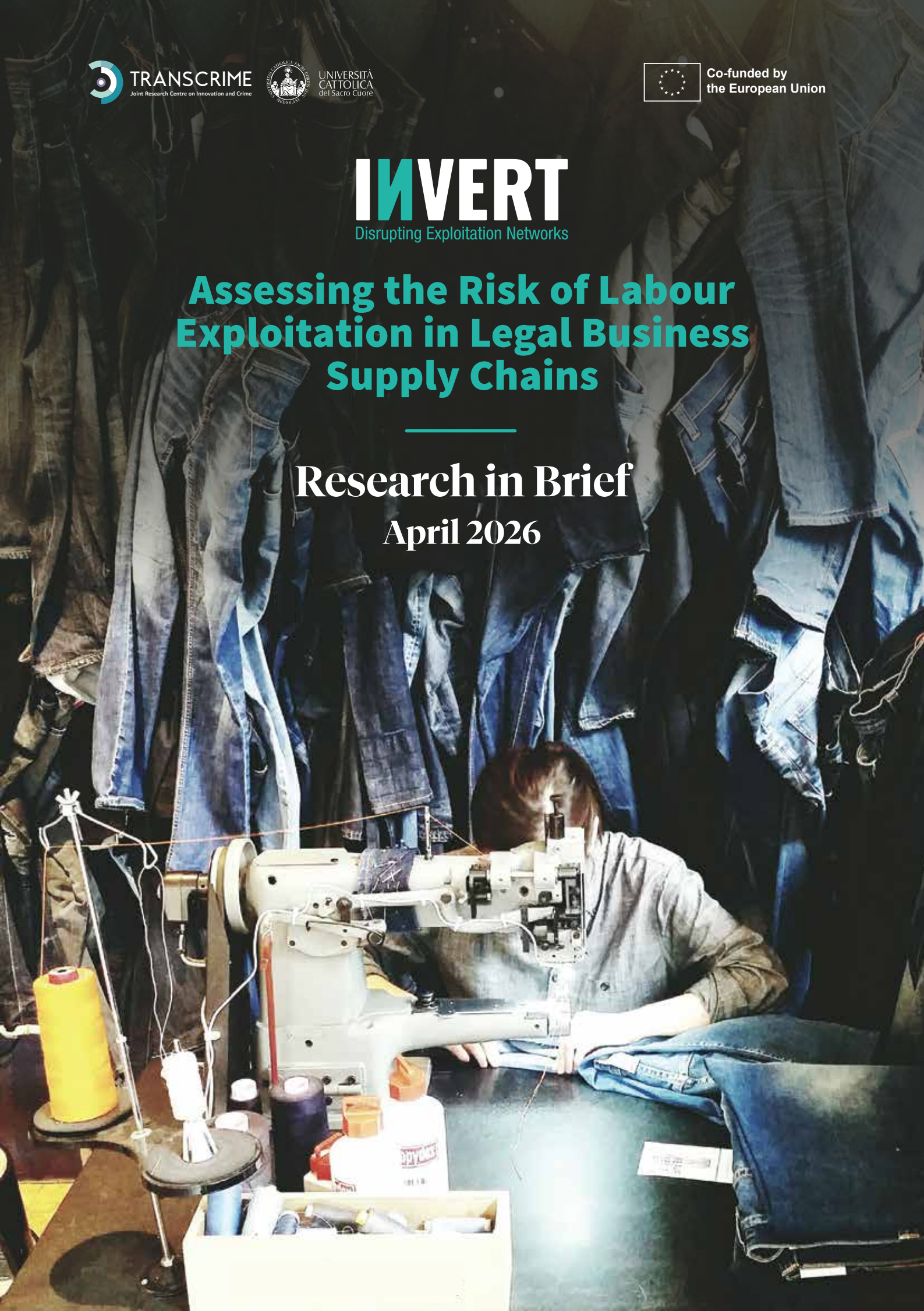


INVERT

Disrupting Exploitation Networks

Assessing the Risk of Labour Exploitation in Legal Business Supply Chains

Research in Brief
April 2026



Authors

Clara Rondani
Gaia Michelazzi
Michele Riccardi

Institution

Università Cattolica del Sacro Cuore di Milano
Transcrime – Joint Research Centre on Innovation and Crime
Milan office (headquarters):
Largo Gemelli 1 - 20123 Milan (Italy)
Phone: +39 02 7234 3715/3716; Fax: +39 02 7234 3721
www.transcrime.it
2026

Publication Year

2026

ISBN

978-88-99719-55-5

Copyright Notice

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means — electronic, mechanical, photocopying, recording or otherwise — without the prior written permission of the authors.

Disclaimer

This report forms part of the INVERT project, which was funded by the Internal Security Fund programme under grant agreement No. 101101914. The contents of this report solely represent the views and opinions of the authors and, as such, are their responsibility alone. The European Commission thus assumes no responsibility for the subsequent usage of the data included herein.

Suggested Citation

Rondani C., Michelazzi G. and Riccardi M. (2026), *Assessing the Risk of Labour Exploitation in Legal Business Supply Chains*. Milan: Transcrime – Joint Research Centre on Innovation and Crime.

Graphic Design

Ilaria Mastro



Background

- Contemporary production and service delivery increasingly rely on **outsourcing, multilayered subcontracting and cross-border sourcing** to reduce costs, access specialised skills, increase flexibility, and respond faster to market demand. These structures have expanded the organisational and geographic distance between lead firms and workers, creating spaces in which abusive labour practices can emerge.
- Labour exploitation, as subcategory of human trafficking, has become comparable, in prevalence among identified victims, to sexual exploitation (Eurostat, 2025). Despite these figures, experts warn that **the number of unidentified victims of forced labour is extremely large**. According to ILO estimates, the number of people in forced labour imposed by private actors may be as high as 17 million worldwide (ILO et al., 2022).
- Labour exploitation can be conceptualised along a **continuum** encompassing different labour practices (Boersma & Nolan, 2022; FRA, 2015; Palumbo, 2024; Skrivankova, 2010; UNODC, 2015). At one end lies **decent work**, which requires respect for workers' rights to an adequate income, safety, social protection, and freedom. Decent work represents the benchmark against which exploitative practices can be assessed. At the opposite end lies **forced labour**, with practices commonly associated with this extreme including slavery and servitude (UNODC, 2015).

