H&M, Columbia, and others are accused of ignoring disturbing abuses at a large Indian supplier

By [Marc Bain](#) | June 25, 2018



 Do you know who made your clothes? (AP Photo/Shizuo Kambayashi)

"One man, Ameen, who publicly signed the union petition, was told by a human-resources manager that his family would be killed. He was later beaten in the factory by roughly a dozen employees, under the guidance of that manager. Employees were instructed to bring his mother, Dilshad, who also worked in the factory, and then the men physically attacked her as well."

Source: Quartz (qz.com)

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In the next section, we will describe **jeans** that differ in terms of brand, price, and where they were made.

We will then ask you **which pair you would purchase**. It is important that you answer the questions as if you were **actually buying** the garment in question.




If you would not choose any of the jeans we show you, please indicate that by choosing "None." By choosing none, you are saying that you would prefer a different brand or style or would continue using the jeans that you already own.

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If you were shopping for **jeans**, and these were your only options, which one would you choose? Remember, it is important that you answer the questions as if you were **actually buying** a pair of jeans.

(3 of 3)

	Pair 1	Pair 2	Pair 3
Brand:	SONOMA GOODS FOR LIFE KOHLS	Levi's	H&M
Made in:	Turkey	Turkey	India
Price:	\$16.99	\$42.00	\$39.99
Style:	Regular fit	Loose fit	Skinny fit
			
	JeansConjoint_Random3	JeansConjoint_Random3	JeansConjoint_Random3
	Select	Select	Select

None

NONE: I wouldn't choose any of these.

JeansConjoint_Random3

Select

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Photo by rijans - Flickr: Dhaka Savar Building Collapse, CC BY-SA 2.0, <https://commons.wikimedia.org/w/index.php?curid=26051590>

In 2013, the Rana Plaza factory collapsed in Bangladesh, killing 1,134 workers and injuring many others.

This factory had produced garments for a number of major apparel brands that sell their clothing in the United States.

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Since Rana Plaza, people have debated the best way to make garment factories safer for workers.

Some think that factories should report the results of ***regular safety audits*** carried out by independent agencies like Better Work Initiative or Social Accountability 8000.

Others think that the best way is to have ***labor unions*** pressure factories to comply with local fire and safety codes.

Still others advocate letting factories ***comply on their own***.

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In the next section, we will describe ***t-shirts*** that differ in terms of brand, price, and where they were made.

We will then ask you ***which t-shirt you would purchase***. It is important that you answer the questions as if you were ***actually buying*** the garment in question.

If you would not choose any of the t-shirts we show you, please indicate that by choosing "None." By choosing none, you are saying that you would prefer a different brand or color or would continue using the t-shirts that you already own.






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TeeShirtConjoint_Random2

If you were shopping for a **t-shirt**, and these were your only options, which one would you choose? Remember, it is important that you answer the questions as if you were **actually buying** a t-shirt.

(2 of 3)

	T-shirt 1	T-shirt 2	T-shirt 3
Color			
Brand:		L.L.Bean	
Price:	\$5.75	\$15.99	\$11.49
Safety audits:	Info on safety audits not publicly available	Info on safety audits not publicly available	Factory conducts regular safety audits
Unions:	Made in a unionized factory	Workers do not have a union	Workers do not have a union
	<p>TeeShirtConjoint_Random2</p> <p>Select</p>	<p>TeeShirtConjoint_Random2</p> <p>Select</p>	<p>TeeShirtConjoint_Random2</p> <p>Select</p>

None

NONE: I wouldn't choose any of these.

TeeShirtConjoint_Random2

Select

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Sometimes apparel companies want to highlight working conditions in their factories in order to show that workers who make their products are not exploited.

To do this, companies may feature their commitment to different ***labor standards*** by affixing labels to their products.

These are sometimes referred to as ***ethical labels***.

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In the next section, we will describe **sweatshirts** that differ in terms of brand, price, and where they were made.

We will then ask you **which sweatshirt you would purchase**. It is important that you answer the questions as if you were **actually buying** the garment in question.

If you would not choose any of the sweatshirts we show you, please indicate that by choosing "None." By choosing none, you are saying that you would prefer a different brand or or color or would continue using the sweatshirts that you already own.






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SweatshirtConjoint_Random2

If you were shopping for a **sweatshirt**, and these were your only options, which one would you choose? Remember, it is important that you answer the questions as if you were **actually buying** a sweatshirt.

(2 of 3)

	Pair 1	Pair 2	Pair 3
Price:	\$40	\$52	\$46
Made in:	Sri Lanka	Thailand	Honduras
Ethical label:			-None-
Color:			
	<p>SweatshirtConjoint_Random2</p> <p>Select</p>	<p>SweatshirtConjoint_Random2</p> <p>Select</p>	<p>SweatshirtConjoint_Random2</p> <p>Select</p>

None

NONE: I wouldn't choose any of these.

SweatshirtConjoint_Random2

Select

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Sometimes apparel companies affix labels to their clothing advertising certain environmental and labor certifications.

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A horizontal progress bar is shown, starting at 0% on the left and ending at 100% on the right. The bar is filled with a solid blue color, indicating that the progress is complete.

Here are some examples of environmental and labor certifications.

Please read the short description of each certification and check the adjoining box if you have heard of it before:

SweaterIntro2_2

☐

Sets standards for **environmentally safe** textile production.

SweaterIntro2_1

☐

Ensures that a garment contains a minimum of **70% organic fibres**.

SweaterIntro2_4

☐

Verifies that companies pay workers a **living wage** and donate to **community projects**.

SweaterIntro2_3

☐

Ensures respect for **unions** and **collective bargaining**.

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In the next section, we will describe **sweaters** that differ in terms of brand, price, and where they were made.

We will then ask you **which sweater you would purchase**. It is important that you answer the questions as if you were **actually buying** the garment in question.

If you would not choose any of the sweaters we show you, please indicate that by choosing "None." By choosing none, you are saying that you would prefer a different brand or style or would continue using the sweaters that you already own.

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SweaterConjoint_Random3

If you were shopping for **a sweater**, and these were your only options, which one would you choose? Remember, it is important that you answer the questions as if you were **actually buying** a sweater.

(3 of 3)

Style:

Sweater 1



Crew Neck

Sweater 2



V Neck

Sweater 3



Cardigan

Price:

\$57.49

\$34.99

\$64.99

Environmental
certification:



Labor
certification:



-None-

SweaterConjoint_Random3 SweaterConjoint_Random3 SweaterConjoint_Random3

Select

Select

Select

None

NONE: I wouldn't choose any of these.

SweaterConjoint_Random3

Select

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Part II: Posterior Distributions of Respondent-Level Betas

