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### Transaction-Level Wage Transparency

*How Fair Wage Disclosure Affects Consumer Preferences*

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## Full length article

## Transaction-level wage transparency: How fair wage disclosure affects consumer preferences



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## ABSTRACT

Firms are usually reluctant to disclose information about the production costs of their goods and services; however, some firms have recently started to disclose cost information to consumers. This research examines the consequences of disclosing transaction-level wage information on consumer preferences. Eight experiments, both in field and lab settings across multiple service domains, document that disclosing a service worker's compensation can increase consumer preference for that firm's service if the compensation is sufficiently high (i.e., perceived as fair by consumers). We provide evidence for a dual-process model, indicating that this greater preference for services provided in a fair-wage setting is driven by consumers' feelings of anticipated guilt and higher expectations concerning quality. Available social norms regarding fair compensation and the nature of the service worker (human vs. non-human) are both identified as important boundary conditions of the psychological processes. This research offers a first step toward understanding the psychological and behavioral consequences of disclosing transaction-level wage information to consumers, thereby enabling managers to better identify when they should disclose wage information as part of their marketing strategy. This research also informs policy makers on how to encourage social preferences and consumer choices to promote fair outcomes for consumers, firms, and workers.

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## 1. Introduction

Consumers increasingly seek transparency from firms regarding their supply and value chains, including information about how products are manufactured, the origin of product components, working conditions, and the sources and costs of raw materials and labor (Lim et al. 2018). However, most firms are reluctant to disclose such information, especially when it comes to their costs. This is most likely due to fear of losing a competitive advantage (Lim et al. 2018), or due to concerns

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about reactance from consumers who regard firm margins as too high (Kahneman et al. 1986). And yet, several firms have started offering greater transparency by disclosing production costs to their customers.<sup>1</sup> For example, the clothing manufacturer Everlane is deliberately transparent in its marketing strategy by disclosing the costs of materials, hardware, duties, transportation, and labor for each product they sell.<sup>2</sup> Customers can readily view a breakdown of costs on the Everlane website, as well as the rationale behind the price of each product. Alta Gracia goes even further by disclosing the payment of certified “living wages” to its workers in the Dominican Republic (Buell and Kalkanci 2020).<sup>3</sup>

Initial research has started exploring how consumers react when firms disclose the costs of various components required to produce and market a product. For example, Mohan et al. (2020) show that being transparent regarding several different cost components such as materials, transportation, and labor cost can generally increase consumers’ trust and willingness to buy from firms (irrespective of whether these costs are low or high). However, existing research has not addressed how consumers react to disclosures of *specific* cost components, which might induce distinct consumer reactions due to their idiosyncratic nature (see Web Appendix A for an overview of related studies).

In this research, we study how consumers respond when firms disclose an economically important cost component at the transaction level that might elicit unique consumer reactions, namely, wage information. Specifically, we examine how consumers respond in terms of preference (i.e., choice, willingness to pay, purchase intentions) to offers of service firms disclosing how much they pay their workers to produce a specific service. For example, how will consumers respond to a taxi company that discloses how much it pays drivers for a given trip, or a spa that discloses how much it pays its massage therapist for a one-hour massage?

Our conceptualization of transaction-level wage transparency differs from existing conceptualizations of “wage transparency,” which refer to a firm’s practice of disclosing monthly or annual salaries of employees by position level within the firm (Greiner et al. 2011; Long and Nasiry 2020). Wage information is usually not available to consumers at the transaction level or easily applicable to the specific service worker providing the service. Aggregate monthly or annual salary information does also not facilitate the assessment of the fairness regarding the remuneration for the service provided. Our new conceptualization also differs from existing research on reporting CEO-to-worker pay ratios, which is concerned with relative wage discrepancies across hierarchical levels within a firm (Mohan et al. 2018). The CEO-to-worker pay ratio is even less suitable to assess the fairness of the remuneration received by a specific service worker, as it is a ratio of the CEO’s compensation and the *average* worker’s annual salary. Consumers may look up this information to avoid high-ratio firms, but cannot utilize it to promote firms providing fair remuneration to specific workers.

Instead, our conceptualization focuses on disclosing to consumers a worker’s absolute wage for a service at the transaction level, that is, how much a firm actually pays the worker to produce a given service. Studying this form of transparency may be particularly relevant for services because the value creation is more directly attributable to the individual worker producing the service. A large part of value creation is usually provided by human labor—that of a service worker—which also explains why labor costs tend to account for the lion’s share of a service firm’s total costs.<sup>4</sup>

Beyond their economic significance in services, wages are conceptually distinct from other types of cost information because they involve a social component: wages are tied to people and therefore can potentially appeal to consumers’ social preferences. Accordingly, wages may direct consumers’ attention to the fairness of the economic exchange relationship between a firm and the service worker.

Previous research has highlighted the importance of fairness considerations in exchange relationships between firms and consumers (e.g., Kahneman et al. 1986; Xia et al. 2004). We posit that fairness considerations (e.g., Fehr and Schmidt 1999) in the domain of services affect not only the direct economic exchange between the firm and the consumer, but also the exchange relationship between the firm and the service worker. That is, consumer preferences for a particular firm might be affected not only by specific service attributes such as price, but also by transparent information about how much the firm pays its workers to produce the service. People tend to have a general preference for fair economic exchanges (see also Andorfer and Liebe 2012), which may extend to those between the firm and its service workers (i.e., whether the firm pays its service workers fairly).

To examine consumer responses to labor cost transparency, we report the results of eight studies using different experimental paradigms in both field-type and lab settings and across multiple domains, including city tours, food packaging, beverage delivery, freelance labor, ride-hailing, wellness, and translation services. The results indicate that disclosing a service worker’s compensation can increase consumer preference for that firm’s service in terms of choice, willingness to pay, and purchase intentions if this compensation is perceived as fair by consumers. We propose and provide evidence that this effect is driven, in part, (i) by consumers’ feelings of *anticipated guilt* and (ii) by *quality expectations*. Furthermore, we demonstrate that feelings related to anticipated guilt depend on shared social norms about fair compensation, and on the presence of human (versus non-human) labor. In addition to anticipated guilt, we also shed light on quality inferences as a second (par-

<sup>1</sup> <https://thepricingconundrum.substack.com/p/disclosure-based-price-transparency>.

<sup>2</sup> <https://www.inc.com/suzanne-lucas/the-radically-transparent-fashion-startup-everlane-is-finding-out-why-that-idea-should-extend-to-employees-too.html>.

<sup>3</sup> Alta Gracia’s wages thus are 340% higher than required by law and equivalent to a “living wage” certified by the Worker Rights Consortium.

<sup>4</sup> Notably, services form the backbone of modern economies, accounting for the majority of value creation. According to the Worldbank (<https://data.worldbank.org/indicator/NV.SRV.TOTL.ZS?locations=US>), more than 75% of the gross domestic product in the U.S. is comprised of services, which reflects the increasing shift from a goods-based to a services-based economy over the last few decades (Rust and Huang 2014).

allel) process. Taken together, this research offers a first step toward understanding the psychological and behavioral consequences of disclosing transaction-level wage information to consumers, thereby making several contributions to the existing literature.

First, we add to emerging research on cost transparency by documenting how transaction-level wage transparency affects consumer preferences. Our findings suggest that this form of transparency can be beneficial in terms of consumer demand if firms pay sufficiently high wages to their workers. Conversely, disclosing wages that are perceived as unfair may have detrimental effects on consumer preferences. Specifically, our results suggest fair compensation of service workers matters to consumers, even though they do not have a direct contract with the service workers themselves. Second, our findings provide new insights into the role of anticipated guilt in economic transactions between consumers, firms, and service workers. Intuitively, consumers should hold firms accountable for compensating their workers fairly. Any sense of guilt in response to unfair compensation should therefore rest within the firm, not the consumer. However, our results indicate that consumers anticipate experiencing guilt themselves when encountering unfair exchanges between firms and service workers. Third, our findings shed light on the role of quality expectations in transaction-level wage transparency. By making higher (fair) wages transparent, firms may benefit from increased consumer preference for their services, because consumers anticipate higher quality services from a firm that discloses its payment of fair wages. This also advances the literature on efficiency wages and the notion that paying more than a minimum required wage can be economically viable because workers become more motivated and productive (Akerlof 1982; Akerlof and Yellen 1990). Our research thus adds a complementary, demand-based view in support of fair wages.

Finally, disclosing transaction-level wage information may be relevant for policy makers attempting to increase social welfare and reduce wage inequality. The proposed approach of transaction-level wage transparency offers an alternative solution to government mandates that operate on the firm level. By addressing wage gaps and inequality through a market mechanism, both firms and consumers are enabled to settle the provision of fairer wages in a form that offers additional benefits for all parties involved. While the practice of tipping also provides consumers with an option to provide fair compensation to service workers, it is markedly different from the disclosure of transaction-level wage information. When tipping, consumers typically do not know whether (and precisely how much of) the tip will end up in the pocket of the service worker. Thus, there is some uncertainty as to whether service workers actually receive fair compensation. In addition, consumers provide tips within a relatively narrow set of service domains, thereby widening compensation gaps between occupations (e.g., between waiters and chefs, Dubner 2016). Furthermore, there is a difference in who is responsible for providing fair wages; tipping puts the responsibility squarely on consumers, whereas transaction-level wage transparency creates a shared responsibility with the firm providing a fair wage, facilitated through customers' choices.

## 2. Theory

Disclosing information about the compensation of the service worker allows consumers to evaluate the exchange relationship between the firm and its worker. By involving a person (i.e., the service worker), the social component of the economic exchange becomes more salient, which in turn may activate social preferences (Fehr and Schmidt 1999) and affect consumer decisions. Caring about others' outcomes in an exchange may also stem from altruism to the extent that consumers might even incur some cost to avoid scenarios that would be unfair to third parties (Paolilli 2009).

Aside from social preferences, we also propose a second process—consumers might use disclosed wage information as a quality signal. Just as consumers infer higher quality from higher prices (e.g., Gneezy et al. 2014), it is conceivable that consumers also infer higher quality from higher wages. Notably, quality expectations are distinct from the social considerations mentioned above, as they affect the perceived utility of the service itself rather than the exchange relationship between the firm and its worker. Next, we develop our predictions based on our dual-process account related to fairness and anticipated guilt. We then also describe quality expectations as a second process.

### 2.1. Anticipated Guilt

Guilt, as a moral emotion (Haidt 2003), is a significant driver of prosocial and compensatory behavior (de Hooge et al. 2007; Ketelaar and Au 2003). Feelings of guilt commonly arise when people anticipate negative consequences for another person due to their own actions. Such moral transgressions might be perceived as violations of a social norm (Ortony et al. 1988; Tangney and Dearing 2002). The social aspect of these considerations is reflected in reparative actions that people take in response to guilt—such as apologies, confessions, and prosocial actions—all of which aim to restore the social relationship (e.g., Barrett 1995; Lindsay-Hartz 1984). According to de Hooge et al. (2011), the motivation to exhibit compensatory behaviors toward those whom the person feels guilty about constitutes a basic function of guilt. The notion of people acting more prosocial, due to guilt induced by their unfair behavior toward others, is supported by empirical evidence from social games (Ketelaar and Au 2003; Nelissen et al. 2007).