- Forms of labour exploitation between these extremes range from **minor labour-law violations**, typically addressed through civil or administrative sanctions, to **serious violations that entail criminal liability** (EU Anti-Trafficking Hub, 2025).
- Labour exploitation is fuelled by deregulation and increased labour market flexibility, as well as by conflicts, forced migration and inequality. The business model of labour exploitation is also linked to economic crimes, such as fraud, tax evasion, and trade in counterfeit goods (OECD & EUIPO, 2025). Disrupting labour trafficking is therefore crucial **not only to uphold human dignity**, but also **to prevent broader harm to the economy**.



INVERT

Disrupting Exploitation Networks

The project **INVERT** (Identifying compaNies and Victims in the Exploitation phase to disRUpt the financial business model of adult and child labour Trafficking) was a two-year project co-funded by the Internal Security Fund of the European Commission-DG Home (Grant Agreement No. 101101914). The project focused on **labour exploitation as part of trafficking in human beings**, an EMPACT EU priority in the fight against serious and organised crime. This crime typically follows a complex multi-stage business model (recruitment, transportation, exploitation and reinvestment of illicit proceeds). INVERT specifically targeted **the exploitation phase** with the aim of disrupting the financial flows underpinning labour trafficking.

Over the course of the project, INVERT developed:

- **A set of risk indicators** at both the company and victim levels to improve the identification of labour exploitation.
- An **integrated risk-assessment** tool to screen legal companies, detect signals of risk of labour exploitation, and conduct more targeted inspections.
- Specialised **training modules** for EU prosecutors and law enforcement agencies on trafficking for the purpose of labour exploitation.

More information about INVERT:

www.transcrime.it/en/stories/invert-risultati-e-strumenti-di-indagine-contro-lo-sfruttamento-lavorativo/

www.invert-project.eu/

INVERT partners

Project coordinator:





Identifying and
prosecuting
labour exploitation

Current challenges

The INVERT project developed its approach in response to the operational needs of law enforcement agencies (LEAs) and prosecutors, who often face the following challenges in investigations:

1 Over-reliance on victims' testimony

Not all victims are willing to speak out against traffickers and exploiters. This may be due to fear of retaliation against themselves or their families, as well as mistrust of law enforcement, especially among irregular migrants. In addition, some victims do not identify as such and may perceive their situation as an improvement compared to conditions in their country of origin.

2 Lack of a clear and shared definition of exploitation

Proving labour exploitation in court can be difficult because only a limited number of legal systems define its key features in detail (one exception is Article 603-bis of the Italian Criminal Code). The challenge is even greater for forms of exploitation that harm workers' dignity but do not meet international criteria for "forced labour" (Palumbo, 2024).

3 Effortful labour inspections

Inspections are essential to identify labour-law violations, but they require significant personnel and time. More targeted operations, based on objective risk information, could improve efficiency and increase LEAs' capacity to identify actors involved in labour exploitation.

4 Lack of training for LEAs

Although specialised units of LEAs exist, not all practitioners are trained to recognise the signals of labour exploitation, especially in emerging sectors and urban contexts.

- To support practitioners in overcoming the challenges mentioned above, INVERT followed a **risk-based approach** to improve the identification of actors involved in labour trafficking based on the screening of corporate-related data.
- INVERT developed risk indicators capturing **corporate anomalies** that may signal a legitimate business's **potential involvement** in labour exploitation.
- Indeed, labour exploitation can be understood as a **form of corporate crime driven by economic profit**. It often occurs within **long, domestically based supply chains** and involves multiple labour intermediaries (Barrientos, 2013; Crane et al., 2019; Davies, 2020; Davies & Ollus, 2019; De Vries, 2019; LeBaron, 2021; Paraskevopoulou et al., 2016).

A methodology to define risk indicators

1. **Consultation with specialised law enforcement agencies** to compile an initial list of company characteristics associated with labour trafficking.
2. **Desk research and consolidation** through an extensive review of academic literature, national and international institutional sources, and EU projects on human trafficking.
3. **Operationalisation** of the identified characteristics into objective, quantifiable risk indicators.
4. **Validation and refinement** through iterative discussions with experts on human trafficking and labour exploitation.

Developing risk indicators

for labour exploitation in legal companies



Company-level risk indicators

The following indicators have been consolidated through an extensive review of the literature on labour trafficking, labour exploitation, and related crimes.

For example: Barrientos, 2013; Battistelli & Campanella, 2020; Bosisio et al., 2021; Caspersz et al., 2022; Crane et al., 2019; Dines & Rigo, 2016; Dueñas Herrero & Tonelli, 2022; ILO et al., 2022; Jokinen & Ollus, 2019; LeBaron, 2014; NCA, 2020; Nucleo della Guardia di Finanza per la repressione delle frodi nei confronti dell'Unione Europea, 2024; Paraskevopoulou et al., 2016; Sanz de Miguel et al., 2017; Yagci Sokat, 2022; Walk Free, 2023.



Excessive outsourcing

Outsourcing can be a lawful and efficient cost-reduction strategy. However, extensive reliance on external providers can increase exposure to labour exploitation, as intermediaries often operate with lower labour costs and may further subcontract to providers offering even cheaper labour. As supply chains become more complex, monitoring becomes harder and instances of exploitation are more difficult to detect.



Low personnel costs

Labour exploitation aims to minimise labour costs to maximise profits. Firms may use undeclared work to evade taxes, avoid social security contributions, and bypass labour standards. Even where employment is formally reported, companies may commit social-security fraud by misclassifying subordinate employees as self-employed or as shareholders (e.g., in cooperatives), stripping rights such as sick pay and pension contributions while shifting tax and contribution burdens onto workers. Unusually low personnel costs compared to peers can therefore indicate undeclared work or related schemes.



Lack of real economic activity

Exploitation schemes in the legal economy may involve bogus companies with little or no tangible economic activity, set up primarily to provide cheap labour. Such entities may lack a physical headquarters, equipment, or other tangible assets. They can also increase supply-chain complexity and shift liability onto firms that operate for short periods, accumulate significant debts, and then declare insolvency. In some cases, these companies report very few employees.



Labour-intensive sector

While no sector is immune, labour exploitation is more frequently associated with labour-intensive sectors characterised by low-skilled, underpaid, and precarious jobs that local workers may be less willing to take. These include construction, agriculture, domestic work, forestry, food processing, hospitality, cleaning services, manufacturing, delivery services, and transport. Employment in these sectors is also often temporary, casual, or seasonal, reflecting short peak-demand periods.



