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**Towards ethical agribusiness: disentangling new patterns of
consumption, governance and policy actions**

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Egli deve essersi messo in testa di rifarsi la terra al più presto. Ma come, se quello che guadagnerà da bracciante gli basterà appena per nutrirsi?

«Lavorerà il doppio» diceva Marietta. «Si cercherà qualche lavoro per la sera»

«Ci rimetterà la salute» io dissi. «Avrà la terra, sì, ma al camposanto»

[Ignazio Silone, Fontamara]

He must have decided to reclaim the land as soon as possible. But how, if what he earns as a farm labourer is barely enough to feed himself?

«He'll work twice as hard» Marietta said. «He'll look for some work in the evenings»

«He'll ruin his health» I said. «He'll have land, yes, but in the cemetery»

[Ignazio Silone, Fontamara]

Summary

The objective of advancing food systems toward more ethically responsible production constitutes one of the most complex challenges of our time, to the extent that the promotion of decent work has been established as a goal of the 2030 Agenda (SDG 8). The agricultural sector is particularly vulnerable to indecent working conditions due to structural characteristics such as low profitability, high levels of precariousness, and a strong dependence on migrant labour, which is often subject to exploitation. In Italy, this problem manifests in a particularly critical way through the phenomenon of caporalato: a system of illicit labour intermediation deeply rooted in the rural economy that generates severe violations of human rights. The persistence of these practices, tragically highlighted by recent cases reported in the media, underscores the urgency of adopting integrated strategies to ensure transparency, fairness, and dignity along the entire agri-food supply chain. The transition toward socially sustainable agriculture therefore requires a multidimensional approach involving institutions, businesses, civil society, and consumers, with the aim of transforming both production and consumption models.

At the institutional level, both European and Italian legislation have evolved. In Italy, alongside repressive tools such as Law 199/2016 against caporalato, preventive governance initiatives have emerged (such as the *Rete del Lavoro Agricolo di Qualità*), together with adherence to voluntary standards (e.g., SA8000, GlobalG.A.P. GRASP) designed to increase transparency regarding the ethicality of production processes. Nevertheless, the informal nature of exploitation renders the phenomenon difficult to monitor systematically. Precisely for this reason, after examining the National and international legislative framework, the first objective of this research was to analyze how the literature has approached the issue of labour exploitation and which analytical tools have been employed to measure decent work. The investigation carried out through a systematic literature review, revealed a predominance of quantitative methodologies, though often limited by the scarcity of reliable data, as well as a marked heterogeneity in the indices employed. This highlights the absence of a consolidated methodological framework for evaluating working conditions in agriculture.

A critical absence in the market is that of an ethical certification specifically dedicated to widely consumed products such as fruit and vegetables, which are particularly susceptible to exploitation. Consequently, there is no information available regarding consumers' potential response to such certification. This research gap was addressed by the present dissertation, which investigated the preferences and behaviours of Italian consumers. The first study demonstrated the

existence of a market space for a hypothetical fair labour certification in Italy, showing that consumers would be willing to pay a price premium for products displaying such a label. The analysis also highlighted that communication plays a crucial role: a negative emotional framing, emphasising the severe consequences of exploitation, proved significantly more effective in increasing willingness to pay than either positive or neutral framings. The second study instead explored the psychological antecedents of purchase intentions by comparing different behavioural models. Results indicate that the main drivers are personal identity (perceiving oneself as a responsible consumer), awareness of consequences, and attribution of responsibility. These findings confirm that moral norms, mediated by beliefs and identity, are fundamental in guiding ethical consumption choices.

Subsequently, the focus shifted to multistakeholder governance models in order to assess their ability to counteract the phenomenon of caporalato. The final chapter presents a case study of the NoCap association, which has established an integrated labour management system providing a concrete alternative to illicit intermediation. The analysis confirms the evidence that caporalato is a structural phenomenon within the agri-food supply chain. It is not merely a criminal practice but rather a response to dysfunctions in the labour market, and therefore requires systemic interventions to be effectively challenged. Accordingly, the results on the NoCap initiative show how the project can serve as an alternative system, improving workers' conditions (contracts, housing, assistance) while simultaneously creating value for farmers and distributors, who use the certification to enhance brand reputation. Nevertheless, significant limitations emerge concerning the scalability of the initiative, linked to resource constraints and its current niche market penetration.

In conclusion, this dissertation demonstrates that labour exploitation in agriculture is a structural phenomenon that requires integrated strategies, moving beyond a purely repressive approach. At the policy level, it is crucial to overcome current informational barriers by improving data collection and to promote multistakeholder governance models that, like NoCap, replicate virtuous functions through public–private collaborations. From a managerial perspective, the research underscores how companies in the agri-food chain can transform social responsibility into a competitive advantage, leveraging ethical certifications to strengthen brand reputation and respond to a latent market demand for fair products, particularly when such products are communicated transparently and with emotionally engaging narratives.

L'obiettivo di progredire i sistemi alimentari verso produzioni più eticamente responsabili è una delle questioni più complesse della nostra epoca, tanto da porre la promozione del lavoro dignitoso come obiettivo dell'Agenda 2030 (SDG 8). Il settore agricolo è particolarmente vulnerabile a condizioni di lavoro non dignitose a causa di caratteristiche strutturali come la bassa redditività, l'alta precarietà e una forte dipendenza dalla manodopera migrante, spesso soggetta a sfruttamento. In Italia, questa problematica si manifesta in modo particolarmente critico attraverso il fenomeno del caporalato: un sistema di intermediazione illecita del lavoro profondamente radicato nell'economia rurale che genera gravi violazioni dei diritti umani. La persistenza di queste pratiche, tragicamente evidenziata da eventi di cronaca, sottolinea l'urgenza di adottare strategie integrate per garantire trasparenza, equità e dignità lungo tutta la filiera agroalimentare. Il passaggio verso un'agricoltura socialmente sostenibile richiede quindi un approccio multidimensionale che coinvolga istituzioni, aziende, società civile e consumatori per trasformare i modelli produttivi e di consumo.

A livello istituzionale, si è assistito a un'evoluzione normativa sia in Europa che in Italia. In Italia, accanto a strumenti repressivi, come la Legge 199/2016 contro il caporalato, sono emerse iniziative di governance preventiva (come la Rete del Lavoro Agricolo di Qualità) e l'adesione a standard volontari (SA8000, GlobalG.A.P. GRASP) volti ad assicurare maggiore trasparenza sull'eticità dei processi. Tuttavia, la natura informale dello sfruttamento rende il fenomeno difficile da monitorare sistematicamente. Proprio per questo, la ricerca, dopo avere esaminato la normativa comunitaria e italiana di riferimento, si è posta come primo obiettivo di analizzare come in letteratura sia stata approcciata la problematica del lavoro e quali strumenti analitici siano stati impiegati per misurare il lavoro dignitoso. L'indagine, condotta tramite una revisione sistematica della letteratura, ha rivelato una predominanza di metodologie quantitative, tuttavia spesso limitate dalla scarsità di dati affidabili, e una notevole eterogeneità in indici utilizzati, evidenziando la mancanza di un quadro metodologico consolidato per valutare le condizioni di lavoro in agricoltura.

Un'assenza critica nel mercato è quella di una certificazione etica dedicata a prodotti di largo consumo, come l'ortofrutta, particolarmente suscettibili allo sfruttamento. Da qui, l'assenza di informazioni sulla potenziale risposta dei consumatori a questo tipo di certificazione. Questo gap di ricerca è stato affrontato da questa dissertazione che ha investigato le preferenze e i comportamenti dei consumatori italiani. Il primo studio ha dimostrato l'esistenza in Italia di uno spazio

di mercato per un'ipotetica certificazione del lavoro equo, rivelando che i consumatori sarebbero disposti a pagare un prezzo premium per prodotti che la espongono. L'analisi ha inoltre evidenziato che la comunicazione gioca un ruolo cruciale: un framing emotivo negativo, che sottolinea le gravi conseguenze dello sfruttamento, è risultato significativamente più efficace nell'aumentare la disponibilità a pagare rispetto a un approccio positivo o neutro. Il secondo studio ha invece approfondito gli antecedenti psicologici dell'intenzione di acquisto, confrontando diversi modelli comportamentali. I risultati indicano che i principali driver sono l'identità personale (percepirsi come consumatore responsabile), la consapevolezza delle conseguenze e l'attribuzione di responsabilità, confermando che le norme morali, mediate da credenze e identità, sono fondamentali per orientare le scelte di consumo etico.

Successivamente, l'attenzione si è spostata sui modelli di governance multistakeholder per analizzare la loro capacità di contrastare il fenomeno del caporalato. Quest'ultimo capitolo presenta il caso studio dell'associazione NoCap, che ha messo in piedi un sistema integrato di gestione della manodopera che offre un'alternativa concreta all'intermediazione illecita. L'analisi conferma preliminarmente l'evidenza del caporalato come fenomeno strutturato alla filiera, che non si limita a un atto criminale ma risponde a disfunzioni del mercato del lavoro, richiedendo quindi interventi sistemici per essere contrastato. Dunque, i risultati sull'iniziativa promossa da NoCap mostrano come il progetto sia in grado di interporci come sistema alternativo migliorando le condizioni dei lavoratori (contratti, alloggi, assistenza) e creando valore per agricoltori e distributori, che utilizzano la certificazione per migliorare la reputazione del marchio. Tuttavia, emergono limiti significativi legati alla scalabilità dell'iniziativa, dovuti a vincoli di risorse e a una penetrazione di mercato ancora di nicchia.

In conclusione, questa tesi evidenzia che lo sfruttamento del lavoro in agricoltura è un fenomeno strutturale che richiede strategie integrate, superando il solo approccio repressivo. A livello di policy, è cruciale superare le attuali barriere informative migliorando la raccolta di dati e promuovere modelli di governance multistakeholder che, come NoCap, replichino funzioni virtuose attraverso collaborazioni pubblico-privati. Sul piano manageriale, si segnala come le aziende della filiera possono trasformare la responsabilità sociale in un vantaggio competitivo, sfruttando le certificazioni etiche per migliorare la reputazione del marchio e rispondere a una domanda di mercato latente per prodotti equi, specialmente se comunicati in modo trasparente ed emotivamente coinvolgente.

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List of Abbreviations and Acronyms

ABM	Agent-Based Model
AC	Awareness of Consequences
AIC	Akaike information criterion
AR	Ascription of Responsibility
ASC	Alternative Specific Constant
AVE	Average Variance Extracted
B2B	Business-To-Business
BIC	Bayesian information criterion
CAP	Common Agricultural Policy
CB-SEM	Covariance-Based Structural Equation Modeling
CI	Confidence Interval
CMB	Common Method Bias
CSR	Corporate Social Responsibility
DCE	Discrete Choice Experiment
DW	Decent Work
ELA	European Labour Authority
F&V	Fruits and Vegetables
FT	Fair Trade
GAP	Good Agricultural Practices
GoF	Goodness Of Fit
GLAA	Gangmasters Licensing Abuse Authority
GRASP	GlobalGAP Risk Assessment on Social Practice
IDENT	Self-Identity
ILO	International Labour Organization
INL	Ispettorato Nazionale del Lavoro (Italian Labour Inspectorate)
LCA	Life Cycle Assessment
MCDA	Multiple Criteria Decision Analysis
ML	Mixed Logit
MRIO	Multi-Regional Input Output
MRS	Marginal Rate of Substitution
mWTP	Marginal Willingness To Pay
NAM	Norm Activation Model
NAT	Norm Activation Theory
NEP	New Ecological Paradigm
NGO	Non-Governmental Organization
O	Objective
OECD	Organisation for Economic Co-operation and Development
OLS	Ordinary Least Squares
PC	Penal Code
PCA	Principal component analysis
PLS-SEM	Partial Least Squares Structural Equation Modelling
PN	Personal Norms
RQ	Research question
QAWN	Quality Agricultural Work Network
SA8000	Social Accountability 8000
SAI	Social Accountability International

SDG	Sustainable Development Goal
SEM	Structural Equation Modelling
S-LCA	Social Life Cycle Assessment
TFEU	Treaty on the Functioning of the European Union
TPB	Theory of Planned Behavior
UNI	Universalism Values
UNICEF	United Nations International Children's Emergency Fund
VBN	Value-Belief-Norm
VIP	Value-Identity-Personal Norms
VIP-VBN	Mixed model between VIP and VBN
WFL	Worker-friendly Labelled purchasing intention
WTP	Willingness To Pay

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1

Introduction

The promotion of decent work, understood as productive employment that is “*fairly paid, productive work performed under conditions of freedom, equity, security, and human dignity*” (ILO, 2013), represents one of the most complex challenges facing contemporary societies, as it is fundamental to combating inequality and promoting sustainable development. Its close interconnection with global issues such as poverty, inequality, and sustainable economic growth requires coordinated efforts among institutions, individuals, and civil society. For this reason, the promotion of decent work has attracted growing attention from both scholars and policy makers and has been incorporated into the United Nations 2030 Agenda through Sustainable Development Goal 8 (SDG8), which commits the international community to eradicating forced labour and protecting workers' rights. Within the framework of SDG8, Target 8.7 calls for decisive action toward the eradication of forced labour, modern slavery¹, human trafficking, and child labour. Complementarily, Target 8.8 emphasizes the protection of labour rights and the promotion of safe and secure working environments for all workers.

Among economic sectors, agriculture is one of the most vulnerable to deficits in decent working conditions. According to the International Labour Organization (ILO), the sector employs approximately one billion people worldwide, accounting for around 26% of total employment (ILOEST, 2024). The agricultural labour market displays common characteristics across countries, which are essential to consider for a comprehensive understanding of the structural weaknesses that enable unethical labour practices. First, agricultural employment has been steadily declining over the past few decades (ILOEST, 2024). This contraction has generated labour shortages, particularly in developed countries that have transitioned from a situation of surplus to one of increasing scarcity of agricultural workers (Christiaensen et al., 2021). Several factors underpin this trend. The progressive reduction of agricultural activities in favour of other, more profitable sectors has simultaneously decreased demand for agricultural labour (Azadi et al., 2010) and raised the opportunity cost of workers' time. Furthermore, the sector suffers from low profitability, intense working conditions, and high levels of precarity, all of which reduce its attractiveness to workers (Garrapa, 2017). Second, agricultural employment is inherently seasonal and thus precarious. Labour demand peaks during specific periods of the year, particularly during the harvesting of fruit and vegetables, creating strong seasonal fluctuations. Meeting these peaks requires the recruitment of large numbers of temporary workers to ensure timely harvesting and maintain supply chains (Carnibella & Wells, 2022; Salvia, 2020). Consequently, fixed-term contracts and short-term hiring practices are widespread, reinforcing insecurity and instability for agricultural workers. Third, manual and

¹ According to Mende (2019), although there is no single comprehensive definition of “modern slavery”, the Bellagio-Harvard Guidelines (Allain, 2015) provide a state of the art regulatory directive. These guidelines define slavery as “*constituting control over a person in such a way as to significantly deprive that person of his or her individual liberty, with the intent of exploitation through the use, management, profit, transfer or disposal of that person*”.

seasonal jobs typically require low or no specialization (Macrì & Orsini, 2024), making them an accessible form of employment for vulnerable groups. Combined with farms’ demand for flexible and readily available labour, this structural feature has led, in industrialised countries, to a strong reliance on migrant workers. This reliance is reinforced by the reluctance of native populations to engage in physically demanding, low-paid, and low-skilled jobs (Garrapa, 2017). Consequently, in most high-income countries, migrant labour has become indispensable for sustaining production, even where workers are employed under temporary permits or lack regular legal status (Reid et al., 2021; Reid & Schenker, 2016). At the European level, agriculture registers a higher proportion of migrant workers than all other sectors combined in countries such as Spain, Italy, and Denmark (Euricse, 2023). According to the most recent statistics, Italy has approximately 18% of its total agricultural workers being foreign (over 150,000), representing an increase from 15% in the preceding decade (Crea, 2024). Looking at the evolution of local workers over the same period, a definite overlap can be observed with one decreasing by almost the same extent as the other (**Figure 1**). Yet official statistics only partially capture the extent of this dependence. The prevalence of undeclared work and the significant presence of undocumented migrants complicate reliable measurement, suggesting that the real scale of migrant labour in agriculture is substantially greater than reported figures indicate. In this sense, the contribution of migrant workers is not only critical to sustaining food production but also emblematic of the sector’s deep reliance on a vulnerable and often invisible workforce.

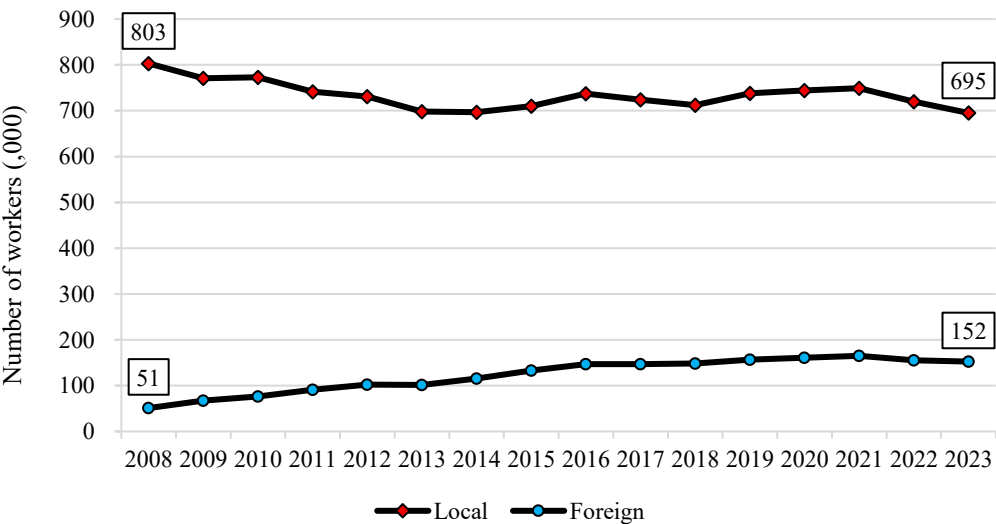


Figure 1 Local and foreign workers employed in agriculture in Italy (2008-2023). Source: *Annuario dell’agricoltura* (2024, and previous).

The European context is particularly noteworthy, as the promotion of decent work intersects with broader challenges such as ensuring food security and advancing sustainable production systems, in line with the goals embedded in the

European Green Deal. These imperatives make the agricultural sector a critical case for investigation and policy attention. Within this broader European framework, this dissertation focuses on the human dimension of the Italian agri-food system. Indeed, among European countries, Italy represents a particularly compelling case of investigation, where the structural features of the agricultural labour market intersect with the country's social structure, generating specific vulnerabilities and challenges in ensuring decent work.

In Italy, a troubling manifestation of labour exploitation is the system of illicit labour intermediation known as *caporalato*. This practice, documented since the mid-nineteenth century (Perrotta, 2014), is deeply rooted in the rural agricultural economy and remains closely tied to mafia networks (Fanizza & Omizzolo, 2019), informal settlements, and complicity with local enterprises. Caporali (*caporalato* agents) organise work teams, transport, and housing for farm workers, often outside legal frameworks and with the implicit tolerance of actors along the supply chain. The phenomenon is obviously informal and, as such, notoriously difficult to measure. Nevertheless, estimates suggest that the business generated by *caporalato* and irregular agricultural labour reaches approximately €4.8 billion annually (Osservatorio Placido Rizzotto, 2024).

The persistence of *caporalato* is often associated with profoundly exploitative practices, including excessive working hours, substandard living conditions, wage theft, and, in extreme cases, physical abuse and intimidation. Its atrocity is tragically exemplified by recent events. For instance, in 2015, Paola Clemente, a 49-year-old Italian farmworker, died of exhaustion while harvesting grapes under extreme heat in Apulia, highlighting systemic exploitation and unsafe labour conditions in Italian agriculture (Il Sole 24 Ore, 2025a). More recently, in June 2024, Satnam Singh, an Indian farm worker in Lazio, suffered a fatal accident and was abandoned at the roadside by his employer, who failed to provide medical assistance (Il Sole 24 Ore, 2025b). These episodes illustrate the most brutal consequences of systemic exploitation, where the absence of protection mechanisms, combined with informality and structural vulnerabilities, exposes migrant workers to severe risks of injury and death.

In light of the above, one of the main objectives of this dissertation is to provide a comprehensive review of the regulatory and governance frameworks addressing labour exploitation in agriculture, both at the European and National level. At the same time, the analysis considers the emergence of voluntary certification schemes and private initiatives that seek to promote socially sustainable agri-food chains by enhancing transparency and accountability. These initiatives, often developed by civil society organizations, producer associations, or multi-stakeholder coalitions, represent attempts to fill the gaps left by formal regulation by fostering ethical labour management practices and signalling them to consumers and retailers. By integrating public regulation with voluntary and market-driven mechanisms, the

dissertation highlights how multiple layers of governance interact in shaping responses to agricultural labour exploitation.