Guilt can be experienced, but it can also be anticipated because it has the power to influence people's behavior in the present to avoid future feelings of guilt (Baumeister et al. 2007; Ghingold 1981; Huhmann and Brotherton 1997; Paharia 2020). Anticipated guilt refers to the expectation of feeling guilty in the future if one engages in a particular behavior or makes a specific decision that one may regret later. The motivation to avoid feelings of guilt is recognized as a central mech-

anism that drives conscious consumption and other prosocial behaviors (e.g., Lindenmeier et al. 2017; Lindsey, Kimo, & Hill, 2007; Steenhaut and Van Kenhove 2006; Theotokis and Manganari 2015). The marketing literature has consistently documented that ethical decision-making among consumers is highly influenced by emotions (e.g., Gregory-Smith et al. 2013; Lindenmeier et al. 2017). Therefore, in the event of an actual or anticipated moral transgression, the negative-state relief model (Cialdini et al. 1973) predicts that individuals are strongly motivated to engage in behaviors that alleviate these negative feelings, such as making ethical purchases. For example, studies on tipping (Azar 2020) show that a desire to avoid feeling guilty, and the inclination to comply with social norms, are the most frequent motivators that consumers cite regarding whether and how much they decide to tip. Similarly, Pelozo et al. (2013) showed that product promotion through ethical appeals can be driven by the desire to avoid anticipated guilt.

The concept of *warm glow*, as described in the literature on impure altruism (e.g., Andreoni 1990), is sometimes referred to as the positive equivalent (Erlandsson et al. 2016; Paharia 2020) or the “flip side” of guilt (Giebelhausen et al. 2016): Avoiding a social interaction that could lead to a negative self-image is consistent with the notion of warm glow. For example, in the context of charitable giving, Andreoni et al. (2017) found that guilt avoidance is an important element of warm glow. Like guilt, warm glow can be experienced in the moment or anticipated. When anticipated, it refers to the expectation of experiencing positive emotions in the future as a result of one’s actions.

Both guilt and warm glow can explain prosocial behaviors in response to unfair treatment, based on either its perceived disutility (burden of anticipated guilt) which consumers seek to avoid or be relieved from, or the perceived utility (anticipated warm glow) of resolving the unfairness. Thus, warm glow (feeling good about doing the right thing or what is considered fair) can be parameterized as a complementary expression of guilt (feeling guilty about doing something unfair, which one seeks to avoid).

Against this background, we predict that the disclosure of transaction-level wage information affects consumers’ preferences for services, through consumers’ anticipated feelings of guilt. If consumers perceive the wage in an exchange relationship between a firm and service worker as fair (vs. unfair), they should experience reduced (increased) levels of anticipated guilt. Conversely, from the perspective of seeking relief from guilt (warm-glow motive), consumers should experience increased (reduced) levels of warm glow if they perceive the compensation of a service worker as fair (unfair). These feelings should then increase consumers’ preference for the service which provides a fair wage. Formally:

**H1:** Disclosing service workers’ wages that consumers perceive as fair (at the transaction-level) increases consumer preference for a firm’s offering.

**H2:** The effect of disclosing transaction-level wage information on consumer preference for a firm’s offering is mediated by anticipated feelings of guilt.

In order to test our theory that anticipated guilt is one driver of our predicted effects, we identified a form of labor where transaction-level wage transparency is unlikely to evoke emotional reactions—non-human labor. Specifically, while consumers may anticipate feelings of guilt in response to an unfair compensation for human labor, this should not be the case with non-human labor (e.g., labor supplied by a software or machine). Because consumers do not perceive non-human workers as social entities, they are unlikely to anticipate feelings of guilt as a result of unfair behavior toward them. In fact, previous research on people’s reactions to robots shows that people assign emotions and feelings to humans but not to machines (Gray et al. 2007). This is also in line with research by De Melo et al. (2016), who found that people show less guilt when exploiting machines, as compared to humans. Formally, we hypothesize the following boundary condition for our theoretical framework:

**H3:** The mediating effect of disclosures of labor cost information on consumer preference, through anticipated feelings of guilt, is moderated by the nature of the labor (human vs. non-human).

The level of anticipated guilt may also depend on norms and standard practices pertaining to what workers are paid in a particular domain or industry. Because guilt arises from norm violations (Ortony et al. 1988; Tangney and Dearing 2002), consumers’ feelings of anticipated guilt regarding a disclosed wage may depend on their understanding of what would commonly be considered fair compensation for a service. Horton and Kapelner (2021) showed empirically that people generally have good knowledge of hourly wages for a wide range of occupations. Consumers usually derive expectations about such (wage) distributions from their personal experiences and memory (e.g., Ungemach et al. 2011), or from publicly available information (e.g., Glassdoor). Comparisons with such references can affect consumers’ judgments. For example, Card et al. (2012) demonstrated that wages below a certain reference point result in lower job satisfaction and higher turnover. Boyce et al. (2010) showed that the rank of a person’s income, rather than the absolute income, predicts general life satisfaction. These studies focus on evaluations of a person’s own wage, but we predict similar effects when consumers form judgments about the fairness of others’ wages. For example, tipping can be explained by the social motivation of consumers to obey norms related to compensation for service provision (Azar 2011). These norms vary over time and across countries and professions (Azar 2020), but they strongly influence consumers’ ideas about what they should pay for a service, as in pay-what-you-want pricing scenarios (Kim et al. 2009). Soule and Madrigal (2015) confirmed that consumers’ voluntary payments are strongly affected by descriptive norms of what others do.

Therefore, we posit that consumers perceive wages below a particular norm (i.e., what is usually paid) as unfair, and hence develop stronger feelings of anticipated guilt. However, in a different normative context, the same wage could be perceived as fair, in which case we would not expect any increase in anticipated guilt or a decrease in willingness to purchase the service. The evaluation of a wage against what is perceived as a fair wage, due to existing norms, is an important part of the proposed process.

**H4:** The mediating effect of transaction-level wage transparency on consumer preference, through anticipated feelings of guilt, is moderated by available norms regarding common wages in the relevant domain.

## 2.2. Quality Expectations

While the previous theorizing focused on the role of anticipated guilt as a process account for the effect of transaction-level wage transparency on consumers' preference, we also consider a second process—quality expectations. Prior research has demonstrated that consumers rely on signals such as price to make inferences about a product's quality (Gerstner 1985; Huber and McCann 1982; Rao and Monroe 1989), which can affect consumer preferences (Gneezy et al. 2014). Our main argument is that transaction-level wage information may also serve as a signal for consumers to make inferences about quality. According to efficiency-wage theory, paying higher wages can motivate employees, and as a result, increase productivity (Akerlof 1982; Akerlof and Yellen 1990; Cohn et al. 2014; Fisman and Luca 2018). Complementary to this firm-level perspective, consumers may develop beliefs that higher wages motivate service workers to provide better service (e.g., higher disclosed compensation may lead consumers to expect greater effort or skill from service workers), thus raising their quality expectations. Yet, we posit that this quality-based account—which is new to the literature—works in parallel to the anticipated guilt process described above (H2). Formally:

**H5:** The effect of disclosing transaction-level wage information on consumer preference for a firm's offering is mediated by quality expectations.

## 2.3. Overview of Studies

We present the results of eight studies (N = 5,489) across numerous domains designed to test these hypotheses. In the first set of studies (1–5), all (probabilistically) consequential, we test the predicted main effect (H1), namely, that disclosing payment of a higher (fairer) wage to a service worker can increase consumers' preference for that service. Study 1 tests in a field setting whether a fair (vs. unfair or undisclosed) wage paid to a service worker increases consumers' willingness to pay for that service. Study 2, an observational field study, demonstrates the main effect in the context of food packaging: consumers are more likely to pick a snack in exchange for a voluntary payment when a higher (fairer) wage for the packaging workers is disclosed. Study 3, in a field-type setting, provides further support for the main effect in a different service domain, demonstrating that consumers choosing between two beverage-delivery services prefer the more expensive option, if it discloses a higher wage for the service worker. In the domain of freelance labor services, Study 4 utilizes an online labor market, to document that consumers are willing to forgo economic gains for themselves, in exchange for providing a worker with a higher (fairer) wage. Study 5 shows in the domain of ride-hailing services, that the preference for the more expensive service (paying a fair wage) depends on the magnitude of the price increase.

Next, Studies 6–8 empirically test our proposed psychological processes, showing that feelings of anticipated guilt and expectations regarding the quality mediate the effect of transaction-level wage transparency (H2 & H5). In addition, Studies 7 (translation services) and 8 (wellness services) also investigate two theoretically derived moderators of the mediation of anticipated guilt: the nature of the labor (Study 7, H3) and prevailing norms for wages (Study 8, H4). Table 1 provides an overview of the studies.

We report all data exclusions (if any) and conditions. In all our studies, sample sizes were determined a-priori based on pre-tests and power considerations. All the stimuli are available in the Web Appendix. All data and code to reproduce our results are archived at [https://osf.io/5dgsc/?view\\_only=5c7f579f1ac34afcb21aac2c5e709d21](https://osf.io/5dgsc/?view_only=5c7f579f1ac34afcb21aac2c5e709d21).

## 3. Study 1: City Tour Study

Study 1 aims to test our main prediction that paying service workers a higher (i.e., fairer) transaction-level wage, and making it transparent, increases consumer preference for that service. We conducted a pre-registered ([aspredicted.org/4CG\\_95X](https://aspredicted.org/4CG_95X)) experiment in a field setting with university students who participated in a survey on guided city tours.

### 3.1. Method

Three hundred and fifteen students (50% female,  $M_{\text{age}} = 25$  years) volunteered to complete an online survey about local city tours, distributed through a university mailing list of a major European university. The first part of the survey asked participants to share their experiences and attitudes about city tours, their ratings of main attractions in the city, their preferred means of transportation to explore a city, how long they have lived there, and how well they knew the city. In the last part of the survey, as a token of appreciation, participants got the chance to book a two-hour guided city tour for themselves and up to four friends at their own preferred price. This stated willingness to pay (WTP) for the described tour was measured using the Becker-DeGroot-Marschak mechanism (BDM, Becker et al. 1964). BDM is an incentive-compatible method, widely recognized for its ability to reveal consumers' actual valuation of products (e.g., Wertebroch and Skiera 2002). Participants were randomly assigned to one of three conditions that differed in their descriptions of the city tour available for booking at the end of the survey. All three conditions provided the same diagnostic information, including the name, starting point,