Links with high-risk jurisdictions and territories

Exposure to forced labour varies geographically and is shaped by conflict, inequality, discrimination, and the capacity and willingness of governments to combat trafficking and exploitation. Based on the Global Slavery Index (Walk Free), estimated prevalence of modern slavery is reportedly high in countries such as North Korea, Eritrea, Mauritania, Saudi Arabia, the UAE and Russia. Risk is not limited to complex global supply chains: it can also affect domestic production, especially where migrant labour is widespread. In Italy's agricultural sector, for example, exploited workers have often been recruited from reception centres, contributing to the "refugee-ization" of the workforce (Dines & Rigo, 2016).



Anomalous geographic concentration

An address repeatedly used as the registered office for a large number of companies may raise concerns about potential irregularities. Multiple firms sharing the same registered office – especially if they are not part of the same corporate group – may indicate the presence of shell or bogus entities with limited or no operational activity.



High-risk legal form

Some legal forms available in certain jurisdictions are subject to less stringent financial requirements, increasing the risk of misuse. For instance, in some contexts, cooperatives may benefit from favourable tax regimes and have flexibility in their governance and membership arrangements, which can be exploited to blur the boundary between workers and shareholders and, in practice, weaken labour protections.



Links with bankrupt companies

Bogus subcontractors may be opened and closed in succession to evade scrutiny. In labour exploitation cases, firms may withhold taxes, social contributions, and wages, then declare bankruptcy and restart operations through a connected company. Red flags include owners or directors linked to multiple failed businesses, several bankrupt firms registered at the same address, and legal addresses repeatedly associated with insolvencies – potentially indicating ties to past irregularities or fraud.



Lack of ownership information

Missing or inaccessible information on shareholders can hinder the identification of beneficial ownership and complicate law-enforcement investigations. Limited transparency on beneficial ownership is a relevant risk factor when assessing potential involvement in labour exploitation.



Recent incorporation or short lifespan

Recently incorporated companies, or firms with very short lifespans, may indicate ad hoc entities created to carry out illicit activities.



Frequent changes in management or company name

Changes in a company's name or a high turnover in management can be legitimate, but they may also signal anomalous behaviour. Several institutions note that frequent changes in company name and/or management are associated with elevated fraud risk.



Previous criminal charges and adverse media

Companies, owners, or directors may have prior enforcement records (e.g., arrests, judgments) or adverse media linking them to illicit activities such as labour exploitation, tax crimes, or money laundering. Specifically, previous labour-law violations in a company's supply chain should be assessed carefully, as they may signal trafficking for labour exploitation.

Labour exploitation in the legal economy:

A common scheme

The business model of labour exploitation is often based on a mix of strategies to reduce labour costs and generate additional revenues:

- collecting fees from workers for ancillary services;
- withholding part of their wages (Allain et al., 2013; Crane et al., 2022);
- evading the payment of taxes and social security contributions (Jokinen & Ollus, 2019).

The cases analysed within the INVERT project highlighted a common scheme of labour exploitation in seemingly legal supply chains. This pattern has been documented across sectors like fashion, delivery services, and cleaning.