Despite the severity of exploitative labour practices in Italian agriculture, the phenomenon remains extremely difficult to investigate due to its informal nature. As several scholars have observed, the lack or fragmentation of official data not only prevents systematic monitoring but also significantly constrains scientific investigation into the scope and mechanisms of exploitation (Garcia Lozano et al., 2022; Webster et al., 2015; Elmetwally, 2022). This challenge is exacerbated by the fact that irregularity is a structural feature of agricultural employment (Munter & Lindblom, 2017; Corrado & Caruso, 2022). Consequently, scholars have adopted diverse methodological approaches to detect and analyze the presence of decent work, ranging from qualitative methods and case studies to the development of composite indicators (Kissi & Herzig, 2020; Malanski et al., 2021). Multidimensional indices have been employed across sectors, including agriculture, but their application has yielded heterogeneous results in terms of both variables considered and outcomes measured (Blackstone et al., 2021; Aremu et al., 2024; Kushnirovich & Raijman, 2022). These variations highlight the absence of a consolidated framework for evaluating decent work in agri-food systems, pointing to a critical research gap that demands further attention. To fill this gap and contribute to the development of a more solid methodological framework, this dissertation sets the following initial objectives:

O1: review the extant literature to gather knowledge on how scholars have addressed this phenomenon and to critically assess the methodologies used to study labour exploitation in agriculture, as well as the indices employed to measure decent work conditions.

O2: Identify which multidimensional indices are being employed to detect the presence of decent labour in agriculture, and which variables are being considered.

Achieving these objectives will provide a clearer overview of methodological advances and limitations in the field, enhancing research quality and guiding methodological choices. Moreover, it will contribute to the establishment of more reliable tools for detecting decent work in agriculture, thereby supporting evidence-based policy interventions and enhancing monitoring capacity at both national and international levels. Reviews of perspectives and methodologies are essential for encouraging advancements that address current limitations, reducing bias and enabling findings to be generalised and replicated. A second strand of inquiry emerges from the role of market-based instruments in addressing labour rights violations. In recent years, voluntary certification and labelling schemes have gained prominence as tools for enhancing supply chain transparency and ensuring ethical standards (Panico et al., 2022; Del Giudice et al., 2018). While fair-trade certifications are well established for products from the Global South, such as cocoa, coffee, tea, and sugar, a dedicated certification scheme guaranteeing

decent labour standards for daily staple foods does not exist (Ribeiro-Duthie et al., 2021). This absence is particularly critical, as the Italian agricultural sector is characterised by systemic vulnerabilities linked to undeclared and irregular labour. At the same time, consumer-oriented market instruments could play a crucial role in incentivising fair labour practices and rewarding socially responsible producers, as suggested by Rossi and colleagues (2024).

However, while findings regarding the consumers' willingness to pay a premium for ethically certified products are well documented in relation to products like coffee, cocoa, and chocolate (Didier & Lucie, 2008; Fuller et al., 2022; Bürgin & Wilken, 2022), evidence concerning for daily products, such as F&V, are more limited, especially in Italy, where the subject remains particularly underexplored (McCluskey et al., 2009; Miller et al., 2017; Rossi et al., 2024). Moreover, the few existing studies have tended to focus primarily on willingness-to-pay estimates, offering limited insights into the underlying behavioural drivers of ethical consumption. These aspects are particularly relevant in the Italian case. Indeed, the widespread irregularity in the agricultural labour market and its media attention, combined with the lack of a fair labour certification scheme, makes it urgent to understand the antecedents that can shift consumption behaviour from conventional to ethical alternatives. When behavioural aspects have been investigated, they have typically relied on broad frameworks such as the Theory of Planned Behaviour (Ajzen, 1991) or the Norm Activation Theory (Schwartz, 1977), without adapting these models to the specific consumers' response to labour exploitation in the agri-food sector. Consequently, there is a significant gap in understanding the psychological and normative mechanisms shaping consumer intentions towards ethically labelled F&V products in contexts where labour exploitation is a well-documented and highly visible issue, such as Italy (Rye & Scott, 2018). Indeed, labour conditions in Italy's F&V sector, particularly in tomato production, have been widely documented and discussed over the past decade (Corrado, 2011; Dines, 2023; Perrotta, 2015). These debates have drawn attention to issues concerning the protection, safety, and rights of agricultural workers. Therefore, addressing these gaps requires not only exploring consumers' economic preferences but also examining the extent to which communication strategies and behavioural determinants influence ethical purchasing decisions. Following the previous objectives, to effectively counteract labour exploitation it is also necessary to understand the driving economic factors and feasible alternatives within the agricultural system. In this context, the underlying hypothesis is that consumers can create a market incentive for ethical production. Since the literature has not yet provided an answer to this gap, the second set of objectives of this dissertation are formulated as follows:

O3: Analyze Italian consumers' willingness to pay for a hypothetical ethical certification that guarantees fair labour standards in the agricultural sector.

O4: Assess if the emotional framing of such a certification affects consumers' willingness to pay for ethically labelled fresh produce.

O5: Analyze which behavioural intentions consumers express toward F&V labelled as worker-friendly.

Beyond purely market-based strategies, such as the consumers' acceptance of ethical certifications, this dissertation aims to investigate a practical and concrete alternative to caporalato system, with the aim of enhancing the economic and social sustainability of agri-food productions and encouraging consumers to make responsible purchasing decisions. Indeed, the persistence of caporalato underscores the limits of purely repressive approaches and the need for systemic, multilevel strategies that involve a wide range of stakeholders. Scholars have increasingly emphasized that caporalato should not be understood only as a criminal phenomenon but rather as a structural component of the agri-food supply chain, driven by imbalances of power, economic pressures, and institutional shortcomings (Perrotta et al., 2014; Salvia, 2020; Guidi & Berti, 2023). Existing studies, however, have largely focused on vulnerabilities of either workers or farmers, overlooking the potential of holistic labour management models that can offer viable alternatives to illicit intermediation (Lo Cascio & Perrotta, 2019; Brovia & Piro, 2021). In this regard, an initiative such as the NoCap association in Apulia represents a valuable case study of a multistakeholder and multilevel approach, as it aims to provide ethically driven and market-oriented systems of labour organization capable of competing with caporalato while ensuring both social and economic sustainability (Osservatorio Placido Rizzotto, 2024; Perrotta & Raeymaekers, 2023). Therefore, it is essential to gain information on how the NoCap model works within the organization, its certification system, critical limitations, and social and economic achievements for workers and other stakeholders. A case study on the NoCap model could offer valuable insights into evaluating a workforce management system that incorporates both management and marketing aspects, and these findings could be transferred to other Italian and international organizations. Building on these insights, the final objectives of this dissertation are:

O6: Investigate if a multidimensional and multistakeholder approach to labour management can effectively contrast the phenomenon of caporalato.

O7: Investigate how and why such an approach can be economically sustainable for all actors in the agri-food system.

Taken together, these three lines of inquiry address critical gaps in both the literature and the policy debate. This dissertation seeks to advance understanding of the structural, market-based, and governance dimensions of labour exploitation in Italian agriculture by integrating a systematic review of methodologies through PRISMA protocol for O1-2, a Discrete Choice Experiment for O3-4 on consumer

preferences, a behavioural based study on consumer intentions for O5, , and an applied qualitative case study on ethical labour management for O6-7., this dissertation seeks to advance understanding of the structural, market-based, and governance dimensions of labour exploitation in Italian agriculture. To this end, the thesis is organized as a collection of four papers (**Table 1**). It begins with a brief review of the European and national legislative frameworks (Chapter 2), highlighting the interplay between public enforcement mechanisms and private market initiatives. The core of the dissertation is then developed through four empirical chapters: a systematic literature review (Chapter 3), two studies addressing consumer preferences and behaviour (Chapters 4 and 5), and a case study focusing on organizational responses to labour exploitation (Chapter 6).

Table 1 Structure of the thesis and mapping of objectives.

Objective	Chapter
<i>State the research gap and objectives</i>	→ 1: Introduction
<i>Provide a background</i>	→ 2: Review of Legislative Frameworks
O1	→ 3: Systematic Literature Review (Paper I)
O2	
O3	→ 4: Analysis of Consumer Preferences (Paper II)
O4	
O5	5: Analysis of Behavioural Drivers (Paper III)
O6	→ 6: Qualitative Case Study on NoCap (Paper
O7	IV)
<i>Establish significance</i>	→ 7: Conclusions and Final Remarks

To address the heterogeneity of the research objectives, the dissertation adopts a multimethod design, selecting the most suitable methodological approach to each case. Objectives O1 and O2 are examined through a Systematic Literature Review following the PRISMA protocol, which provides a transparent, replicable procedure for identifying, screening, and synthesising existing evidence. Objectives O3 and O4 are investigated through a Discrete Choice Experiment administered to a convenience sample of Italian consumers to estimate willingness to pay for a hypothetical worker-friendly certification. Objective O5 uses a survey-based approach, also on a convenience sample, to test attitudinal drivers of ethical consumption through a structural behavioural model. Finally, Objective O6 is examined through a qualitative single case study of the NoCap initiative, based on semi-structured interviews and analyzed using the Gioia Methodology to generate inductive, conceptually grounded insights.

This dissertation aims to contribute to the advancement of knowledge at both scientific and policy levels by addressing critical gaps in the study of labour exploitation in agriculture. From an academic perspective, it enriches the methodological debate by reviewing existing research approaches and proposing

insights into the use of multidimensional indices to evaluate decent work, thereby offering a more rigorous basis for future empirical research. It further advances the literature on ethical consumption through two studies focused on investigating consumer preferences and behavioural drivers in the context of ethically labelled F&V. By combining DCE with behavioural modelling, the research aims to generate novel insights into consumers' acceptance and their psychological factors towards ethical claims. Finally, it proposes a grounded theory model of an integrated workforce management system based on a concrete case. In doing so, it supports previous findings on social innovation's achievements and limitations. At the policy level, the dissertation provides relevant implications for the design of interventions aimed at reducing labour exploitation. The NoCap case illustrates the potential of multilevel, multi-actor governance models as viable alternatives to illicit labour intermediation, highlighting both their opportunities and limitations. In sum, these contributions provide a more comprehensive understanding of how structural, market-based, and organizational strategies can promote decent work in the agricultural sector.

Beyond its thematic focus, the dissertation offers several elements of originality that strengthen its scientific and policy relevance. Empirically, it provides the first analysis of Italian consumers' willingness to pay for a hypothetical worker-friendly certification in the fresh F&V sector, a domain in which empirical evidence remains extremely limited. Moreover, it applies a behavioural modelling approach that has not previously been used to examine ethical consumption related to labour conditions in Italy. Scientifically, the thesis advances understanding of the determinants of ethical purchasing and of the structural drivers of labour exploitation. From a policy perspective, it offers evidence on the effectiveness and limitations of existing regulatory and private initiatives, thereby supporting more informed and targeted strategies to combat labour exploitation.

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2

Contrasting labour exploitation in agriculture: regulatory frameworks, governance tools and voluntary initiatives

2.1 The European legal and policy context

The European Union's legal and policy framework for addressing labour exploitation is historically grounded in its foundational values. Indeed, the fundamental principles on which the European Union is founded are set out in Article 2 of the Treaty on European Union (2012/C 326/01), which serves as a key part of its preamble. These principles encompass a commitment to the values of respect for human dignity, freedom, democracy, equality, the rule of law, and respect for human rights. Moreover, the Treaty on the Functioning of the European Union (TFEU, 2012/C 326/01) places significant emphasis on the promotion of employment and the enhancement of living and working conditions (art. 151). According to Article 153 of the TFEU, Member States are obligated to enhance the working environment and ensure the safety and well-being of workers (a), working conditions (b), social security and social protection of workers (c), as well as the conditions of employment of third-country nationals residing legally in the territory of the Union (g).

These commitments are further specified in the 2000 Charter of Fundamental Rights of the European Union, which has held binding legal status since the Treaty of Lisbon (2007/C 306/01) took effect in 2009. The Charter reaffirms and consolidates rights derived from the European Convention on Human Rights as amended by Protocols Nos. 11, 14 and 15, international instruments, and constitutional traditions common to the Member States. Several provisions are particularly relevant to the prevention of labour exploitation. Article 1 affirms that human dignity is inviolable and must be respected and protected, establishing it as the cornerstone of all other rights. Regarding labour, the article 5 explicitly prohibits forced or compulsory labour², thereby reinforcing international labour standards, such as those set by the International Labour Organization. Furthermore, article 15 affirms the freedom to work and to choose one's occupation freely, emphasizing the voluntary nature of employment relationships. Finally, Article 31 ensures that every worker has the right to working conditions which respect their health, safety and dignity, including fair remuneration and limitations on maximum working hours.

Taken together, these provisions establish not only a binding legal foundation but also a normative mandate for the European Union to address exploitative labour practices. While the main principles apply across all sectors, their relevance is particularly acute in agriculture, where structural vulnerabilities, informality, and asymmetric bargaining power along supply chains create fertile ground for exploitation. This constitutional and policy framework, therefore, serves as the

² Regarding the term of forced or compulsory labour European Union refers to the definition provided by in Article 2 of the International Labour Organization (ILO) Convention, 1930 (No 29), as "*all work or service which is exacted from any person under the menace of any penalty and for which the said person has not offered himself voluntarily*".

backdrop against which more specific governance instruments, both regulatory and voluntary, have been developed to tackle the issue. In line with this perspective, the thesis will focus on the agricultural sector, analysing not only the evolution of EU and national legislative measures but also the emergence of private standards, civil society initiatives, and multi-stakeholder governance models that seek to complement public regulation in promoting fair and sustainable food systems.

2.1.1 EU strategies on labour exploitation

Building upon its legal commitments, the European Union has progressively developed a range of political and legislative instruments aimed at combating labour exploitation, particularly in critical sectors characterised by high shares of informality, and subcontracting chains such as agriculture. Construction, agriculture, and domestic remain among the sectors most affected by undeclared work in Europe (William & Horodnic, 2018), where seasonal labour, informal recruitment practices, and subcontracting networks often facilitate exploitative conditions. Recognizing this, the European Commission has issued several communications over the last two decades aimed at reinforcing the social dimension of employment policy³. In particular, the 2007 Communication on “*Stepping up the fight against undeclared work*” emphasizes the need for Member States to enhance labour inspections, promote formal employment pathways, and strengthen inter-institutional cooperation (12). In fact, this communication called Member States to strengthen the enforcement of existing labour laws and standards to combat undeclared work (15). Another interesting point is the call for severe penalties for employers that use undeclared labour (28). Furthermore, this document emphasizes the need to integrate punitive measures into preventive frameworks in order to address the root causes of labour exploitation, such as worker vulnerability and asymmetries in labour demand. This perspective will be integrated nine years later by Italian laws against labour exploitation.

Among the most significant European Union documents addressing “Caporalato” phenomenon is Directive 2009/52/EC of the European Parliament and of the Council⁴. Indeed, the objective of the measure is to address the issue of illegal immigration by targeting the pull factor of illegal employment, such as the practice of caporalato, which constitutes a severe violation of human dignity. Consequently, Directive 2009/52/EC establishes minimum common standards for sanctions and measures against employers hiring irregularly staying third-country workers. This point has influenced the Italian debate, contributing to the

³ As notable examples, see: *Promoting decent work for all the EU contribution to the implementation of the decent work agenda in the world*, COM(2006) 249 final; *Proposal for a regulation of the European Parliament and of the council on a European network of employment services, workers’ access to mobility services and the further integration of labour markets*, COM(2014) 6 final.

⁴ The directive was implemented in Italy by Legislative Decree no. 109/2012 (so-called Decree “Rosarno”).

formulation of more strictly enforced measures against caporalato. These efforts have culminated in the implementation of the prevailing Law No. 199/2016, which will be discussed further. Finally, the Directive goes beyond imposing sanctions on employers, guaranteeing the right to recover outstanding wages. It also grants temporary residence permits to victims of serious exploitation who cooperate with the authorities.

More recent approaches, however, have increasingly emphasized corporate social responsibility (CSR) and due diligence as key levers for improving labour conditions and preventing abuses. In this context, the Directive 2024/1760/CE marks a significant step forward in aligning EU regulatory frameworks with international standards such as the UN Guiding Principles on Business and Human Rights and the Organisation for Economic Co-operation and Development (OECD) Guidelines for Multinational Enterprises. The proposed directive introduces due diligence obligations for companies to identify, prevent, and mitigate both actual and potential human rights and environmental impacts across their own operations, subsidiaries, and established business relationships throughout the supply chain. This shift reflects a broader ambition to reframe corporate responsibility not only in terms of internal risk management, but also in relation to the effects on individuals and communities affected by business activities.

For the agri-food sector, the Directive 2024/1760/CE carries significant implications. Indeed, the sector is explicitly defined as one of the high-impact sectors⁵. This means companies in this sector will be required to comply with more targeted due diligence focusing on severe adverse impacts relevant to their specific activities. The Directive also explicitly aims to tackle the use of forced labour and emphasizes due diligence for child labour within global value chains.

In addition to mandatory legislation, the European Union has promoted a number of sector-specific initiatives and soft law instruments to address persistent forms of labour exploitation, particularly in agriculture. A key institutional development in this regard is the establishment of the European Labour Authority (ELA), which began operations in October 2019. The mission of ELA is to support the member states and the European Commission to ensure that EU rules on labour mobility and social security coordination are enforced in a fair, and effective way. Its core activities include the coordination of cross-border labour inspections, capacity building, the promotion of digital tools for labour mobility, and the provision of mediation services in transnational labour disputes.

⁵ The Communication of 2022 No. 71 proposing the directive lists among the high-impact sectors “agriculture, forestry, fisheries (including aquaculture), the manufacture of food products, and the wholesale trade of agricultural raw materials, live animals, wood, food, and beverages”.

Within ELA, the European Platform tackling Undeclared Work⁶ was formally established as a permanent working group on 26 May 2021. The Platform functions as an EU-level forum to facilitate cooperation between enforcement authorities, such as labour inspectorates. It aims to enhance knowledge and promote joint activities by carrying out seminars and publishing reports and good practice guidelines. It also develops practical toolkits and conducts studies to help stakeholders identify, prevent and address exploitative labour practices.

Regarding the agri-food sector and complementing this institutional effort, the EU Strategy on Sustainable and Fair Food Systems, better known as the Farm to Fork Strategy launched in 2020 as part of the European Green Deal, reframes food policy around environmental, health, and social justice objectives. While not mandatory in nature, the strategy strongly promotes corporate social responsibility and fair labour practices in food supply chains. Regarding the social dimension of sustainability, it underscores the vital importance of mitigating socio-economic impacts on the food chain. This particularly applies to precarious, seasonal, and undeclared agri-food workers, emphasizing the need for robust social protection, improved working and housing conditions, and health and safety measures.

A notable recent development in EU agri-food governance is the introduction of social conditionality within the framework of the Common Agricultural Policy (CAP). Social conditionality requires beneficiaries of CAP subsidies to comply with specific legal requirements relating to transparent and predictable working conditions and measures to improve workers' safety and health. In fact, traditionally, CAP has linked the provision of direct payments with environmentally-friendly practices to promote sustainable commitments and discourage irresponsible behaviours. With social conditionality for the first time it has integrated a social dimension with respect to social and labour laws.

Social conditionality has been established with Regulation (EU) 2021/2115 and articles 87-89 of Regulation (EU) 2021/2116. Beginning as a voluntary option in 2023 in countries such as France, Austria, and Italy, the mandatory deadline to implement the mechanism of social conditionality at the national level for all Member States is set by 1 January 2025. It aims to improve working conditions and promote fairness in the rural areas' working environment, contrast undeclared work, and promote fair competition among farmers. This linkage represents a novel step in EU policy, aligning economic incentives with social compliance objectives. As such, social conditionality is not a new labour regulation in itself, but rather a compliance reinforcement tool that leverages CAP funding to promote the respect of labour rights in agriculture. In this way, it enhances the responsibility of employers by integrating social protection into the conditional framework of agricultural support. The implementation and enforcement of social conditionality

⁶ It was announced in the previously mentioned 2007 Communication "Stepping up the fight against undeclared work".

is the responsibility of the Member States, which are required to transpose the mechanism into their national legislation. The system is designed to build entirely on pre-existing monitoring and enforcement frameworks already in place for labour and social legislation, avoiding the duplication of administrative structures. A clear separation of responsibilities is mandated between labour inspection authorities and the CAP payment agencies. While the former are tasked with detecting non-compliance, the latter apply administrative penalties in the form of reductions in direct payments.