**Table 1**  
Overview of Studies.

Study	Context	N	Key DV	Contribution	Main Finding
1	City Tour, Field Study <a href="https://aspredicted.org/4CG_95X">aspredicted.org/4CG_95X</a>	315	WTP (probabilistically consequential)	Establishes the main effect (H1).	Significantly higher WTP for services that disclose a fair wage versus an unfair wage or versus not disclosing the wage.
2	Food Packaging, Field Study <a href="https://aspredicted.org/892_YRT">aspredicted.org/892_YRT</a>	2443	Product choice in exchange for voluntary payments (consequential)	Establishes the main effect (H1) in the field.	Suggestive evidence that customers tend to be more likely to pick a product in exchange for a voluntary payment when the workers receive a higher (fairer) wage.
3	Beverage Delivery, Field Study <a href="https://aspredicted.org/NWF_HGS">aspredicted.org/NWF_HGS</a>	331	Choice (probabilistically consequential)	Establishes the main effect (H1).	Significantly higher preference for the more expensive service when higher wages are disclosed.
4	Freelance Labor	269	Choice between bonus payments (consequential)	Establishes the main effect (H1) in the field.	Consumers are willing to forgo economic gains for themselves, in exchange for providing a worker with a fair wage.
5	Ride-Hailing <a href="https://aspredicted.org/5SQ_47T">aspredicted.org/5SQ_47T</a>	606	Choice (probabilistically consequential)	Establishes the main effect (H1) across varying sets of prices; tests moderation of self-reported level of resources.	Preference for the more expensive service (paying a fair wage) is dependent on price. No (moderating) effect of self-reported level of resources (income, scarcity mindset, socio-economic status, tightwad-spendthrift).
6	Wellness	315	Purchase intention, anticipated guilt, quality expectations	Provides process evidence for the role of anticipated guilt (H2 & H5) through measured mediation.	Both feelings of anticipated guilt and quality expectations mediate the effect of paying fair wages on purchase intentions.
7	Translation <a href="https://aspredicted.org/98L_DW8">aspredicted.org/98L_DW8</a>	800	Booking intention, anticipated guilt, quality expectations	Provides further process evidence through moderation of the nature of the labor (H2, H3 & H5).	Whether consumers experience anticipated guilt as a result of subjectively unfair compensation is dependent on whether the labor involves human (vs. non-human) labor.
8	Wellness	410	Purchase intention, anticipated guilt, quality expectations	Provides further process evidence through moderation of descriptive norms regarding common wages (H2, H4 & H5).	Whether a wage is perceived as unfair and evokes feelings of increased guilt and decreased purchase intentions depends on the prevailing norm for wages for that service.

language, theme, and regular price (99€) of the tour. What differed between conditions was the disclosure of the guide's compensation for the tour. In the "non-transparent" condition, no information about the tour guide's wage was disclosed, whereas a compensation of 20€ and 75€ was disclosed in the "low-wage" and "high-wage" conditions.

The dependent variable was the WTP for the described tour, which participants indicated on a slider scale ranging from 0 to 99€ (in 1€ increments). The exact BDM procedure was described to participants in detail (see exemplary stimuli in [Web Appendix B](#)) and implemented with real consequences after the completion of the study as part of an online meeting with a randomly selected participant. After stating their WTP, participants in the "non-transparent" condition were asked to estimate the amount the tour guide would receive. All participants then rated the fairness of the tour guide's compensation (disclosed or estimated) on a 7-point scale ("extremely unfair" to "extremely fair"). Finally, participants provided their e-mail address (optional) and answered basic demographic questions (age and gender).

### 3.2. Results and Discussion

*Manipulation check (fairness).* We first examined the effect of the treatments on participants' perceptions regarding the fairness of the tour guide's compensation using linear regression. As expected, participants in the transparent high-wage condition indicated higher fairness ratings ( $M = 4.89$ ,  $SD = 1.64$ ) than those in the transparent low-wage condition ( $M = 3.13$ ,  $SD = 1.72$ ;  $\beta = -1.76$ ,  $p < 0.001$ ) and non-transparent condition ( $M = 4.39$ ,  $SD = 1.61$ ;  $\beta = -0.51$ ,  $p = 0.03$ ).<sup>5</sup> These findings demonstrate that our experimental conditions successfully manipulated the perceived fairness of the wages.

*Main analyses.* A linear regression of WTP on treatments revealed significant effects, with participants in the high-wage condition being willing to pay 7.41€ more ( $M = 41.70$ ,  $SD = 25.10$ ;  $p = 0.03$ ) than participants in the low-wage condition ( $M = 34.29$ ,  $SD = 22.74$ ). Similarly, participants in the high-wage condition were willing to pay 5.74€ more than those in the non-transparent condition ( $M = 35.96$ ,  $SD = 23.99$ ;  $p = 0.09$ ).

In sum, the results of this (probabilistically) incentive-compatible study provide evidence in a field setting that paying a fair transaction-level wage can increase consumers' willingness to pay for a service. Specifically, we show that consumers are willing to pay more for the same service offer (with an identical market value), if this service offer discloses that the service

<sup>5</sup> The relatively high fairness rating in the non-transparent condition can be explained by the relatively high compensations that participants estimated the tour guide would receive ( $M = 42.72$ ,  $Mdn = 49$ ,  $SD = 22.01$ ).

worker is paid a fair wage. This result is remarkable given that no further information about the service worker (name, age, gender, or experience) was provided.

#### 4. Study 2: Food Packaging Study

The aim of study 2 was to provide further field evidence for the positive effect of paying workers a higher (i.e., fairer) transaction-level wage. We conducted a pre-registered observational field study ([aspredicted.org/892\\_YRT](https://aspredicted.org/892_YRT)) in a liquor store in Amsterdam, the Netherlands.

##### 4.1. Method

The in-store field experiment employed a between-subjects design with two experimental conditions (transparent wage of the worker packaging the product: fair vs. unfair) in which customers had the option to pick a product in exchange for a voluntary payment that was donated to charity. The experiment was conducted over five<sup>6</sup> consecutive weeks (Monday to Thursday), with the conditions alternated daily to control for the impact of external factors (e.g., some days having higher customer traffic than others; see similar design and procedure in [Nishikawa et al. 2017](#)). During the 20-day period, a total of 2,443 customers visited the store and made a purchase.

In the store, we placed a container with small bags of snacks on the counter near the checkout. A display on the counter informed customers that they could take one bag of snacks in exchange for making a voluntary payment<sup>7</sup> by putting money in a designated box next to the container. The container and the snack bags featured small self-adhesive stickers providing information about the wages of workers who packaged the snacks, which were described as being fair on some days and unfair on others. Specifically, in the fair-wage condition, the label read: “Workers who packaged these snacks were paid 18 euros per hour,” whereas in the unfair-wage condition, it read: “Workers who packaged these snacks were paid 7 euros per hour” (see setup in [Web Appendix C](#)). Notably, the snack bags also featured product-related information such as flavor and nutritional details.

As a dependent variable, serving as a consequential measure of consumer product preference, we recorded the number of customers who picked a bag of snacks in exchange for a voluntary payment (donation). We view this measure as a proxy for product demand—if customers desire a product more, they should be more willing to make a voluntary payment. Additionally, we recorded the payment amounts. As mentioned earlier, we also tracked the total number of customers who made a purchase each day, as indicated by the number of transactions. Store personnel ensured that each customer took only one bag.

##### 4.2. Results and Discussion

To assess whether fair wages lead to stronger product preference in the fair (vs. unfair) wage condition, we compared, across the two conditions, the number of customers who picked a snack bag in exchange for a voluntary payment out of the total number of customers who visited the stores. Our analysis revealed that customers were more likely to pick a product in exchange for a voluntary payment in the fair wage condition (25 out of 1,158) compared to the unfair wage condition (15 out of 1,285 customers). This difference was marginally significant ( $\chi^2(1, N = 2,443) = 3.71, p = 0.05$ ).<sup>8</sup> These findings provide suggestive field evidence that disclosing fair wages has consequential effects on customer behavior. The tentative finding that more customers are willing to make a voluntary payment for “higher wage” products aligns with both the anticipated guilt and quality-based account. On the one hand, customers may generally avoid products associated with lower wages. On the other hand, and consistent with a quality account, customers may perceive that the product’s value is higher in the fair wage condition, which could be reflected in more voluntary payments.

<sup>6</sup> Due to a lower-than-expected average number of customers making a voluntary payment (donation), we decided to extend the pre-registered data collection period from two weeks to five weeks. No data was analyzed before the completion of the data collection.

<sup>7</sup> For logistical reasons and the restrictions of the store setting, the payment did not go to the firm who produced the snacks but was donated to charity (UNICEF). This was made transparent to customers.

<sup>8</sup> We acknowledge that the proportion of customers who picked a snack bag and made a voluntary payment is low. However, this low proportion is not surprising, given the generally low donation rates among consumers (<https://thenonprofitimes.com/marketing/online-giving-email-open-rates-climbed-during-2019/>). Moreover, to maintain a high level of external validity, we used rather subtle stimuli, which may have contributed to the low number of customers who chose a product in exchange for a donation. As an additional analysis, we compared the donation amounts to see whether customers in the fair vs. unfair wage conditions made higher voluntary payments, i.e., donated more to UNICEF. Over the course of 20 days, customers donated a total of 900 cents in the unfair-wage condition and 1,935 cents in the fair-wage condition. On average, customers donated 77.4 cents (SD = 56.22) in the fair-wage condition and 60 (SD = 44.12) in the unfair-wage condition. An ANOVA using the daily data, with wage information (fair vs. unfair) as the factor and controlling for the daily number of customers, indicated that the difference in voluntary payments between the fair and unfair wage conditions was marginally significant,  $F(1,17) = 3.50, p = 0.08$  ( $M_{\text{fair}} = 193.5, SD_{\text{fair}} = 144.74; M_{\text{unfair}} = 90, SD_{\text{unfair}} = 75.39$ ).

## 5. Study 3: Beverage Delivery Study

Study 3 was pre-registered ([aspredicted.org/NWF\\_HGS](https://aspredicted.org/NWF_HGS)) and designed to test the effect of higher wages on an alternative preference measure in a different service domain (beverage delivery). In a (probabilistically) incentive-compatible choice task, we used horizontally differentiated services and varied prices to further enhance ecological validity. Specifically, participants were asked to choose between two beverage-delivery services. Both service offers disclosed the amount paid to the delivery driver, but their total prices differed. While the less expensive offer always disclosed the same payment for the delivery driver, we varied the payment amount for the more expensive offer. We expected participants to be more likely to choose the more expensive offer when the disclosed payment for the delivery driver was higher than that of the less expensive offer.

### 5.1. Method

Three hundred and thirty-one participants (66 % female,  $M_{\text{age}} = 28$  years) were recruited via the mailing list of another major European university to participate in this three-condition, between-subjects experiment, answering questions on their experiences and preferences regarding beverages and beverage-delivery services (including weekly spending for beverages). At the end of the survey, participants had the opportunity to win a crate (6 bottles) of apple juice as a “thank you” for their participation. Specifically, participants could choose between two delivery services offering two different brands of apple juice. Both alternatives displayed the total price of the product, as well as the amount the delivery driver would receive. However, winning participants only had to pay the amount for the delivery driver. The chosen apple juice was free of charge. This choice was the key dependent measure of this study. Following the choice task, participants provided their e-mail address (optional) and answered basic demographic questions (age, gender, and zip code). After the survey was closed, two winners were randomly drawn and their choices implemented, that is, they received their chosen apple juice and had to pay the delivery fee for the driver (making this task consequential).

The two choice alternatives were designed as follows: the less expensive delivery offer always had a total price of 10.49€, and a fixed amount for the delivery driver (0.50€). The more expensive offer always had a total price of 10.99€. However, within that offer, we manipulated the delivery driver’s payment. Participants were randomly assigned to one of three delivery-driver payments (low: 0.50€; medium: 1.00€; high: 1.50€). The order of the more expensive offer (left vs. right), the names of the two delivery services, and the two apple juice brands were all counter-balanced (see [Web Appendix D](#) for exemplary stimuli). Given that participants had to pay the delivery driver themselves, this design directly measured participants’ willingness to provide a higher transaction-level wage for the service worker.

