

TOWARDS SOCIAL LIFE CYCLE ASSESSMENT OF FOOD DELIVERY: FINDINGS FROM THE ITALIAN CASE STUDY

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Table S1: Sources of the quantitative and qualitative indicators used.

Indicators	Source	Data type
% of children in employment, ages 7 - 14	<ul style="list-style-type: none"> • Deliveroo: https://riders.deliveroo.it/it/support/nuovi-riders/per-lavorare-con-deliveroo-e-necessario • Glovo: https://couriers.glovoapp.com/it/; • Just Eat: https://www.justeat.it/rider?city=roma&utm_source=google&utm_medium=cpc&utm_campaign=RC_S_G_ITA_IT_[SCOOB]_[AOTN]_[COMP]_rome_1008736_[NEW]&utm_content=[COMP]_rome&gad=1&gclid=CjwKC_Ajwh8mlBhB_EiwAsztdBDQhs8c6KpoH44xsh7EWAEu8L61kUTkth-ej7-KAhzKJO2yG4tKcQRoC_KgQAvD_BwE; • Uber Eats: https://www.uber.com/it/it/deliver/ 	Quantitative
Frequency of Forced labour	<ul style="list-style-type: none"> • Global Slavery Index: https://www.walkfree.org/global-slavery-index/ 	Quantitative
Sector average wage per month	<ul style="list-style-type: none"> • Assodelivery and UGL: https://www.bollettinoadapt.it/wp-content/uploads/2020/09/CCNL-Rider-09_09_2020-def.docx.pdf; • Wageindicator.org: https://wageindicator.org/salary/living-wage/archive-no-index/italy-living-wage-series-september-2019 	Quantitative
Hours of work per employee, per week	<ul style="list-style-type: none"> • Assodelivery and UGL: https://www.bollettinoadapt.it/wp-content/uploads/2020/09/CCNL-Rider-09_09_2020-def.docx.pdf 	Quantitative
Gender wage gap	<ul style="list-style-type: none"> • Glovo: Social Contribution ESG Report 2021: https://about.glovoapp.com/wp-content/uploads/2022/12/esg-report-2021.pdf 	Quantitative
Fatal accident at workplace	<ul style="list-style-type: none"> • ASAPS: https://www.asaps.it/68306-_osservatorio_rider_food_delivery_elenco_incidenti_aggiornato_al_25_ottobre_201.html • AssoDelivery: https://www.camera.it/application/xmanager/projects/leg18/attachments/upload_file_doc_acquisiti/pdfs/000/002/316/AssoDelivery.pdf 	Quantitative
Provision of protection for employees	<ul style="list-style-type: none"> • Deliveroo: https://riders.deliveroo.it/it/support/nuovi-riders/per-lavorare-con-deliveroo-e-necessario • Glovo: https://couriers.glovoapp.com/it/ • Just Eat: https://www.justeat.it/rider?city=roma&utm_source=google&utm_medium=cpc&utm_campaign=RC_S_G_ITA_IT_[SCOOB]_[AOTN]_[COMP]_rome_1008736_[NEW]&utm_content=[COMP]_rome&gad=1&gclid=CjwKC_Ajwh8mlBhB_EiwAsztdBDQhs8c6KpoH44xsh7EWAEu8L61kUTkth-ej7-KAhzKJO2yG4tKcQRoC_KgQAvD_BwE • Uber Eats: https://www.uber.com/it/it/deliver/ 	Qualitative
Evidence of violations of laws and employment regulations	<ul style="list-style-type: none"> • ASAPS: https://www.asaps.it/68306-_osservatorio_rider_food_delivery_elenco_incidenti_aggiornato_al_25_ottobre_201.html • AssoDelivery: https://www.camera.it/application/xmanager/projects/leg18/attachments/upload_file_doc_acquisiti/pdfs/000/002/316/AssoDelivery.pdf 	Quantitative
Trade union density	<ul style="list-style-type: none"> • ILOSTAT. Trade Union Density: https://ilostat ilo.org/resources/concepts-and-definitions/description-industrial-relations-data/ 	Quantitative

