International buyers, suppliers' performance, and workers' outcomes in the garment sector in Bangladesh: Evidence from the pandemic

Laura Boudreau, Julia Cajal-Grossi, Rachel Heath, and Rocco Macchiavello

- Recent research shows that buyers with relational strategies offer higher markups and rents to suppliers (Cajal-Grossi et al., 2023). Do suppliers share these rents with workers, potentially benefiting the broader economy?

- This brief examines how international buyers responded to the COVID-19 pandemic in Bangladesh's garment sector based on their pre-pandemic sourcing strategy.

- Relational buyers were more likely to cancel orders but made more concessions and were less likely to permanently terminate suppliers during the pandemic.

- Workers exposed to relational buyers had lower unemployment risk during the pandemic but reported fewer work hours and lower pay when employed in garment factories.

- Overall, relational buyers may cooperate more with suppliers during negative shocks, easing the impact on both suppliers and workers.

- Policies reducing effective distance affect welfare differently due to distance-dependent information frictions compared to a perfect information benchmark.

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Policy motivation

International buyers play a key role in global value chains (Antràs and Chor, 2022). The academic literature distinguishes buyers adopting "relational" sourcing strategies from those adopting "spot" procurement strategies (Cajal-Grossi et al., 2023). More relational strategies provide higher markups and rents to suppliers, which suggests that export promotion agencies might want to target programs to assist exporters in establishing relationships with relational buyers. A related, important question for policymakers is whether exporters share these rents with their workers, which could be one channel through which trade with relational buyers supports broader upgrading of the economy.

This research offers empirical evidence answering this question in the context of Bangladesh's participation in the global apparel value chain. We do so by exploring heterogeneity in buyers' responses to the COVID-19 pandemic, their suppliers' outcomes, and their suppliers' workers' outcomes. The pandemic represented a major, unanticipated shock to the consumer demand faced by international buyers sourcing garments from Bangladesh. Considering the limited enforceability and short-term nature of contracts between international buyers and exporters, this presented an occasion when buyers could choose to behave opportunistically in their own interest or could choose to cooperate with their suppliers. If relational buyers responded more cooperatively, this may have resulted in improved outcomes for suppliers, and possibly, their workers.

Overview of the research

In this research, we harmonise several administrative and survey datasets on Bangladesh's apparel sector to explore buyer-level heterogeneity in COVID-19 responses, their suppliers' outcomes, and their suppliers' workers' outcomes. We first document the extent to which buyers that adopted more relational versus more spot procurement sourcing strategies *prior to* the pandemic responded differently to the pandemic, in terms of cancelling or renegotiating orders and making concessions to their suppliers. We then ask what the implications of differing responses by buyers are for their suppliers' workers' employment outcomes. The research is ongoing, and the research design and the results reported in this brief are preliminary.

Data sources

We exploit three sources of data, each of which we describe in turn.

- **Customs Records.** We use administrative records from all customs offices in Bangladesh, detailing all garment exports transactions in the country, from January 2015 - March 2021. For each transaction, we

observe the volumes and values, the product category, date of the transaction and, crucially, the identity of the seller and that of the buyer. This data allows us to connect garment workers to buyers and their sourcing strategies, through the matching of sellers' identities with the garment establishments in the factory surveys and the workers' establishments in the worker surveys, which we describe momentarily.

- **Survey of Members of the Bangladesh Garment Manufacturers and Exporters Association (BGMEA).** This project borrows data collected by Boudreau and Naeem (2021). These data entail a representative survey of 241 BGMEA members on the impacts of COVID-19 and on buyers' responses to the pandemic.

- **Workers High-Frequency Data and COVID-19 Surveys.** This project borrows data collected by Cajal-Grossi and Kreindler (2023) and the International Labour Organization through their field partner, Micro-finance Opportunities (NGO). These data build on a weekly survey of garment workers in urban Bangladesh, covering October 2018 - December 2022, with a pause in data collection between January 2020 - May 2020. Respondents were sampled from garment-dense areas in the major garment- exporting districts in Bangladesh: Dhaka, Gazipur, Narayanganj and Chittagong. The survey accessed a total of 2,209 workers and includes 261,698 worker-week observations (unbalanced panel).