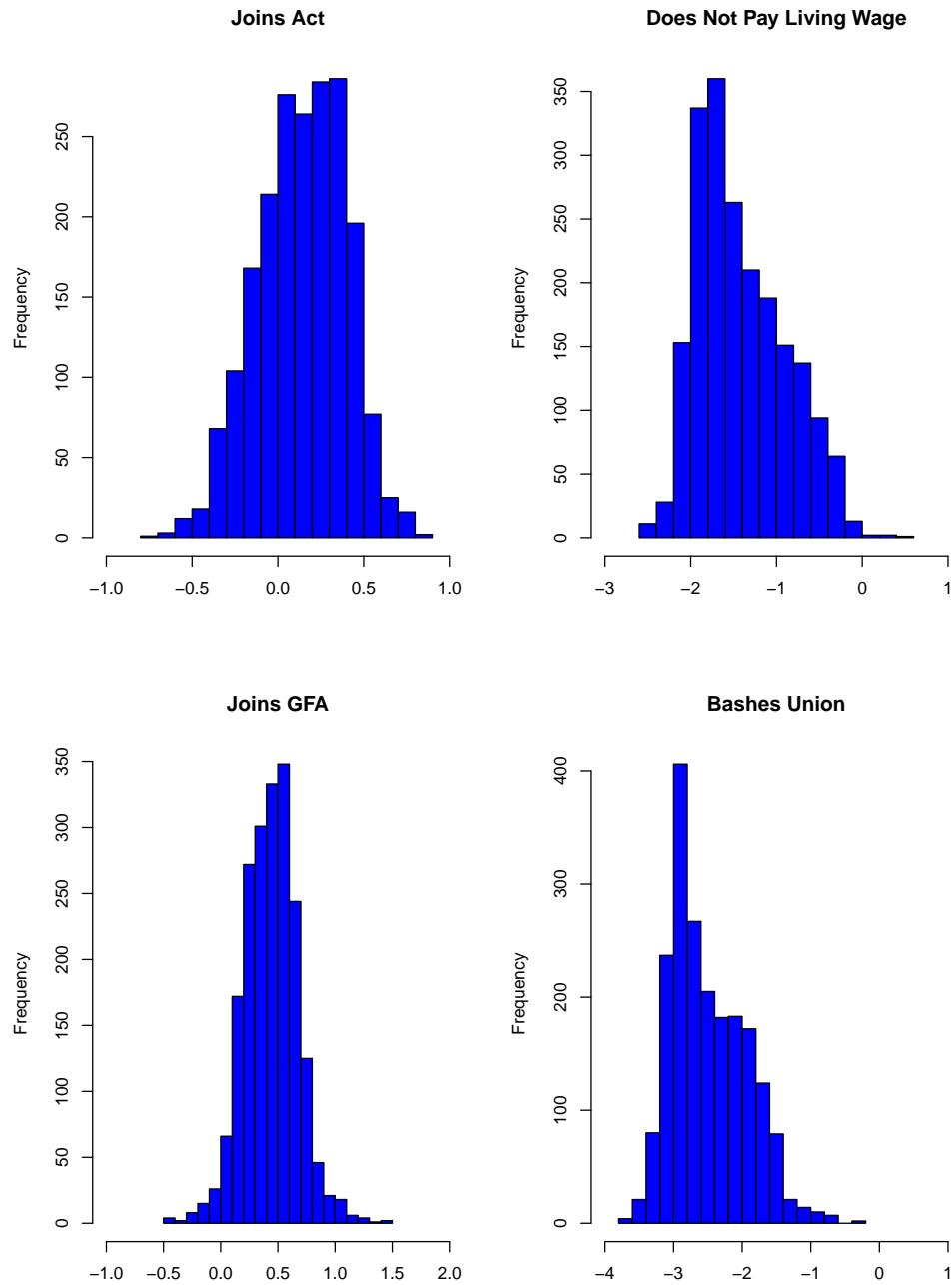


Figure S1: Good News/Bad News

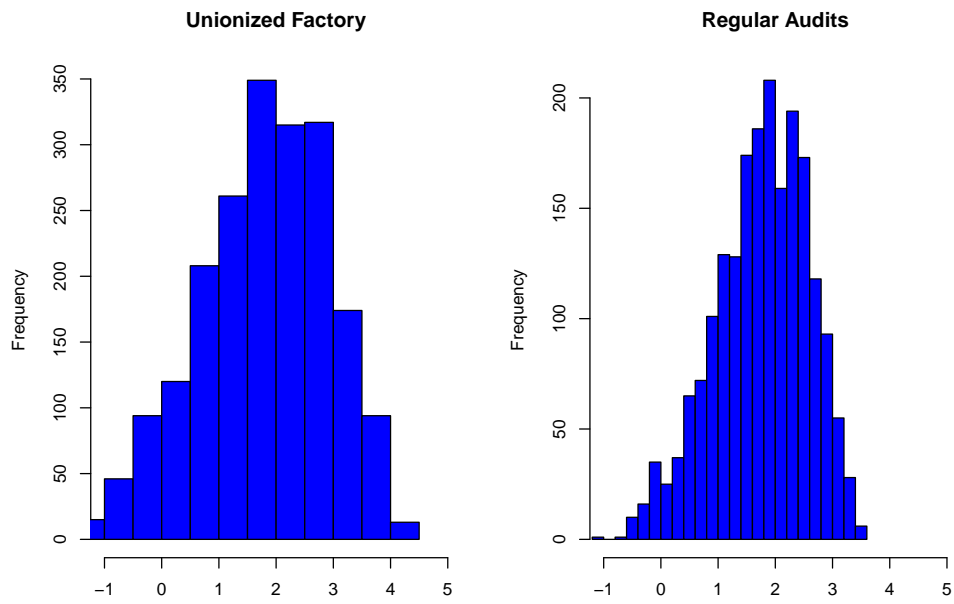


Figure S2: Safety Audits vs. Unions

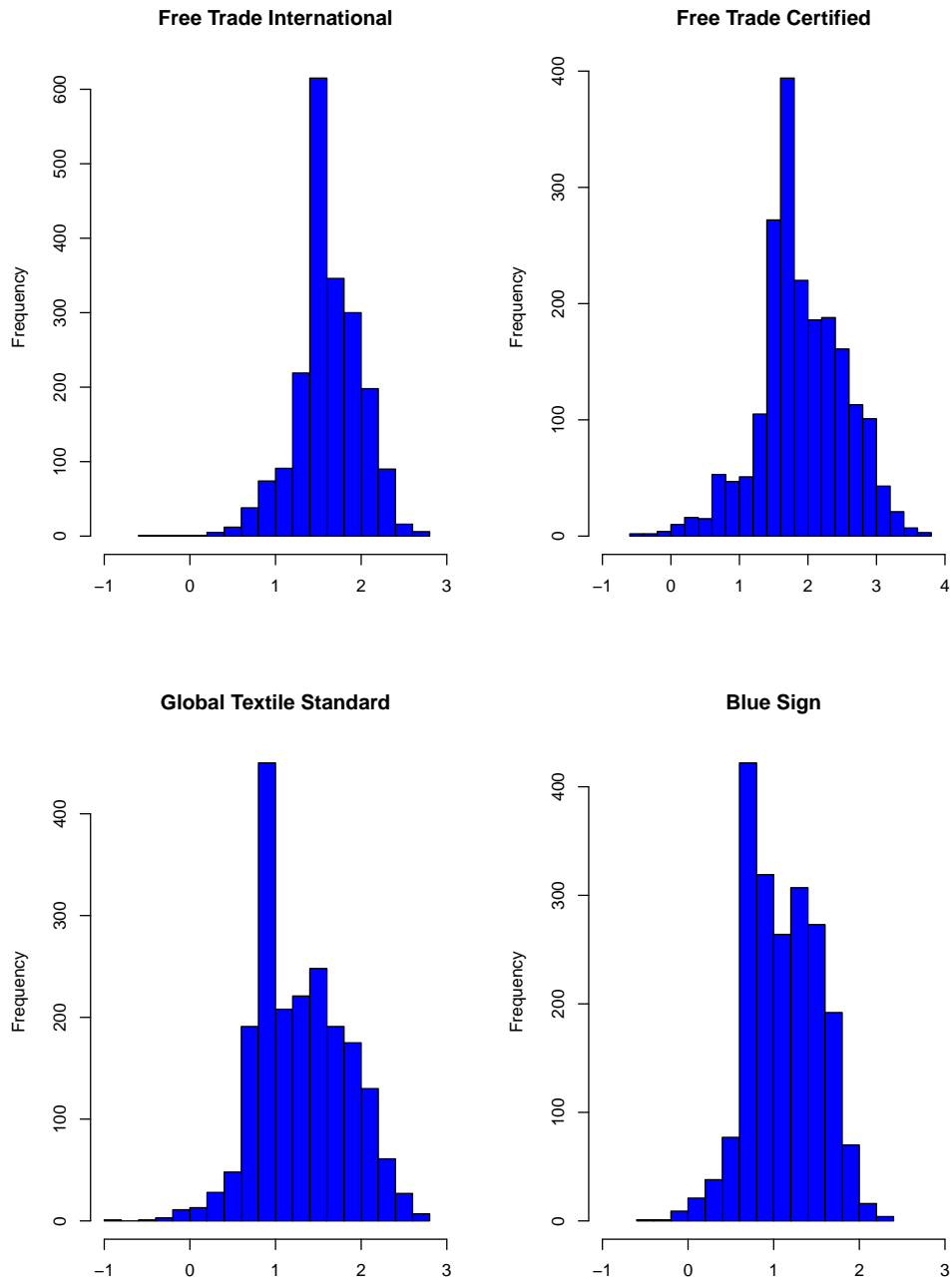


Figure S3: Labor and Environmental Certifications

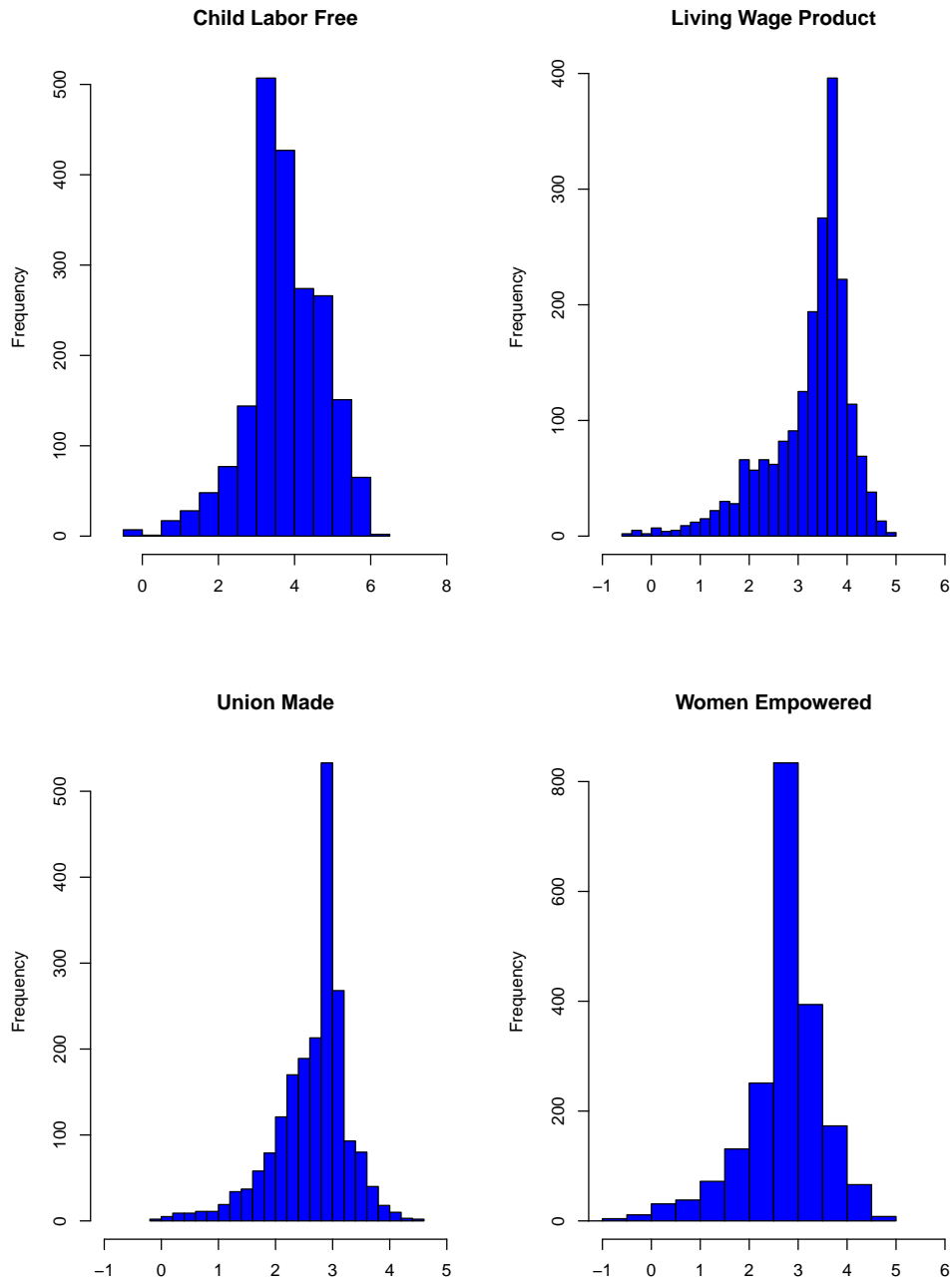


Figure S4: Ethical Labels

Part III: True Willingness to Pay Calculations

Calulating the “True Willingness to Pay” Measure

The standard WTP measure in the conjoint literature emerges from difficulties associated with interpreting the β coefficients from the standard logit model. Because they have an arbitrary base and scaling, the β s cannot be directly compared. This has led to attempts to convert β s into market share or dollar equivalents so that they can be directly compared to one another. The standard WTP measure is thus the coefficient of the product feature on dollar ratio scale.

$$SWTP = \frac{\beta_f}{\beta_p} \quad (1)$$

SWTP is little more than a scaling device and consequently bears very little relation to what consumers might actually be willing to pay for a product feature. SWTP tends to dramatically overestimate consumer willingness to pay.¹

One alternative to SWTP is to calculate “true” willingness to pay that based on the logic of compensatory variation (Allenby et. al. 2013). Compensatory variation is the amount of income that one would have to pay a respondent to compensate for a diminished choice set. So for example, imagine that a consumer faces a choice of a sweater made by a brand with a Fair Trade and two sweaters without the certification. Now imagine that all of a sudden the certification is removed from the first sweater but not added to either of the other two. Here, the choice has lost some value to the consumer. This is true regardless of whether or not her choice is dominated by other options in the choice set because there is always an element of randomness to consumer choice and because there is value in having an enriched choice set.