The sanctioning regime is proportionate and progressive. In general, a 3% reduction of the total CAP subsidies is imposed upon verified non-compliance. However, this percentage can increase depending on the severity and recurrence of the violation. Generally, the mechanism functions as a dual-level – sanctioning mechanism, combining the sanction derived from existing labour law with the loss of financial subsidies from the CAP.

Although its recent implementation, some limitations of social conditionality can be acknowledged. First, its most critical point concerns the lack of application to beneficiaries of some specific sectors, such as horticulture, viticulture and olive growing, which are often associated with severe labour rights violations (Lyngs, 2024). Second, since the requirements for social conditionality are based on pre-existing legislation, they do not actually introduce new responsibilities for farmers. Therefore, it is reasonable to expect a nonsignificant behavioral change. Third, Lyngs (2024, p. 783) criticized the reduction of 3% as it is *“is quite modest and thus might not have any significant dissuasive effect”*, even though he considered the increased sanctions imposed for severe non-compliance as more impactful in their dissuasive effect. Finally, as the scarce timely harmonization of the period provided for entry into force of the social conditionality has been criticized too (Canfora & Leccese, 2024), another challenging element is the introduction of an additional administrative charge for national authorities and payment agencies (Meemken et al., 2025).

As shown, the evolving EU legal and policy framework reflects a growing effort to address labour exploitation through both mandatory and voluntary instruments. Continued monitoring, empirical evaluation, and coordinated policy refinement will be essential to ensure that these instruments move beyond symbolic commitments and contribute meaningfully to improving working conditions across EU supply chains.

2.2 National legislation in Italy

2.2.1 Historical evolution of repressive measures against caporalato system

The diffusion of illicit practices within the Italian agricultural labour market has prompted law enforcement disciplines to undergo continuous refinement for over

70 years. Despite the implementation of the most stringent legislation in 2016, the phenomenon of irregular employment of vulnerable workers persists, exerting a consistent impact on the agri-food value chain (Osservatorio Placido Rizzotto, 2016).

Historically, national disciplines against labour exploitation have focused on contrasting the *caporalato*, a system of labour intermediation which recruits vulnerable workers, and transport them to the fields. The first national repressive tool against labour brokerage is Law No. 264/1949, which affirms the public function of labour intermediation as a State monopoly⁷ (art. 7) and describes contravention measures (art. 27) for illicit intermediary activities. The rigid publicist nature of the employment service prohibited any form of labour intermediation outside the public framework. Several decades later, the monopoly was considered illegitimate⁸, the labour market began to progressively liberalize. First, the “*pacchetto Treu*” with Law 196/1997 formalised a new flexible and temporary job called “*lavoro interinale*” (temping job). Then, new laws regulated the activity of employment agencies (No. 30/2003 and 276/2003), thus the contrast of crimes concerned the unauthorised (art. 18) and fraudulent (art. 28) supply of labour (Giuliani, 2018). Since the dismantling of the State monopoly, the labour market has progressively become a free space for private actors as we know it today (De Santis et al., 2020). Still, repression of illicit activities was only provided by contravention measures to unauthorised actors, who could therefore easily extinguish the crime with the right to oblation.

Before the introduction of an ad hoc law against the crime of *caporalato*, cases of labour exploitation were punished through alternative legislative pathways. Through Law No. 228/2003 the crime of *reduction or maintenance in a state of slavery or servitude* described by article 600 of the Italian Penal Code (PC) was revised in order to include the so-called servile labour, consisting of the reduction of a person to, or maintenance in, a condition of continuous subjugation, by coercing them into performing work involving exploitation. Alongside art. 600 PC, the crime of *mistreatment against family members and cohabitants* (ex art. 572 PC) and *extortion* (art. 629 PC) were generally used to contrast with labour exploitation. Regarding labour relations, the application of article 600 PC needed the identification of *the exercise over a person of powers equivalent to those of ownership*, such as in the case of reduction or maintenance in a condition of total submission through violence, threat, fraud, abuse of authority, or exploitation of a vulnerable condition. As a result, the application of these articles was limited to punishing only the most severe cases of labour exploitation, where workers faced

⁷ According to De Santis et al. (2020), the prevailing political sensibility in the post-war period considered this solution essential to ensure social protection to employees, since it was believed that free bargaining exposed them to the risk of exploitation.

⁸ The illegitimacy of the State monopoly was declared on the grounds of its incompatibility with EU law. See ECJ, Sixth Chamber, Judgment of 11 December 1997, Case C-55/96, in *Rivista giuridica del lavoro*, 1998, II, p. 27 ff., with a case note by M. Roccella.

an all-encompassing domination that inhibited their self-determination. Therefore, between illicit labour intermediations punishable by contraventions and reduction in a state of slavery, the agricultural sector reported a wide spectrum of worker-related crimes. As an example, a case involving two Romanian workers in a condition of severe labour exploitation, with 16-18 hours of work and precarious accommodation, was not framed under Article 600 PC, as «*the two Romanians escaped, without resorting to tricks or subterfuge, from the reported conditions of hardship*»⁹. A similar situation occurred with the other articles, being difficult to frame (ex art. 527 PC), or relating to very severe cases (art. 629 PC).

In light of the aforementioned considerations, with Law No. 138/2011 the art. 603 *bis* is inserted in the Penal Code. Article 603 *bis* has been incorporated into the Penal Code, thereby establishing the criminal offense of «*illicit intermediation and labour exploitation*». The fundamental objective of legal protection was to safeguard the dignity of the worker as an individual. The legislation was designed to penalize any individual or entity that engaged in organized activities of intermediation, specifically the recruitment of labour through exploitative practices. Exploitative practices included violence, threats, intimidation, or the exploitation of the *state of need* of workers. Consequently, the recent article was incorporated into the compendium of Book II's related articles concerning violations of individual liberty. Nonetheless, despite its symbolic importance, the initial formulation of Article 603 *bis* proved to be structurally limited in its applicability. As Merlo (2020, p. 52) reports, only 34 criminal proceedings were initiated in the five years following its introduction. This discrepancy between the scale of the phenomenon and the actual enforcement of the law highlights its ineffectiveness in real terms. The main obstacle to its application concerned the overly detailed definition of crime. In fact, it required the demonstration that the intermediation activity was carried out in an organized manner and accompanied by the above-mentioned coercive elements. As such, proving all of them often exceeded the capacity of investigations and prosecutions. Moreover, a further flaw consisted in the lack of punishment for the conduct of the employer as the final beneficiary of illicit labour. Regarding this point, Di Martino (2015) defined the norm as “*distorted and strabismic*” because it failed to capture the duality of the caporalato system¹⁰.

These limitations illustrate how the initial legislative intervention, though well-intentioned, remained largely symbolic in nature. Without addressing the systemic and shared responsibility embedded in the caporalato arrangement, Article 603 *bis* in its 2011 version was unable to unfold its full protective potential for vulnerable

⁹ Cass. pen., Fifth Chamber, Judgment of 10 February 2011, No. 13532, published in *Foro Italiano*, 2011, II, p. 331.

¹⁰ Further considerations stemmed from Bricchetti and Pastorelli (2011), who defined the intermediary as “*longa manus*” of the employer.

workers in the agricultural sector. This inadequacy eventually paved the way for further reform, culminating in the 2016 Law.

2.2.2 Law No. 199/2016: against caporalato system

In light of the above, it is clear why the main feature of the last Law No. 199/2016 against caporalato and labour exploitation is the extension of punishment over the employer. In fact, the novel art. 603 bis PC describes two distinct crimes: the first concerns the caporale (i.e., the intermediary) who “recruits labour to work for third parties in exploitative conditions, taking advantage of the workers’ state of need”, while the second concerns the employer who “utilizes, hires or employs labour, forcing workers on exploitative conditions, and taking advantage of the workers’ state of need”. In essence, this distinction implies the criminalization of labour exploitation even without illicit intermediation. Furthermore, the novel Law No. 199/2016 provides for a simplification of the crime description, by removing those details that limited the application of Article 603 bis PC. For example, while the presence of intimidating behavior was removed, violence and threat were framed as aggravating factors.

With regard to the applicability of the article, through Law No. 199/2016, it is not essential that the event of exploitation actually takes place, as the intention or the attempt alone is sufficient. This new configuration clearly aims to extend the protection of workers from different sectors and to have flexibility in the interpretation of real cases.

A further element of novelty provided by Law No. 199/2016 is the revision of the four indexes of labour exploitation, already introduced in 2011 with the formulation of the Article 603 bis. The crime of labour exploitation is defined when at least one of the four conditions is present. Regarding the first condition, describing the payment of low salary, the emphasis was on replacing the adjective systematic with *«reiterated payment of wages»*, and on the clarification of the standard *«that clearly deviates from national or regional collective agreements»* specifying that they must be *«stipulated by the most representative trade unions at national level, or in any case disproportionate to the quantity and quality of the work performed»*. While the term “systematic” refers to the system of organization, “reiterated” is sufficient to observe the repeated payments of low wages. The term “reiterated” was also included in the second index of exploitation, related to the violation of working hours, rest period, weekly rest, compulsory leave and holidays.

The third condition concerns violations of health and safety regulations in the workplace. However, this indicator presents problematic overlaps with pre-existing legal frameworks, particularly with Legislative Decree No. 81/2008 and Article 437 PC, which already regulate and sanction endangerment due to non-compliance with safety obligations. Finally, the fourth and final condition relates

to the subjection of workers to degrading working conditions, surveillance methods, or accommodation. In this case too, the 2016 Law introduced a simplification of the description by removing vague and discretionary language.

The application of Law No. 199/2016 shows results that are directly opposite to the previous version of Article 603 bis. The reports published annually by the Ispettorato Nazionale del Lavoro (INL, Italian national labour inspectorate) report the number of detected irregularities of Article 603 bis from 2021 to 2024. As reported in **Table 2**, the data reveal a marked shift from the ineffectiveness of the original version of art. 603 bis, which resulted in only 34 criminal proceedings (Merlo, 2020). In contrast, between 2021 and 2024, the INL detected over 6,800 actual violations of art. 603 bis, confirming the increased enforceability.

Table 2 Detected violation of art. 603 bis of Law No. 199/2016 per sector.

Sectors	2021	2022	2023	2024	Total
Agriculture	797	758	2,123	519	4,197
Manufacturing	287	141	176	234	838
Construction	9	5	12	33	59
Services sector	259	147	897	440	1,743
Total	1,352	1,051	3,208	1,226	6,837

Source: INL, Monitoring of surveillance activities (many years)

The data regarding the year 2023 are particularly interesting, which highlight that with a significant intensification of controls, the number of cases found is higher: compared to 2022, inspections increased by 140%, arrests rose by 80%, while criminal and administrative offences surged by 153%, and formal complaints more than tripled (+207%).

Among the most affected sectors, agriculture remains consistently the most prominent, accounting for more than two-thirds of the total violations, confirming its structural vulnerability to labour exploitation (**Table 3**). The manufacturing sector shows a moderate but steady incidence, while construction, although traditionally under-monitored, exhibits a small but increasing number of violations.

These statistics underscore the magnitude of the phenomenon and the ability of the legal reform to significantly detect irregularities among sectors. These evidences point to the necessity of increasing inspection and maintaining both regulatory vigilance and sector-specific protective measures to address the evolving dynamics of labour exploitation. However, in addition to the repressive strategies, the fight against caporalato requires promoting a fair agri-food chain through governance tools. Regarding this, Law No. 199/2016 also intervenes in strengthening the Quality Agricultural Work Network¹¹ (QAWN).

¹¹ In Italian, *Rete del Lavoro Agricolo di Qualità*.

Table 3 Detected violation of art. 603 bis of Law No. 199/2016 per economic activities.

Economic activities	2021	2022	2023	2024
Agriculture, forestry and fishing	797	758	2,123	519
Estrazione minerali da cave e miniere	0	0	0	0
Manufacturing	263	141	170	233
Supply of electricity, gas, etc.	24	0	0	0
Water supply, sewerage systems, waste management	0	0	6	1
Constructions	9	5	12	33
Wholesale and retail trade	92	115	101	58
Transport and warehousing	2	0	12	5
Accommodation and catering activities	13	15	11	5
Information and communication	0	0	6	3
Financial and insurance activities	0	0	0	0
Real estate activities	0	0	0	0
Professional, scientific and technical activities	36	1	0	0
Business support services, etc.	48	1	713	7
Public administration and defense, etc.	5	0	0	0
Education	0	0	0	0
Health and social care	13	0	3	341
Artistic, sports, entertainment activities, etc..	4	1	0	11
Other service activities	44	12	51	10
Activities of families, employers, domestic staff; etc.	2	2	0	0
Extraterritorial organizations and bodies	0	0	0	0
Total	1,352	1,051	3,208	1,226

Source: INL, Monitoring of surveillance activities (many years).

2.2.3 The role of the Quality Agricultural Work Network

With Decree Law No. 91/2014 and converted into Law No. 116/2014 the National Institute of Social Welfare (INPS, in Italian) has established the QAWN. This tool aims to create a whitelist of farms that demonstrate their compliance with labour standards, social legislation, income, and value-added taxes. The eligibility criteria require that a farm¹²: 1) has not been convicted of criminal offenses for violations of labour and social legislation, or other serious criminal offenses¹³; 2) has not been the recipients, in the last three years, of administrative sanctions, even if not definitive, for violations in the fields of labour, social legislation and compliance with obligations relating to the payment of taxes and duties; 3) is up to date with the payment of social security contributions and insurance premiums; 4) applies collective agreements of labour.

To coordinate the implementation of the QAWN, the law established a central *steering committee* composed of representatives from key ministries, national

¹² Defined as described in Article 2135 of the Italian Civil Code.

¹³ Including crimes against public administration, public safety, the economy, industry and commerce, animal welfare, and those relating to income and value added taxes.

institutions, trade unions, and employers' associations. The steering committee, chaired by INPS, is responsible for approving applications, maintaining the list of certified farms, monitoring labour market dynamics, and promoting active labour policies. At the local level, the QAWN is articulated through *territorial sections*, that aim to advance innovative and ethically inspired proposals for intermediation services and pathways out of informality, to be submitted and tested by registered farms.

The list of companies registered in the QAWN is publicly accessible. As of 3 July 2025, a total of 9,289 farms is registered, representing less than 1% of all Italian agricultural enterprises. Battistelli and Inversi (2022) have examined the limited participation in the network, attributing it to both legal and non-legal factors. Among the former, they highlight the restrictive eligibility criteria and the scheme's exclusive applicability to agricultural enterprises. Among the latter, the authors identify limited awareness of the QAWN, a perceived lack of utility due to the absence of tangible benefits, and the insufficient establishment of territorial sections as key obstacles to broader engagement. However, the historical trend of registrations is not publicly available. According to the Placido Rizzotto Observatory (2024), 6,500 farms were registered in the previous year, indicating a significant increase year over year. While this suggests that participation in the network is currently growing at an accelerating pace, the number of farms is currently so small that it has no significant impact on the market.

2.2.4 National Coordination Taskforce against caporalato

Alongside the QAWN, in 2018 the Italian Ministry of labour and Social Policies established the *National Coordination Taskforce against caporalato*, a multi-institutional body chaired by the Minister and composed of national and territorial stakeholders. The Taskforce plays a strategic role in defining and coordinating national and local interventions and approved the first National Three-Year Plan (2020–2022)¹⁴ to contrast labour exploitation in agriculture. The main interventions carried out are organized into 4 actions (prevention, surveillance and counteraction, protection and assistance, and socio-professional reintegration), and 9 actions on specific issues related to labour exploitation, such as the contrast against unfair trade practices (Action 2), accommodation service (Action 5) and transport for workers (Action 6).

The first year of implementation was strongly affected by the Covid-19 pandemic, highlighting new priorities such as the lack of agricultural workers, health surveillance, and the safe establishment of informal settlements. In accordance with Law No. 199/2016, the National Taskforce must submit an annual

¹⁴ Currently, this is the only three-year plan in place since its publication in 2024. Furthermore, the National Coordination Taskforce against caporalato has been extended by the Interministerial Decree of 17 June 2022 for a further three years until 3 September 2025. However, there has been no announcement regarding a subsequent three-year plan.

report detailing the results achieved and the progress of projects funded. Therefore, it is possible to describe the evolution and interventions by examining the three reports to parliament.

First, the National Taskforce was established as an inter-institutional body for direction and coordination. In fact, after local discussions and coordination, it has arrived at the definition of a *multi-level governance* model strategy. This approach refers to the horizontal and vertical coordination of actors across institutional levels, from national ministries to local governments, and among stakeholders, including civil society, employers' organizations, and trade unions. Multi-level governance enables shared ownership, improves responsiveness to local needs, and enhances the strategic alignment of interventions across the territory through public-private partnerships.

Second, with respect to the scarcity of labour and related concerns, including transportation and housing, the initiative implemented specific measures. In the first year, the mapping of the national informal settlements was carried out, providing an essential knowledge base for targeted interventions. Indeed, by establishing a program for the enhancement of the public employment service, allocating funds for social inclusion projects, and launching two web platforms (Job in country, Humusjob.it) to facilitate the alignment of labour supply and demand, the National Taskforce laid the foundations for the stimulation of employment in agriculture, with 311 internships.

Several projects were funded in the first year by European (AMIF, ESF) and national funds. Then, in the second year their implementation continued, with some completing in the third year. Among the most relevant regarding the agri-food chain and caporalato, the *Su.Pr.Eme. Italia* project stands out as a flagship action in Southern Italy, addressing emergency conditions linked to severe exploitation and marginalization of migrant workers. The project coordinates actions to address workers' most critical vulnerabilities with housing, healthcare, legal assistance, and job placement services. As such, the Su.Pr.Eme project has benefited from several refinancings. Another relevant program is *ALT! Caporalato*, financed by the National Fund for Migration Policies, which focuses on raising awareness, legal empowerment of workers, and the development of ethical labour networks at the local level. These projects have allowed us to experiment with innovative approaches such as integrated task forces, matching platforms, and ethical certifications.

The analysis of the Italian legislation trajectory shows the twofold strategy adopted by national institutions, focusing on punitive enforcement against criminal intermediation, but also preventive and inclusive actions by building a solid architecture of interventions and collaborations. The need for a multi-level governance approach underscores the complexity of the phenomenon, and paves the way for examining a further pillar in the fight against exploitation: voluntary

initiatives and private certification schemes promoted by market and civil society actors.

2.3 Voluntary initiatives and multi-stakeholder governance

2.3.1 Ethical certifications and private standards

Beyond institutional measures, the fight against labour exploitation in agriculture has also been addressed through voluntary initiatives promoted by civil society, private actors, and multi-stakeholder platforms. Among these, ethical certifications and private standards have emerged as complementary tools aimed at signalling companies' commitment in the promotion of decent work conditions to their stakeholders. Since in recent decades social sustainability has become a fundamental aspect of operations management for companies (Sartor et al., 2016), several standards and management systems have emerged, such as Social Accountability 8000 (SA8000), ISO 26000, FLA Workplace Code, Global Compact, GlobalGAP.

Among these, SA8000 is the most widespread international standards addressing labour conditions in terms of certified companies (Turzo et al., 2024). According to the latest database¹⁵, 8,592 companies are certified, 4,194 of which are Italian, followed by Indian (1,900), and Chinese ones (1,547).

SA8000 was developed in 1997 by Social Accountability International (SAI), a non- governmental organization, and it was revised in 2001, 2004, 2008, and 2014. A working draft of the new SA8000:2026 standard is currently available, which will be published at the end of 2025. SA8000 is a voluntary, third-party auditable standard aimed at promoting decent working conditions and ensuring respect for fundamental labour rights across global supply chains. The standard is an industry non-specific standard, applying to all sectors and countries. It sets requirements for the certified company and the upstream supply chain across nine key areas: child labour, forced labour, health and safety, freedom of association and collective bargaining, discrimination, disciplinary practices, working hours, remuneration, and management systems. SA8000 is widely adopted by companies operating in high- risk sectors, including agriculture, and serves as a tool to reduce the risk of scandals due to unethical partners (Zutshi et al., 2009), operationalize ethical commitments through structured compliance systems, employee participation, and continuous improvement processes.

There is a rich and growing body of research reporting advantages and barriers related to the adoption of SA8000 (Turzo et al., 2024). Regarding to the production process, its adoption improves productivity (Savino et al., 2015; Stigzelius and Mark-Herbert, 2009) and quality (Henkle, 2005) through better working conditions. As such, safe protocols ensure the mitigation of work accidents (Asif

¹⁵ The list of certified organization is available online at <https://sa-intl.org/about-saas/>.

et al., 2019) and increase enthusiasm among employees (Henkle, 2005; Stigzelius and Mark-Herbert, 2009). Furthermore, the adoption of SA8000 enhances corporate image and reputation (Orzes et al., 2017), drives market expansion, and helps companies with stakeholder relationships (Turzo et al., 2024). In fact, for agri-food products consumers are increasingly interested in socially certified products (De Magistris et al., 2015). Consequently, the adoption of SA8000 enables companies for disclosure strategies regarding their social commitment to place their products on the market with a significantly higher premium price compared to non-certified alternatives (Podrecca et al., 2021). On the other hand, empirical researches also reported some barriers in its adoption, pertaining to the high implementation and maintenance costs (Ciliberti et al., 2008), particularly for small and medium enterprises (SMEs). Boiral and colleagues (2017) also described the risk of 'social washing', according to which customers and shareholders can mislead genuine implementation of SA8000.