Main client



Company

Buffer companies



Contractor #1



Contractor #2

Manpower reservoirs



Sub-contractor #1



Sub-contractor #2



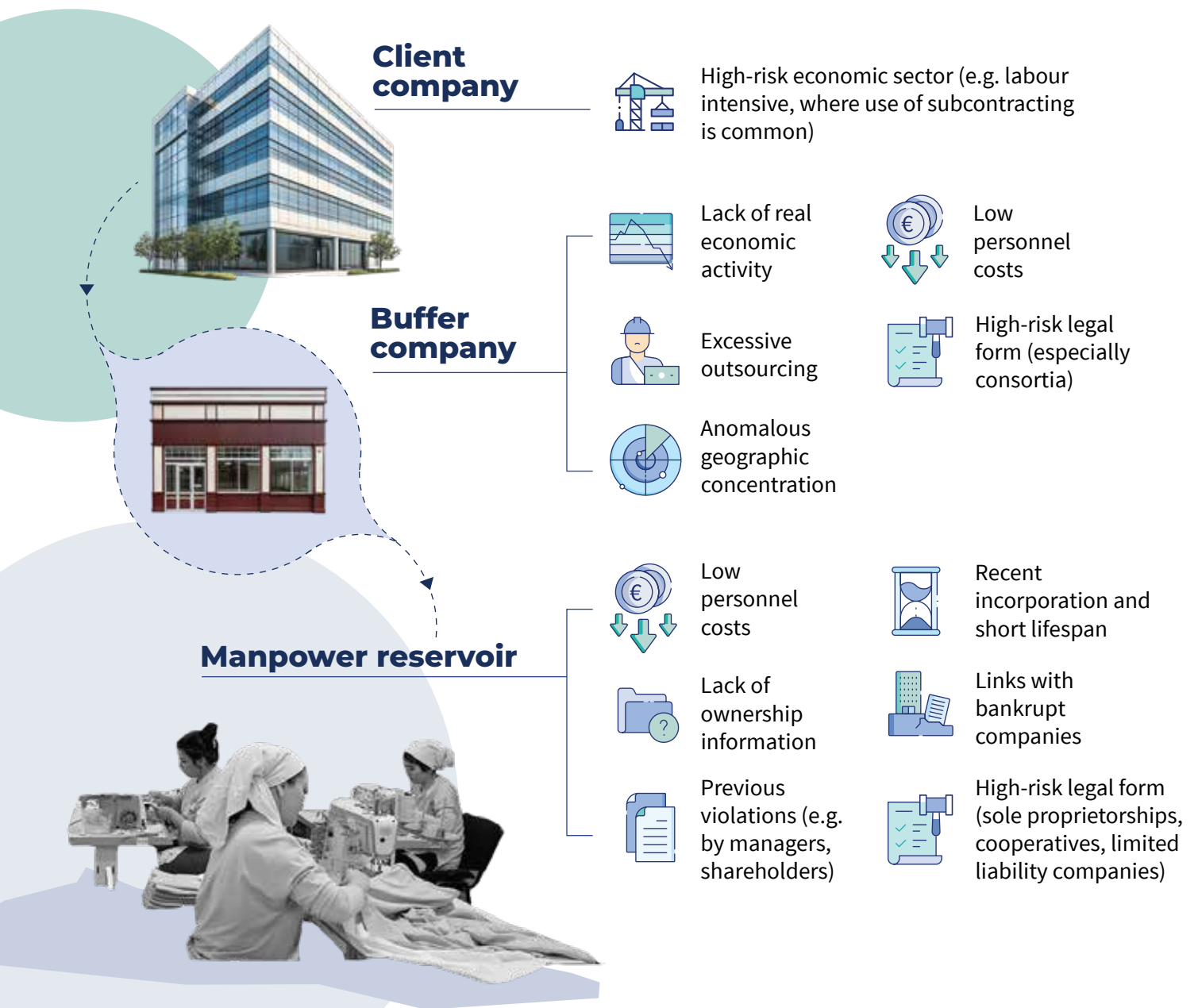
Sub-contractor #3

Large client companies outsource key activities – such as production or logistics – to contractors with opaque financial profiles and/or ownership structures.

These contractors sometimes act as “buffer” companies whose main role is to conceal an additional layer of subcontracting. They are often “empty” entities with little or no operational capacity (few workers, limited assets, and sometimes no real headquarters).

In turn, they typically subcontract work to networks of small firms – such as sole proprietorships, simplified limited liability companies, or cooperatives – operating in highly competitive, labour-intensive markets. These firms function as manpower reservoirs, supplying cheap labour to the upper tiers of the chain. To remain in business, they often pursue aggressive cost-cutting strategies that can come at workers’ expense, undermining basic rights such as fair pay, reasonable hours, and safe, hygienic conditions.

Most relevant risk indicators at the company level, based on the role in the supply chain



Case study: labour exploitation in the fashion industry

Recent cases have shown that exploitation is not only present in global supply chains – where production is offshored to countries with lower labour

costs – but also in domestic supply chains in wealthy countries, including in urban contexts.

The companies involved:

The client company was a Milan-based fashion brand specialising in leather accessories.

As common in the sector, it **outsourced production to smaller firms** located in the city's hinterland. Although these firms were the main contractors, they had **limited operational capacity**: they lacked machinery and, in some cases, **did not even have an in-house production department**. Financial data showed unusually **low levels of tangible assets and personnel costs relative to declared operating revenue**, raising suspicions.

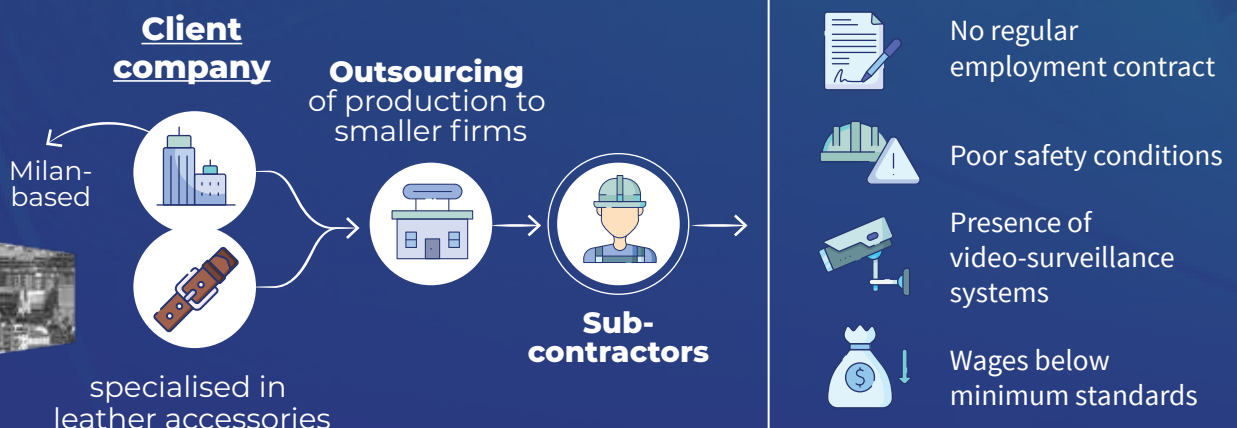
Investigations found that additional subcontractors were involved in the supply chain, despite not being formally authorised by the client company. These subcontractors were mainly **sole proprietorships** managed by Chinese nationals. In several instances, workplace inspections suggested that the formal beneficial owner was not the person actually supervising workers, raising concerns about the possible use of a **nominee owner**. Some firms were linked through family ties and **clustered in specific industrial areas** around Milan, sometimes in **adjacent buildings** that allowed workers and managers to move easily across sites (see pg. 11 for the exploratory spatial analysis).

Workers and working conditions:

Inspections by the Carabinieri Command for Labour Protection identified multiple indicators of exploitation. The workforce included Chinese nationals, as well as Pakistani and Italian workers in situations of **socio-economic vulnerability**. Many Chinese workers had **no regular employment contract** and were **irregular migrants**.

Inspectors also reported that **rooms had been illegally built inside workplaces** and used as dormitories and kitchens, despite the **presence of hazardous chemicals** and poor safety conditions that could hinder evacuation in an emergency. Sewing machines had been modified to **remove safety mechanisms** to increase speed, and workers had not received adequate training.

Several workers were formally paid as part-time employees but reportedly worked more than **10 hours per day, six to seven days a week**. Wages were **below minimum standards**, and in some workplaces **video-surveillance systems** had been installed to monitor workers. During inspections, some workers' responses appeared rehearsed, leading investigators to suspect that employers had coached them on what to say.