The calculation of true WTP involves the change in expected maximum utility of a set of products with and without the added feature.

$$WTP = \ln \left[\sum_{j=1}^J \exp(\beta' a_j^* - \beta_p p_j) \right] / \beta_p - \ln \left[\sum_{j=1}^J \exp(\beta' a_j - \beta_p p_j) \right] / \beta_p \quad (2)$$

Here a^* is the attribute with the enhanced feature. While arguably somewhat abstract than SWTP, true WTP provides a much more logical and accurate measure of product feature value from the standpoint of the consumer. Nevertheless, WTP should never be confused with profits. The simple fact that consumer place value on a product feature does not necessarily mean that a firm can profit from its addition because cost and product market competition also have to be taken into account.

¹See Part IV of this supplement for the SWTP estimates for the treatments in this study.

Results

The WTP estimates for the four experiments are displayed in Figure S5. The estimates confirm the findings of previous studies that suggest a high degree of consumer enthusiasm for ethically sourced garments. Except for the positive stories in the Good News/Bad News experiment, the credible range of WTP estimates for all of the treatments was significantly different zero. In terms of the magnitude of the effects, the estimates are quite similar to the findings of the field experiments reviewed in the main body of our paper. They range from 8% of the average price of a garment for the Blue Sign certification to 45% in the case of the Child Labor Free label. Within each experiment, we see a high degree of overlap for many of the treatments but also some important differences that we now turn to discuss.