Defining relational buyers

The academic literature distinguishes between two polar souring strategies, typically referred to as *Japanese* and *American* sourcing. Following Taylor and Wiggins (1997), at one extreme, "spot" (*American*) buyers spread purchases among multiple arm's-length suppliers, allocating short–term orders to the lowest bidders and bearing the costs of suppliers' non–performance. At the other extreme, "relational" (*Japanese*) buyers allocate orders to a few suppliers with whom they develop long-term relationships. Building on this, Cajal-Grossi et al. (2023) develop an empirical measure that characterises buyers according to where they lie on the relationality spectrum exploiting the intuition that relational buyers concentrate sourcing among a small number of suppliers. We follow this work and define

$$Relational_b = \sum_{jt} \left[\frac{PQ_{bjt}}{PQ_b} \times Relational_{bjt} \right] \quad \text{and} \quad Relational_{bjt} = -\frac{N^S_{bjt}}{N^i_{bjt}}$$

where N^i_{bjt} is the number of shipments in the buyer-product-time combination, and N^S_{bjt} is the number of sellers in the buyer-product-time combination. The (negative of the) ratio of sellers to shipments is aggregated at the level of the buyer by weighing each product-time combination by their share in the buyer's imported values in the data (the weight is $\frac{PQ_{bjt}}{PQ_b}$, where PQ stands for product

quantity). This gives a cross–sectional characterisation of buyers' relational sourcing that maps closely to qualitative accounts in the industry (see Cajal-Grossi et al. (2023) for details). We classify as *Relational* those buyers that are in the top 10% of the distribution of the relational measure defined above.

To avoid the contamination of our analysis with changes in buyer behaviour due to the pandemic, we construct the buyers' sourcing metric using data prior to the pandemic. Second, for the worker-level analysis, as workers are linked to buyers only through their employers, we characterise exporters according to their exposure to relational buyers in the two years preceding the pandemic. We then study the heterogeneity in workers' outcomes, according to the relational characteristic of the plant they were employed at, just before the onset of the pandemic.

Key findings

International buyers' responses to COVID-19

We document the extent to which buyers that adopted more relational versus more spot procurement sourcing strategies *prior to* the pandemic responded differently to the pandemic. To do so, we examine the answers of managers at BGMEA factories to questions about their buyers' responses to the pandemic by whether the buyer is *Relational* according to our measure. We control for the for the buyer's size, share in the establishment's exports (in 2019), and the natural log of the duration of the exporter's trading history with the buyer (measured in months). About 54% of buyers reported in the survey are relational.

Figure 1(a) presents the results. It shows that relational buyers were about 8 percentage points (ppts) more likely to cancel an order at the onset of the COVID-19 pandemic, conditional on the control variables. This is a large increase in cancellations relative to the mean of 14.4% of non-relational buyers cancelling an order. Around 46% of non-relational buyers renegotiated orders, while relational buyers were about 3.5 ppts less likely to renegotiate orders, conditional on the control variables; this difference is not statistically significant.

It is perhaps surprising that relational buyers were much more likely to cancel orders at the onset of the pandemic. One possible explanation is that relationships between buyers and sellers allowed the parties to consider a larger set of acceptable actions in response to the shock. Figure 1(b) presents suggestive evidence that this may be the case. It shows that, conditional on an order cancellation or renegotiation and on the control variables, relational buyers were substantially more likely to make all types of concessions. Consistent with this possibility, when managers were asked how the buyer's response to COVID-19 affected their perception of the value of their supplying

relationship with them, managers reported significantly *more positive* perceptions of relational compared to non-relational buyers' responses to the shock, despite relational buyers' higher cancellation rates.