Zooming out: mapping areas at high-risk of labour exploitation in urban contexts

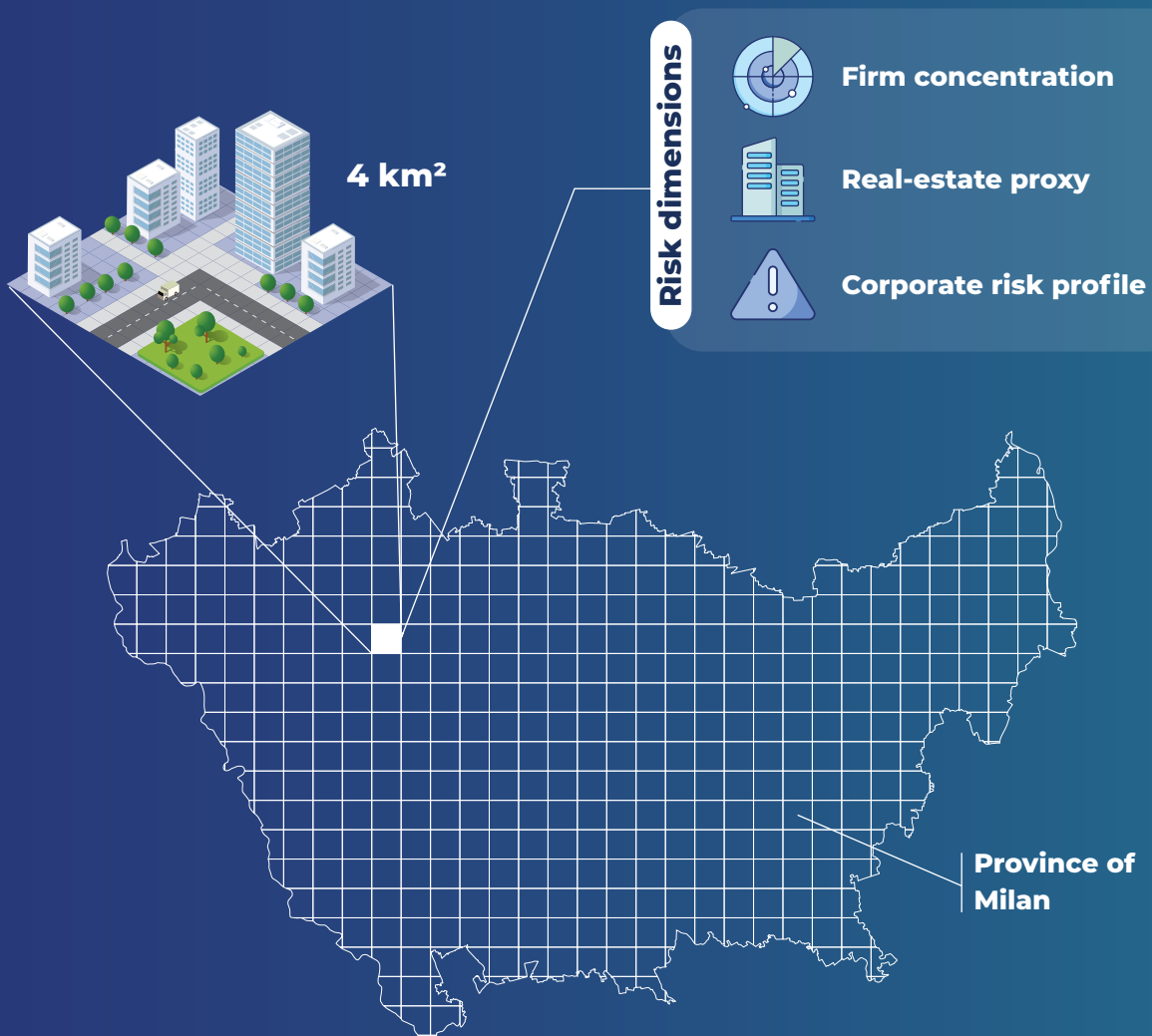
- The emergence of labour-exploitation cases in urban areas has highlighted the **presence of clusters with a high concentration** of both companies displaying labour-exploitation risk indicators and real-estate assets potentially usable as illegal workshops or dormitories.
- An exploratory spatial analysis approach was therefore applied to **identify geographic areas at higher risk of labour exploitation around the city of Milan**, focusing on the sectors relevant for the production of fashion items (NACE codes C13, C14 and C15¹).
- In the identified cases of labour exploitation in the fashion industry, a recurring feature was the involvement of Chinese nationals as company owners or managers. Accordingly, the analysis places specific emphasis on the **presence and concentration of Chinese-owned firms**.

1. NACE code C13 corresponds to “Manufacture of textiles”; code C14 corresponds to “Manufacture of wearing apparel” and code C15 corresponds to “Manufacture of leather and related products” (see https://ec.europa.eu/competition/mergers/cases/index/nace_all.html).