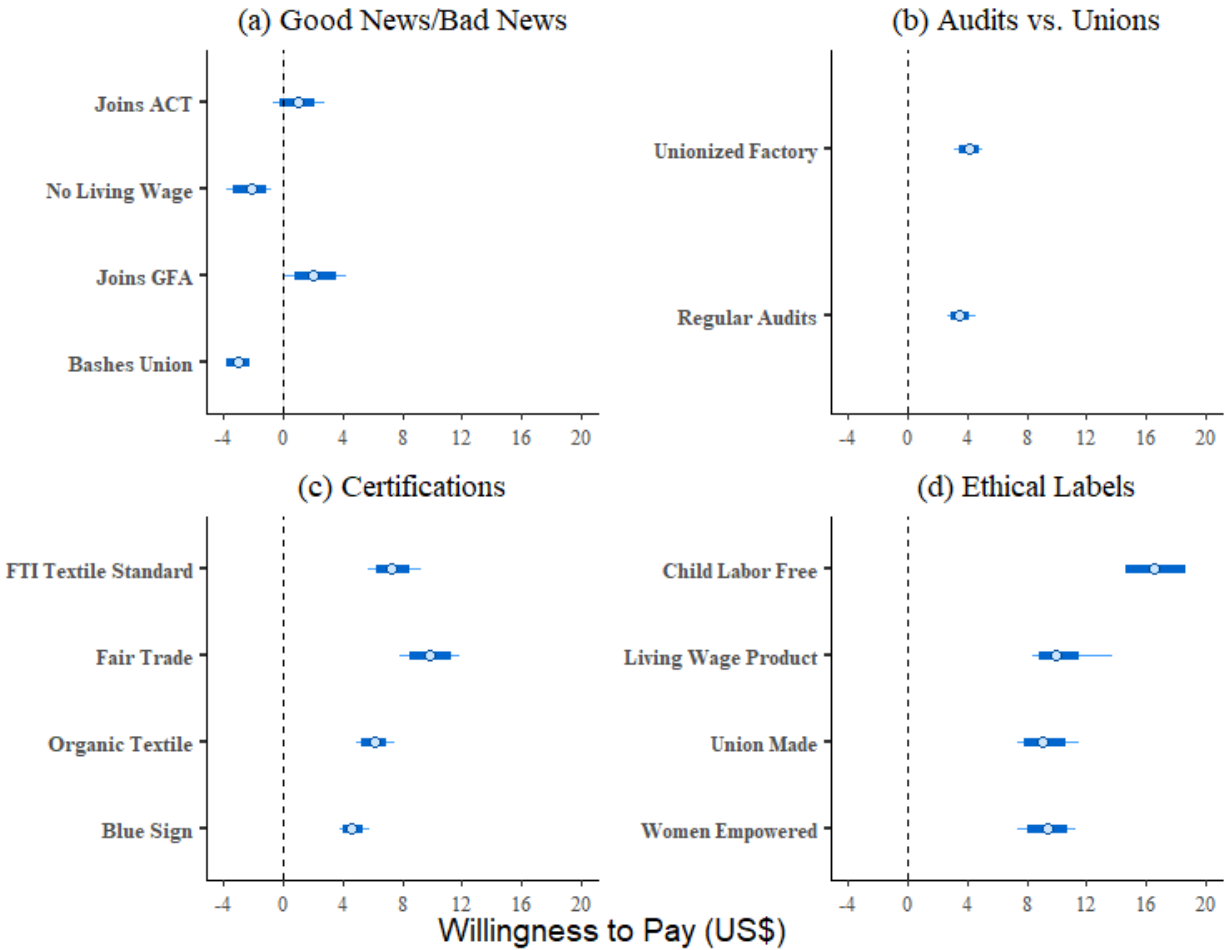


Figure S5: Consumer WTP Estimates

Good News/Bad News

The results of the “Good News/Bad News” experiment confirm the expectation that negative stories about a company’s practices would have a greater impact on sales than positive information. As reported in Figure S5(a), our models predict that consumer would pay \$2.98 less for a pair of H&M jeans when they read a report about union bashing at a suppliers’

factory and about \$2.12 less when they read a report alleging that H&M failed to honor its commitment to pay workers a living wage.

The positive stories about H&M respect for FACB rights did not have as pronounced an impact on consumer WTP. The mean predicted effect of the story about H&M joining the GFA on living wages (ACT) on WTP is just \$.96 and the 85% credible interval substantially overlaps the zero line. The news about H&M's agreement on collective bargaining rights with Industriall and IF Metall is predicted to induce a larger impact on WTP (about \$2.02). It is interesting to think about why consumers would be slightly more enthusiastic about a GFA focused on collective bargaining rights than one focused on the living wage. At the same time, this difference in levels of enthusiasm is not supported by the results of the "Ethical Labels" experiment where the two labor standards are compared in a more straightforward and obvious way.

Safety Audits vs. Unions

Consumer activism has been very important in pressuring brands into improving labor standards in their supply chains but the potential role for a broader set of FACB rights relative to safety issues is not always clear.

The findings of our "Safety Audits vs. Unions" experiment help to shed light on this issue. The findings presented in Figure S5(b) suggest that safety audits and unionized factories appeal equally to consumers. The predicted WTP for t-shirts produced in a factory with regular safety audits is \$3.5 and \$4.11 for garments produced in unionized factories. Especially when considered in light of the other findings in this study, the concern about a lingering neoliberal anti-union sentiment among consumers would appear to be unfounded.

Labor and Environmental Certifications

The WTP estimates for the "Labor and Environmental Certifications" experiment suggest that consumer demand for product certifications is high but not entirely uniform. Similar to Auger et. al. (2007), we find that consumers tend to privilege labor over environmental standards. Looking at Figure S5(c), we see that the predicted WTP for the two labor certifications was somewhat higher than the two environmental certifications. The mean predicted WTP for the Fair Trade certification is \$9.87 and the range of estimates in the 95% credible interval is substantially higher than those of the two environmental certifications. The mean predicted WTP for the FTI Textile Standard is \$7.32. Its range of predicted values overlaps with those of the Organic Textile certification but is higher than those of the Blue Sign certification. The average predicted WTP for the Organic Textile certification is \$6.12 and for the Blue Sign certification it was \$4.62.

Ethical Labels

We now turn to the comparison of different kinds of labor standards in our "Ethical Labels" experiment. As we see in Figure S5(d), the predicted consumer WTP for a garment with the "Child Labor Free" label of \$16.5 is significantly higher than for the other three labels. This finding again echos findings by Auger et. al. (2003, 2008), who found child labor had a much

stronger effect on respondent choice than other labor standards. We find that the WTP for the other three ethical labels is substantial (in the \$9 to \$10 range) but that consumers do not appear to distinguish very much between them. Based on these data, it would as though consumers view living wages, unions and women's empowerment as being equally worthy of their support.

Part IV: Standard Willingness to Pay (SWTP)

Figure S6 presents the standard willingness to pay (SWTP) measures for the treatments in our four experiments. See Part III of this supplement for a full discussion of the distinction between SWTP and “true willingness to pay.” SWTP is little more than a scaling device that tends to grossly overestimate the value that consumers place on a product attribute.