Specific to the agri-food market, a widespread private standard is GlobalGAP. Founded in 1997 as "EurepGap" by several European retailers, it is aimed at promoting Good Agricultural Practices (GAP) in response to food safety issues in the late 1990s, such as BSE. Consequently, the adoption of GlobalGAP allows farmers and downstream stakeholders to mitigate risks through a system of responsible farming practices assurance. Although as a private standard its adoption is voluntary, it emerged as quasi-mandatory requirement to access high-value market (Henson and Humphrey, 2010).

To obtain certification, farms undergo rigorous third-party audits by certification bodies, which assess the degree to which farms comply with GlobalGAP standards. Key control points include traceability, record keeping, the use of certified inputs, safe irrigation practices, and ecological pest management. Certification is granted upon approval and must be renewed annually. However, it should be noted that the scope of GlobalGAP extends beyond the realms of environmental and safety concerns. The GlobalGAP Risk Assessment on Social Practice (GRASP) has been expanded to encompass a broader scope. This add-on is designed to guarantee workers' health, safety, and welfare decent standards. The GRASP is a comprehensive checklist that assess critical social issues on farms, focusing on workers' rights, representation, fair employment terms, wage payments, working hours, and the prevention of forced and child labour. It promotes compliance with labour regulations through practical, cost-effective standards tailored to producers' realities.

Despite the wide adoption worldwide, the literature on GRASP effectiveness is limited to a few empirical studies, making it interesting to assess for future studies. In fact, GlobalGAP reports that more than 117,000 producers have been evaluated

globally, covering 1.8 million workers¹⁶. Studies on the effectiveness of GlobalGAP mainly focus on market access, even though they investigate the implications for working conditions they consider the economic benefits (Akrong et al., 2025). While recent studies on other certification schemes, such as Fair Trade, have shown a not significant effect of ethical standard on the working conditions improvement (Amuzu et al., 2022; Meemken et al., 2019), opposite results come from GRASP. Working conditions for smallholder farm workers in Ghana have improved in terms of wages, regularity of payments, job safety, and housing compared to non-certified farms (Akrong et al., 2025). These results are interesting as they lead to several open questions for future investigations: 1) do private standards effectively improve working conditions? Given that SA8000 and GlobalGAP function as quasi-mandatory requirements for accessing high-value markets and ensuring transparency in stakeholder relationships, companies operating in low-value markets may not benefit much from adopting the standard; 2) do sociopolitical variables affect the effectiveness of private standards? In fact, the cited studies were carried out in developing countries, which may significantly affect the output; 3) do farm size influence the effectiveness of private standards? Indeed, these studies were conducted on smallholders or poor rural contexts.

2.3.2 Civil society and NGO initiatives

In parallel with institutional frameworks and private certification schemes, civil society organizations and NGOs play an increasingly central role in addressing labour exploitation in agriculture. Through grassroots initiatives, advocacy campaigns, and the creation of ethical alternatives to conventional food products, these actors have developed social innovations that combine the promotion of human rights, worker empowerment, and access to market.

Although labour exploitation in agriculture is often addressed through legal instruments, its root causes are deeply embedded in a number of different vulnerabilities. These range from worker vulnerabilities, such as legal status, lack of skills, economic dependence or lack of social protection, to broader market failures that make it necessary for companies to communicate their commitment to corporate social responsibility (CSR). Therefore, the present section does not claim to be exhaustive on the various private initiatives on the subject, but aims to provide some examples of exemplary market-oriented initiatives that are interesting for multi-dimensional governance and public-private partnerships.

An example of such an approach is represented by the initiative of NoCap association. Founded in 2011 by activist Yvan Sagnet, NoCap emerged as a response to labour exploitation and caporalato in the Italian agricultural sector. NoCap operates as a multifunctional platform promoting an ethical and socially

¹⁶ The latest statistics are from 31/12/2024 at <https://www.globalgap.org/what-we-offer/solutions/grasp/>.

sustainable agri-food supply chain. Its work covers several dimensions, combining direct labour intermediation, legal support, housing, and transport services for seasonal farmworkers, and the development of a certification system for agricultural products. These services are offered in collaboration with other civil society actors and local authorities, ensuring safe working and living conditions while facilitating formal employment pathways¹⁷. NoCap helps hired workers to find decent housing and provides the company with minivans for safe transport to and from work. NoCap also offers legal assistance with residence permit procedures and checks contracts and payslips. To encourage companies to adopt ethical production methods, NoCap finds prospective buyers for its NoCap-branded products, thereby providing an additional service to the company.

Since 2019, NoCap has launched its own ethical label granted to agricultural products (not companies) that meet a series of social, environmental, and ethical criteria. The traded products are fresh fruit and vegetables (such as oranges, cabbages, melons and peppers) and processed products, such as tomato passata. These products are traded by the CREI cooperative, which earns royalties from labelled products to support the NoCap project. The evaluation process is based on a multicriteria matrix, the verification of which is conducted by NoCap's internal team, while external audits are carried out by an accredited agency. The number of farms collaborating with NoCap varies from year to year, since the certification belongs to the products. Currently, 10–12 farms are involved.

NoCap's activities also include price negotiations between producers and large-scale retail chains aimed at ensuring fair pricing for farmers and consumers. In fact, the association acts as an intermediary, facilitating agreements that aim to fairly redistribute profit margins while avoiding exploitative procurement practices. NoCap labelled products include fresh vegetables, such as melons, and citrus fruits, as well as processed goods like tomato passata. These products are traded through short and long supply chains, both in national market and abroad.

Another example of bottom-up resistance to labour exploitation in agriculture is the *Sfruttazero* project, launched in 2014 in Apulia, Southern Italy. The initiative emerged from a collaboration between two local associations, *Solidaria* in Bari and *Diritti a Sud* in Nardò, both active in migrant rights advocacy, housing, and social inclusion projects. *Sfruttazero* was conceived as a cooperative and mutualistic experiment aimed at creating a transparent, exploitation-free tomato supply chain from the fields to processing and distribution by directly involving migrants and local unemployed youth. *Sfruttazero* seeks not merely to provide alternative employment but to challenge structural conditions of marginalization and labour precarity through collective self-management.

¹⁷ Interested readers can find out more from the annual social balance sheet available at <https://www.associazionenocap.it/la-filiera-no-cap/>.

The initiative focuses on the ethical production of tomato passata and other preserves, grown on land managed by the associations. Its members organize the entire value chain autonomously, avoiding the involvement of agribusinesses or intermediaries. The produce is distributed through short supply chains, "solidarity purchasing groups", and small retailers, promoting local and ethical consumption. *Sfruttazero* is somewhat distant from strategies that are entirely market-oriented, positioning itself as a political and community-building initiative aimed at countering the commodification of labour and land. Although limited in scale, the initiative demonstrates the potential of local networks to foster inclusive, sustainable, and ethically grounded agricultural practices.

Another project worth mentioning is *SOS Rosarno*, emerged from a 2010 migrant tumult in Rosarno, Southern Italy. Founded by a group of small farmers and activists, it aims to trade organic citrus fruits and other local F&V through short, self-organized supply chains, primarily based on solidarity purchase groups. This model ensures legal wages and fair remuneration for migrant farmworkers and producers, provides healthy, affordable food to consumers, and promotes environmental-friendly practices. *SOS Rosarno* aims to build an ethically and economically viable alternative to the dominant agrifood model.

However, the initiative faces structural limitations. Its reliance on solidarity purchase groups constrains market reach, while the demand for continuous engagement and stable residency conditions may limit accessibility for many seasonal workers. Furthermore, the association is exploring diversification strategies, such as crop rotation and food processing cooperatives, to enhance resilience and economic sustainability. At the same time, it reflects critically on the evolving political context, recognizing the need to avoid isolation and renew alliances that support broader systemic change.

2.4 Final remarks and links with empirical chapters

The issue of labour exploitation in agriculture represents a complex challenge that has gained increasing attention from international institutions, national policymakers, private sector actors, and civil society. This chapter has outlined how, at the European level, a multifaceted regulatory and policy framework has emerged in the last decades, combining mandatory policies with voluntary tools aimed at enhancing social sustainability across food supply chains. This has encompassed both conventional legal provisions, including Directive 2009/52/EC, which contrasts irregular employment, and more recent advancements, such as the Directive 2024/1760 on Corporate Sustainability Due Diligence.

The agri-food sector is of particular concern in this context due to its high reliance on informal, seasonal, and vulnerable labour. As illustrated, the EU's efforts to incorporate social concerns into sectoral governance encompass not only mechanisms that direct farmer behavior, such as social conditionality under the

CAP, but also soft and broad law strategies, including the Farm to Fork Strategy and the initiatives undertaken by the ELA. Collectively, these instruments aim to ensure that fair working conditions become a concrete condition of market participation, thus fostering a new paradigm of responsible production and consumption.

The Italian case offers a particularly insightful example in this regard. In light of the challenge of caporalato, Italy has instituted one of the most advanced national legal responses in Europe. Legislative reforms, which culminated in the implementation of Law No. 199/2016, have led to a shift in focus from the mere suppression of illegal intermediation to the broader criminalization of labour exploitation itself by extending the scope of the crime. Furthermore, national initiatives have been undertaken to establish governance structures and preventive measures, including the Quality Agricultural Work Network and the National Taskforce against caporalato. These measures are indicative of an evolving institutional architecture that links repressive enforcement with supportive and inclusive interventions. The number of detected violations of art. 603 bis is encouraging, suggesting that the Law No. 199/2016 has provided an effective legal instrument to counteract the phenomenon. On the other hand, at the current QAWN shows a poor participation leading to non-significant or weak impacts. Concurrently, the National Taskforce against caporalato is mainly based on small projects, with targeted actions that are effective only within their scope of action.

In addition to the regulatory dimension, voluntary certifications and civil society initiatives are assuming an increasingly prominent role. Ethical standards such as SA8000 and GlobalGAP-GRASP offer market-based tools for companies to demonstrate compliance with labour rights. These initiatives are further complemented by socially innovative projects such as *NoCap*, *Sfruttazero*, and *SOS Rosarno*, which demonstrate the capacity of civil society to foster multi-actor governance arrangements and propose alternative models of production grounded in principles of justice and solidarity. Despite their limited scope, these initiatives indicate potential avenues for participatory and locally grounded responses to exploitation.

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3

Economic approaches to measuring labour exploitation in agriculture: a systematic literature review of Indicators and Methodologies

Abstract

Agriculture remains highly vulnerable to labour exploitation, affecting nearly 2 million workers worldwide and drawing increasing attention, particularly within the framework of Sustainable Development Goal 8 of the United Nations 2030 Agenda. However, the informal nature of exploitation and fragmented data complicate its analysis. This article examines methodological approaches and multidimensional indexes used to assess labour conditions in the agri-food sector. Out of 1,528 documents screened from Web of Science and Scopus, 56 articles were analyzed, revealing a predominance of quantitative methodologies, with some studies utilizing multidimensional indexes to measure labour-related variables. The review highlights gaps in research, such as limited exploration of housing conditions and social inclusion, and geographical disparities, with a focus on developing economies. It emphasizes the need for reliable data, expanded research in developed economies, methodological advancements, and greater inclusion of farmer perspectives to enhance social sustainability and equity in food systems.

This chapter is based on a paper co-authored by Mirabella, C., Schimmenti, E., Galati, A, Borsellino, V. It is currently under review by the journal “Agroecology and Sustainable Food Systems”.

3.1 Introduction

The human dimension of food systems is increasingly and globally acknowledged as requiring urgent attention (Barrett et al., 2022; Christiaensen et al., 2021; Fanzo et al., 2021), especially in the context of working conditions in the agri-food sector. According to the International Labour Organization (ILO) and the United Nations International Children's Emergency Fund (UNICEF), nearly 2 million agricultural workers worldwide are subject to unfair working conditions, including gender discrimination (Benali et al., 2024), inadequate skills and low wages (Amo-Agyei, 2020; Barham et al., 2020), and child labour (ILO and UNICEF, 2021). This phenomenon in recent years has attracted the interest of scholars and governmental bodies, pushing for a transformation of food systems to advance decent employment conditions (Anderson, 2008; Losch, 2022). This goal has been incorporated among the goals of the 2030 Agenda in the Sustainable Development Goal 8 (SDG8), which aims to promote decent work (DW) for all, a broad concept that in its most widespread definition refers to “fairly paid productive work carried out in conditions of freedom, equity, security, and human dignity” (ILO, 2013).

Although the lack of DW conditions worldwide is widely acknowledged in the literature (Lewis et al., 2015; Rye and Scott, 2018), assessing DW across sectors remains a challenge due to barriers in collecting data amongst vulnerable workers (Garcia Lozano et al., 2022; Webster et al., 2015) and to the opacity of secondary data at macro- and micro-level that do not enable to conduct cross-country comparisons (see for instance Elmetwally, 2022; Mackett, 2020; McGinnity et al., 2021; Nizami and Prasad, 2017).

Agriculture is one of the most vulnerable sectors to labour exploitation (Munter and Lindblom, 2017; William and Horodnic, 2018), with numerous causal factors such as the sector's reliance on low-skill labour, the high intensity of agricultural work, and seasonality (Alford et al., 2017; Gold et al., 2021). The latter, particularly in fruit and vegetables (F&V) production, often depends on temporary employment to address the need for timely harvesting (Carnibella and Wells, 2022), disproportionately affecting vulnerable workers (Corrado and Caruso, 2022). Additionally, farms in many cases rely on migrant workers to meet labour demand (King et al., 2021; Melossi, 2021). This reliance has been associated with exploitative labour conditions, such as low wages (Amo-Agyei, 2020; Angioloni and Wu, 2020; Manacorda et al., 2012) and informal employment mediated through labour intermediaries (Corrado and Caruso, 2022; Deshingkar, 2009; Wan, 2008). The latter condition, has been found to be often associated with labour exploitation given rise to phenomenon such as ‘gangmaster’ in the United Kingdom (Brass, 2004; Findlay and McCollum, 2013; Schenner, 2017, 2018) or ‘caporalato’ in Southern Italy (Melossi, 2021).

Agricultural labour issues are particularly relevant in developed economies, especially in Europe's specialised rural regions, which are often characterised as destinations for unskilled, low-wage migrant labour (King, Lulle, & Melossi, 2021; Rye & Scott, 2018). These structural features contribute significantly to worker vulnerability (Kushnirovich & Raijman, 2022; Webster, Budlender, & Orkin, 2015), as evidenced by exploitative conditions, including inadequate wages and substandard living arrangements. Such conditions have been documented across several EU countries, including Germany, the Netherlands, and Sweden (Corrado, Pisacane, & Alarcón Ferrari, 2024; L Palumbo & Corrado, 2020), and are particularly prevalent in southern EU nations like Italy, where labour-related issues have been extensively studied (Guidi & Berti, 2023; Palmioli, Dentoni, & Brunori, 2024; Letizia Palumbo, 2024).

Given the complexity of the phenomenon and the challenge associated with collecting empirical evidence, scholars have attempted to map methodologies and research trends in labour studies. For instance, Malanski and colleagues (2021) carried out a bibliometric analysis highlighting that economic literature on labour issues predominantly addresses labour market dynamics (see Chan, 2018; Knight et al., 2011), occupational health (as discussed in Fathallah, 2010), household strategies of labour allocation (see Nettle et al., 2018), and social issues like gendered labour analysis (Maligalig et al., 2019) and informal employment (Schneider et al., 2023). However, their analysis only partially considers workers as economic agents embedded in broader market systems, as the issue of labour exploitation is often examined through anthropological or migration studies rather than within a rigorous economic framework. Moreover, the study does not provide detailed information on the methodologies employed to investigate these issues, leaving a gap in understanding how empirical evidence is generated in this field. In order to address such a gap, within the Global Agricultural Production Network, Kissi and Herzig's (2020) reviewed the empirical studies to map the methodologies employed by scholars to study labour relations. While the review provides valuable insights into regulatory frameworks, key labour issues, and methodological approaches in agricultural labour studies, its limited focus on the application of qualitative methods significantly constrains its utility for effectively investigating labour exploitation in farmwork. This gap underscores a limitation in the economic literature's ability to provide quantitative and methodologically robust analyses of labour exploitation, particularly within contexts where workers' roles as economic actors remain underexplored. Addressing this gap is critical to developing a more comprehensive understanding of labour dynamics beyond the confines of traditional economic paradigms. In this regard, as stated by Ghai (2003), finding a single indicator to measure DW is challenging. Therefore, in recent years scholars have attempted to employ combinations of indicators to detect the presence of DW in different sectors of analysis. Consequently, the indices vary significantly in the composition of the indicators considered on the basis of sector, including more emphasis on the risk of accidents in the construction industry (Sandhu, 2016), on

income and benefits in the tourism sector (De Beer et al., 2014), or annual leave for domestic workers (Islam et al., 2016). Furthermore, differences can also be observed based on the country in which the study was conducted. In addition, child labour in developing countries (Gil et al., 2008; Lawrence et al., 2008) and job deficit legality in developed countries (Lavagnini and Mennella, 2016) have been observed. In the agri-food sector, multidimensional indices have also been used to assess working conditions at various levels of analysis. While Blackstone et al. (2021, 2023) have measured the risk of labour exploitation at a more general supply chain level, recent investigations have developed measures with data collected directly from workers (Aremu et al., 2024; Kushnirovich and Raijman, 2022; Ahsan et al., 2018). However, these studies demonstrate significant variations in their final outputs, which range from DW to workers' vulnerability conditions, and internal composition of the variables. Moreover, Pereira and colleagues' (2019) review on DW indicators — despite its detailed description on a sectoral level — lacks in providing information regarding the agri-food sector. Consequently, there remains a critical gap in understanding which indices have been specifically applied to agri-food work environments and which variables have been included in these analyses. This underscores the need for further research to systematically develop and standardize sector-specific indices, ensuring a more comprehensive and comparable assessment of DW conditions in the agri-food sector.

Reviews of perspectives and methodologies are essential for enhancing research quality and guiding methodological choices. They encourage advancements that address current limitations, reducing bias and enabling findings to be generalised and replicated. Therefore, the present article aims to answer two research questions through a systematic literature review:

1. What methodologies are researchers adopting to address the economic aspects of labour exploitation in the agri-food sector?
2. Which multidimensional indices are being employed to detect the presence of decent labour in agriculture, and which variables are being considered?

Based on the drivers of labour exploitation highlighted by past studies, this work aims to provide a conceptual framework to systematize existing knowledge and guide future research in the agri-food sector. The results provide insights into methodological gaps, propose innovative approaches, and describe the development of multidimensional indices to highlight the presence of DW.

The paper is structured as follows: the next section describes the methodology used. The results are then described, organized according to the research questions, followed by a discussion. Finally, conclusions are presented to highlight the limitations of the study and possible future implications.

3.2 Methods

A systematic search was carried out on Scopus and Web of Science, two databases including a large number of publishers and among the most widely used worldwide, to retrieve peer-reviewed journal articles which span over the period up to December 2024. This study follows the PRISMA Statement protocol to ensure transparent reporting (Moher et al., 2010). Based on the research questions and given that researchers use different synonymous to refer to exploitative working conditions, several combinations of the terms *gangmaster**, *caporalato*, *labo* intermediation*, *decent work*, *forced labo**, *labo* exploitation*, *modern slavery*, *unfree labo**, *informal labo** were used to be linked via the Boolean operator ‘AND’ to the agricultural field (**Table 4**). The term ‘modern slavery’ is largely used in literature to refer to practices similar to slavery, including indecent working conditions (Mende, 2019). Further, in order to collect as many documents as possible, a truncation symbol has been inserted in *labo** to reach those publications where ‘labour’ and ‘labor’ were present in titles, abstracts and keywords. Although terms like ‘modern slavery’ and ‘forced labour’ have been conceptualised in the last few decades, they have been taken into consideration due to their widespread use in literature. There was no restriction on the years of publication in the query strings. The database search yielded 1,528 documents that were screened based on the following inclusion criteria and exclusion criteria.

The relevant inclusion criteria were designed to ensure methodological rigor and relevance to economic analysis: i) documents categorised as articles published in peer-reviewed journals; ii) empirical analysis based on data, primary or secondary sources; iii) studies written in English to ensure accessibility; iv) studies focused on the agri-food sector (agricultural production, agri-food industry or supply chain) through economic analyses of labour issues.