### 5.2. Results and Discussion

When both offers disclosed the same delivery-driver payment (0.50€), slightly more participants (53 %) preferred the less expensive beverage-delivery service. However, when the more expensive alternative disclosed a higher delivery-driver payment (to be covered by participants), they preferred the more expensive service in both the medium (69 %) and high (74 %) payment conditions (see [Fig. 1](#)).

A logistic regression of choice of the more expensive offer on the experimental conditions corroborated this result. Compared to the low-payment condition, where drivers received the same payment in both offerings (0.50€), participants were significantly more likely to choose the more expensive option in the medium-payment (odds ratio [OR] = 2.48,  $p < 0.01$ ) and high-payment (OR = 3.19,  $p < 0.001$ ) conditions. These regression results are robust when controlling for self-reported weekly spending for beverages, age, and gender.

In sum, this experiment demonstrates in a field setting that consumers are willing to pay more for service offers that provide higher transaction-level wages to (anonymous) service workers. In our experimental conditions, this effect increases with the amount paid to the service worker.

## 6. Study 4: Freelance Labor

To explore whether people are willing to forgo their own monetary payoffs to achieve fair compensation for service workers, we conducted an incentive-compatible field study, leveraging an actual online market for freelance labor: Amazon Mechanical Turk (MTurk). We empowered participants to determine the wage paid in an exchange relationship between a service task requester and a service task provider. Specifically, participants had to make a trade-off between a higher (lower) payment to themselves as a bonus payment for their participation and a lower (higher) payment to the service worker completing the task.

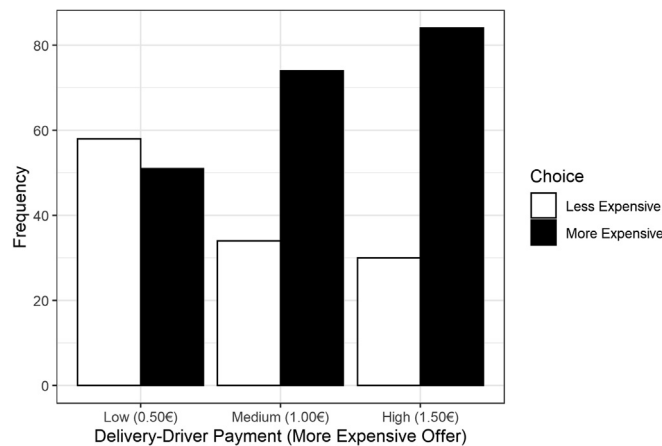


Fig. 1. Choice by Payment Condition.

### 6.1. Method

Two hundred sixty-nine participants (48 % female,  $M_{age} = 36.5$  years; MTurk, U.S. sample) participated in this field study in exchange for a base payment of \$0.30 and the possibility of earning a bonus payment of up to \$0.10. As part of a between-subjects manipulation, participants were randomly assigned to one of two conditions.

In each condition, participants were responsible for selecting the transaction-level wage to be paid to another (anonymous) worker on the platform for completing a service, in exchange for receiving a bonus payment themselves. Participants chose between two task descriptions (Option A or Option B), both involving the same task: transcribing a 4-minute audio clip. The descriptions differed only in how much the anonymous worker would be paid and how much the participant would receive as a bonus.

Importantly, the descriptions required participants to make a trade-off between a higher bonus for themselves and a lower payment for the anonymous service worker completing the task, or vice versa. When choosing Option A, which was constant across the two conditions, participants received a \$0.10 bonus, while the worker was paid \$0.20 for completing the task. When choosing Option B, participants received a \$0.05 bonus, while the worker was paid either \$0.25 (low-wage condition) or \$0.40 (high-wage condition). Thus, within Option B, we manipulated the wage offered to the anonymous worker, requiring participants to decide whether to grant the worker a higher wage at the cost of a lower bonus for themselves (see [Web Appendix E](#) for sample stimuli). Our dependent variable, choice of option B, therefore is incentive-compatible and consequential. The participants are not the direct beneficiaries of the task, so this design rules out the possibility that they might deliberately choose the higher wage option based on their expectation of better quality.

After completing the choice task, participants completed demographic items (age, sex, and income) and indicated what they thought was a fair wage for an MTurk worker to complete a 4-minute task (manipulation check).

### 6.2. Results and Discussion

*Perceived fairness.* The distribution of amounts that participants considered a fair wage for the task had a mean of \$0.56 ( $Mdn = 0.4$ ,  $SD = 0.54$ ). There were no significant differences in the reported fair wages between the two conditions ( $t(263.78) = 1.46$ ,  $p > 0.05$ ). The proposed wage of \$0.40 in the high-wage condition was considered fair by at least 50 % of the participants, whereas the wage of \$0.25 in the low-wage condition was considered fair by only 14 % of the participants. These results suggest that our manipulation of perceived fairness was effective.

*Choice.* [Fig. 2](#) shows the choice shares by condition. A chi-square test revealed that participants were more likely to choose option B (and accept a lower bonus payment than in option A) if the performing worker earned a higher wage (51 %) than if the performing worker earned a lower wage (31 %;  $\chi^2(1, 269) = 10.73$ ,  $p < 0.01$ ). This stronger preference for the higher wage option demonstrates consumers' willingness to forgo economic gains for themselves, in exchange for providing another worker with a fair wage.

Naturally, we would expect this effect to flatten (and at some point reverse) due to individual differences and resource constraints, for example. We examine whether such factors can potentially moderate our main effect in Study 5.

## 7. Study 5: Ride-Hailing Study

In this pre-registered ([aspredicted.org/5SQ\\_47T](https://aspredicted.org/5SQ_47T)) and (probabilistically) consequential study, we probe consumers' willingness to pay more for service offers that provide fair transaction-level wages in the domain of ride-hailing services. We

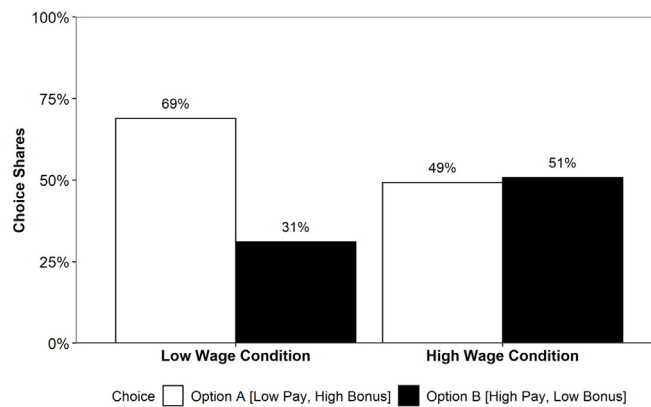


Fig. 2. Choice of Wages/Bonus Payments.

do this by implementing larger price differences between options, and manipulating more explicitly the perceived fairness of the service worker's wage. Importantly, we directly test resource constraints as a potential moderator of preferences for fair (er) wages. Specifically, while consumers may like the general idea of paying more to do what they perceive as "the right thing," their resource constraints may prevent consumers from acting accordingly. There are a variety of possible measures available to capture such constraints. To cover both actual and perceived resource constraints, as well as different attitudes toward spending, we employed four different measures. Personal annual income and current socio-economic status (SES; Griskevicius et al. 2013) were included as indicators of actual resource availability. To capture scarcity as a mindset (Goldsmith et al. 2020), we measured resource scarcity using a four-item scale (Roux et al. 2015). Finally, we included the Tightwad-Spendthrift scale (Rick et al. 2008) to assess the extent to which people find the prospect of spending money painful. Tightwads are assumed to experience a high level of pain upon paying, and thus spend less than they would "ideally" like to spend.

### 7.1. Method

*Pre-test.* To determine fair/unfair compensation for drivers of a ride-hailing service (e.g., Uber, Lyft), we conducted a pre-test with the same population as in the main study (MTurk, U.S. sample;  $N = 151$ , 44 % female,  $M_{age} = 36$  years).<sup>9</sup> Participants were asked how much an Uber/Lyft driver should be paid per hour (without tips). In addition, we elicited fairness and underpaid/overpaid ratings (7-point scales) for 12 payment levels (\$5 to \$60, in \$5 increments). Finally, we asked basic demographic questions (age, gender, personal annual income).

The median suggested hourly wage was \$15 ( $M = 16.34$ ,  $SD = 9.52$ ). According to the fairness ratings, the shift from an unfair to a fair wage (crossing the midpoint) occurred between \$10 and \$15. Fairness ratings plateaued at \$20 and decreased again for values higher than \$30. This pattern was also reflected in the ratings of underpaid/overpaid wages: wages of \$10 or less were perceived as underpaid, and wages of \$40 were perceived as overpaid. A regression analysis revealed no systematic relationship between suggested fair wages and self-reported annual income.

*Main study.* Six hundred and six participants (44 % female,  $M_{age} = 41$  years) of the same population as the pre-test (MTurk, U.S. sample) read that they needed a ride from Manhattan to JFK Airport to catch a flight, and would be willing to spend up to \$80 for that ride. Inspired by real-world applications (Google Maps app), participants were shown a smartphone screen with a map app displaying available rides in their area. The app displayed the route, expected total ride time, and two available ride-hailing services (Uber and Lyft). For each ride-hailing option, participants saw the total price and approximate amount of money the driver would get (for exemplary stimuli see Web Appendix F). To manipulate perceptions of disclosed payments to drivers as unfair versus fair, the selection of these values was informed by the results of the pre-test.

Participants were exposed to two options—one less expensive and one more expensive option. The price of the less expensive option was held constant at \$62, and always disclosed a payment of \$9 (unfair wage) for the driver. The price of the more expensive option varied, while the disclosed payment for the driver was held constant at \$21 (fair wage). Specifically, we varied the price of the more expensive option by randomly assigning participants to one of three price conditions: low (\$65), medium (\$68), and high (\$71) price. Thus, the cost for participants to choose the fair wage (\$21) increased across the three conditions from low to high. To increase ecological validity, we used nationally operating service providers (Lyft and Uber) and counterbalanced which of the two providers was the less versus more expensive option. The dependent measure was the participants' choice of the ride-hailing service. Participants were informed that their choice was consequential, as five randomly selected participants received a voucher for the selected service provider over the difference between the budgeted amount (i.e., \$80, stated in the instructions) and the amount spent given their choice (i.e., price of the chosen

<sup>9</sup> In the pre-test, two participants were excluded from analyses due to suggesting unrealistic driver wages of more than \$200 per hour.

option). This resulted in actual bonus payments of \$18 (unfair wage), \$15, \$12, or \$9 (fairer wages). Thus, in addition to their payment for completing the study, participants could receive one of these vouchers (which increased the cost of choosing the fair-wage option), thereby making the task consequential.

After the choice task, participants indicated the perceived fairness of the driver's compensation in each offer, and what they thought was a fair hourly wage for a driver. Next, participants completed established scales of resource constraints: current socio-economic status, scarcity mindset (all measured on 7-point scales), and spendthrift-tightwads scale. Finally, participants indicated their perceived awareness of the research hypothesis (PARH scale; Rubin 2016), age, gender, Uber/Lyft customer status (yes, no), ride-hailing service preference (Uber, Lyft, none of the two), and personal annual income.

## 7.2. Results and Discussion

Participants' choice of the more expensive option (providing fair payment to the driver) was highest in the low-price condition (74%). This preference for the more expensive option decreased as the price for this option increased (medium-price: 54%, high-price: 31%), see Fig. 3.