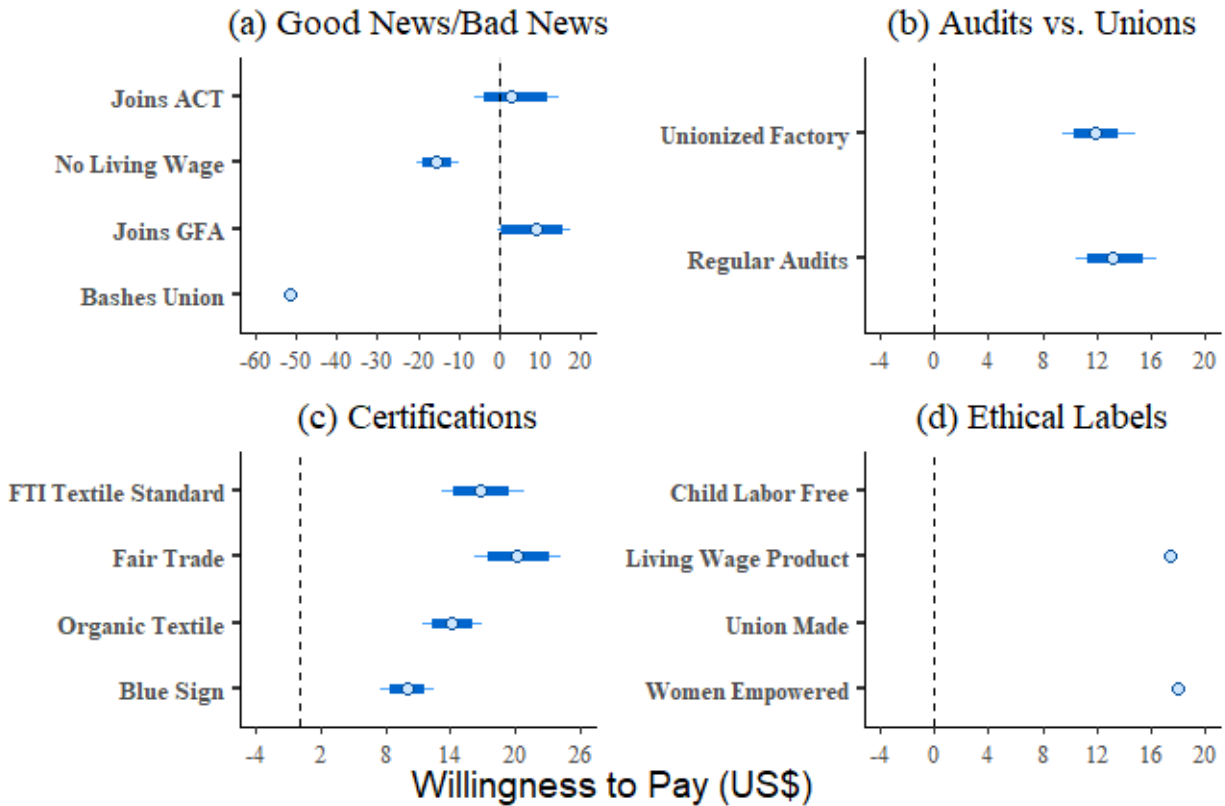


Figure S6: Good News/Bad News AMCEs

Part V: Average Marginal Component Effects (OLS Regressions)

Figures S7-S10 present the average marginal component effects (AMCEs) for our experiments. AMCEs have become the standard output for conjoint studies in comparative politics. AMCEs are the coefficients from OLS regressions and represent the amount that the presence of each attribute increases the chance that a consumer will select a product (see Hainmuller et. al. 2014). For example, the Fair Trade Textile Standard certification in Figure 8 increases the chance that a sweater is chosen by about 11%.

Each figure presents a point estimate and 95% confidence intervals. Standard errors are clustered by respondent.