This study excluded: i) books, book chapters, and reviews to focus on original research, and to ensure an easy access and verification of the collected studies; ii) documents that conduct an empirical study on agricultural workers from other disciplines outside economics; iii) articles that report a theoretical approach; iv) studies that only mention labour issues as background context or include them marginally in a broad analysis.

Given the emphasis of SDG 8 on DW and economic growth, this review specifically focuses on the economic perspective of labour exploitation and DW in the agri-food sector. The decision to include only studies within the field of economics was motivated by the aim to provide a framework directly applicable to the development of multidimensional indices and quantitative methodologies relevant to economic and policy evaluation, thus contributing to the economic measurement of DW. While interdisciplinary approaches from sociology, anthropology, and industrial relations undoubtedly provide critical insights into

labour exploitation, their exclusion was a deliberate methodological choice to ensure that the findings align with the research questions of this review.

Table 4 Keywords considered for the Systematic Literature Review.

	‘Decent work’ keywords	AND ‘agriculture’ keywords
Included keywords	“Decent work” OR “Modern slavery” OR “Forced labo*” OR “Labo* exploitation” OR “Unfree labo*” OR “Precarious labo*” OR “Precarious work” OR “Unfree labo*” OR “Informal labo*” OR Gangmaster* OR Caporalato OR “Lab* market intermed*” OR	Agri* OR Farm* OR Horticult* OR “Value chain” OR “Supply chain” OR

From the initial number of 1,528 documents, 605 duplicate articles were removed. Subsequently, following the three-step PRISMA protocol we systematically reviewed the literature. First, the selection process was conducted independently by three co-authors to avoid any personal bias in determining the inclusion or exclusion of the documents. Then, the three selection processes were crossed. 718 off-topic reports were excluded by screening titles and abstracts. Finally, after reading the full text, 149 reports were excluded, mainly due to 2) and 4) criteria. Finally, 56 articles remained and were included in this study (**Figure 2** Flow diagram of the article selection process).

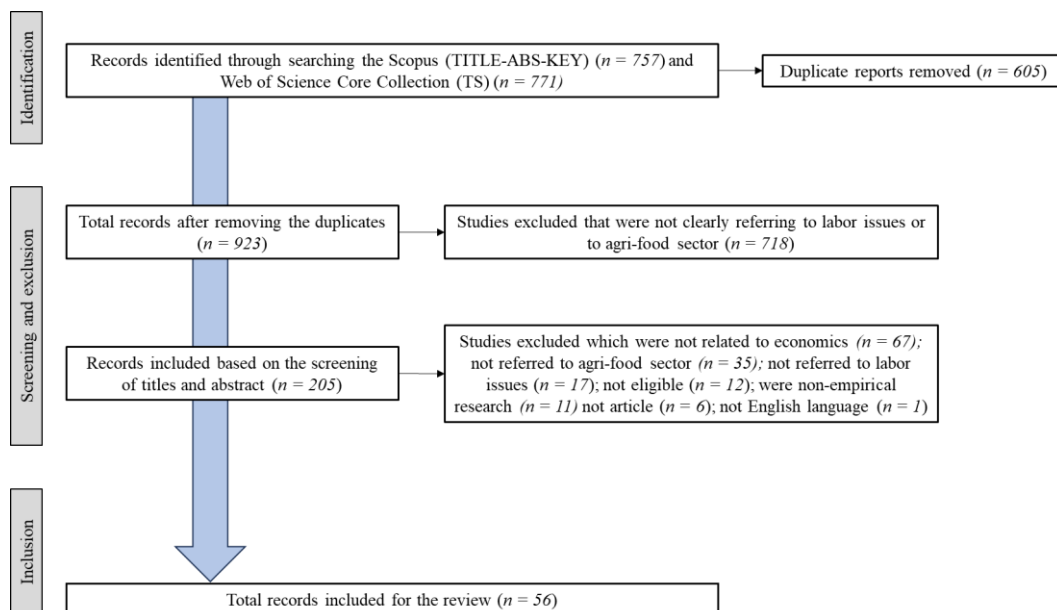


Figure 2 Flow diagram of the article selection process.

The final set of 56 reports' key features were tabulated using an extraction table to answer the research questions. Therefore, the following information was extracted from the articles: the methodology used, the source of the dataset and sample size, the geographical characteristics of the study, the dimension of decent work analyzed, decent work indicator used, the dependent and independent variables of the indicator, the purposes, and the main findings **Appendix 1**.

3.3 Results

3.3.1 Overview of the selected articles

The distribution among years indicates a growing interest in the topic since 2014, except for an article published in 2006, and particularly in the last four years, after 2020, during which approximately 64% of the collected articles are distributed (**Figure 3**).

In most of these studies, scientists conducted empirical research in a single country (**Table 5**), particularly in Asian mainland like Pakistan and India (3 and 2 articles respectively), as well as in African countries, such as Ghana (5 articles) and South Africa (4 articles). Studies developed in Asian countries have mainly focused on the economic vulnerability of manual workers (Rawal, 2006; Sacramento & Cañete, 2023) and the high proportion of the total labour force employed in agriculture (Ahsan et al. 2018), including the issue of child labour (Fatima, 2017; Wahab & Dollah, 2023). Conversely, studies conducted in European countries focus primarily on other dimensions of the DW phenomenon, such as irregular employment by labour market intermediaries (Schenner, 2017, 2018), or the relationship between migration and exploitative conditions (Chesney et al., 2019; Palmioli et al., 2024). Other studies have investigated the phenomenon globally focusing on agri-food chain analysis of the labour footprint (García-Alaminos et al., 2021; Simas et al., 2014) or producer organization networks (Ruggeri & Corsi, 2019), or have examined the communication strategies of four multinational companies in the cocoa industry towards the initiatives promoted to combat labour exploitation (Lalwani et al., 2018).

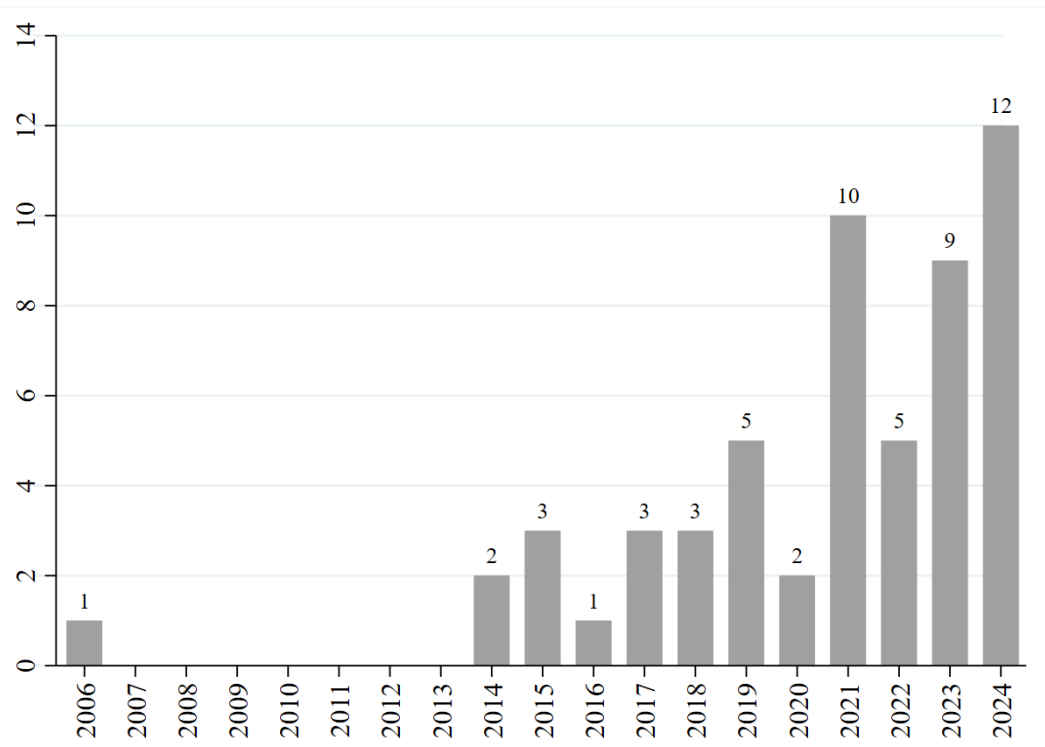


Figure 3 Number of included articles per year.

3.3.2 Methodological approaches

Nearly half of the quantitative studies conducted econometric analysis based on workers' issues, and farmers' perspective (**Table 6**). For instance, some studies used primary data and applied an Ordinary Least Square (OLS) regression model to explore which factors determine DW conditions (Ahsan et al., 2018; Fabry et al., 2022, 2023; Mohiuddin et al., 2020; Aremu et al., 2024). More in detail, Ahsan et al. (2018) found that a set of covariates related to DW, including class discrimination, unionization, safety at work, and professional training, significantly affect the income of farmworkers in GlobalGAP certified and non-certified mango orchards. In Fabry and colleagues' works (2022, 2023), conducted in Senegal and Peru, respectively, covariates of farmworkers and company characteristics were considered to explain hourly wage and the DW index. In both works, the authors conducted an Oaxaca-Blinder decomposition analysis to identify the factors contributing to the wage and DW disparities between male and female workers, as well as between local and migrant workers. Chesney et al. (2019) also utilised OLS; however, due to the lack of available data, they employed an Agent-Based Model (ABM) to generate simulated data. Where available, some authors have used a fixed effects model to identify the main factors affecting child labour in Pakistan by using secondary panel data (Fatima, 2017), and to study the implications of female work participation and education on human capital in 33 African countries (Yu & Osabohien, 2023).

Table 5 Main features of the articles included.

Variables	Categories	Frequency
Country	Asia	14 (25.00%)
	Africa	12 (21.43%)
	America	11 (19.64%)
	Europe	8 (14.29%)
	Cross-country	4 (7.14%)
	Global	4 (7.14%)
	Australia	3 (5.36%)
Data source	Primary	28 (50.00%)
	Secondary	25 (44.64%)
	Primary and secondary	3 (5.36%)
Perspective	Workers	28 (50.00%)
	Supply chain	11 (19.64%)
	Farmers	6 (10.71%)
	Multistakeholder	3 (5.36%)
	Gangmasters	2 (3.57%)
	Multinational corporations	2 (3.57%)
	Farmers and workers	2 (3.57%)
	Labor market	1 (1.79%)
	Organizations network	1 (1.79%)
Research analytical method	Quantitative	28 (50.00%)
	Qualitative	24 (42.86%)
	Mixed methods	4 (7.14%)
Methodology	Descriptive analysis	27 (48.21%)
	Econometrics	14 (25.00%)
	S-LCA	6 (10.71%)
	Case study	5 (8.93%)
	MRIO	2 (3.57%)
	Agent-based approach	1 (1.79%)
	Remote sensing MCDA	1 (1.79%)

Descriptive analysis was primarily applied by qualitative studies through survey research. This methodological approach enabled the exploration of complex phenomena and the examination of their multifaceted nature. Furthermore, surveying has allowed scholars to identify the underlying causes of worker exploitation phenomena. For instance, Fischer-Daly (2021) conducted 23 semi-structured interviews with workers, leaders and coalition allies to expand knowledge on the factors that lead to labour exploitation. Built on the theory of bargaining power of industrial relation perspective, it analyzes the role of workers' bargaining power in promoting DW. Even in Jacobs et al. (2015) different groups of informants were interviewed to identify those practices that intensify gender discrimination. This study managed a multi-sample dataset of predominantly female farmworkers from different African countries. A similar procedure was

adopted by De Lourdes Camarena Ojinaga et al. (2019) by determining analytic categories of female farmworkers' social inequality through interviews. Schenner (2017) provides another example of survey research's contribution. The study qualitatively assessed the effects of a policy instrument, the Gangmasters Licensing Authority, by conducting 17 semi-structured interviews with key actors. Generally, the surveyed subjects varied across the studies depending on their purposes, including farmworkers, farmers, industry association representatives, and trade union representatives. Additionally, most of the qualitative studies are characterised by a relatively low sample size. Excluding Thomas (2021), all the studies interviewed fewer than 100 subjects.

Table 6 Methodologies implemented by research analytical method.

Research design	Method of analysis	Frequency	Notes
Quantitative	Econometrics	13	Approaches with emphasis on econometric models dominate
	Descriptive analysis	5	
	S-LCA	6	
	MRIO	2	
	Agent-based approach	1	
	Remote sensing	1	
	MCDA		
Qualitative	Descriptive analysis	20	Exploratory approaches, useful in contexts with limited data
	Case study	4	
Mixed	Descriptive analysis	2	Poorly represented, but promising for multidimensional analysis
	Econometrics	1	
	Case study	1	

In studies related to farmers and agri-food supply chains players, econometric approaches are less common. At the farm level, the efficiency analysis is used to investigate the impact of decent rural employment on agricultural production efficiency in two African countries (Ayenew et al., 2017). While Muthui et al. (2019) conducted a Principal Component Analysis (PCA) to extract latent variables for DW and investigate through stochastic frontier analysis how reduced production efficiency affects the creation of DW opportunities. In the food chain context, Blackstone et al. (2021, 2023) studies developed a new forced labour risk scoring method using large secondary data in both articles. S-LCA approaches are more commonly used in supply chain-based studies to assess DW in the food chain using primary data. Two articles have developed a Multi-Regional Input-Output analysis from a global perspective to calculate labour footprint. In particular, García-Alaminos et al. (2021) focused on multinational corporations to assess their

responsibility for social impacts. In their work, the MRIO analysis was extended with three social indicators to include forced labour, fatal and non-fatal occupational injuries in the measurement. While, Simas et al. (2014) used the MRIO analysis on international trade to quantify labour footprints. Both studies revealed a similar pattern, in which developed countries are more responsible for social impacts. Kougkoulos et al. (2021) conducted a MCDA in strawberry fields in Greece to evaluate the risk of labour exploitation in informal settlements identified through satellite remote sensing. The risk assessment was based on eight criteria related to settlements' safety measures, visibility, and workers' conditions, while the data were collected through direct observation, questionnaires, and satellite imagery.

3.3.3 *DW indicators*

As illustrated in **Table 7**, nine articles have employed a quantitative measure of DW developing a multidimensional index. The construction of these indices has been undertaken with consideration to a range of dimensions, with some indices being embedded in macro dimensions comprising multiple variables. In instances where indices are directly collected from farmworkers, similar variables have been included, though significant differences can also be discerned. However, a direct comparison between these approaches is precluded by differences in their aims, the independent variables considered, and the sample sizes used. Despite five articles employing an index to measure DW, differences can be observed in the set of dependent variables embedded in the analysis, and in the final output, which varies numerically. Furthermore, differences can also be observed in the subject of analysis, which varies from the individual worker to an entire production sector.

Ahsan and colleagues (2018) compared DW in GlobalGAP compliant and non-compliant orchards using six indicators related to professional training, safety and health, labour unions, class discrimination, compensation payments, and financial services. Then, they developed a log-log regression to explain farmworkers' income based on DW indicators and other socio-demographic variables. This approach revealed the significance of all indicators of DW in certified orchards.

Blackstone and colleagues (Blackstone et al., 2021, 2023) provided a food chain assessment of labour exploitation risk by relying on the Social Hotspots Database. This is done through the use of a risk characterization factor ($Cf_{i,k}$) that varies across countries (i) and commodities (k). The calculation required three variables: the risk characterization factor assigned to the commodity, the measure of labour intensity for the F&V sector, and the price of the commodity. The forced labour risk per serving for each commodity k is calculated by multiplying $Cf_{i,k}$ by the proportion of the supply of that commodity and taking the weighted average.

In the study of Cong (2016), the authors developed a DW index based on five dimensions - survival needs, labour safety, social property needs, respect needs,

and self-realization needs - and measured by several specific questions using a Likert scale measured through a large sample of workers. These dimensions included a subjective evaluation of DW.

Table 7 Dependent and independent variables implemented of the DW indexes implemented from the perspective of workers.

Article	Dependent variable	Independent variable
Ahsan et al., 2018	Income/month	Labor unions; professional training; safety and health; discrimination; financial services; compensation payments
Blackstone et al., 2021, 2023	Labor exploitation risk	Risk characterization factor; labour intensity for the F&V sector, and the price of the commodity
Cong, 2016	DW	Survival needs*; safety; social property needs; respect needs; self-realization needs
Aremu et al., 2024; Fabry et al., 2022, 2023	DW	Wages and productive work; DW time; stability and security at work; safe work environment
Kushnirovich and Raijman, 2022	DW	Working conditions; living conditions; safety conditions; wages; dependence on migration costs
Webster et al., 2015	Workers' vulnerability	Employment opportunities; stability and security; wage; working hours; work-life balance; equal opportunity and treatment; safety; social security; social dialogue

* Survival needs include income level indicators

A multidimensional index was developed by Fabry and colleagues (2022, 2023) to measure DW. The same index is used in Aremu et al. (2024). The index is based on primary data collected through interviews with farmworkers in Peru (2022) and Senegal (2023). It consists of four dimensions: adequate earnings and productive work, DW time, employment security and stability, and work environment. Each dimension is measured by multiple indicators. The final score is calculated by averaging the four dimensions, resulting in a value between zero and one. A higher score indicates better work quality. It is assumed that each dimension carries equal weight.

Another indicator has been developed by Kushnirovich and Raijman (2022) to measure the vulnerability of migrant workers in the agricultural and construction

sectors in Israel before and after the implementation of the Bilateral Labour Agreements. The index is based on five dimensions: working conditions, living conditions, safety conditions, wages, and dependence on migration costs. Each dimension consists of multiple indicators that were measured through a survey. The authors used this index to compare the short-term and long-term impact of bilateral agreements. They also acknowledged limitations in the methodological approach, particularly the need to improve measurements of living conditions and safety at work, as well as the possibility of including additional dimensions.

Finally, Webster and colleagues (2015) developed a measurement of DW for individual workers using an index based on nine indicators: employment opportunities, stability and security at work, adequate wages and productivity, working hours, work-life balance, equal opportunity and treatment, workplace safety, social security, and social dialogue. The data were collected through a questionnaire administered to security, farm, and hospitality workers. The analysis identifies two core dimensions experienced by farmworkers as a deficit of DW. The first is related to stability and security at work, wages, social security and social dialogue, while the second dimension is related to hours of work and work-life balance.

3.4 Discussion

3.4.1 General discussion

The results show differences across studies in terms of geographical area, data sources, perspectives, research analytical models and methodologies implemented. This heterogeneity mirrors findings from previous reviews (Malanski et al., 2021; Kissi & Herzig, 2020) and suggests that a systematization of published articles can help to organize and summarize the knowledge produced by scholars in the context of SDG 8. Heterogeneity, per se, can be taken as evidence. The broad meaning of DW provided by ILO – and synonymous, such as ‘forced labour’ or ‘labor exploitation’ – implies the collection of studies focused on specific different issues, from child labour to gender wage discrimination.

Regarding the geographical context, differences in perspectives of the studies arose between developed and developing countries. Most studies collecting data from workers were conducted in developing economies, as has already been highlighted (Malanski et al., 2021). This finding is noteworthy for two reasons. First, the exploitative labour dynamics exhibit significant variation depending on the specific socio-economic, cultural, and regulatory contexts of the country under study. Developing economies often experience heightened vulnerabilities due to weaker labour protections, higher rates of informal employment, and greater economic dependence on low-wage labour markets (Dell’Anno, 2022 McGinnity et al., 2021; Oya, 2015). These conditions may exacerbate instances of labour exploitation, including forced labour and child labour (Takeshima & Vos, 2022).

Consequently, empirical approaches to studying labour issues must adopt a nuanced understanding of labour market structures and sociopolitical environments to effectively capture the complexity of exploitation in diverse contexts. Second, the underrepresentation of studies examining labour exploitation from workers' perspectives in developed countries points to a critical research gap. Despite the persistence of exploitative labour practices in these economies—such as those documented in the Italian agricultural sector (Melossi, 2021; Salvia, 2020) or in North America (Blackstone et al., 2023)—the lack of focus on workers' perspectives limits the ability to fully understand the phenomenon. Workers' narratives provide insights into the mechanisms of exploitation, including power imbalances, coercion, and barriers to legal recourse, which are often invisible in aggregate data or employer-centric analyses.

3.4.2 Methods used in DW research

The methodological approaches identified in this review reveal significant strengths but also notable limitations. While qualitative studies provide rich, in-depth insights into workers' experiences and vulnerabilities (e.g., Schenner, 2018; Singh, 2022), aiming to provide contributions in the development of theoretical frameworks (see for example Iglesias-Rios et al., 2023; Lalwani et al., 2018; Schenner, 2018; Singh, 2022), their reliance on small sample sizes limits the generalizability of findings. Conversely, quantitative econometric models offer statistical robustness but often fail to capture the complexity of labour exploitation, particularly in informal employment settings (Fatima, 2017; Yu & Osabohien, 2023). Therefore, the results suggest that in contexts where reliable data is scarce, qualitative approaches remain crucial for uncovering hidden labour issues and informing further empirical investigations. Furthermore, the predominance of descriptive approaches in qualitative studies suggests that there is still a lack of hypothesis-driven research aimed at testing causal relationships between labour conditions and economic variables.