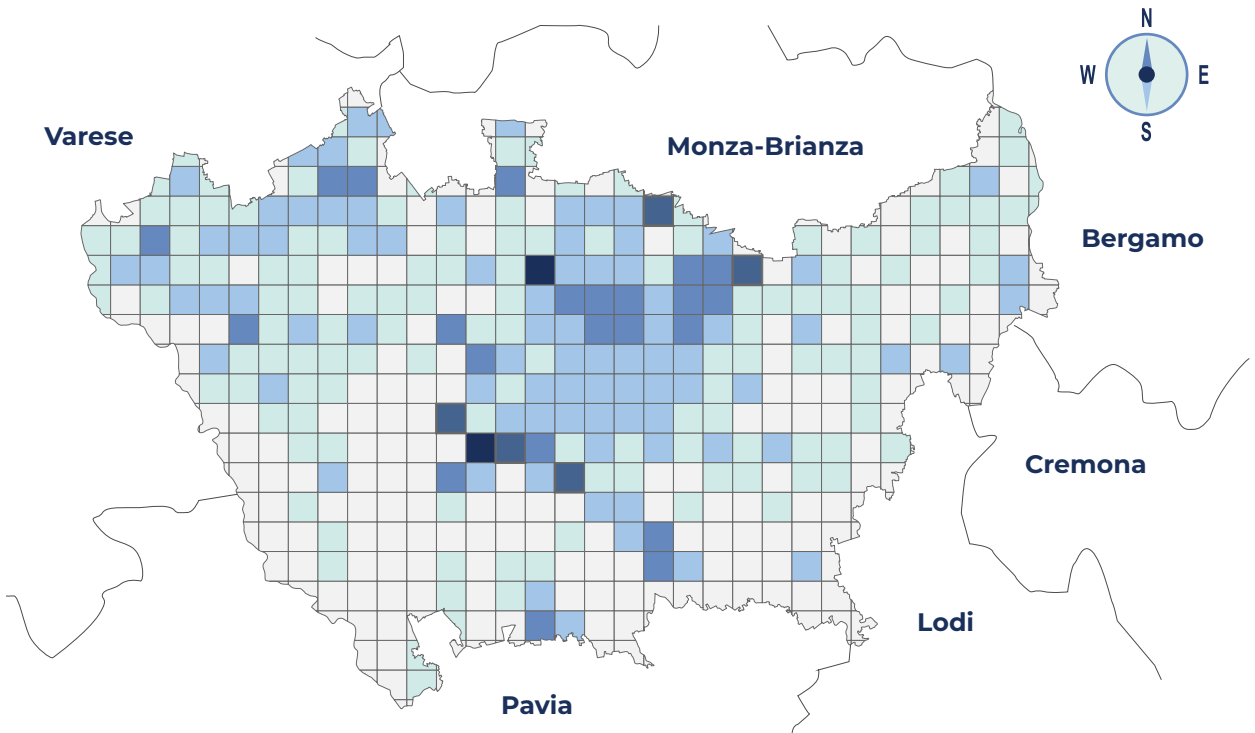
Methodology

- The Province of Milan was partitioned into a regular grid of 4 km² cells (2×2 km) to make heterogeneous territorial units comparable and to reduce the influence of administrative boundaries.
- For each cell, **three risk dimensions** were defined and calculated.
- These three layers were then combined to identify cells showing the highest overlap across dimensions, interpreted as areas with higher potential risk of labour exploitation.
- The resulting areas are not treated as evidence of exploitation, but rather as priority zones for further investigation.

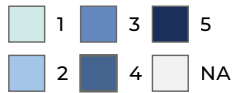
- 1 Firm concentration (Chinese-owned):** the share of companies owned by Chinese nationals operating in the relevant NACE codes (C13, C14, C15), relative to all firms in the same sectors;
- 2 Real-estate proxy:** the concentration of real-estate assets attributable to Chinese owners that may be suitable for productive or undeclared uses (i.e., commercial units and basement-level premises), relative to all Chinese-owned properties;
- 3 Corporate risk profile:** the concentration of firms in NACE C13, C14 and C15 displaying a high-risk profile based on the risk indicators developed within the INVERT project.



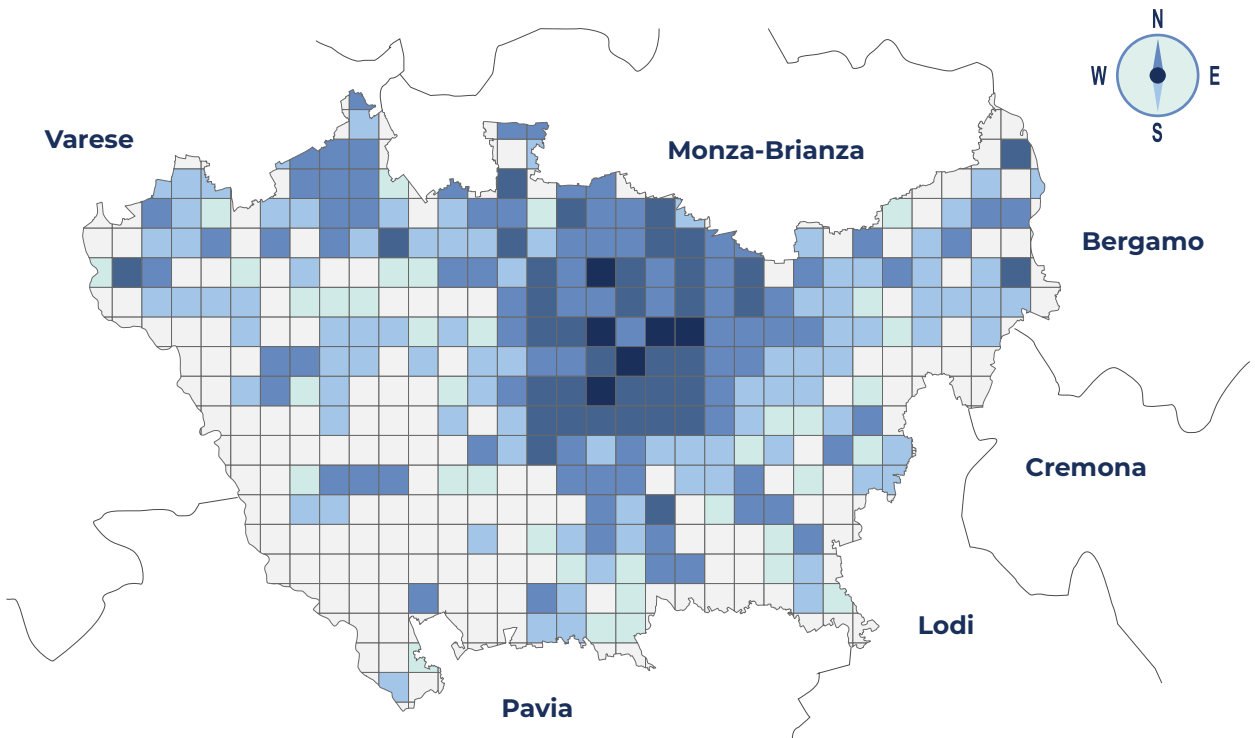
Risk mapping



Risk level
1 (Low risk)
5 (High risk)