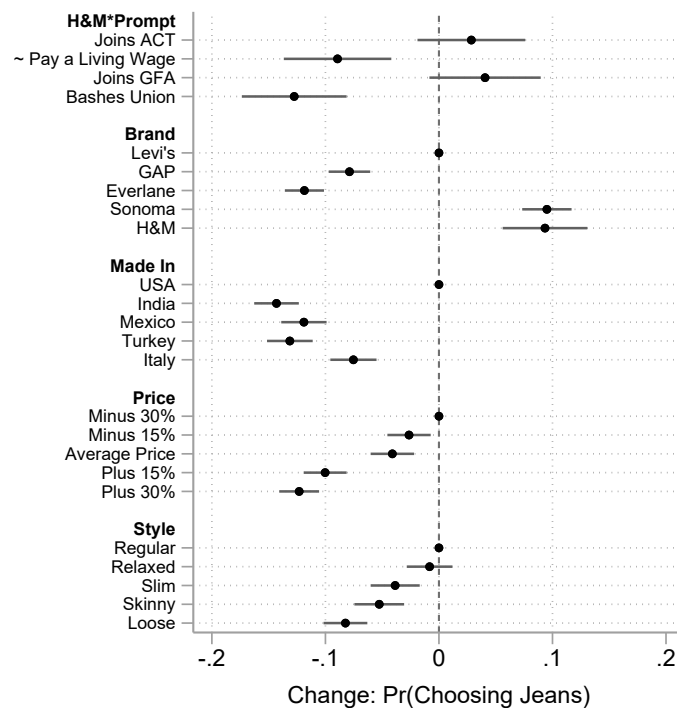


Figure S7: Safety Audits vs. Unions AMCEs

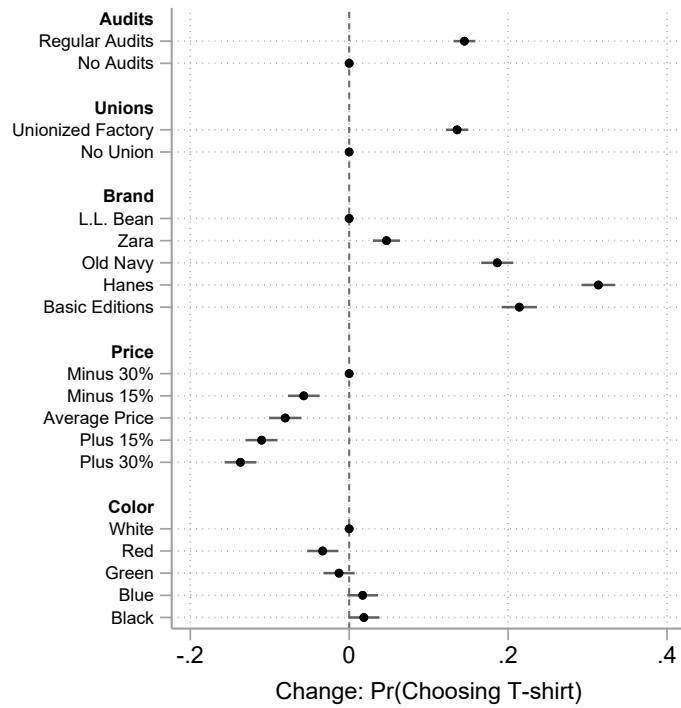


Figure S8: Certifications AMCEs

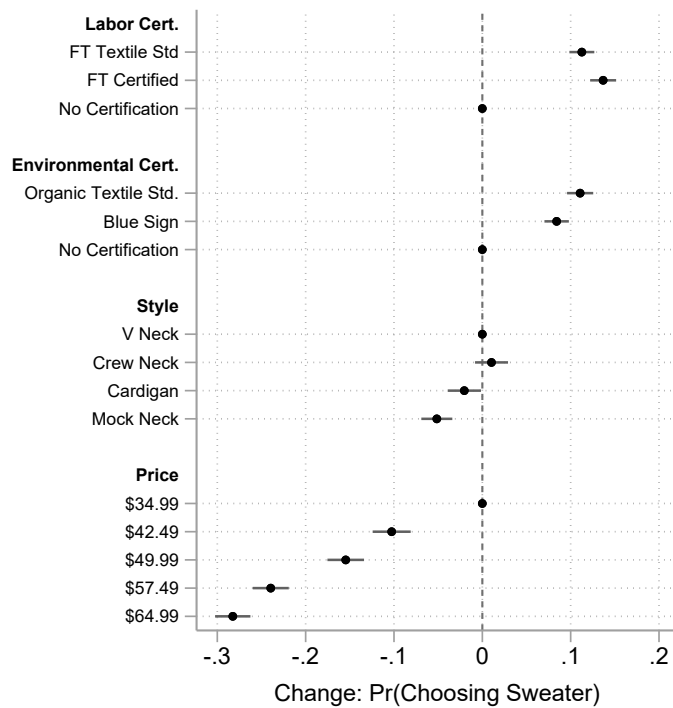


Figure S9: Ethical Labels AMCEs

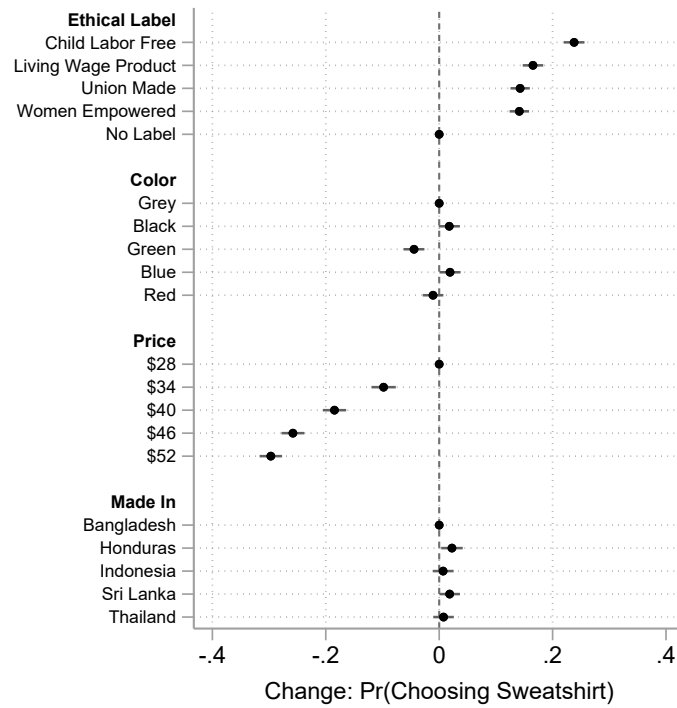


Figure S10: Standard WTP Estimates

Part VI: Heterogeneous Effects (w/AMCEs)

The ideal way to explore heterogeneous effects would be to harness multiple observations per respondent in an HB framework. But we had four experiments packed into a short online survey and we wanted to keep the total number of tasks manageable. Consequently we only required respondents to complete three tasks per experiment. With such a short panel we could not get consistent results for an analysis of heterogeneous effects using the posterior means of individual-level parameters. But we did find some interesting patterns in when we look at AMCEs. We present these here as a preliminary analysis of heterogeneous effects that could be expanded upon in future studies.

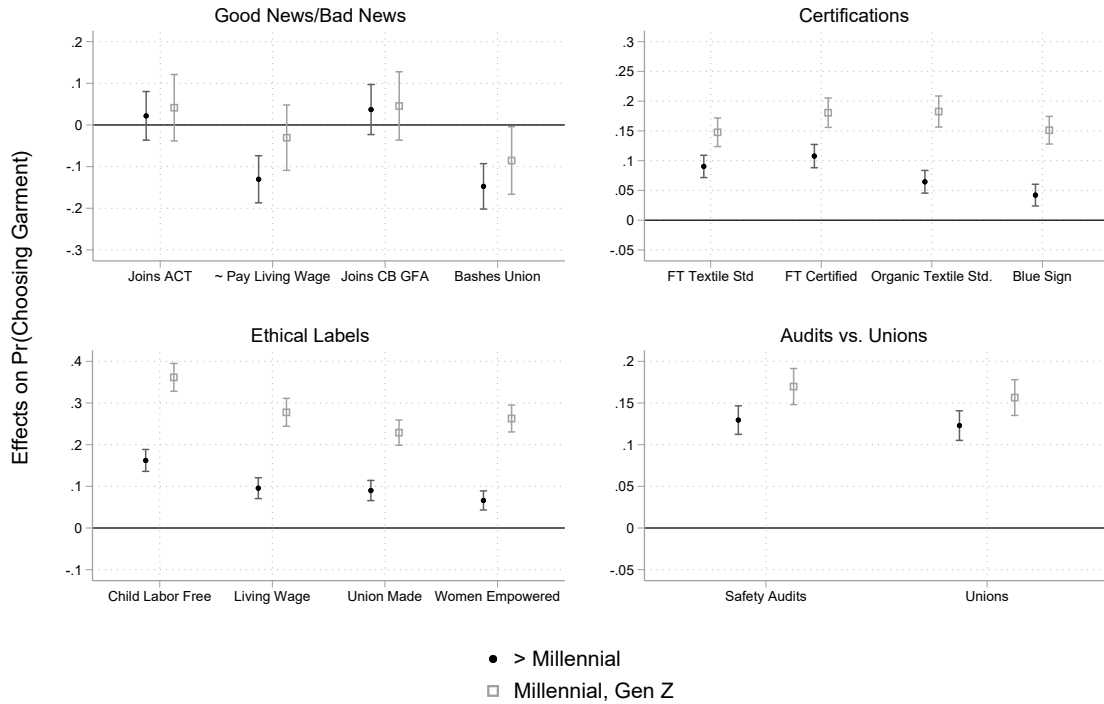


Figure S11: Heterogeneous Effects: Generation

Figure S11 presents the analysis of heterogeneous effects for generation. Here we see clear evidence that millennial and gen z consumers are more responsive to the certifications and ethical labels. They also seem more responsive to messaging about safety audits (but maybe not unions). The good news/bad news experiment does not show any statistically significant differences between younger and older consumers, but this may be due to the fact that these regressions have less power because the treatment only applies to one brand (H&M).

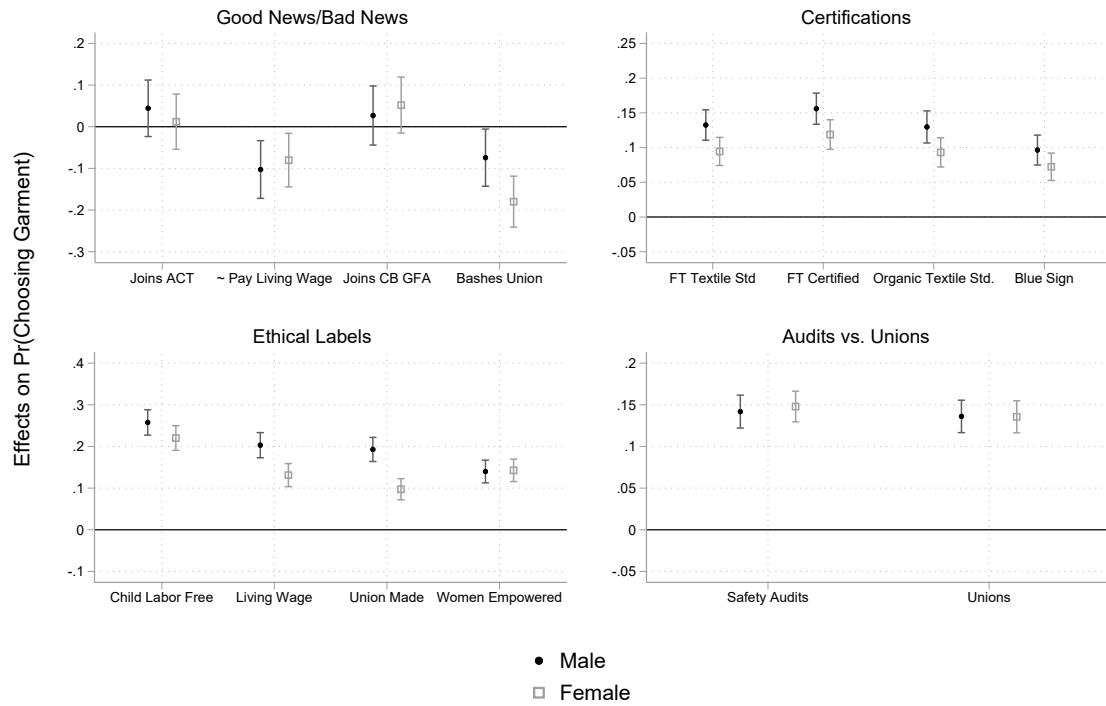


Figure S12: Heterogeneous Effects: Gender

Figure S12 presents the analysis of heterogeneous effects with respect to gender. Here we see that men seem to be more responsive to positive messaging conveyed by labels and certifications while women have a more negative reaction to the union bashing prompt. Women and men have the same reaction to safety audits and unions.