Thus, even in the high-price condition, where participants had to pay a substantially higher price for the fair option, close to a third of participants were willing to pay more for a similar service that provided a fair wage to the driver. A logistic regression of choice of the more expensive option on the experimental conditions showed that the likelihood of choosing that option, relative to the low-price condition, was significantly lower in the medium-price (OR = 0.43,  $p < 0.001$ ) and high-price (OR = 0.16,  $p < 0.001$ ) conditions.

Our four measures of resource constraints were significantly correlated with each other ( $r: -0.71$  to  $0.47$ ,  $p < 0.05$ ), suggesting that the measures captured both overlapping and distinct facets of resource constraints. Therefore, to test the extent to which resource constraints moderate the effect of price on choice, we ran four separate regression models (one for each resource constraint measure; see Table 2).

Compared to the low-price condition, the high-price condition had a significant negative effect on the choice of the more expensive (fair payment) ride-hailing service in all four regressions. However, the effect of the medium-price condition was significant in only one of the four models. Importantly, none of the regressions revealed a significant main or interaction effect involving either of the four resource-constraint measures. Thus, while participants' preference for the fair-wage service is significantly reduced when the price is high, we observed no significant effects of individual differences regarding actual or perceived resource constraints, or different attitudes toward spending (pain of paying). These effects remained robust when controlling for PARH scores as a covariate (main effect and interaction with price condition) in the analyses. Thus, there was no indication that our results were driven by demand effects.

In summary, in yet another service domain, the results demonstrate that consumers generally prefer offerings that compensate service workers fairly. This preference significantly decreases when it becomes more costly to satisfy, but does not completely disappear within the tested price range of our study. The results suggest that even for standardized services such as ride-hailing, a substantial share of consumers do not seek the lowest price but instead consider worker compensation under transaction-level price transparency.

Further, the difference in preference between price conditions is unaffected by actual and perceived resource constraints or different attitudes toward spending. One possible explanation for not observing direct or moderating effects of the resource-constraint measures is that consumers with lower (rather than higher) budgets are likely the ones who are most affected by low wages. They are also more likely to have personal experiences with unfair exchanges, enabling them to relate more to feelings of being paid unfairly. Accordingly, consumers with lower (rather than higher) budgets may have a stronger relative preference for providing fair compensation within their financial means, potentially offsetting any moderating effects of resource constraints. This finding is also consistent with anecdotal and empirical evidence. For example, despite frequently being financially constrained, many waiters give generous tips at restaurants because they can better put themselves in the shoes of other waiters. Moreover, empirical research on consumers' tipping behavior toward cab drivers found that low-income consumers tip as much as higher-income consumers (Elliott et al. 2017).

## 8. Study 6: Wellness Study and Measured Mediation

In the previous five studies, we have documented the main effects of transaction-level wage disclosure on consumer preferences (H1), as expressed in WTP and choice settings across different service domains. In Study 6 and the following studies, we examine the psychological processes underlying these effects on preference. We predicted that feelings of anticipated guilt (warm glow) and quality expectations mediate the observed preferences. To test these predictions (H2 & H5) we devised a three-cell, between-subjects experiment, in the context of wellness services. Participants read a description of a single spa offer that disclosed wage information, and were asked to state their willingness to purchase it. To test for mediation, we measured the expected feelings of guilt induced by the service offer. We also controlled for participants' expectations of service quality.

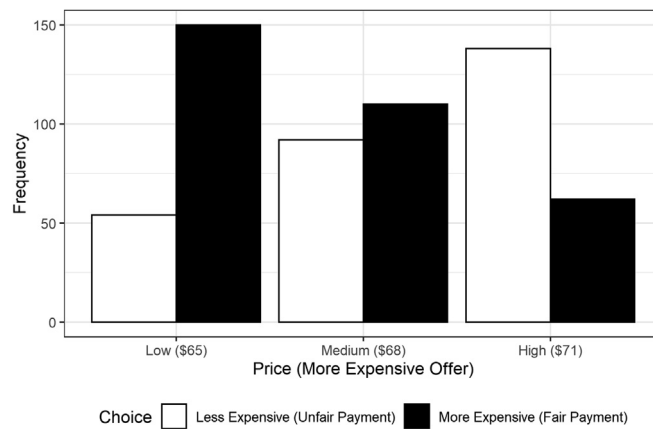


Fig. 3. Choice by Price Condition.

### 8.1. Method

**Pre-test.** To determine fair wages for massage therapists, we asked 108 participants (41 % female,  $M_{age} = 37$  years; MTurk, U.S. sample) how much a qualified massage therapist should be paid for a one-hour massage. The median and mode of their responses was \$50 ( $M = 53.5$ ,  $SD = 23.89$ ). In addition, we elicited fairness and appropriateness ratings (7-point scales) for seven payment levels (\$10 to \$70, in \$10 increments). These ratings plateaued at wages of \$50 and more.

**Main study.** Three hundred and fifteen participants (53 % female,  $M_{age} = 35.7$  years; MTurk, U.S. sample) were randomly assigned to one of three conditions (transparent wage: low vs. medium vs. high). Participants read the description of a spa offer, which included the qualifications and experience of the massage therapist, the amount of money the massage therapist received, and the total price of the service (for exemplary stimuli see [Web Appendix G](#)).

With a constant total price of \$100, participants learned that the massage therapist was paid \$15 (low-wage condition; unfair), \$50 (medium-wage condition; fair), or \$85 (high-wage condition; fair, but might be considered overpayment). These values were informed by the results of the pre-test. After indicating their willingness to purchase the service (1 = “would definitely not book” to 7 = “would definitely book”), participants completed an anticipated guilt (warm glow) measure. We adopted established items from prior research to measure anticipated guilt and warm glow ([Giebelhausen et al. 2016](#); [Paharia 2020](#)) to account for the bivalent nature of the construct. Specifically, participants indicated to what extent they felt “bad,” “guilty,” “remorseful,” “ashamed” (anticipated guilt) and conversely, “happy,” “good,” “a sense of warm glow,” and “morally satisfied” (anticipated warm glow) when considering booking the spa (1 = “not at all” to 7 = “very much”). In line with previous research ([Giebelhausen et al. 2016](#)), we averaged the items into a combined guilt (warm glow) index ( $\alpha = 0.94$ ). Next, participants indicated their expectations regarding the quality of the massage (1 = “very low” to 7 = “very high”), their age, gender, income, state of residence, social value orientation (SVO; [Murphy et al. 2011](#), as an exploratory measure), and perceived awareness of the research hypothesis (PARH).

### 8.2. Results

**Purchase intentions.** An analysis of variance (ANOVA) on purchase intentions revealed significant differences across the three wage conditions ( $F(2, 312) = 21.5$ ,  $p < 0.001$ ). According to planned contrasts across conditions, participants were significantly more likely to book the offer when the massage therapist was paid a high ( $M = 5.12$ ,  $SD = 1.35$ ) or medium wage ( $M = 4.90$ ,  $SD = 1.45$ ), as opposed to a low wage ( $M = 3.77$ ,  $SD = 1.96$ ,  $t(312) = 6.47$ ,  $p < 0.001$ ). There were no significant differences in purchase intentions between the high and medium wage conditions ( $t(312) = 0.98$ ,  $p = 0.33$ ). The results remained robust when controlling for PARH scores as a covariate (main effect and interaction with wage) in the analyses.

**Anticipated guilt.** A second ANOVA on the guilt index revealed similar effects ( $F(2, 312) = 31.04$ ,  $p < 0.001$ ). Participants in the medium ( $M = 3.14$ ,  $SD = 1.41$ ) and high ( $M = 2.85$ ,  $SD = 1.28$ ) wage conditions reported significantly lower levels of guilt than those in the low wage condition ( $M = 4.38$ ,  $SD = 1.74$ ,  $t(312) = -7.73$ ,  $p < 0.001$ ). We found no significant difference in guilt between the high and medium wage conditions ( $t(312) = -1.43$ ,  $p = 0.15$ ).

**Quality expectations.** A third ANOVA on quality expectations revealed similar effects ( $F(2, 312) = 16.36$ ,  $p < 0.001$ ). Participants in the medium ( $M = 5.92$ ,  $SD = 0.99$ ) and high ( $M = 6.22$ ,  $SD = 0.80$ ) wage conditions reported significantly higher levels of expected quality than those in the low wage condition ( $M = 5.38$ ,  $SD = 1.39$ ,  $t(312) = 5.33$ ,  $p < 0.001$ ). We also found a significant difference in expected quality between the high and medium wage conditions ( $t(312) = 2.01$ ,  $p < 0.05$ ).

**Mediation analyses.** We conducted a parallel mediation analysis (PROCESS model 4 with 10,000 bootstrapped samples; [Hayes 2018](#)) with the wage conditions as the categorical independent variable, and both the guilt index and quality expectations as mediators. The results revealed that both of these independently mediated the effects of the medium ( $CI_{95\%\_guilt}$ :

**Table 2**  
Logistic regressions.

	Choice of more expensive ride-hailing service (=1)			
	(1)	(2)	(3)	(4)
Medium (\$68)	–0.280	–1.361**	–0.915	–0.890*
High (\$71)	(0.490) –2.260***	(0.688) –1.695**	(0.580) –1.750***	(0.489) –2.501***
Socio-Economic Status (SES)	(0.539) –0.009	(0.682)	(0.593)	(0.524)
Medium (\$68) × SES	(0.090) –0.162			
High (\$71) × SES	(0.118) –0.110			
Scarcity Mindset	(0.123)	–0.021		
Medium (\$68) × Scarcity Mindset		(0.107) –0.110		
High (\$71) × Scarcity Mindset		(0.141) –0.029		
Tightwad-Spendthrift Score		(0.144)	0.032	
Medium (\$68) × Tightwad-Spendthrift Score			(0.033) 0.006	
High (\$71) × Tightwad-Spendthrift Score			(0.047) –0.007	
Income			(0.047)	–0.119
Medium (\$68) × Income				(0.096) –0.0002
High (\$71) × Income				(0.137) –0.202
Constant	1.057***	1.115**	0.657	(0.139) 1.424***
Observations	(0.389) 606	(0.516) 606	(0.408) 606	(0.366) 606
AIC	767.2	772.6	771.1	770.1

\* $p < 0.1$ ; \*\* $p < 0.05$ ; \*\*\* $p < 0.01$ .

[0.58, 1.24];  $CI_{95\%\_quality}$ : [0.01, 0.18]) and high ( $CI_{95\%\_guilt}$ : [0.8, 1.45];  $CI_{95\%\_quality}$ : [0.02, 0.25]) wage conditions on purchase intentions. As above, both fair-wage conditions were associated with significantly lower levels of guilt. The guilt index was again significantly and negatively associated with purchase intentions ( $b_{guilt} = -0.74$ ,  $t = -16.07$ ,  $p < 0.001$ ). Furthermore, both fair-wage conditions were also associated with significantly higher quality expectations ( $a_{medium\_quality} = 0.54$ ,  $t = 3.61$ ,  $p < 0.001$ ;  $a_{high\_quality} = 0.84$ ,  $t = 5.65$ ,  $p < 0.001$ ). Quality expectations in turn were significantly and positively associated with purchase intentions ( $b_{quality} = 0.15$ ,  $t = 2.45$ ,  $p = 0.02$ ).