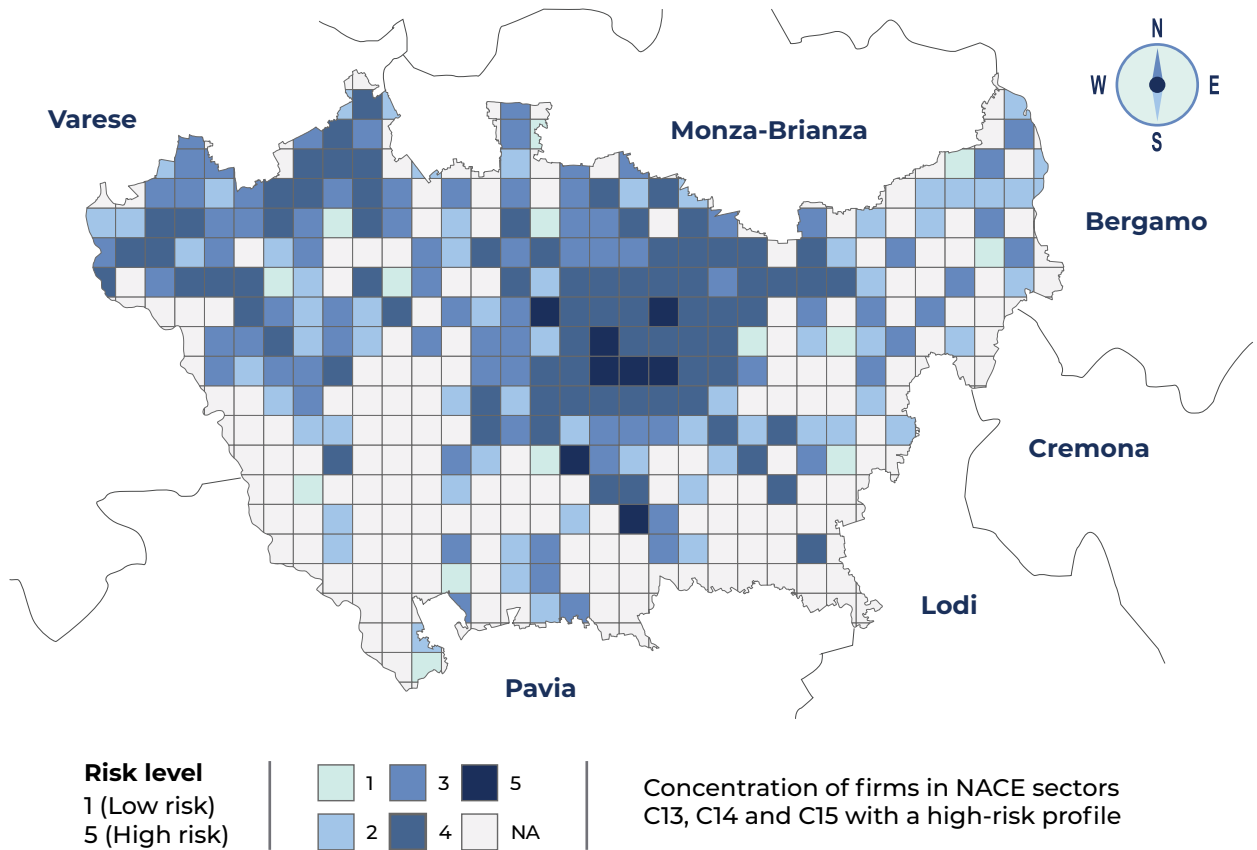
Firm concentration (Chinese-owned)
in NACE sectors C13, C14 and C15



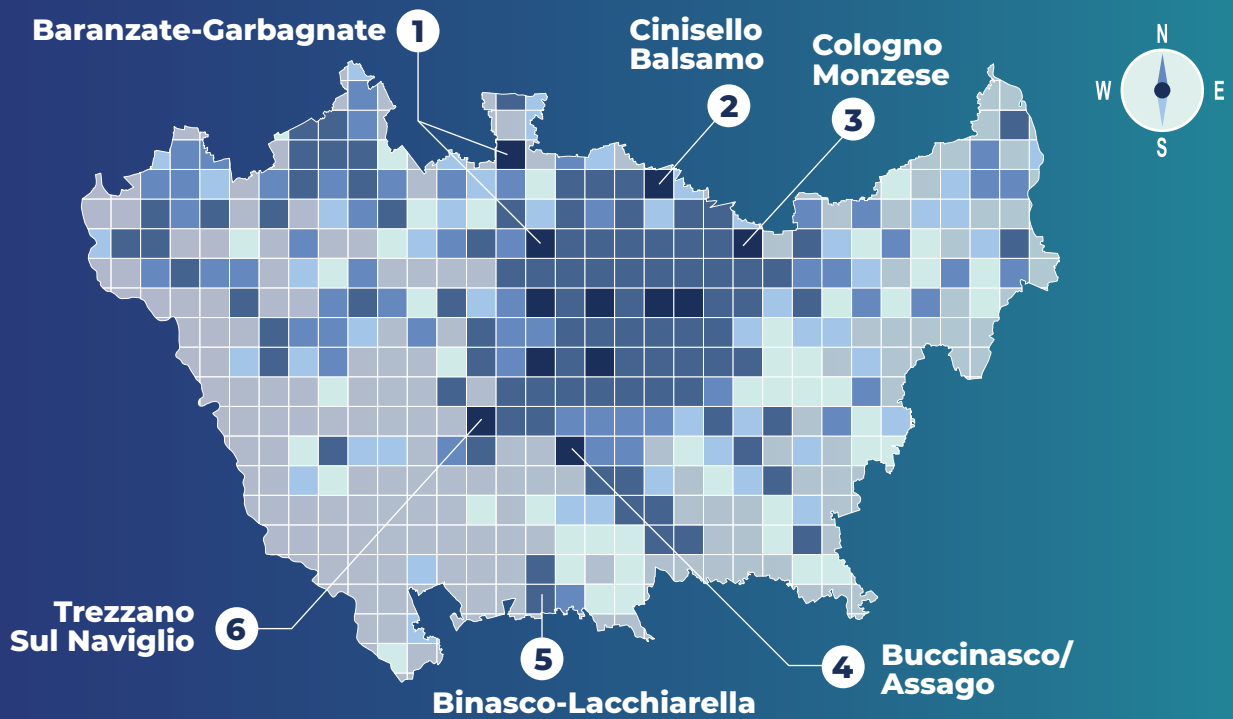
Risk level
1 (Low risk)
5 (High risk)



Concentration of commercial and
basement-level properties owned by
Chinese individuals



Areas at high-risk of labour exploitation



The combination of the three risk dimensions highlights the presence of high-risk clusters in several peripheral areas of Milan (as shown in the map).

Investigations conducted by the Milan Public Prosecutor's Office indicate that a number of companies involved in recent labour-exploitation cases were active – or were incorporated – in these areas, providing indirect empirical support for this innovative approach.

Conclusions

The approach adopted in the INVERT project helps address key identification challenges faced by practitioners by introducing a risk-based framework that integrates multiple data sources. This has the advantage of supporting earlier detection even when victims are unwilling or unable to cooperate.

Recent evidence highlights the existence of labour exploitation schemes involving multiple companies and labour intermediaries often connected through ownership, management, and/or geographic links. By combining company-level risk indicators with real-estate proxies and spatial clustering, the approach enables LEAs to prioritise geographic hotspots and target inspections where the overlap of risk factors is greatest, supporting a more efficient allocation of resources.