A critical issue remains the limited availability of reliable secondary data, which restricts the scalability of DW assessments, and represents a strong limitation in the development of knowledge, hindering researchers' ability to generalize findings and establish broader patterns. While studies such as Blackstone et al. (2021, 2023) have leveraged large datasets to assess forced labour risk in supply chains, most research in the agricultural sector relies on small-scale surveys. This reliance on primary data collection means that findings are often context-specific and difficult to compare across different regions and economic systems (McGinnity et al., 2021). This fragmentation hinders the development of standardised, cross-national indicators, a challenge also noted by Oya (2015) and Pereira et al. (2019). Future research should prioritize harmonised data collection efforts to improve comparability and policy relevance.

Unlike Kissi and Herzig's review (2020), which identified a dominance of qualitative approaches, the present study finds that quantitative methodologies prevail. However, methodological heterogeneity remains significant with sample size varying widely—from small-scale studies involving only a few of participants (Dunuwila, 2023) to large datasets encompassing thousands of observations (e.g., van den Broeck & Akaribo, 2024). The widespread application of econometric modeling, particularly in studies focusing on workers, farmers, and supply chain actors, suggests a preference for methodologies that provide measurable insights into labour dynamics. Yet, the reliance on diverse methods underscores a lack of consensus on the most suitable analytical frameworks for investigating DW, which limits comparability and synthesis across studies.

Among research examining workers' conditions, multidimensional indices have emerged as a key approach for assessing DW (Ahsan et al., 2018; Cong, 2016; Fabry et al., 2022, 2023), while others used cross-sectional regressions (Mohiuddin et al., 2020) and panel-data models (Fatima, 2017; Yu & Osabohien, 2023). Despite their methodological rigor, these approaches are not without limitations. The design of multidimensional indices varies significantly across studies, often leading to discrepancies in how DW is conceptualised and measured. This divergence calls for greater methodological convergence to ensure that DW indices capture labour conditions comprehensively rather than selectively.

From the farmers' perspective, empirical evidence suggests a link between DW conditions and increased production efficiency (Ayenew et al., 2017; Muthui et al., 2019). The methodological approach employed by Ayenew et al., based on a large-scale dataset, offers a potential model for replication in other agricultural economies for cross-country comparisons, or to explore the correlation between specific dimensions of DW and production efficiency in a new setting. Finally, in the agri-food supply chain domain, methodologies like Social Life Cycle Assessment has been employed to evaluate the social impact of food production, allowing scholars to obtain results from small samples (Brenes-Peralta et al., 2021; Dunuwila et al., 2023; Tragnone et al., 2023). While this methodology enables scholars to assess labour conditions at multiple stages of production, its reliance on qualitative indicators often makes it difficult to establish causal relationships between labour practices and broader socio-economic outcomes. Moreover, the effectiveness of these assessment hinges on the selection of social impact criteria, which vary considerably across studies. In contrast, computational approaches such as Agent-Based Modeling (Chesney et al., 2019), while placing limits on internal validity in complex systems (Conte & Paolucci, 2014), have been used to simulate the interactions among various stakeholders, offering insights into systemic labour vulnerabilities. Indeed, the results demonstrate that this methodology enables scholars to investigate research domains where empirical data is difficult to obtain. The extent to which these approaches can reliably capture

the complexity of labour exploitation in agri-food sector highlights the need for continued methodological refinement.

3.4.3 Key indexes for measuring DW extent

All nine studies that have developed an index to measure DW were published in the last decade. These approaches are particularly significant in representing the efforts made by scholars to detect and quantify non-DW conditions in agriculture. The evaluations conducted by Blackstone and colleagues in 2021 and 2023 were the only studies that assessed labour exploitation risk at the supply chain level. The methodology in the 2021 article was expanded to include additional sources of data, such as government, NGO, and literature sources, to fill gaps in the available data, as presented in the previous work. The assessments of forced labour risk pertain to the F&V and land-based food supply chains in the US. This methodology represents an advancement in S-LCA as it relies on large secondary datasets, rather than focusing solely on a single sector, country, or case study. This approach can lead to reliable risk modelling in supply chains. However, apart from these two, none of the included articles in the set present other applications of this approach, even though certain multi-country contexts could lead to valuable results, such as between European Member States, African, and Asian countries.

The studies that used a DW index based on farmworkers data showed similarities across methods. In most cases, the dependent variables measured were an estimation of DW (Cong, 2016; Fabry et al., 2022, 2023; Kushnirovich & Rajjman, 2022), or a related dimension, such as monthly income (Ahsan et al., 2018) or the vulnerability of farmworkers (Webster et al., 2015). The studies measured independent variables, ranging from 4 to 9, using several sub-indicators based on primary data. All indexes included dimensions of safety, security, and health, as well as wages, except for Ahsan and colleagues' study, where it was the dependent variable. Additionally, each index, except for Ahsan's study, included a measure of working hours, which was encompassed in the safety dimension in Cong's study (2016). The measurement of fairness of treatment was conducted in all indexes, except for the articles published by Fabry and colleagues.

3.4.4 Source of indexes improvement for DW analysis

In consideration of the similarities and differences among the indices previously discussed, it is possible to outline further insights that may facilitate the incorporation of new variables, or the empirical substantiation of an index or validation of its underlying mechanisms. For instance, some variables which were identified as characteristics of labour exploitation were not included in these indexes. Housing conditions were only measured in the works of Kushnirovich and Rajjman, as well as Fabry. However, considering the relevance of the presented results, it could also be included in future index implementations. Participation in

a labour union was only included by Ahsan et al. (2018) where it resulted in a determinant of collective bargaining power.

Most articles have focused on identifying the factors that contribute to worker exploitation. Some characteristics of labour exploitation, such as inadequate living conditions provided to workers (Schenner, 2018; Singh, 2022), low wages (Campbell et al., 2019), and irregular contracts, were recurrently highlighted, aligned with their inclusion as critical variables in the indexes. Schenner (2018) also analyzed the UK horticulture sector, focusing on contracts that are disadvantageous to workers, such as the use of legal zero-hours contracts to improve flexibility and the charging of recruitment fees to workers. In addition, farmers in the UK may rely on labour contractors or gangmasters, which in some cases are associated with precarious employment, especially for migrant workers, due to lack of language skills and lack of knowledge of labour rights (2017). Consequently, the inclusion of a variable measuring the level of schooling or knowledge of rights could be a pertinent consideration.

Iglesias-Rios (2023) explored the vulnerability of agricultural workers, identifying the informality of their work arrangements and the historical policies of exceptionalism as the main causes. It also highlighted the unequal dynamics of power and control over agricultural workers as a source of workers' vulnerability. In this sense, Fischer-Daly (2021) focused on workers' processes of building bargaining power through associations and coalitions. Thus, the lack of collective bargaining is identified as another cause of precarious work. Finally, van den Broek et al. (2021) analyzed retailer-farmer bargaining dynamics, highlighting how concentrated power has increased supply chain pressures on farmers, leading them to rely on opportunistic intermediaries. Therefore, the inclusion of a measure of the distribution of bargaining power could be a relevant variable in analyses of exploitation risk at the supply chain level.

Regarding the issue of child labour, Fatima (2017) proposed a quantitative approach in Pakistan which highlighted that the demand for child labour is positively affected by adult wages, adult unemployment rates, and the size of the informal economy and agriculture sectors. The author suggests that high adult wages may lead to the replacement of adult workers with children. However, as economic insecurity may have a short-term effect, the possibility of an increase in child labour in the long term as an economic replacement for low wages should be limited. Wahab & Dollah (2023) presented a similar argument in their study conducted in Malaysia, emphasizing the need to contextualize the link between child labour incidence and unfree labour within a broader human rights perspective, rather than solely as a result of poverty. Indeed, Wahab and Dollah also identified the barriers to accessing formal education and children's lack of identity, such as documents, birth certificate and legal immigration status, as driving factors for unfree labour.

Three studies have examined the exploitation of female farmworkers from different perspectives. In Lourdes Camarena Ojinaga (2019) sixty female labourers in Mexico were surveyed. The study considered the vulnerable employment conditions of women within the broader context of the restructuring of labour processes in Mexican agriculture, which is linked to social relations framed by gender, class, and ethnicity. The authors identified five factors that contribute to exploitative working conditions: low wages, job uncertainty, verbal and intermediated contracts, asymmetrical bargaining power, and unpaid payments. In a cross-country examination in Africa, Yu and Osabohien (2023) studied the participation rate of women in agriculture to investigate its impact on human capital development. Although this study does not focus on DW issues, the results suggest that improving women's skills through education and training has a positive effect on human capital outcomes, making them less vulnerable. Additionally, Jacobs et al. (2015) conducted a qualitative study in Tanzania, Ethiopia, Kenya, and Uganda, identifying factors contributing to the sexual harassment of female farmworkers. The authors identified discriminatory employment policies and lack of privacy as key policy factors. Furthermore, working hours, housing, and job insecurity were identified as material factors. Finally, the study identified sociocultural factors such as 'cultures of silence, shame and denial', low educational levels, and aspects of masculinist culture.

3.4.5 Conceptual framework development

This study provides a basis for a more comprehensive understanding of the driving factors that lead to labour issues in the agri-food sector, through a systematization of cause-and-effect relationships in a conceptual framework. Indeed, the results presented in the previous section allow for the conceptualization of the driving factors in three main categories: contextual conditions, causes and characteristics. The majority of the identified driving factors have been categorised as causes, whereas those features that define the issue and that cannot be interpreted as causative have been categorised as characteristics. Furthermore, the broad and intangible causes have been regarded as context. Considering the aforementioned findings, this conceptualization enables the deconstruction of the antecedents of labour exploitation, gender discrimination, and child labour.

The schematic representation (**Figure 4**) depicts the phenomenon of labour issues in agriculture and its three constituent parts, as observed by scholars through diverse research analytical methods. Each fraction is constituted of a few characteristics that define the issue, which has arisen from a set of specific causes. Most of the characteristics and causes identified for "labor exploitation" and "gender discrimination" were found to be common. As a potential antecedent of causes, this conceptual framework proposes the category of contextual condition as a non-material broad substrate. Although in the papers studied each context factor was linked to a specific labour issue, it is logical to suppose that the contextual conditions arisen from the collected articles are not issue-specific. For

example, a low level of human rights in a certain country can also have a role in the emergence of gender discrimination. Therefore, these three contexts have been connected with a dotted line.

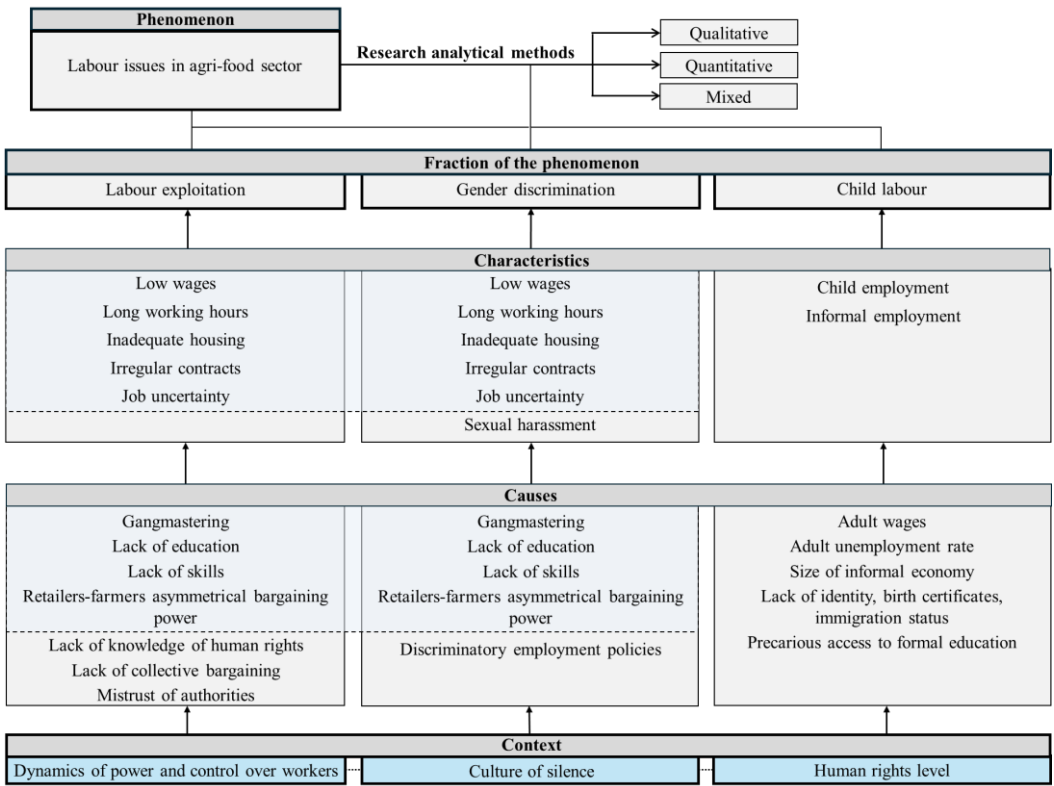


Figure 4 Representation of a conceptual framework of our development.

A limited number of conceptualizations of agricultural labour exploitation can be found in peer-reviewed literature. In the garment and textile sector, Arslan (2020) put forward a schematization that displays similar elements to those presented here, such as inadequate wages, payment negligence, and the difficulty of forming collective unions. However, his descriptive analysis is limited to the case of Pakistan and, in addition to not referring to the agricultural sector, it merely illustrates the financial, psychological and physiological dimensions, without providing a logical structure of causes and effects. Crane’s (2014) theory, including all forms of forced labour, conceptualizes the definition of modern slavery as a management practice. His framework is a schematization with multiple elements that also includes several basic contextual conditions, such as the characteristics of industries, socio-economic, geographical and cultural variables. These latter conditions are missing in the conceptualization presented by this review. However, Crane’s theory, not referring specifically to the agricultural sector and being very broad in its concept of modern slavery, is lacking in the identification of specific agricultural causes.

In the context of grey literature, the multidimensional model proposed by the ILO (McCann & Fudge, 2017) represents a structured and widespread conceptualization. Indeed, in comparison to the aforementioned frameworks, it

provides detailed models for various forms of exploitative conditions, differentiating in decent, good, precarious, vulnerable, informal, and forced labour. It also identifies multiple causal dimensions for each of these forms of exploitation. For instance, the dimensions of vulnerable work are consistent with the aforementioned findings, encompassing contractual status, working conditions, and social context. However, this modelling lacks a logical structure to identify cause and effect relationships that lead to the emergence of irregular work in agriculture.

3.5 Conclusions

SDG 8 is a call to action for all scholars and institutions to identify vulnerabilities and strategies to eradicate all forms of forced labour. This systematic review highlights the importance of innovative methodological approaches to measuring DW conditions in rural environments, contributing to the monitoring of SDG 8 goals. Indeed, it provides an empirical basis for developing multidimensional indices applicable in the agri-food sector, and many insights for future research. First, the selection process revealed a significant number of papers that were not related to economics, suggesting that research on the topic of DW is being conducted across multiple fields. Indeed, under the umbrella concept of DW and relatively synonymous, various dimensions of labour issues arose from the 56 articles collected. It was highlighted that the combination of farmworkers' context and country is meaningful, even though exploitative conditions in agriculture were observed worldwide. The study found that quantitative research on farmworkers is more commonly conducted in developing countries. Therefore, future studies could provide new empirical evidence in developed economies, such as European members and the United States, by relying on secondary data sources (if available) or by collecting their own data. For instance, none of the collected articles includes an assessment of DW based on workers in developed countries. Furthermore, Blackstone et al. (Blackstone et al. 2021, 2023) only conducted investigations into forced labour risks within the food supply chain in the US context. Therefore, there is a significant opportunity for future investigations by replicating these approaches in different geographical areas.

To monitor progress and evaluate actions towards SDGs a precise publication of statistical indicators is required (Bilek-Steindl & Url, 2022). Given the difficulty of measuring rural working conditions, articles used an index based on multiple indicators. The results showed that the indicators included in the assessment varied between studies according to regional issues. Therefore, to improve reliability, future approaches need to evaluate specific elements emerging from qualitative studies in the recurrent set of indicators most considered in previous studies. The lack of this type of measurement in developed countries should be addressed by replicating the methodologies presented. In this regard, the food systems of the United Kingdom, Italy and Spain represent hotspots that deserve appropriate

quantitative evaluations, given the extensive attention they have received in the literature. In addition, a meta-analysis of articles that have developed a DW assessment through a multidimensional index could highlight the extent to which each indicator plays a role in determining DW conditions. In the future, these efforts could lead to the development of a consolidated methodology for determining the existence of DW.

Finally, this review sought to develop a conceptual framework to facilitate the analysis of the phenomenon by deconstructing the elements of the issues that can be observed through different analytical methods. In light of the above, this can be seen as a valuable instrument for scholars engaged in the analysis of labour issues, enabling a concentration on the specific causal elements. Furthermore, the framework can assist policymakers in orienting their actions for addressing labour issues by providing them with a comprehensive and coherent understanding of a complex phenomenon. For example, policymakers could develop a strategic multi-action plan based on the conceptual framework and its potential future developments. This plan could systematize interventions for housing, wages, contract inspections and combating the informal economy. However, this conceptual framework has two main limitations. First, it does not provide any country-specific elements that could affect the emergence of labour issues. Second, it does not deepen the plausible interconnection within causes, as it does not provide any hierarchical representation of them. Consequently, future studies could validate cause-effect relations or include additional elements in the framework, particularly regarding the structure of child labour. However, this study has certain limitations that should guide future research. First, limiting the scope of this review to economic approaches brought to the exclusion of studies from disciplines such as sociology, anthropology, and industrial relations. This intentional choice narrows the range of causal factors represented in the conceptual framework, such as immigration status and sociocultural determinants. Future interdisciplinary reviews could address these gaps by incorporating diverse methodological perspectives. Second, the articles were collected in only two bibliographic databases. Even though the use of Scopus and Web of Science may help fill gaps between them (Mongeon & Paul-Hus, 2016), it cannot be excluded that some relevant articles might be missed in the selection process. Third, even though the query strings were the result of several attempts to include additional words, some articles may have been missed in the selection process due to a synonym that was not considered. Fourth, it is not excluded that valuable perspectives on empirical approaches or DW measurements may come from grey literature sources that have not been examined here. Addressing these considerations would advance research on labour issues in agriculture towards more effective empirical case-based approaches.

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Appendix 1 Summary of studies reviewed

Article	Methodology, data source, sample	Country, perspective, dimension of decent work	Main findings
Ahsan et al., 2018	Econometrics Primary, 204	Pakistan Workers Decent work	- Meeting compliance measures improves farm competitiveness. - Socially upgraded labour contributes positively to economic improvement for workers and farms in terms of higher wages and premium-quality products.
Akrong et al., 2024	Descriptive analysis Primary, 16	Ghana Multistakeholder Decent work	- GlobalGAP certification improves wages, work conditions, and grievance mechanisms but struggles with full decent work promotion. - Certified farms offer better housing, healthcare, and safety gear, but lack unionization and equitable gender representation.
Aremu et al., 2024	Econometrics, Primary, 1,130	Nigeria Farmers, workers Decent work	- Larger farms hire more seasonal migrant workers with lower wages and poorer conditions than casual workers. - Decent work indices favour larger farms slightly, but working conditions remain precarious across all farm sizes.
Ayenew et al., 2017	Econometrics Secondary, 1,151	Tanzania, Ethiopia Farmers Decent work	Supporting more productive and dignified on-farm employment and creating more productive and dignified rural non-farm employment opportunities for the rural labour force, in general, can benefit smallholder farmers in

			terms of efficient agricultural production and job creation.
Bell & Matthews, 2024	Descriptive analysis, Primary, 30	South Africa Workers Decent work	• Fairtrade certification fails to guarantee social upgrading for farmworkers in South Africa. • Workers often unaware of Fairtrade status or benefits, raising concerns about transparency.
Blackstone et al., 2021	Econometrics Secondary, 307	United States Supply chain Decent work	• There is a risk of forced labour in a broad set of fruit and vegetable commodities in the US, with a small number of commodities accounting (i.e. tomatoes) for a substantial fraction of total risk at the retail supply level.
Blackstone et al., 2023	Econometrics Secondary, 1,312	United States Supply chain Decent work	• Animal-based proteins, processed fruits and vegetables, and discretionary foods are major contributors to forced labour risk in the US.
Bouزيد & Padilla, 2014	LCA Primary, 150	Algeria Supply chain Decent work	• Social impacts on employees are naturally linked to the governance and management of the company, rather than to the process itself; the boundaries of the production system go beyond the production chain and must integrate the company's sphere of influence. • At the farm level, the hard and precarious work, the absence of social protection and the impossibility to constitute or join a trade union, as well as child labour, determine low social performance.