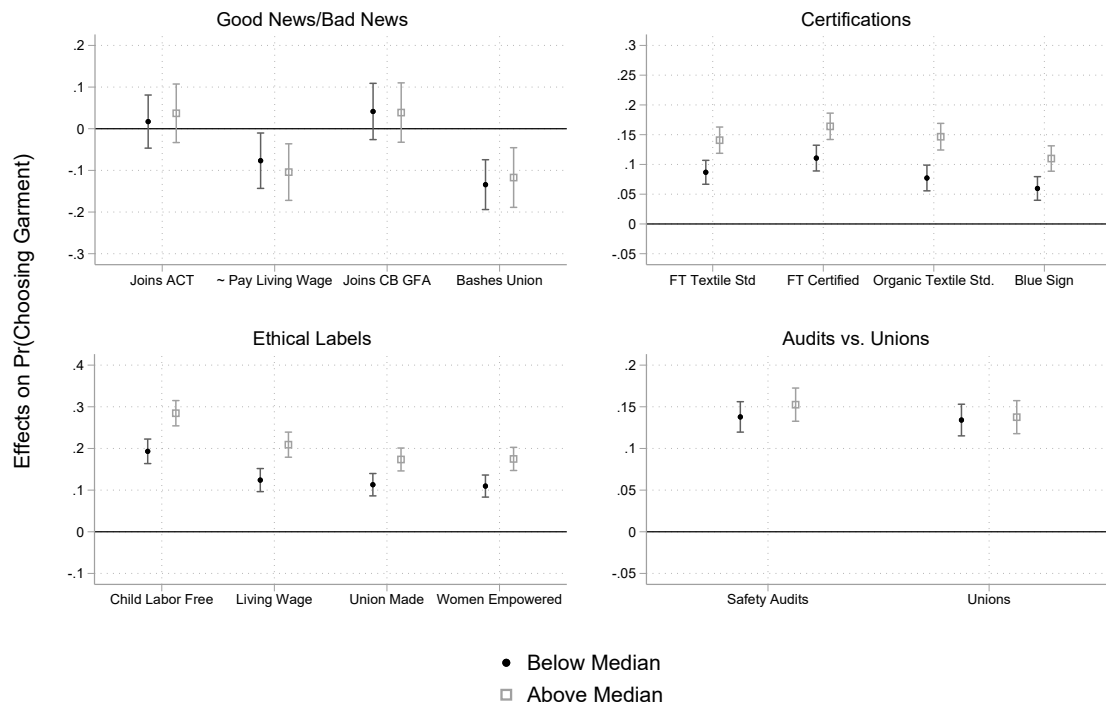


Figure S13: Heterogeneous Effects: Income

In figure S13 we see that above-median-income shoppers are more responsive to labels and certifications than those below the median income. This finding is in line with those of earlier studies that have shown a wealth gap in terms of responsiveness to ethical labeling campaigns.

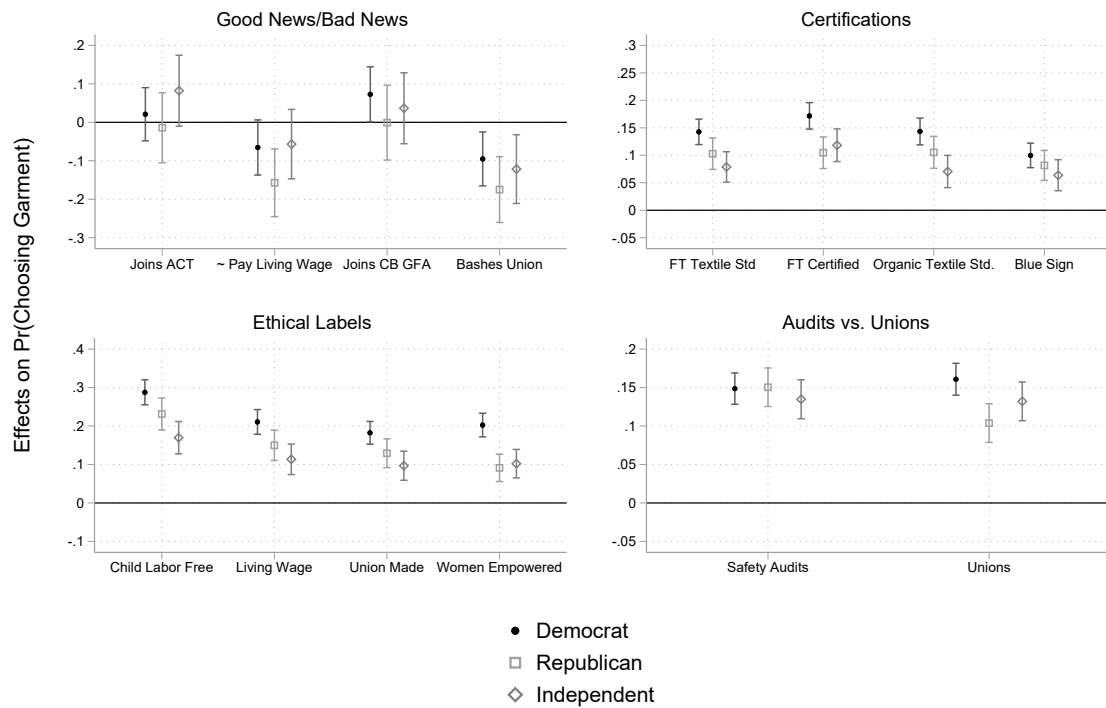


Figure S14: Heterogeneous Effects: Ideology

Figure S14 presents heterogeneous effects by ideology. As one might expect, democrats are more responsive to the certifications and labels than republicans or independents. We also see that democrats are more responsive to the messaging about unions in the audits versus unions experiment.