FIGURE 1: International buyers' immediate responses to COVID-19 by their status as relational

(a) Order cancellations and renegotiations
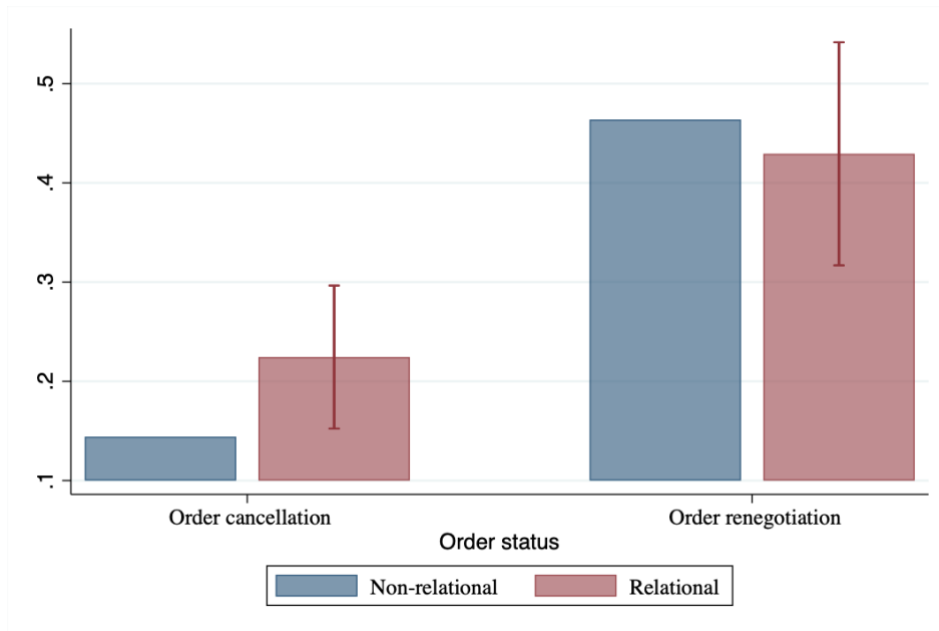
(b) Concessions in case of order cancellations and renegotiations
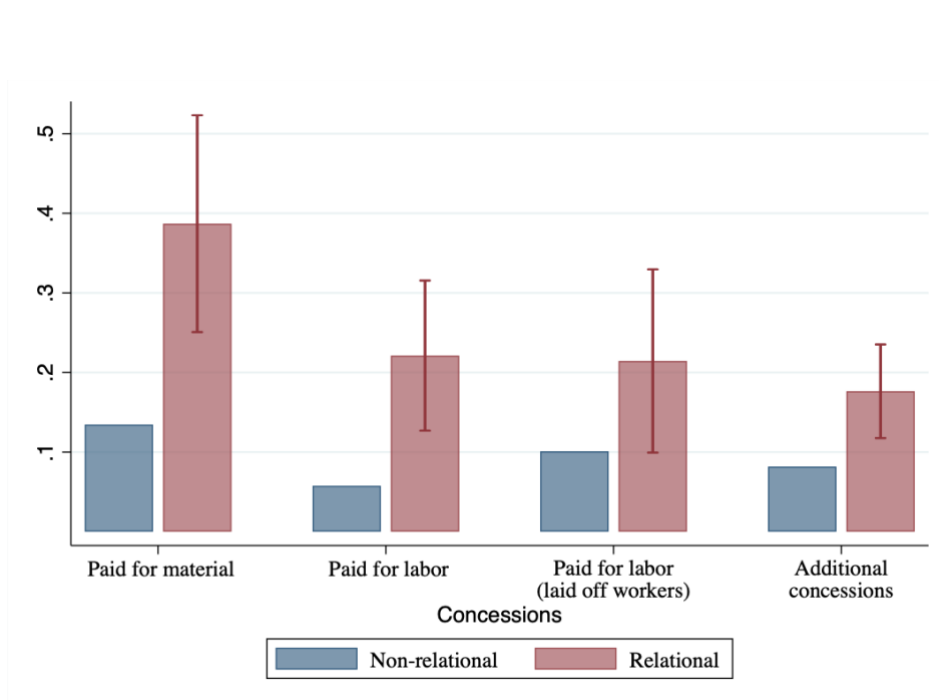
Notes: For each variable, the blue bar is the mean of the non-relational buyer group. The red bar is the mean of the non-relational buyer group plus the estimated coefficient on the relational buyer indicator from a regression of the variable on the relational buyer indicator, destination country fixed effects, and controls for the buyer's size, share in the establishment's exports, and the natural log of