Brenes-Peralta et al., 2021	LCA Primary, 3	Costa Rica Supply Chain Decent work	- The main results suggest that the Costa Rican institutional and market frameworks provide an enabling environment for a generally positive social performance in the studied cases - The assessed stakeholders can fulfil basic needs through access to inputs and services and achieve fair-trading conditions. Child labour, forced labour and evidence of environmental or health risks for the surrounding communities were absent.
Campbell et al., 2019	Descriptive analysis Primary, 55	Australia Workers Decent work	Fear of employer sanctions and the relative insignificance of low pay are relevant for many local workers, especially groups such as students and other young workers who are subject to similar exploitative practices in the same industries.
Chesney et al., 2019	Agent-based approach Simulated, Not specified	Spain Farmers Decent work	The number of links between employers enforces a cluster effect that helps spread bad practice; The pool of labourers looking for work increases the likelihood that slavery occurs
Cong, 2016	Econometrics Primary, 1,803	China Workers Decent work	- The scale itself is effective for a “decent work” measure. - The scale can be used as one of the index systems for measuring grain farmers’ decent work standards.
Dedeoglu, 2024	Descriptive analysis, Primary, 110	Türkiye Workers	Seasonal migrant labour exploits informality, keeps costs low for farmers, reflects rural

		Decent work	population decline, and worsens working conditions.
De Lourdes Camarena Ojinaga et al., 2019	Descriptive analysis Primary, 60	Mexico Workers Decent work	The vulnerable situation of women labourers is related to low wages, uncertainty in job conservation, payment on a piece work basis, asymmetrical contracting, and the omission of labour benefit payments.
Dunuwila et al., 2023	LCA Secondary, 3	Sri Lanka Supply chain Decent work	Governance and Labour rights & decent work had been affected in its supply chain of fertilizers due to Corruption and Freedom of association and collective bargaining issues, mainly in Belarus, and China.
Emberson et al., 2022	Descriptive analysis Primary and secondary, 6	United Kingdom, Brazil Supply chain Decent work	Four distinct types of adaptation were found among first-tier suppliers to reduce the risk of slavery-like practices: horizontal systemization, vertical systematization, horizontal transformation and vertical differentiation.
Fabry et al., 2022	Econometrics Primary, 525	Senegal Workers Decent work	- The agroindustry in Senegal is inclusive towards migrant, female and young workers, but disparities in job quality exist within and across companies. - There is a substantial gender wage gap across companies, but not within companies, and a lower likelihood of having decent employment among migrant and young workers

Fabry et al., 2023	Econometrics Primary, 499	Peru Workers Decent work	• There are significant gender wage gaps and significant decent work gaps between migrant and local workers. • Decent work varies significantly across companies. • Private labour standards are positively associated with the incidence of decent work.
Fatima, 2017	Econometrics Secondary, Not specified	Pakistan Labour market Child labour	• The level of demand for child labour is linked mainly to adult wage levels, the adult unemployment rate in an area, and the size of the informal and agriculture sectors. • The supply of child labour is positively linked to the proportion of adult unemployment in the household.
Fischer-Daly, 2021	Descriptive analysis Primary, 23	United States Workers Decent work	• Forming associations, going on strike, building coalitions, conducting boycotts, negotiating and implementing agreements with employers, lead government actors to improve and enforce labour standards.
García-Alaminos et al., 2021	MRIO Secondary, Not specified	Global Supply chain Decent work	• The top countries with larger social producer footprints are developing economies with large populations: China, Indonesia, and India. Bad labour conditions are concentrated in developing countries.
Garreto et al., 2021	Descriptive analysis Secondary, 392	Brazil Workers Decent work	• Enslaved rural workers have, in general, very limited or even non-existent access to training,

			individual or collective protection equipment, first aid material and medical examinations.
Harrison & Getz, 2015	Descriptive analysis Primary, Multi sample: 220; 83	United States Farmers, workers Decent work	• Larger farms fared better than or no worse than their smaller-scale counterparts in terms of most job quality metrics. these patterns stem from economies of scale, industrialization, firm size itself, the dominant class identities and aspirations of farmers and their peers, as well as farmers' and immigrant workers' fears of immigration enforcement.
Iglesias-Rios et al., 2023	Descriptive analysis Primary, 35	United States Workers Decent work	• The particular social vulnerability of the agricultural labour force, the informality of their labour arrangements, and the current and historical policies of agricultural exceptionalism facilitate the exploitation of these workers in Michigan.
Jacobs et al., 2015	Descriptive analysis Primary, Multi sample	Tanzania, Ethiopia, Kenya, Uganda Workers Sexual harassment	• Sexual harassment is framed by arduous working environments: conditions including low pay, linking of housing with employment and dangerous working conditions help to foster harassment.
Kougkoulos et al., 2021	Remote sensing MCDA Primary, Not specified	Greece Supply chain Decent work	• The MCDA method is a suitable method for operational research to study labour exploitation. Remote sensing techniques can be used to address UNSDG objective 8.7, offering the possibility of collecting useful data remotely

			and incorporating them into decision-making tools such as an MCDA method.
Kushnirovich & Raijman, 2022	Descriptive analysis Primary, 180	Thailand Workers Decent work	• After the implementation of bilateral agreements, the working, living and safety conditions of migrant workers remained poor or even worsened. • For Thai workers, there was a slight improvement in the working and living conditions in the short term after the bilateral agreement, but they worsened in the long run
Lalwani et al., 2018	Case study Secondary, 4	Global Multinational corporations Decent work	• The case companies chosen have implemented several initiatives, but the most prominent seem to indicate the reliance on third-party certification. Not all companies adopted a supplier code of conduct. • The partnerships and collaboration programmes with different associations are presented as efficient for companies as well as farmers. Improvements in the conditions of farmers are advocated as a key result.
LeBaron, 2021	Descriptive analysis Primary, 597	India, Ghana Workers Wages	• Workers earning low, sub-poverty line wages and experiencing wage violations from employers have high vulnerability to forced labour. • Working in an industry where low wages and more minor forms of exploitation are endemic is

			a key factor that renders workers vulnerable to more severe forms of exploitation. • Cocoa farm owners tied low wages and labour abuse to increasingly slim margins in cocoa.
LeBaron & Gore, 2020	Descriptive analysis Primary, 497	India, Ghana Workers Gender issue	• Women are concentrated in the more precarious forms of employment within the cocoa industry. • Women are earning less in cocoa farming than their male counterparts
Mbokazi & Maharaj, 2024	Case study Primary, 15	South Africa Farmers Decent work	• Cooperatives sustain livelihoods, create jobs, but face challenges like poor resources, inadequate training, unregulated management, and external shocks.
McGuire & Laaser, 2021	Descriptive analysis Secondary, 97	Uzbekistan Workers Decent Work	• The mechanisms and labour management practices of the state-organized system in the Uzbek cotton industry are rooted in a governmentally dominated political economy and industry. • The state robustly enforces a labour regime in the cotton industry that rests on force, exploitation and dehumanization, leading to violations of capabilities and functions.
Mohiuddin et al., 2020	Econometrics Primary, 300	Pakistan Workers Gender issue	• Family male labourers have a major role in crop and livestock activities, followed by hired male labourers. • Various factors such as the landholding size of farms and household sizes have negative effects on female participation.

Mpalala et al., 2024	Descriptive analysis Primary, 164	United States Workers Decent work	- Female labour involvement has a statistically significant relation with landholding, household size, education of household head and household type. - Pig farming inclusivity in accommodating varying skill levels fosters a diverse workforce engaged in meaningful economic activities, emphasizing its livelihood potential.
Muthui et al., 2019	Econometrics Primary, 144	Kenya Workers Decent work	- Where adoption of agricultural technology is low, production efficiency is often reduced with reduced productivity. This has a negative implication on enterprise development and the creation of decent work opportunities. - Decent work deficits were more pronounced in enterprises where the farmers were youthful.
Palmioli et al., 2024	Case study Primary, 18	Italy Multistakeholder Decent work	Collaboration among authorities, civil societies, and private sectors unlocked underused resources to address the needs of the most vulnerable.
Rawal, 2006	Descriptive analysis Primary, Multi sample	India Workers Decent work	- The relationships of both casual and long-term workers with their employers were characterised by a significant degree of unfreedom in the two study villages. - Wages in both villages were very low and gender disparities in wages and earnings were very high.

Rivera-Huerta et al., 2024	S-LCA Secondary, 12	Mexico Farmers Decent work	• “Trade unionism”, “certified environmental management system”, “sanitation coverage”, “public sector corruption”, and “drinking water coverage” have the highest social impact in animal-based food production.
Ruggeri & Corsi, 2019	Econometrics Secondary, Not specified	Global Organizations network Decent work	• The results identified four clusters that highlight recurring patterns and similarities of different indicators between producers' organizations in terms of their geographical location, productivity, type of cultivation, size of the organization and involvement in FT.
Sacramento & Cañete, 2023	Descriptive analysis Primary, secondary, 47	Philippine Supply chain Decent work	• The average wage that contracted labourers receive is lower than that which the Philippine government set as a minimum and is a clear manifestation of exploitation. • Traditional forms of labour exploitation are still relevant to contemporary times
Santhanam-Martin et al., 2024	Case study, Primary, 52	Australia Workers Decent work	• Positive workers’ expectations regarding “Safety and security”, “Enabling good work” and “Training and opportunity” lead to the intention of continuing their employment
Schaefer & Hauge, 2023	Case study Secondary, 2	China, Uzbekistan Multinational corporations Decent work	• Private entities can play a role in eradicating state-imposed forced labour, but the impact on profit and sales determines actors’ willingness to act socially responsible. • Private governance is not entirely ineffective in cases of state-imposed forced labour, but when

			the presence of forced labour is severely disputed and politicised, private governance and the conditions necessary for effectiveness are muddled.
Schenner, 2017	Descriptive analysis Primary, secondary, 17	United Kingdom Gangmasters Decent work	Four problems linked to the GLA were identified: lack of workers' representatives on the GLA's Board, focus on extreme cases of labour exploitation, a narrow remit of investigation, and issues regarding intelligence sharing.
Schenner, 2018	Descriptive analysis Primary, 16	United Kingdom Gangmasters Decent work	Five factors of labour exploitation were identified: minor labour abuses, charging of recruitment fees, zero-hour contracts, deficit in audits, and abusive living conditions.
Siegmann et al., 2024	Descriptive analysis Primary, 12	Netherlands and Poland Workers Decent work	Upgrading to high-value-added products, along with process improvements such as the implementation of climate control systems in greenhouses, presents opportunities for enhanced and more stable employment prospects.
Simas et al., 2014	MRIO Secondary, Not specified	Global Supply chain Decent work	- Food consumption represents a higher share of the bad labour footprint in most of the regions. It is especially high for child and forced labour. - Food production occupies around one third of global employment and suffers from worse labour conditions than other economic sectors.

Singh, 2022	Descriptive analysis Primary, 204	India Workers Decent work	• Lack of housing and homestead pushes local landless Dalit labourer households into long-term and attached labour contracts. • The long-term labourers who did not own their dwellings were systematically paid less than the existing annual wages in the village.
Thomas, 2021	Descriptive analysis Primary, 640	Sri Lanka Workers Decent work	• The lack of enforceability of ILO standards will no doubt mean that some states with poor human rights performance will continue to ratify particular labour standards as a form of “social camouflage” in order to avoid or blunt criticism from the international community. • Consumer power remains a rather ineffective instrument for the pursuit of social justice whereas developing independent union organizations at the local and national level coupled with comprehensive employment law, is the more effective path towards decent work in GVCs.
Tragnone et al., 2023	S-LCA Primary, 1	Italy Farmers Decent work	• Impact categories with the highest medium-risk hours were found to be public sector corruption, non-fatal accidents, trade unions, and public expenditure on education.
van den Broek et al., 2021	Descriptive analysis Primary, Multi sample	Australia Workers Decent work	• The accumulative and concentrated power of grocery retailers has intensified supply chain pressures on growers.

			• The high concentration of the grocery sector is a cause, also a combined effect of supply chain pressure and opportunistic intermediaries
van den Broeck & Akaribo, 2024	Econometrics Secondary, 6518	Ghana Workers Decent work	• Cocoa production raises the likelihood of working on the family farm, without exceeding legal work hours or involving harmful conditions. • The effects are similar for both boys and girls, but more pronounced for older children.
Vinci et al., 2024	S-LCA Secondary, Not specified	Ivory Coast and Ghana Farmers Decent work	• Very high risk regarding child labour in global cocoa production. • Forced labour is less frequent than child labour in cocoa farming in Ivory Coast and Ghana.
Wahab & Dollah, 2023	Descriptive analysis Primary, 43	Malaysia Workers Child labour	• Not all children's participation in oil palm production is child labour. Poverty is inadequate to understand the phenomenon.
Walsh et al., 2022	Descriptive analysis Primary, 43	United Kingdom Supply chain Decent work	• Participants believe that there is an increased risk of labour exploitation following the introduction of the PBS. • Businesses close to the ground that are dependent on migrant low-skilled workers believe that the introduction of the PBS will lead to an increase in labour exploitation.
Webster et al., 2015	Descriptive analysis Primary, Not specified	South Africa Workers Decent work	• All industries surveyed experience decent work deficits.

Yu & Osabohien, 2023	Econometrics Secondary, Not specified	Africa Workers Gender issue	• Farmworkers suffer a significantly greater decent work deficit than workers in the other two industries, especially in the way long hours affect their work-life balance. • Female participation in agriculture is statistically significant, but negative in explaining the level of human capital development; female education is significant and positive. • This implies that an increase female population and participation in agriculture without the required education and training may hurt human capital outcomes in Africa.
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4

Enhancing Ethical Food Consumption: The Impact of Information Framing on Consumer Preferences

Abstract

Cases of unethical working conditions of agricultural workers, particularly in specialised rural regions of Europe such as Italy, have received increasing attention, calling for solutions to guarantee fair labour practices. This study investigates how Italian consumers respond to information about these issues by focusing on the framing of ethical attributes through a “Fair labour” hypothetical certification designed to guarantee decent work and fair wages. Using a Discrete Choice Experiment with three distinct information treatments, the paper explores the differential impact of negative versus positive framing of information on consumer decision-making. The results reveal that emotionally charged, negative information highlighting the consequences of unethical labour practices is particularly effective in amplifying consumer interest in ethical certifications. Conversely, positive framing, while still impactful, proves less influential in shaping preferences. Furthermore, trust in the certification is a critical factor in fostering favourable attitudes. These findings highlight the strategic importance of framing in promoting ethical certifications, offering valuable insights for policymakers and businesses aiming to enhance transparency and responsibility in agricultural supply chains while meeting the growing consumer demand for fair labour practices.

Chapter based on this Publication

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4.1 Introduction

In recent years, consumer interest in corporate practices that prioritize sustainability and ethics has notably increased (Narayanan & Singh, 2023). This trend reflects a growing awareness among consumers of the social and environmental consequences of their purchasing decisions (Toussaint, Cabanelas, & González-Alvarado, 2021). It aligns with the “One Health” concept, which emphasizes the interconnectedness of human health, animal welfare, and environmental sustainability, while highlighting the critical role of Corporate Social Responsibility (CSR) in promoting societal well-being (He & Harris, 2020; Oliveira & Gebreyes, 2022). This trend is particularly evident in the food market, where there exists a growing demand for socially sustainable food (Falcão & Roseira, 2022) and for transparency in ethical and environmental claims, as consumers increasingly seek assurance about the integrity of food production practices (Frey, Bar Am, Doshi, Malik, & Noble, 2023). This growing interest has also enriched and expanded the academic discussion about the concept of “ethical consumption,” reflecting the increasingly varied expectations of consumers (Carrington, Chatzidakis, Goworek, & Shaw, 2021) and including self-transcendent behaviours aimed at benefiting others—both human and non-human—by contributing to the public good or protecting the environment (Kronrod, Grinstein, & Wathieu, 2012; White & Simpson, 2013; Xie, Bagozzi, & Grønhaug, 2015). This encompasses consumer choices that promote human rights, animal welfare, environmental sustainability, support for local economies, and ideological or religious dietary preferences. Such commitments often lead consumers to boycott unethical products or practices (Braunsberger & Buckler, 2011; Kim & Kim, 2024) or to engage in “buycotting,” a practice where they actively support socially responsible products (Friedman, 1996). In this context, the emergence of voluntary certification and labelling schemes has become a key mechanism for promoting ethical practices across supply chains. By providing transparency and credibility, such certifications empower consumers to make informed choices, reinforcing the role of ethical consumption in driving positive social and environmental change (Panico, Caracciolo, & Furno, 2022). For producers, adopting voluntary certifications and labels can serve as a strategic marketing tool, enabling them to target specialised market segments where consumers are willing to pay a premium for products that align with their ethical values (Del Giudice et al., 2018).

In the agri-food sector, the Fair Trade (FT) label is widely recognised as a symbol of ethical practices, ensuring that producers in developing countries receive fair compensation and work under humane conditions. Numerous studies have demonstrated consumers’ Willingness To Pay (WTP) a premium for FT-certified food products such as chocolate (Didier & Lucie, 2008; Vlaeminck & Vranken, 2015), coffee (Fuller & Grebitus, 2023; Fuller, Grebitus, & Schmitz, 2022; Yang, Hu, Mupandawana, & Liu, 2012), bananas (Arnoldussen, Koetse, de Bruyn, &

Kuik, 2022; Bürgin & Wilken, 2022), and rice (Aoki, Akai, & Ujiie, 2017; Tu, Kopp, Trang, Kontoleon, & Yabe, 2021). Additionally, research has highlighted that the effectiveness of these labelling systems depends heavily not only on their presence but also on how their meaning is emotionally communicated. For example, providing consumers with detailed explanations of the goals behind the FT concept (Lange et al. 2015; Konuk 2019; Ruggeri et al. 2021) or using emotionally engaging visual and written information (Hur, Lee, & Stoel, 2020) has been shown to significantly increase purchase likelihood¹⁸. Shifting the focus from products originating in the Global South, recent studies have explored consumers' positive WTP for CSR attributes (Del Giudice et al., 2018; Miller et al., 2017) and their attention to labour issues in food production¹⁹. Specifically, consumers have demonstrated a willingness to support farmers' efforts to improve agricultural workers' wages (Drichoutis, 2017). In this context, Rossi et al. (2024) identified a potential market for ethical schemes that certify farmers' commitment to providing decent working conditions in Italy.

Despite the extensive literature on consumers' WTP for ethically certified products, significant research gaps persist, particularly regarding the role of information framing in shaping consumer preferences for fair labour-certified food products. While much of the existing research has focused on ethical certifications for environmental sustainability or fair trade in global supply chains, little attention has been given to how the presentation of a label addressing an emotive and sensitive issue, such as fair labour standards, influences consumer behavior in Western countries. For instance, the way such certifications are communicated to consumers—whether by evoking emotions tied to the challenges faced by agricultural workers or by highlighting the benefits of ethical labour practices—may generate different emotional responses, potentially shaping consumer preferences. This paper specifically aims to address this aspect.

Agricultural labour issues are particularly relevant in developed economies, especially in Europe's specialised rural regions, which are often characterised as destinations for unskilled, low-wage migrant labour (King, Lulle, & Melossi, 2021; Rye & Scott, 2018). These structural features contribute significantly to worker vulnerability (Kushnirovich & Rajman, 2022; Webster, Budlender, & Orkin, 2015), as evidenced by exploitative conditions, including inadequate wages and substandard living arrangements. Such conditions have been documented across several EU countries, including Germany, the Netherlands, and Sweden (Corrado, Pisacane, & Alarcón Ferrari, 2024; Palumbo & Corrado, 2020), and are particularly prevalent in southern EU nations like Italy, where labour-related issues have been

¹⁸ Conflicting results have been observed when consumers are overloaded with information about the ethical aspects of products, leading to uncertain effects on purchase intention (Grunert et al., 2014; Eberhardt et al., 2021).

¹⁹ Similarly, corporate social irresponsibility can have negative effects on WTP by leading consumers to exhibit adverse behavior towards the company (Yu et al., 2022; Sasson, 2016).

extensively studied (Guidi & Berti, 2023; Palmioli, Dentoni, & Brunori, 2024; Palumbo, 2024).