### 8.3. Discussion

Study 6 provides further evidence that paying service workers a fair transaction-level wage can increase consumer purchase intentions if the wage is disclosed. However, the increased demand was not a linear function of the service worker's wage. Wages beyond what consumers consider fair provide no additional utility or further increase in purchase intentions. This also speaks against the aversion to vendor profit (Bolton et al. 2003) as an alternative explanation for our findings, which would suggest a preference for ever-higher wages as costs increase (and profit decreases). Moreover, and consistent with our

theorizing, both reduced feelings of anticipated guilt (H2) and quality expectations (H5) mediate the effect of paying higher wages.

## 9. Study 7: Translation Study and Moderated Mediation

In the previous study, we demonstrated that disclosing transaction-level wage information relates to consumers' social preferences and quality expectations. We demonstrated how disclosures trigger feelings of guilt when consumers anticipate negative consequences for others as a result of their own actions. In this context, “others” refers to other social actors. Based on this reasoning, we do not expect consumers to feel guilt over unfair behavior toward non-human actors (e.g., machines, software). Thus, an important boundary condition of our main effect and our proposed process is the nature of the worker. In our pre-registered Study 7 ([aspredicted.org/98L\\_DW8](https://aspredicted.org/98L_DW8)) we test whether the mediating effect of disclosing wage information on consumer preferences, through anticipated feelings of guilt, is moderated by the nature of the worker (human vs. software). We test this hypothesis (H3) in yet another service domain that involves no direct contact between customers and the service worker—that is, translation services.

### 9.1. Method

Eight hundred participants<sup>10</sup> (49 % female;  $M_{\text{age}} = 38.8$  years, MTurk, U.S. sample) were randomly assigned to one of four conditions in an experiment using a 2(compensation<sup>11</sup>: unfair [\$15] vs. fair [\$75])  $\times$  2(nature of the worker: human vs. non-human) between-subjects design. Participants were asked to imagine they were writing a professional blog featuring comprehensive travelogues. For one of their recent reports (equivalent to roughly five pages of text), they received a large number of requests for translation into a foreign language, requiring the help of a professional translation service. They subsequently saw the price quote for a translation service, and were asked to indicate how likely they were to book it. The offer stated the name of the translation company and the translator, a service description, and a quality assurance (to keep stated quality levels constant across conditions). The total price was held constant at \$125 across conditions.

Depending on the nature of the worker (human vs. non-human labor), the service was provided by either a *human* translator or a translation *software*. Depending on the compensation condition, the disclosed cost of the translator or translation software was either \$15 or \$75. This was explained to participants as the amount paid by the translation company to its employee or for using the translation software.<sup>12</sup> The difference between the disclosed compensation and the total price was displayed as *other costs* (\$110 vs. \$50). See [Web Appendix H](#) for example stimuli.

The key dependent measure was participants' reported likelihood of booking the translation service (7-point scale, 1 = “not at all likely” to 7 = “extremely likely”). Participants then rated their feelings of anticipated guilt (index,  $\alpha = 0.92$ ), quality expectations, preferences and beliefs regarding services performed by a human service provider (vs. software), and completed general questions regarding demographics (age, gender) and the PARH scale.

### 9.2. Results

**Booking intention.** A  $2 \times 2$  ANOVA on booking intentions revealed significant main effects of compensation ( $F(1, 796) = 22.44, p < 0.001$ ) and nature of the worker ( $F(1, 796) = 4.27, p = 0.04$ ), as well as a significant interaction ( $F(1, 796) = 15.51, p < 0.001$ ). When participants considered an offer involving human labor (the translator), they were more likely to book the offer when the translator received the \$75 (vs. \$15) compensation ( $M_{\text{fair}} = 4.84, SD = 1.43; M_{\text{unfair}} = 3.85, SD = 1.65; F(1, 796) = 37.54, p < 0.001$ ). However, when participants considered an offer involving non-human labor (the translation software), they were equally likely to book the presented offer, regardless of the compensation condition ( $M_{\text{fair}} = 4.15, SD = 1.63; M_{\text{unfair}} = 4.06, SD = 1.78; F(1, 796) = 0.32, p = 0.57$ ). The results remained robust when including PARH scores as a covariate (main effect and interactions) in the analyses.

**Anticipated guilt.** A  $2 \times 2$  ANOVA on the guilt index revealed a significant main effect of compensation ( $F(1, 796) = 45.01, p < 0.001$ ), a non-significant effect of nature of worker, and a significant two-way interaction ( $F(1, 796) = 20.83, p < 0.001$ ). As expected, when participants considered the offer involving the human translator, they reported higher levels of anticipated guilt when the translator received the \$15 (vs. \$75) compensation ( $M_{\text{unfair}} = 3.86, SD = 1.57; M_{\text{fair}} = 2.76, SD = 1.14; F(1, 796) = 63.39, p < 0.001$ ). However, when participants considered the offer involving the non-human actor, they reported similar levels of anticipated guilt across the two compensation conditions ( $M_{\text{unfair}} = 3.36, SD = 1.41; M_{\text{fair}} = 3.14, SD = 1.36; F(1, 796) = 2.31, p = 0.13$ ).

**Quality expectations.** Another  $2 \times 2$  ANOVA on quality expectations provided significant main effects of compensation ( $F(1, 796) = 11.32, p < 0.001$ ) and nature of worker ( $F(1, 796) = 16.57, p < 0.001$ ), and a significant two-way interaction

<sup>10</sup> Participants had to correctly answer two comprehension questions before being able to proceed and complete the study.

<sup>11</sup> To determine fair/unfair compensation for translation services, we conducted a pre-test (MTurk, U.S. sample;  $N = 108, 45\%$  female,  $M_{\text{age}} = 35$  years) similar to the ones described in Studies 5 and 6. The median suggested hourly wage was \$30 ( $M = 38.49, SD = 26.92$ ). According to the fairness ratings, compensations smaller than \$20 were considered unfair, whereas compensations greater than \$50 were considered fair.

<sup>12</sup> Our intent was to conceptualize the software as a resource with associated licensing fees, which the company incurs on a per-use basis. This structure reflects costs directly tied to each task performed, similar to human labor costs, although not variable in the same way.

( $F(1, 796) = 10.56, p < 0.001$ ). When participants considered the offer involving the human translator, they reported higher levels of expected quality when the translator was compensated fairly (vs. unfairly) ( $M_{\text{fair}} = 5.84, SD = 0.99; M_{\text{unfair}} = 5.26, SD = 1.27; F(1, 796) = 21.82, p < 0.001$ ). However, when participants considered the offer involving the translation software, they reported similar levels of expected quality across the two compensation conditions ( $M_{\text{fair}} = 5.19, SD = 1.39; M_{\text{unfair}} = 5.18, SD = 1.36; F(1, 796) = 0.007, p = 0.94$ ).

**Moderated mediation analysis.** To test whether the mediating effect of compensation disclosure on purchase intentions through anticipated feelings of guilt is moderated by the nature of the worker (H3), we conducted a moderated mediation analysis (PROCESS model 7 with 10,000 bootstrapped samples; Hayes 2018). Given the simultaneous effects of anticipated guilt and quality expectations identified in Study 6, we used a parallel mediation model as the base model to test this hypothesis. The model contained compensation (0 = unfair, 1 = fair) as the independent variable, both the guilt index and quality expectations as mediator variables, booking intention as the dependent variable, and the nature of the worker (0 = non-human, 1 = human) as the moderator variable of the paths between compensation and each of the mediators. As hypothesized in H3, the results revealed a significant positive indirect effect through anticipated guilt when the translation was conducted by a human translator ( $b = 0.79, CI_{95\%} [0.59, 0.99]$ ), but not when it was conducted by a software ( $b = 0.15, CI_{95\%} [-0.04, 0.34]$ ). The positive indirect effect on booking intentions through anticipated guilt was significantly stronger when the labor was provided by a human (vs. non-human) translator, index of moderated mediation  $CI_{95\%} [0.37, 0.92]$ . The complete model results are visualized in Fig. 4.

In addition, there was a significant positive indirect effect through quality expectations when the translation was conducted by a human translator ( $b = 0.16, CI_{95\%} [0.09, 0.24]$ ), but not when it was conducted by a software ( $b = 0.003, CI_{95\%} [-0.07, 0.07]$ ). The positive indirect effect on booking intentions through quality expectations was significantly stronger when the labor was provided by a human (vs. non-human) translator, index of moderated mediation  $CI_{95\%} [0.06, 0.28]$ . This effect was not part of our predictions but is provided by the parallel model structure.

### 9.3. Discussion

The results of this study provide further evidence for our proposed mechanism whereby transaction-level wage transparency can increase consumers' preference for services. Moreover, as predicted by H3, the study reveals an important boundary condition of this effect, namely that the proposed changes in guilt due to unfair/fair compensation are only observed for human service workers. The same was observed for differences in quality expectations. It is important to note that fairness perceptions may shift if the software were assumed to incur no costs or if a different pricing model were used. Together, these results suggest that the effect of disclosing fair wages is more likely to occur in contexts where the share of human labor in value creation is substantial, and apparent to consumers. In addition, the observed main effect also appears to hold in service domains where consumers are not in direct contact with the service worker.

## 10. Study 8: Wellness Study and Moderated Mediation

Thus far, we have presented higher or lower service worker wages to manipulate perceived fairness. However, we argue that whether a wage is considered fair is also a function of consumers' expectations and existing wage norms. If the perceived fairness of wage information affects consumer preference through guilt, this effect may be attenuated if some general practice (i.e., a descriptive norm) involves paying low wages in that service setting. In Study 8 we seek to provide further process evidence, through moderation, by testing whether the manipulation of descriptive norms regarding common wages moderates the effect of disclosing wage information on consumer preference, through anticipated feelings of guilt (H4).

### 10.1. Method

Four hundred and ten participants (55 % female,  $M_{\text{age}} = 37.3$  years; MTurk, U.S. sample) were randomly assigned to one condition in a 2(wage: low [\$15] vs. medium [\$50])  $\times$  2(norm: low wage [\$10] vs. high wage [\$75]) between-subjects design. Similar to Study 6, participants read the description of a spa offer (for exemplary stimuli see Web Appendix I). Depending on the assigned wage condition, they learned that the massage therapist received \$15 (low-wage condition; unfair) or \$50 (medium-wage condition; fair) for a one-hour massage. As an additional factor, we manipulated external reference price information, framed as a descriptive wage norm (Soule and Madrigal, 2015), by explaining that, as part of their internet search for spas, participants learned that a typical wage for massage therapists was either \$10 per hour (low-wage-norm condition) or \$75 per hour (high-wage-norm condition). As in Study 6, participants then indicated their intention to book the offer, feelings of anticipated guilt/warm glow ( $\alpha = 0.93$ ), quality expectations, general demographics (age, gender, income, and state of residence), and their perceived awareness of the research hypothesis (PARH).