Managers' more positive views of relational buyers are validated by an analysis of trade between relational buyers and exporters in the longer run during the pandemic (through March 2021). For this analysis, we restrict attention to the top 500 buyers by volume (prior to the pandemic) and examine their trade with all exporters. We find that both relational and non-relational buyers were very unlikely to permanently stop sourcing from Bangladesh during the pandemic: less than 1% of buyers permanently exited, and relational and non-relational buyers exited at similar rates. Among the 99% of buyers that continued sourcing from Bangladesh during the pandemic, relational buyers were significantly less likely to permanently terminate trade with their suppliers compared to non-relational buyers.

International buyers' responses to COVID-19 & workers' outcomes

Next, we study the relationship between buyers' sourcing and workers' outcomes during the pandemic. We use a difference-in-differences strategy, where we compare outcomes before and after the pandemic, for workers exposed and not-exposed to relational buyers. Figure 2(a) shows that workers exposed to relational buyers prior to the pandemic were significantly less likely to experience unemployment following the pandemic's onset in early 2020 through the third quarter of 2021; the magnitude of the difference is largest in late 2020, when they are 49% less likely to be unemployed relative to workers not exposed to relational buyers prior to the pandemic.

> **Workers exposed to relational buyers prior to the pandemic were significantly less likely to experience unemployment following the pandemic's onset in early 2020 through the third quarter of 2021.**

Conditional on being employed, Figure 2(b) shows that exposure to relational buyers is associated with about 4-6% lower total hours of work per month during the pandemic. These lower hours translate into significantly lower take home pay, although no difference in workers' hourly wages (results not shown). This suggests that exposure to relational buyers may have moderated the most adverse impacts of the COVID-19 shock on workers, unemployment. The fact that workers exposed to relational buyers worked fewer hours may be due being employed in establishments with more rigorous COVID-19 health and safety protocols, buyers' reducing order volumes to suppliers, buyers' making concessions that enable suppliers to keep more workers on their payroll, or other factors. We continue to explore this question.

FIGURE 2: Workers' exposure to relational buyers (prior to COVID-19) & their employment outcomes during the pandemic