References

- Allain, J., Crane, A., LeBaron, G., & Behbahani, L. (2013). *Forced Labour's Business Models and Supply Chains*. Joseph Rowntree Foundation.
- Barrientos, S. W. (2013). 'Labour Chains': Analysing the Role of Labour Contractors in Global Production Networks. *The Journal of Development Studies*, 49(8), 1058–1071.
<https://doi.org/10.1080/00220388.2013.780040>
- Battistelli, S., & Campanella, P. (2020). Subcontracting Chain and Working Conditions in Italy: Evidence from the Food and Meat Industry. *Studies on Labour Law and Social Policy, Volume 27 (2020)(Volume 27 Issue 2)*, 135–145.
- Boersma, M., & Nolan, J. (2022). Modern slavery and the employment relationship: Exploring the continuum of exploitation. *Journal of Industrial Relations*, 64(2).
<https://journals.sagepub.com/doi/10.1177/00221856211069238>
- Bosisio, A., Carbone, C., Jofre Alegria, M. P., Riccardi, M., & Guastamacchia, S. (2021). *Developing a Tool to Assess Corruption Risk factors in firms' Ownership Structures – Final report of the DATACROS Project*. Transcrime.
https://www.transcrime.it/wp-content/uploads/2021/10/Datacros_report.pdf
- Crane, A., LeBaron, G., Phung, K., Behbahani, L., & Allain, J. (2022). Confronting the Business Models of Modern Slavery. *Journal of Management Inquiry*, 31(3), 264–285.
<https://doi.org/10.1177/1056492621994904>
- De Vries, I. (2019). Connected to Crime: An Exploration of the Nesting of Labour Trafficking and Exploitation in Legitimate Markets. *The British Journal of Criminology*, 59(1), 209–230.
<https://doi.org/10.1093/bjc/azy019>
- Dines, N., & Rigo, E. (2016). Postcolonial Citizenships and the “Refugeeization” of the Workforce: Migrant Agricultural Labor in the Italian Mezzogiorno. In S. Ponzanesi & G. Colpani (Eds.), *Postcolonial Transitions in Europe: Contexts, Practices and Politics* (pp. 153–174). Rowman and Littlefield.
https://www.academia.edu/15071119/Postcolonial_Citizenships_and_the_Refugeeization_of_the_Workforce_Migrant_Agricultural_Labor_in_the_Italian_Mezzogiorno
- Dueñas Herrero, L. J., & Tonelli, R. (2022). Difficulties relating to companies incorporated as cooperative societies in Italy and Spain. *Revue de Droit Comparé Du Travail et de La Sécurité Sociale*, (4), 94–109. <https://doi.org/10.4000/rdctss.4693>
- EU Anti-Trafficking Hub. (2025). *Study on the concept of trafficking in human beings for the purpose of labour exploitation (Ad Hoc Policy Paper No. 1; Consultancy, Technical Assistance and Support for the EU Anti-Trafficking Hub)*. European Commission Directorate-General Migration and Home Affairs.
- European Union Agency for Fundamental Rights (Ed.). (2015). *Severe labour exploitation: Workers moving within or into the European Union: states' obligations and victims' rights*. Publications Office. <https://doi.org/10.2811/13049>
- Eurostat. (2025, March). *Trafficking in human beings statistics*.
https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Trafficking_in_human_beings_statistics
- International Labour Organization, Walk Free Foundation, & International Organization for Migration (IOM) (Eds.). (2022). *Global estimates of modern slavery: Forced labour and forced marriage*. International Labour Office.

- Jokinen, A., & Ollus, N. (2019). Shady business. Uncovering the business model of labour exploitation. <https://doi.org/10.13140/RG.2.2.19748.42885>
- LeBaron, G. (2021). The Role of Supply Chains in the Global Business of Forced Labour. *Journal of Supply Chain Management*, 57(2), 29–42. <https://doi.org/10.1111/jscm.12258>
- National Crime Agency. (2020). Indicators of Modern Slavery and Human Trafficking in the Legal Sector (No. 1). Modern Slavery and Human Trafficking Unit. <https://www.nationalcrimeagency.gov.uk/who-we-are/publications/440-indicators-of-msht-in-the-legal-sector/file>
- Nucleo della Guardia di Finanza per la repressione delle frodi nei confronti dell'Unione Europea. (2024). I principali indicatori di rischio di frode nel P.N.R.R. Presidenza del Consiglio dei Ministri - Dipartimento per gli Affari Europei. <https://www.affarieuropei.gov.it/media/udalhve3/i-principali-indicatori-di-rischio-di-frode-nel-pnrr.pdf>
- OECD & European Union Intellectual Property Office. (2025). Mapping Global Trade in Fakes 2025: Global Trends and Enforcement Challenges. OECD Publishing. <https://doi.org/10.1787/94d3b29f-en>
- Palumbo, L. (2024). Labour Exploitation as a Continuum, Human Dignity, and Vulnerability. In L. Palumbo (Ed.), *Taking Vulnerabilities to Labour Exploitation Seriously: A Critical Analysis of Legal and Policy Approaches and Instruments in Europe* (pp. 31–73). Springer International Publishing. https://doi.org/10.1007/978-3-031-55424-7_2
- Paraskevopoulou, A., Fromm, A., & Clark, N. (2016). Regulation of labour market intermediaries and the role of social partners in preventing trafficking of labour. Eurofound. <https://doi.org/10.2806/75809>
- Sanz de Miguel, P., Iudicone, F., & Biletta, I. (2017). Fraudulent contracting of work: Sham companies (Austria, Estonia and Italy). <https://www.eurofound.europa.eu/en/publications/all/fraudulent-contracting-work-sham-companies-austria-estonia-and-italy>
- Skrivankova, K. (2010). Between decent work and forced labour: Examining the continuum of exploitation. JRF Programme Paper: Forced Labour. <https://resourcecentre.savethechildren.net/pdf/6387.pdf>
- United Nations Office on Drugs and Crime. (2015). The concept of “exploitation” in the trafficking in persons protocol. UNODC.
- Walk Free. (2023). The Global Slavery Index 2023. Minderoo Foundation.
- Yagci Sokat, K. (2022). Addressing forced labor in supply chains in California. *Transportation Research Interdisciplinary Perspectives*, 16, 100735. <https://doi.org/10.1016/j.trip.2022.100735>