Membership in an initiative that promotes social responsibility along the supply chain	<ul style="list-style-type: none"> • Deliveroo. Our path to profitability Annual Report 2022: https://dpd-12774-s3.s3.eu-west-2.amazonaws.com/assets/8916/7999/4882/deliveroo_plc_Annual_Report_2022.pdf; • Glovo. Social Contribution ESG Report 2021: https://about.glovoapp.com/wp-content/uploads/2022/12/esg-report-2021.pdf; • Just Eat. Annual Report 2022: https://s3.eu-central-1.amazonaws.com/takeaway-corporatewebsite-dev/JET-JV2022-280223_Final-Glossy-AR-2022.pdf. • Uber. ESG Reports 2023: https://www.uber.com/it/it/community/esg/ 	Qualitative
Violations of mandator health and safety standards	<ul style="list-style-type: none"> • ASAPS: https://www.asaps.it/68306-osservatorio_rider_food_delivery_elenco_incidenti_aggiornato_al_25_ottobre_201.html; • Istituto Nazionale di Statistica (ISTAT) (2019). Forza lavoro in Italia (2019) http://dati.istat.it/Index.aspx?DataSetCode=DCCV_FORZLV1 	Quantitative
Presence of management measures to protect consumer health and safety	<ul style="list-style-type: none"> • Regulation (EC) No 852/2004 of the European Parliament and of the Council of 29 April 2004 on the hygiene of foodstuffs: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32004R0852 	Qualitative
Migration workers in food delivery	<ul style="list-style-type: none"> • Giorgiantonio C, Rizzica L (2018) Il lavoro nella gig economy: Evidenze dal mercato del food delivery in Italia. Questioni di Economia e Finanza Numero 472, Banca d'Italia https://www.bancaditalia.it/pubblicazioni/qef/2018-0472/OEF_472_18.pdf 	Quantitative

Table S2. Quantitative indicators: value, reference scale and performance reference points (Adapted by Gompf et al., 2022). Reference scale and performance reference point are from Eisfeldt and Ciroth (2020)

Categories	Subcategories	Indicators	Value	Reference scale and performance reference point (Eisfeldt and Ciroth, 2020)					
				No risk	Very low risk	Low risk	Medium risk	High risk	Very high risk
				0	1	2	3	4	5
WORKERS									
Child labour	Children in employment	% of children in employment ages 7-14	0	0	$0 < y < 2.5$	$2.5 \leq y < 5$	$5 \leq y < 10$	$10 \leq y < 20$	$20 \leq y$
Forced labour	Frequency of forced labour	Cases of forced labour x 1000 employees	2.43	0	$0 < y < 4$	$4 \leq y < 8$	$8 \leq y < 12$	$12 \leq y < 16$	$16 \leq y$
Fair salary	Sector average wage per month	Score	1.14	0	$2.5 \leq y$	$2 \leq y < 2.5$	$1.5 \leq y < 2$	$1 \leq y < 1.5$	$0 < y < 1$
Working time	Hours of work per employee, per week	hours	30	0	-	$40 \leq y < 48$	$30 \leq y < 40$	$20 \leq y < 30$	$y \leq 20$
Discrimination	Gender wage gap	%	24.05	0	$0 < y < 5$	$5 \leq y < 10$	$10 \leq y < 20$	$20 \leq y < 30$	$30 \leq y$
Health and Safety	Fatal accident at the workplace	Cases x 100,000 employees	17	0	$0 \leq y < 7.5$	$7.5 \leq y < 15$	$15 \leq y < 25$	$25 \leq y < 40$	$40 \leq y$
Social benefits, legal issues	Evidence of violations of laws and employment regulations	Cases of injuries x 1,000 employees	1.1	0	$0.1 > y$	$0.1 \leq y < 1$	$1 \leq y < 10$	$10 \leq y < 100$	$100 < y$
Workers right	Trade union density	%	32.5	0	$80 < y$	$60 < y \leq 80$	$40 < y \leq 60$	$20 < y \leq 40$	$20 \geq y$
SOCIETY									
Health and Safety	Violations of mandatory health and safety standards	Cases of violation relative to the labour force	0.000001	0	$0.000000055 \leq y < 0.00000025$	$0.00000025 \leq y < 0.0000008$	$0.0000008 \leq y < 0.0000015$	$0.0000015 \leq y < 0.000005$	$0.000005 \leq y$
LOCAL COMMUNITY									
Migration	Migrant workers in food delivery	% of total workers in the sector	23%	0	$0 < y < 2.5$	$2.5 \leq y < 5$	$5 \leq y < 10$	$10 \leq y < 20$	$20 \leq y$