### 10.2. Results

**Purchase intention.** A 2  $\times$  2 ANOVA for purchase intentions revealed a significant main effect of wage ( $F(1, 406) = 10.74, p < 0.01$ ), no significant main effect of norm ( $F(1, 406) = 2.58, p = 0.11$ ), and a significant wage  $\times$  norm interaction

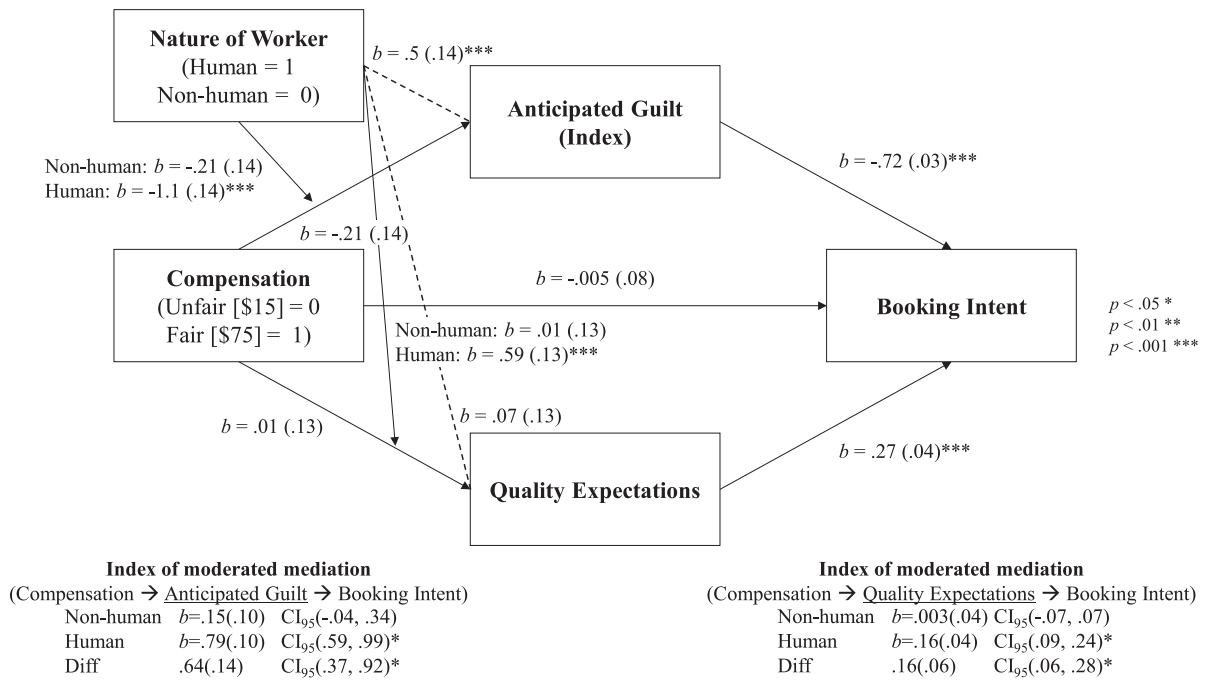


Fig. 4. Moderated Mediation Model.

( $F(1, 406) = 9.17, p < 0.01$ ). In line with our previous findings, when participants learned that the industry norm was a high wage of \$75, participants were more likely to book the offer when the massage therapist received the medium wage rather than the low wage ( $M_{\text{medium}} = 4.44, SD = 1.84; M_{\text{low}} = 3.29, SD = 1.93; F(1, 406) = 19.78, p < 0.001$ ). Moreover, consistent with H4, when they learned that the norm was a low wage of \$10, participants were equally inclined to book the offer, regardless of whether the massage therapist received the medium wage or the low wage ( $M_{\text{medium}} = 4.18, SD = 1.86; M_{\text{low}} = 4.14, SD = 1.77; F(1, 406) = 0.03, p > 0.8$ ). Fig. 5 provides a summary of the results across all four conditions.

**Anticipated guilt.** A  $2 \times 2$  ANOVA for the guilt index revealed significant main effects of wage ( $F(1, 406) = 29.22, p < 0.001$ ) and norm ( $F(1, 406) = 9.56, p < 0.01$ ), as well as a significant wage  $\times$  norm interaction ( $F(1, 406) = 6.21, p < 0.05$ ), highlighting the moderating effect of norms on anticipated guilt.

When participants learned that the industry norm was a high wage of \$75, they reported higher levels of anticipated guilt when the massage therapist received the low wage as opposed to the medium wage ( $M_{\text{low}} = 4.76, SD = 1.74; M_{\text{medium}} = 3.50, SD = 1.54; F(1, 406) = 31.03, p < 0.001$ ). However, learning that the industry norm was a low wage of \$10 prompted participants to report lower levels of anticipated guilt, thereby attenuating the effect of the wage the massage therapist received ( $M_{\text{low}} = 3.87, SD = 1.65; M_{\text{medium}} = 3.40, SD = 1.56; F(1, 406) = 4.26, p < 0.05$ ). Fig. 6 provides a summary of the results across all four conditions.

**Quality expectations.** A  $2 \times 2$  ANOVA for quality expectations revealed significant main effects of wage ( $F(1, 406) = 5.55, p < 0.05$ ) and norm ( $F(1, 406) = 28.59, p < 0.001$ ), but no significant wage  $\times$  norm interaction ( $F(1, 406) = 0.75, p = 0.39$ ).

**Moderated mediation analysis.** To test whether the mediating effect of compensation disclosure on purchase intentions through anticipated feelings of guilt is moderated by wage norms (H4), we conducted a moderated mediation analysis (PROCESS model 7 with 10,000 bootstrapped samples; Hayes 2018). Given the simultaneous effects of anticipated guilt and quality expectations identified in Study 6 and 7, we again used a parallel mediation model as the base model to test this hypothesis. The model contained wage (0 = low, 1 = medium) as the independent variable, both the guilt index and quality expectations as mediator variables, booking intention as the dependent variable, and the wage norm (0 = high, 1 = low) as the moderator variable of the paths between wage and each of the mediators.

As hypothesized in H4, this model revealed significant positive indirect effects through anticipated guilt in both the low norm ( $b = 0.36, CI_{95\%} [0.01, 0.7]$ ) and high norm ( $b = 0.97, CI_{95\%} [0.61, 1.34]$ ) conditions. However, the positive indirect effect on purchase intentions through anticipated guilt was significantly stronger when the indicated norm was a higher (vs. lower) wage (index of moderated mediation  $CI_{95\%} [-1.12, -0.12]$ ).

The model showed no significant indirect effects through quality expectations in either the low norm ( $b = 0.03, CI_{95\%} [-0.01, 0.09]$ ), or high norm ( $b = 0.07, CI_{95\%} [-0.02, 0.09]$ ) conditions.

The results of the model in Fig. 7 show that the positive effect of offering a higher wage to a service worker on consumers' intention of purchasing the service, through decreased feelings of guilt, is attenuated when the general norm is to pay less.

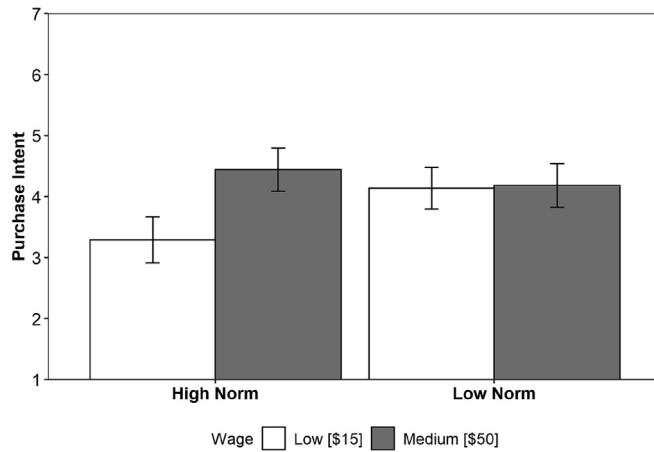


Fig. 5. Purchase Intent by Wage and Norm Conditions. Error bars represent 95% confidence intervals.

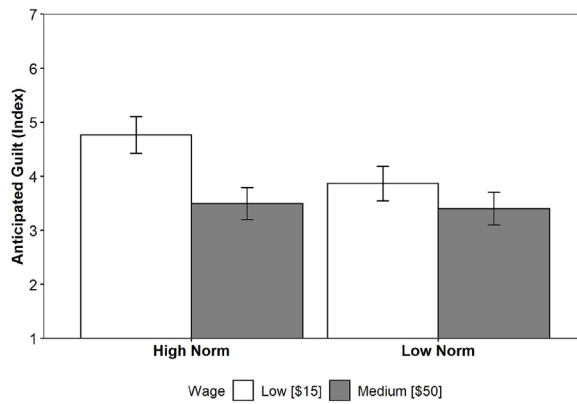


Fig. 6. Anticipated Guilt (Index) by Wage and Norm Conditions. Error bars represent 95% confidence intervals.

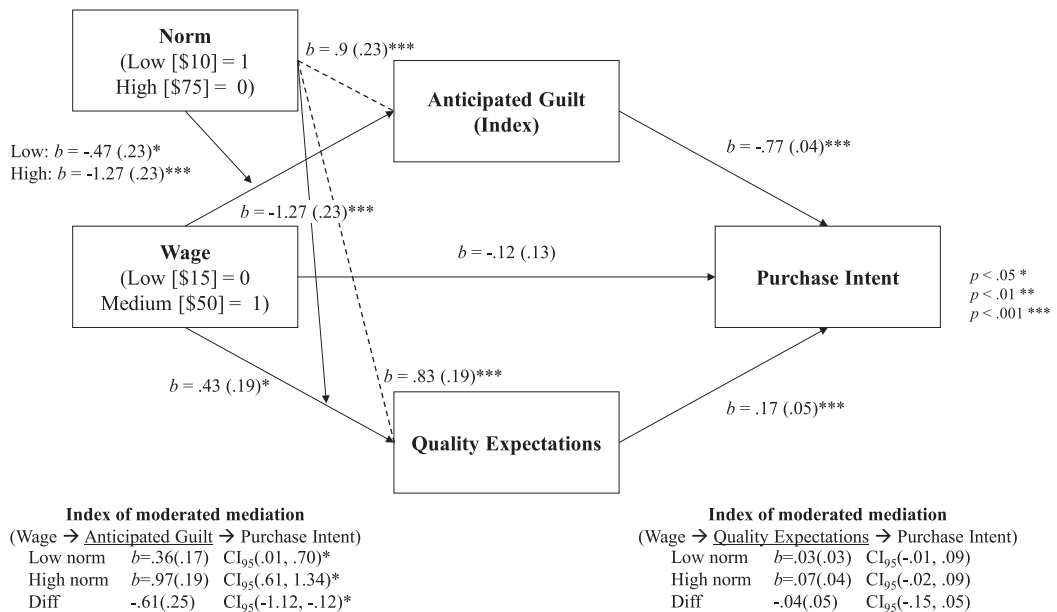


Fig. 7. Moderated Mediation Model.

### 10.3. Discussion

Study 8 provides additional process evidence through moderated mediation. The study supports our prediction that the positive effect of disclosing fair transaction-level wages depends on the prevailing norm regarding the payment for a service (H4). Paying a wage close to what is perceived as the norm (fair wage) reduces feelings of anticipated guilt and increases consumers' willingness to purchase. Paying a low wage is perceived as unfair if the general norm is a higher wage, leading to increased anticipated guilt and reduced purchase intentions. However, this effect does not occur if the general norm is to pay a lower wage.