(a)   Unemployment

Mean outcome:
0.153

(b)   Monthly work hours

Mean outcome:
256.612
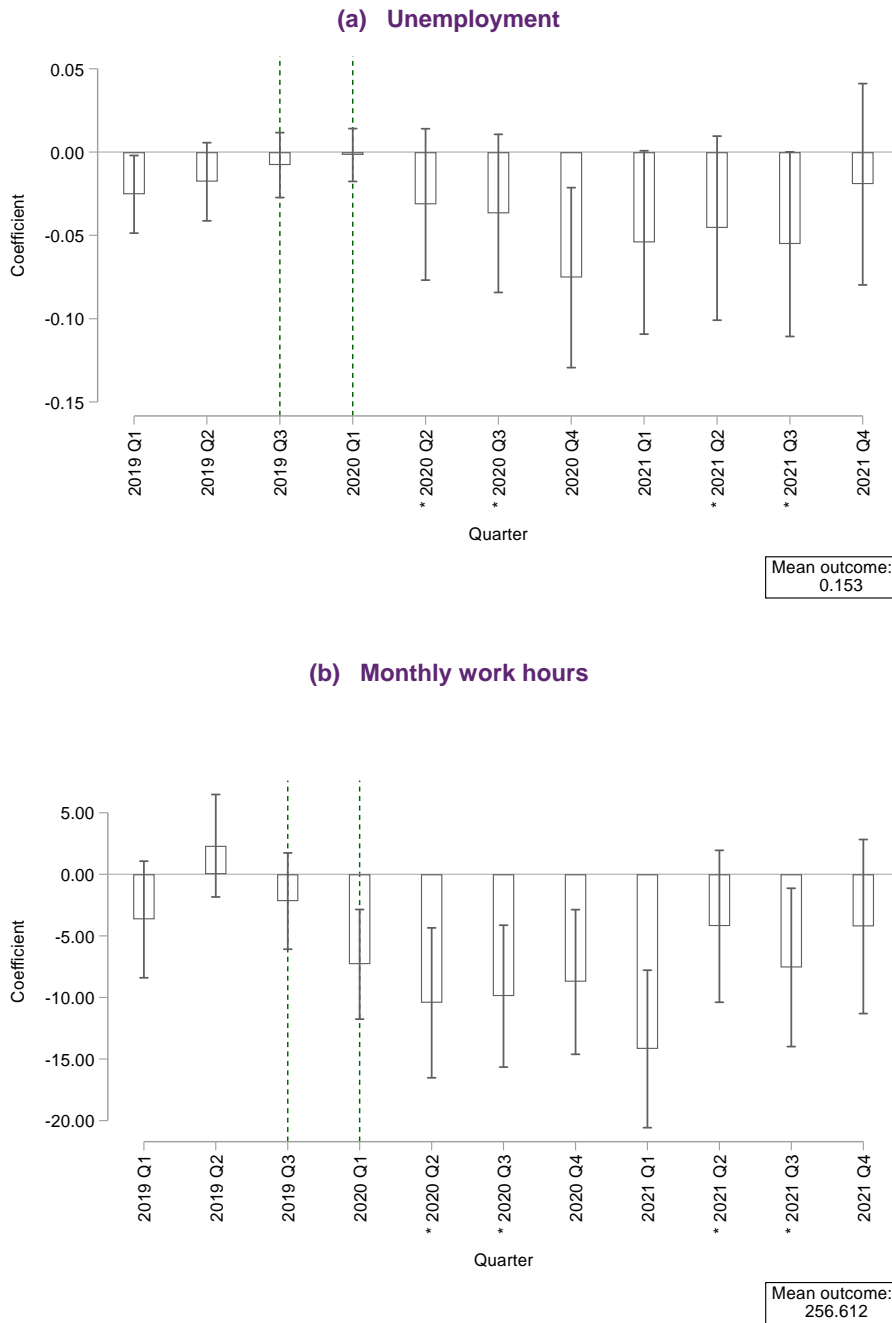
Notes: For each variable, the bars are the estimated coefficients from a regression of the variable on an indicator for exposure to relational buyers interacted with the quarter, individual fixed effects, quarter fixed effects and fixed effects for the establishment where the individual is employed. The exposure variable indicates whether the factory the individual was employed in December 2019 traded at least 50% of their volumes with relational buyers during 2019 (exposure to relational buyers). Whiskers show the 95% confidence interval from this regression using standard errors clustered by individual.

Policy implications

The preliminary results from this study show that *relational* buyers – buyers that allocate orders to a few suppliers with whom they develop long-term relationships – responded differently to the COVID-19 pandemic compared to non-relational buyers. While relational buyers were more likely to cancel orders with their Bangladeshi garment suppliers after the onset of the pandemic, they made significantly more concessions to their suppliers and were less likely to permanently terminate relationships with suppliers during the pandemic. These differences in suppliers' outcomes may reflect that relational buyers are more likely to cooperate with their suppliers in the scenario that the buyer incurs a negative shock, mitigating the worst outcome for suppliers, permanent loss of a buyer, while asking them to bear some of the cost of the pandemic shock.

For workers employed in Bangladeshi garment factories, exposure to relational buyers through their employer (prior to the pandemic) is associated with lower risk of unemployment during the pandemic. Conditional on working in a garment factory, these workers report working fewer hours, which results in lower take-home pay. Mirroring the results for their employers, these differences in workers' outcomes may reflect that greater cooperation between relational buyers and their suppliers in the face of the buyer experiencing a negative shock mitigates the worst outcomes for suppliers' workers, allowing them to retain their employment, while also asking them to bear some of the cost of the negative shock.

Together, we interpret these results as suggestive evidence that international trade with relational buyers not only benefits their direct suppliers, but also supports broader economic upgrading through improved outcomes for suppliers' workers. This benefit is another rationale for export promotion agencies to target programs to assist exporters in establishing relationships with relational buyers.