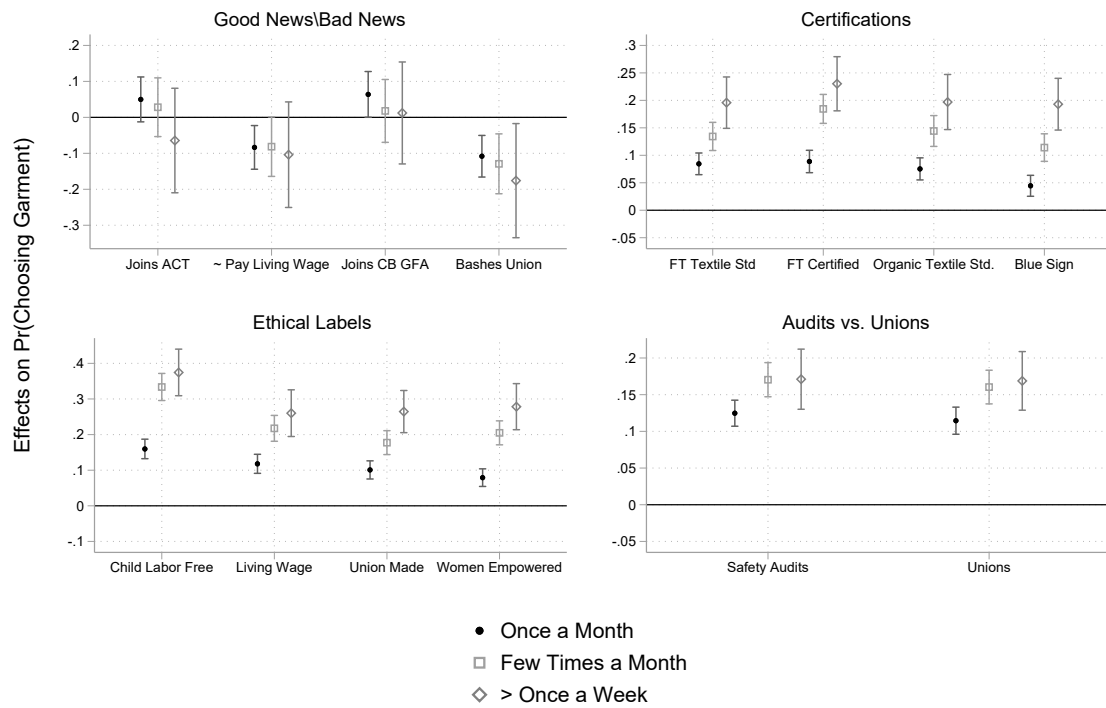


Figure S15: Heterogeneous Effects: Shopping Frequency

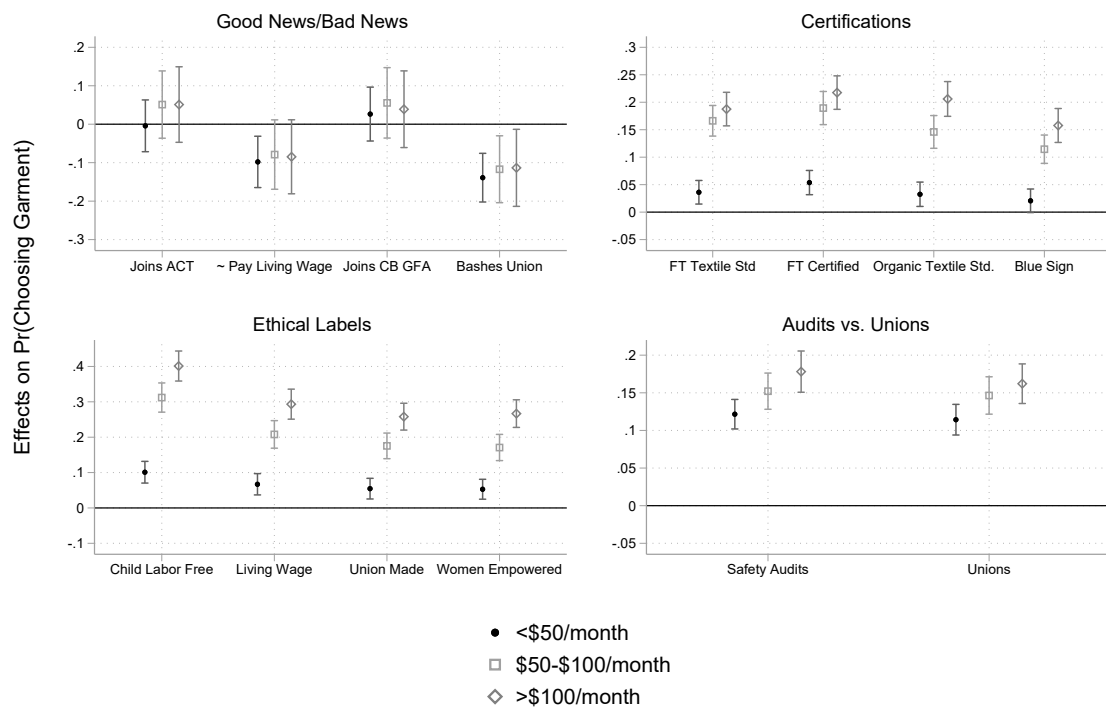


Figure S16: Heterogeneous Effects: Spending Habits

Figures S15 and S16 provide evidence of a frequent shopper effect. People who report shopping more frequently or spending more on a monthly basis for clothes are more responsive to the treatments than those who shop less frequently and spend less.

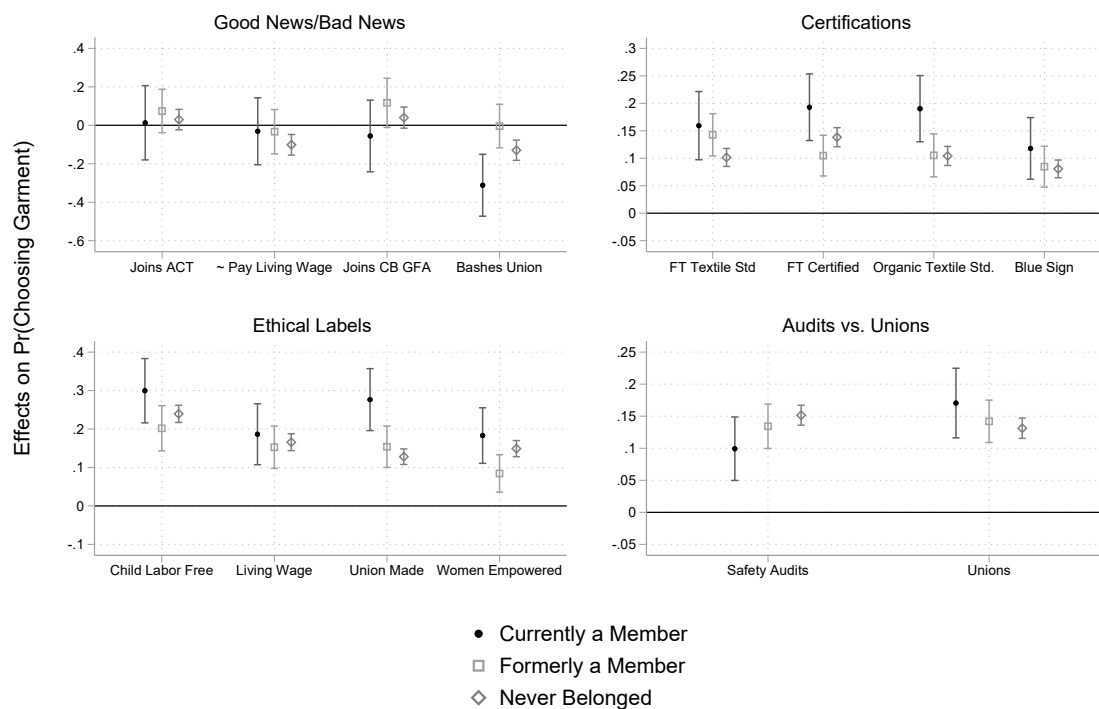


Figure S17: Heterogeneous Effects: Union Membership

Finally, we looked at how union membership conditioned responses (Figure S17). There seems to be some evidence that union members are more responsive to the certifications, labels and union-bashing prompt. But the finding is obscured by the wide confidence intervals—there seem to be too few union members in the sample to draw firm conclusions.

Part VII: Disclosures and Data-Gathering Procedures

Our ten-minute web-based survey was administered in August of 2018 using [LUCID's](#) Fulcrum platform. Lucid is a marketplace where researchers post their survey and suppliers administer the survey based on their capacity. Frequently multiple suppliers provide respondents for the same survey. Respondents are provided token incentives for their participation. The types of incentives vary but usually include some type of store credit or gift card. We deemed that the nature of this compensation was fair given the short amount of time required to complete the survey and because respondents were contributing voluntarily to an academic study.

Our study received human subjects approval from our university's Institutional Review Board and was deemed exempt from further review. To obtain this approval, we were required to demonstrate that respondents were participating voluntarily in our research with informed consent. Respondents were informed in a message at the beginning of the survey that they were participating in an academic study, that participation in the study was optional, and that they could stop at any time. Respondents were also guaranteed confidentiality and we neither collected nor stored any identifying information.

To the best of our knowledge we have no conflicts of interest arising from this research.