## 11. General Discussion

### 11.1. Summary of Findings

Across eight studies employing various experimental paradigms in both field and lab settings, and spanning multiple service domains (including city tours, food packaging, beverage delivery, freelance labor, ride-hailing, wellness, and translation services) with diverse samples (both U.S. and non-U.S.), we examined the consequences of making transaction-level wages transparent to consumers. Specifically, we determined when and why disclosing wages paid to service workers can be valuable to consumers and firms. We provide evidence using various preference measures (i.e., WTP, voluntary payments, choice, purchase intentions) that disclosing payment of a fair(er) wage to the service worker can increase consumers' preference for that service. Our findings advance the literature by suggesting that consumers not only care about fairness in the direct exchange between themselves and a firm (as established in research on price fairness), but also in the exchange between the firm and the service worker. We find that this greater preference for services provided in a fair-wage setting is driven by consumers' feelings of anticipated guilt and higher expectations concerning quality.

We also identified and tested several boundary conditions. First, we find that there are limits to how much more consumers are willing to pay for services disclosing fair payments (the results of Study 4 suggest that in case of too high prices, consumer preference for fair-payment options is reduced). However, we could not identify significant moderating effects of individual differences regarding resource constraints (actual or perceived), or attitudes toward spending. Second, we demonstrate that the effect also depends on the nature of the worker providing the service. Since consumers must experience anticipated guilt in relation to the worker (in response to perceived unfair or fair pay), we observe the effect for human workers but not for non-human service labor. Although not predicted, we also find that the dependence on human labor extends to the effect on quality expectations. Third, we find that our documented main effect is moderated by prevailing social norms regarding wages.

Importantly, our studies provide evidence for both the robustness and generalizability of the effect in difference settings with varying levels of consequentiality (e.g., WTP, voluntary payments, willingness to forgo economic gains). These settings range from a few cents to two-digit dollar amounts, and the effect is observed whether it is consequential for all participants, probabilistic, or hypothetical. We also document the effect across different levels of "identifiability" of the service worker and degrees of service interaction. Specifically, we included settings with detailed descriptions of the service worker (e.g., listing names, skills, and qualifications in the wellness studies), as well as settings with complete anonymity (e.g., city tours, beverage delivery). Additionally, we covered services with a high degree of interaction between the consumer and the service worker (e.g., city tours, wellness studies, beverage delivery) and services with less direct interaction (e.g., food packaging, freelance labor, translation services).

### 11.2. Theoretical Contributions

This research advances the burgeoning literature on cost transparency (e.g., [Lim et al. 2018](#); [Mohan et al. 2020](#)), offering a nuanced theoretical perspective on when and why disclosing the compensation of service workers can create value for consumers, firms, and workers. By disclosing transaction-level wage information as part of a service offer, firms may differentiate offerings from their competitors by addressing consumers' preference for a fair exchange relationship between the firm and service workers. In this context, the disclosure of wage information can be understood as a potential decision signpost ([Ungemach et al. 2018](#)), enabling consumers to choose in line with their social preferences.

Our findings contribute to research on fairness in economic transactions ([Bolton and Ockenfels 2000](#); [Fehr and Schmidt 2006](#); [Pigors and Rockenbach 2016](#)) by highlighting that consumers seek fairness not only in their direct exchanges with firms, but also in the indirect exchange between firms and their workers. This finding is interesting in that consumers acknowledge firms' responsibility for fair compensation (because firms determine workers' wages), but they also accept responsibility themselves to ensure fair compensation through their purchase decisions. Even though consumers do not have a contractual relationship with the worker providing the service, they experience anticipated guilt if that service worker is underpaid. Thus, our findings advance our understanding of the role of anticipated guilt in economic transactions.

One potential alternative explanation for the observed preference for higher wage options could be consumers' aversion to vendor profit ([Bolton et al., 2003](#)). Higher wages, after all, suggest higher costs and consequently lower profits for vendors. However, our empirical findings do not support this theory. Specifically, we do not observe an increase in purchase

intentions for wages that exceed what consumers perceive as fair. This suggests that consumer preferences were not only driven by the potential reduction in vendor profit, as the observed preference for higher wages does not extend beyond the point of perceived fairness.

Moreover, our findings shed light on the role of quality expectations in transaction-level wage transparency. By making higher (fair) wages transparent, firms may benefit from increased consumer preference for their services, as consumers anticipate higher quality services from firms that disclose their fair wages practices. Thus, our research also contributes to the literature on efficiency wages, which posits that paying more than the minimum wage can be economically beneficial due to increased worker motivation and productivity (Akerlof, 1982; Akerlof & Yellen, 1990). In addition to this established benefit, our findings suggest that transparency about fair wages can also enhance consumer preference for a firm's offerings. According to this demand-based perspective, disclosing higher transaction-level wages may also boost demand (and willingness to pay) because consumers believe that well-paid workers provide higher quality products (due to increased motivation, higher skills, or both).

### 11.3. Implications for Practice and Public Policy

From a practical perspective, our findings may help managers understand how to use transaction-level wage transparency as a marketing strategy. Disclosing wage information as part of their service descriptions may enable firms to differentiate themselves from competitors by addressing consumers' need for a fair exchange relationship between the firm and its service workers. Wage transparency, if perceived as fair by consumers, may even allow firms to charge higher prices. This strategy of disclosing fair wages is more likely to succeed in areas where high wage norms exist.

Of course, there are limits to consumers' willingness to pay more, but we observe sizeable increases in willingness to pay—independent of self-reported measures of disposable wealth and attitudes toward spending. Accordingly, there seems to be a general need among consumers to see service workers being paid fairly for their work. In addition, it is important to note that fair wage disclosure could also help firms attract skilled workers in the service sector and counteract staff turnover and churn.

Finally, disclosing transaction-level wages could induce competitive reactions, such that other firms pay and disclose fair wages too, which ultimately may result in fairer wages more generally. Evidence from an auxiliary study<sup>13</sup> (N = 370, data and code also available in our OSF repository) in which we investigated choices between service offerings with or without disclosures of wage information and the subsequent option to tip, indicated that consumers prefer disclosures over non-disclosures, if the disclosed wage is perceived as fair. In addition, we also observed significant tipping amounts (>10 %) across all conditions, with or without disclosure. This observation suggests that disclosing fair wages does not supersede tipping.

We also find that consumers avoid offerings with transparent wage information if the wage appears unfair. Combined, these findings suggest that in order to be effective, a disclosure strategy may require the firm to provide fair compensation, challenge the competition to match its fair wages, and potentially increase wages paid within the market. Our data and findings cannot provide direct evidence of this outcome but they highlight the potential for transaction-level wage transparency to increase social welfare, as disclosing wages arguably might help address gender pay gaps (e.g., Schlager et al. 2021). The findings are therefore also relevant for policy makers aiming to tackle wage inequality. While current measures addressing gender pay gaps focus on mandating the publication of firm-level pay information to pressure firms, the presented approach of disclosing wage information on a transaction level offers an alternative solution by addressing wage inequality more generally (e.g., across different genders and minority groups), as part of the exchange between consumers and firms. Thus, unlike tipping, which also provides consumers with an option to provide fair compensation to service workers, the burden of providing payments is not placed solely on the consumer. The disclosure of wage information differs from the practice of tipping in other important ways. Because consumers typically do not know how much a service worker is compensated at the individual service level, they face uncertainty about whether fair compensation has been achieved. Moreover, consumers conventionally provide tips within a rather narrow set of service domains, which can actually widen compensation gaps (e.g., between waiters and chefs, Dubner 2016). There is also evidence that tipping in and of itself can give rise to discrimination (Ayres et al. 2005; Lynn et al. 2008), or, in the case of hospitality services, potentially reduce service workers' well-being by exposing them to sexual harassment (Azar 2020; Klein et al. 2021). Conversely, introducing the practice of disclosing transaction-level wages can span a much broader set of occupations and thus offers a potential option to help reduce such forms of discrimination.

### 11.4. Limitations and Avenues for Further Research

Our research has some limitations that also offer the potential for future investigations. First, our findings suggest that it may make strategic sense for firms to both pay and disclose wages that are perceived as fair by consumers. Yet, our research cannot establish whether the subsequent benefits of increased demand outweigh the additional costs of paying potentially higher wages. Such an analysis would require access to more detailed data on a disclosing firm's cost and demand structure.

<sup>13</sup> The stimuli presented participants with a choice between two options, similar to those in Study 6 (see Web Appendix G), which used a single-option design. After making their choice, participants were asked (on the next screen) how much they would tip the selected massage therapist.

This evaluation is further complicated by the fact that some of the beneficial effects of disclosure on brand image, competitive position, and workforce may take time to materialize and lay out long-term implications. While there is little research on the long-term effects of wage transparency, research by [Bamberger et al. \(2021\)](#) suggests that short-term gains from wage inequality are dampened by adverse effects on long-term firm profitability through negative customer-related consequences and customer satisfaction. We believe that in certain contexts, the combined effect of perceptions of increased quality and social responsibility, greater willingness to pay, and heightened consumer preference might compensate for and even exceed the costs associated with paying potentially higher wages. However, more research is needed to establish whether this “win–win–win” outcome for firms, workers, and consumers can actually be realized. In this context, it would be interesting to assess the long-term effects of disclosing wages on consumer choice, competitive behavior, and the establishment of new norms. That is, studying competitive dynamics and strategic decisions for firms related to their disclosures of transaction-level wage information offers another fruitful direction for research.

Second, our investigation involves service contexts in which workers’ wages account for a major share of the value added. These services make up a substantial proportion of many national economies, but the effects of disclosing workers’ wages in other domains, wherein wages account for smaller shares of the value added (e.g., physical goods), are unclear. The contribution of human labor to the production of goods is less apparent to consumers; additional research might explore new ways to make this value contribution transparent. Moreover, we only studied contexts in which a single worker provides the service. Would the findings change if multiple workers were involved? Continued research to address these questions might offer a more nuanced view of the effects of transaction-level wage transparency.

Third, we did not establish a direct effect of feelings of guilt (or warm glow), as our experiments did not directly manipulate emotional states. Instead, we focused on measuring anticipated guilt. The extent to which the effect is driven by cognitive or affective processes related to guilt (or warm glow) remains open. Future research could more thoroughly explore the causal mechanisms involving feelings of guilt (or warm glow) by examining whether directly inducing or alleviating these emotional states or their attribution would influence the observed effects on consumer preferences.

Overall, the present paper represents a first step toward identifying and clarifying the effects of disclosing transaction-level wage information on consumers’ judgments and economic decisions in service domains. In light of current societal challenges, this research also offers promising avenues for further work seeking to encourage social preferences and consumer choices that help promote fair outcomes for consumers, firms, and workers.

### CRediT authorship contribution statement

**Lucas Stich:** Writing – review & editing, Writing – original draft, Visualization, Project administration, Methodology, Formal analysis, Data curation, Conceptualization. **Christoph Ungemach:** Writing – review & editing, Writing – original draft, Visualization, Project administration, Methodology, Formal analysis, Data curation, Conceptualization. **Christoph Fuchs:** Writing – review & editing, Writing – original draft, Methodology, Data curation, Conceptualization. **Martin Spann:** Writing – review & editing, Writing – original draft, Methodology, Conceptualization. **Ignazio Ziano:** Writing – review & editing. **Birga M. Schumpe:** Writing – review & editing, Data curation.

### Data availability

All data and code to reproduce our results are archived at [osf.io/5dgcsc/?view\\_only=5c7f579f1ac34afcb21aac2c5e709d21](https://osf.io/5dgcsc/?view_only=5c7f579f1ac34afcb21aac2c5e709d21).

### Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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### Appendix A. Supplementary material

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.ijresmar.2024.11.006>.

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