Given that consumers' perceived fairness of agri-food production and awareness of labour-related issues can significantly influence purchasing intentions (Del Prete & Samoggia, 2023; Ladhari & Tchegnà, 2015; Mirabella, Borsellino, Galati, Schimmenti, & Caracciolo, 2025), insufficient attention to these social compliance aspects may have critical market consequences. Additionally, the absence of a dedicated ethical certification scheme addressing workers' rights for everyday consumer products—and the lack of research examining how such a scheme might influence consumer behavior—presents a clear barrier to fostering transparency and accountability in agricultural supply chains.

Given that consumers' perceived fairness of agri-food production and awareness of labour-related issues can significantly influence purchasing intentions (In light of these considerations, this study examines Italian consumers' preferences for fair labour certified fresh tomatoes, with a particular focus on the influence of framing contexts. More in detail, this study addresses two main research questions:

1. Are Italian consumers willing to pay for a hypothetical ethical certification that guarantees fair labour standards in the agri-food sector?
2. How does the emotional framing of such a certification affect their willingness to pay for ethically labelled fresh produce?

To this end, a Discrete Choice Experiment (DCE) was designed to measure consumers' willingness to pay for a hypothetical fair labour certification aimed explicitly at safeguarding workers' rights. To investigate the impact of information framing on consumer intentions, the DCE included three distinct informational treatments—positive, negative, and neutral. These treatments varied the presentation of the certification attribute, using emotive, visual-written stimuli to evaluate their effect on consumers' WTP.

Understanding consumers' WTP for a labour certification not only provides insights into its market viability and communication effectiveness, but also contributes to the broader policy debate by highlighting public support for ethical labour standards. Such evidence can strengthen the legitimacy of CSR initiatives and inform the design of regulatory or incentive-based measures aimed at institutionalizing socially responsible practices in the agri-food sector. Indeed, While CSR initiatives are generally assumed to be voluntary, public policies and legislative frameworks can significantly influence their scope, implementation, and communication (Buhmann, 2006). Regulatory instruments can promote ethical production by establishing minimum labour standards, providing fiscal or reputational incentives, and mandating transparency through due diligence and

labelling requirements²⁰. Nonetheless, the absence of a dedicated national standard in Italy—combined with the difficulty of effectively communicating the complexity of labour rights violations—underscores both the relevance and the novelty of this study.

This research offers an original contribution by examining consumer responses to labour-related certifications in a European context and by integrating a Discrete Choice Experiment with emotionally charged visual-written framing treatments. Applied to the sensitive domain of Italian fresh fruit and vegetable products, where labour exploitation remains a persistent issue (Melossi, 2021), this paper aims to provide new insights into the determinants of ethical food choices and the strategies needed to support socially sustainable consumption.

4.2 Materials and Methods

4.2.1 Survey and choice experiment design

For this study, a web-based survey was conducted in Italy from November 2023 to March 2024 to perform a DCE—a stated preference method commonly used to elicit consumers’ preferences for products attributes by presenting them with a series of hypothetical choice scenarios. In each scenario, respondents are asked to choose between discrete alternatives described by varying levels of multiple attributes (McFadden, 1974). Consumers who were at least 18 years old were recruited randomly via social media platform using the snowball sampling method. Although snowball sampling is a non-probability sampling method, it is recognised as a valuable approach for targeting difficult-to-reach populations such as consumers interested in ethical food products (Emerson, 2015). This method is particularly effective when random sampling may not yield sufficient participation from niche consumer groups, enhancing the sample size and statistical power (Goodman, 1961; Noy, 2008). Informed consents from all participants were obtained.

The questionnaire was structured as follows. In the first part information on how often respondents consume F&V products on a weekly basis and how much attention they pay to the production method when making purchases were collected.

The second part of the questionnaire involved the DCE. Four attributes were used in the experimental design, as shown in **Table 8**. Production method was included given the importance of the environmental dimension in fresh vegetables purchasing (Sánchez-Bravo et al., 2021). Accordingly, the two levels of the

²⁰ For example, the EU Directive on Corporate Sustainability Due Diligence encourages firms to identify and mitigate social risks within their supply chains. However, this directive mainly targets large companies, raising concerns among civil society organizations regarding the regulatory gap for smaller firms operating in high-risk sectors (Bueno et al. 2024).

attribute were: i) no label or ii) organic production. The word 'bio' was added to make the label more easily understandable to the Italian respondents. Country of origin, as it is another crucial criterion in selecting F&V products (Gao, Sing Wong, A. House, & H. Spreen, 2014; Thøgersen, 2023), was included with two levels: i) no label or ii) '100% Italian'. The attribute of Fair labour was included, as a hypothetical certification created by the authors, representing an exulting figure on a field, above the Italian translation of "Fair labour" ("Lavoro Equo"). The two levels of the attribute were: i) no label provided or ii) Fair labour label. Lastly, three price levels were included, calculated on the basis of an average value of 4.50 €/kg found in the main grocery stores for organic tomatoes of Italian origin. The three levels were obtained by varying the price of the 500g package, which was set at €2.59, by $\pm 25\%$ and rounding up. Indeed, the mean price in the choice tasks was set at a level above the actual market price (approximately €2.25) to enhance the impact of the price attribute (Mørkbak, Christensen, & Gyrd-Hansen, 2010).

Table 8 Attributes and levels.

Attributes	Levels
Production method	No label provided 
Country of origin	No label provided 
Fair labour label	No label provided 
Price	€ 1.99/500g € 2.59/500g € 3.29/500g

A D-optimal efficient design was implemented using the modified Fedorov algorithm (Carlsson & Martinsson, 2003), with 12 choice sets that were divided into four blocks. Each choice task consisted of three choices and a 'no buy' option. An example of a choice task is shown in **Figure 5**. Furthermore, the four blocks were replicated three times to assess the impact of presenting the Fair labour label with negative, positive, and neutral information. In the negative treatment, the description stated that the absence of the Fair labour label can result in unfair

working conditions and the systematic violation of workers' rights, preceded by an AI-generated image of a dissatisfied worker. In the positive case, a purposeful message was provided which described the role of ethical certification in promoting decent working conditions and fair wages. This was accompanied by an AI-generated image of a smiling worker (**Figure 6**). In the neutral treatment, a minimal descriptive message was provided, and the choice task simply displayed the Fair labour label alongside the product options without further context or images of workers. 449 questionnaires were collected, of which one was excluded from the analysis due to illogical answers on socio-demographic questions. Respondents were equally assigned to the three information treatments.

After the DCE, ten items from the Machiavellianism 1-4 Likert scale by Christie et al. (1970) were implemented, as used by Auger and Devinney (2007). This construct presented a hypothetical scenario in which respondents were asked to declare whether they would not (=1) or would continue to purchase (=4) a package of fresh tomatoes if they discovered unethical labour practices behind their cultivation. Following this, participants evaluated their trust in the hypothetical Fair labour label using a 1 to 7 Likert scale, as previously applied in Eberhardt et al. (2021).

The next section included three questions about participants' perceptions of working conditions in agriculture compared to other sectors, providing additional context for the study. Finally, the questionnaire concluded with socio-demographic questions to gather relevant background information on the respondents.



Figure 5 Example of a choice task.



Figure 6 Accompanying images to the Fair Work certification description in negative and positive information treatments respectively.

4.2.2 Empirical approach

To estimate the willingness to pay for Fair labour certification under different information conditions, a discrete choice model (Train, 2009) was employed. This approach, which belongs to the class of random utility models (McFadden, 1974), is based on the modelling of consumer utility. Given a set of j alternatives in a choice task t , n respondents make a choice based on the utility (u_{njt}) that is considered linear, additive and separable function of all c -th attributes that constitutes the product. According to the random utility theory (Lancaster, 1966), function can be defined as in equation (1):

$$u_{njt} = \beta' x_{njt} + \varepsilon_{njt}, \quad (1)$$

Where β' is a vector of unknown parameters that can be assumed constant (fixed parameter model) or random (mixed model), x_{njt} is a vector of observable variables and represent the deterministic component, while ε_{njt} is the stochastic unobserved error term. In this study, a Mixed Logit (ML) model (Train, 1998) was implemented, which takes into account the heterogeneity of preferences among the respondents, allowing the parameters of the model to be randomly distributed (Revelt & Train, 1998). It was assumed that each non-price attribute follows a normal distribution to account for both positive and negative values. Conversely, the price was modelled to follow a lognormal distribution since it is expected to be negative. This modelling choice was made to overcome the limitations of a fixed price coefficient, such as the assumption of constant marginal utility and the standard deviation of unobserved utility across consumers (Caputo & Scarpa, 2022).

The utility function used in this study is defined as follows:

$$U_{njt} = \beta_0 ASC + \beta_{1ij} Organic_{ij} + \beta_{2ij} Italian_{ij} + \beta_{3ij} Fair_{ij} + \beta_{4ij} Price_{ij} \quad (2)$$

Where, U_{njt} represents the total utility of consumer n for j alternatives in choice task t ; ASC (alternative specific constant), is a dummy variable representing the no buy option. Except for 'Price', all covariates included in the model are dummy variables. Each β coefficient represents the marginal utility associated with the corresponding attribute.

Once implemented the ML model, the Marginal Willingness To Pay (mWTP) of consumer i were calculated for each attribute k to compare the effects of information treatment. In models based on preference space, mWTP values are obtained as marginal rate of substitution (MRS) of each attribute to price p . WTP's interval estimates were calculated on by Delta method.

In order to gain further insight into the factors influencing the preference for the Fair labour-labelled alternative, a linear regression model was constructed using Fair labour's individual parameter derived from the ML model. The model specification included a set of socio-demographic variables; Additionally, attitudinal variables were included in the model, given their potential influence on ethical preferences. Items pertaining to trustworthiness and Machiavellianism were included, as beliefs and values can orient the choice between alternatives. Furthermore, the information treatment was included in the model, as its interaction with the trustworthiness variable, to test the combined effect.

4.3 Results

4.3.1 Descriptive statistics

Sociodemographic characteristics of the respondents are illustrated in **Table 9**. As shown, participants were mainly women, young, well-educated and with a low and medium household monthly income.

Regarding consumer purchase habits, as displayed in **Appendix 2** nearly half of the respondents (48%) buy F&V 2-3 times a week, and 40% purchase them daily. The production method is a moderate driving factor, as 35% and 41% declared to have, respectively, little and quite a concern about it. Furthermore, regarding the perception of work in the agricultural sector, the results show as respondents believe that agricultural workers earn less than workers in other sectors (76%), with only 11% perceiving salaries as equal and a mere 1% considering them higher. A similar scenario resulted from labour exploitation exposition, with 76% of the respondents declaring a higher risk compared to other sectors. Conversely, in health risk case, results have shown that for 39% of the respondents the risk is equal to other sectors, while nearly half of them declared that it is higher. These results indicate a certain shared belief among the interviewees of both the economic disadvantages and the risks to which agricultural workers are exposed, together with a moderate concern for ethical and production methods in their F&V purchasing decisions.

Table 9 Sample characteristics.

Variables	Categories	Frequency	Percent (%)
Gender	Male	155	34.60
	Female	290	64.73
	Other	3	0.67
Age	18-35 years	225	50.23
	36-54 years	137	30.58
	55-73 years	85	18.97
	≥ 74 years	1	0.22
Education	High school	10	2.23
	Secondary school	103	22.99
	University	244	54.47
	Post university	91	20.31
Monthly household income	≤ €2,000	143	31.92
	€2,001-€4,000	170	37.95
	≥ €4,001	64	14.28
	n.a.	71	15.85
Information treatment	Positive	164	36.60
	Negative	142	31.70
	Neutral	142	31.70

In **Figure 7** are displayed the results of the Machiavellism Likert scale. Respondents have expressed a certain grade of heterogeneity in the responses. Considering the rejection category (“certainly wouldn’t buy it again), the responses can be classified into two distinct groups: strong ($\geq 75\%$) and moderate (50-74%) rejection. Following this, consumers declared a strong rejection in repurchasing tomatoes if it involved child labour, discrimination or sexual harassment, health risk, and threatened with dismissal in case of pregnancy. A moderate rejection resulted in the lack of workers sick pay (69%), and rest days (65%), for the case of job insecurity (53%), and inadequate salary (64%). Practices like forcing workers to work overtime and the prohibition to join a trade union seem to have the most mixed reactions, indicating some consumer tolerance for this type of issue. Therefore, unfair practices regarding the core of human beings, such as child employment, health concerns, and discrimination, appear to be rejected more than precarious labour conditions in terms of salary, working hours, and rights

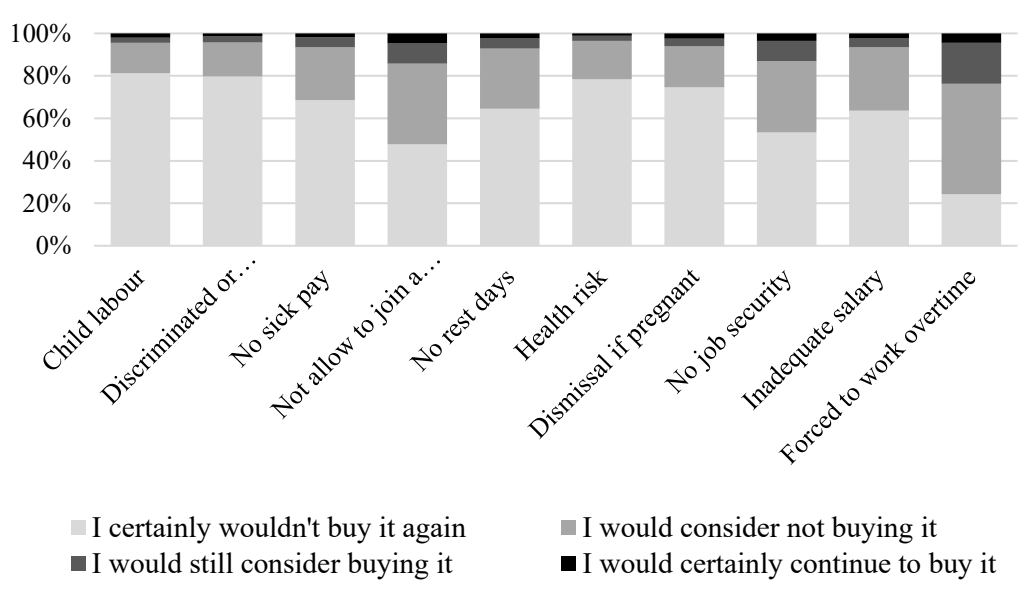


Figure 7 Consumer willingness to repurchase fresh tomatoes under various labour rights violations.

4.3.2 Estimation of the Mixed Logit model and Willingness To Pay

Table 10 presents the results of the model specification both for the aggregate case and across information treatments. The coefficient for price is negative, indicating that, when other variables remain constant, consumers prefer cheaper tomatoes to expensive ones. Regarding the non-price attributes, all the coefficients exhibit a positive sign, including across the information treatments. Therefore, respondents indicated a preference for an organic-labelled tomato box over one that is not, as well as for a 100% Italian origin indication on the label, and they recognised the Fair labour label as an added value.

Regarding the consumers' heterogeneity, the standard deviation showed overall values significantly different from zero, meaning that there are significant individual differences in preferences. In terms of magnitude, it can be observed that price attributes showed less heterogeneity in consumer preferences in all cases, even if they statistically differed from zero. This result indicates the goodness of the model in capturing the random variation among consumers distributed within the subsamples.

In terms of marginal WTP, the models exhibit significant and positive values for all the attributes. The values displayed in **Table 10** show substantial differences across the information treatments. Regarding the aggregate analysis, the findings reveal that the Italian origin attribute has the greatest influence on consumers' choices (€2.71), followed by the Fair labour label (€2.24) and the Organic label (€1.97). When isolating the effect of the information treatment, it can be observed that when the respondents were exposed to the image of the dissatisfied worker and the description of the consequences of the absence of certification, the relative WTP for the variable showed the largest value compared to the other parameters

(€4.36), followed once again by Italian origin (€2.87) and the Organic label (€2.24). Furthermore, the negative treatment demonstrated a positive difference in WTP for Fair labour-labelled tomatoes compared to the positive (+55%) and neutral (+248%) treatments. Conversely, the neutral information treatment demonstrated the lowest marginal WTPs across all variables, including Fair labour.

Table 10 Results of the Mixed Logit model and WTP estimate (€) between information treatments.

Variables	Aggregate	Negative	Positive	Neutral
<i>Mean</i>				
Price	-0.073***	-0.046***	-0.035**	-0.176***
Organic	1.041***	0.767***	1.316***	1.115***
Italian	1.451***	0.977***	1.771***	1.724***
Fair	1.208***	1.444***	1.313***	1.012***
Optout	-4.866***	-5.039***	-7.534	-3.034*
<i>Standard deviation</i>				
Price	0.110***	0.074**	0.092***	0.183***
Organic	0.619***	0.472	0.561	0.982**
Italian	0.941***	0.865***	1.206***	0.518
Fair	1.065***	1.285***	1.036***	1.085***
Optout	4.873***	5.333***	6.265**	2.497**
<i>WTP estimate (95% CI)</i>				
Organic	1.97***	2.24***	3.08***	1.41***
Italian	2.71***	2.87***	4.19***	1.99***
Fair	2.24***	4.36***	2.82***	1.25***
Number of obs.	448	142	164	142
AIC	2,808.5	944.1	1,023.6	824.5
BIC	2,874.4	998.5	1,079.5	878.9

Significance level .10, .05, .01 indicated by *, **, *** respectively.

Abbreviations: CI: Confidence interval; AIC: Akaike information criterion; BIC: Bayesian information criterion

4.3.3 Preferences for Fair labour attribute

Once the consumers' preferences for the Fair labour certification were estimated, and following Weituschat et al. (2023), a linear regression model was employed to analyze how these preferences may vary across individuals' characteristics. Subsequently, the coefficients of this regression model represent the effect of individual variables on the preference for Fair labour certified tomatoes. Harman's single-factor test extracted two factors accounting for 63% of the variance, with factor one accounting for 37%, indicating a low risk of CMB. The results presented in **Table 11** show that the socio-demographic characteristics

of the respondents, including educational level, age, and gender, did not exhibit a significant effect on the preference for a product alternative with the Fair labour label. Similarly, with regard to the attitudinal factors, neither the frequency of F&V purchases nor the attention paid to the production method demonstrated a significant effect. In contrast, the respondents' perceived trust in the Fair labour label exhibited a positive and significant effect on the preferences ($\beta = 0.068$, p-value < 0.01). Moreover, the findings highlight that exposure to the image of a dissatisfied worker and reflection on the lack of certification consequences exerted a strong influence on consumer preferences ($\beta = 0.519$, p-value < 0.01). However, the interaction variable between these last two factors showed a negative and significant influence on the dependent variable, indicating that the effect of perceived trust is diminished when respondents are exposed to negative information treatments. In other words, if a participant trusts the Fair labour label but is exposed to content showing an exploited worker, the effect of their trust in the label is reduced regarding their likelihood of preferring an ethical alternative.

Lastly, the risk of Common Method Bias (CMB) was assessed²¹. Following Podsakoff et al. (2003), Harman's single-factor test was applied to attitudinal items, the Machiavellianism scale, and trustworthiness. The unrotated exploratory factor analysis showed that the first factor accounted for 37% of the total variance, well below the 50% threshold, suggesting that CMB is not a major concern in this study.

Table 11 Results of the linear regression model.

Variables	Coefficient	Standard error
Education	-0.009	0.034
Age	-0.001	0.002
Female	-0.072	0.053
Frequency of F&V purchase	0.013	0.023
Attention to method of production	-0.042	0.031
Trustworthiness	0.068***	0.022
Negative treatment	0.519***	0.182
Trustworthiness ´ Negative	-0.078**	0.038
Machiavellism	-0.092***	0.034
Constant	0.914***	0.163
Number of obs.	448	
R ²	0.065	

Significance level .10, .05, .01 indicated by *, **, *** respectively.

²¹ CMB refers to artificial covariance between variables caused by the measurement method rather than true conceptual relationships.

4.4 Discussion

The study aims to analyze the impact of a hypothetical certification scheme designed to protect workers' rights in the agricultural sector on consumers' purchasing behavior, with particular attention to the influence of framing contexts.

The finding of a positive price premium for a hypothetical worker-related certification is supported by Rossi et al. (2024), who observed a favourable response from Italian consumers to a label claiming farmers' adherence to a policy instrument that respects workers' rights. More broadly, when considering studies analysing FT labels, this study's results align with prior investigations based on Italian samples, albeit often for non- F&V products (Gallenti, Troiano, Cosmina, & Marangon, 2016; Rotaris & Danielis, 2011). Similarly, Ruggeri et al. (2021) revealed a positive effect on WTP when additional information about certification was provided. Beyond the Italian context, a substantial body of research has shown that the presence of FT labels on F&V products leads to increased WTP (El Hadad-Gauthier, Monhoussou, Hammoudi, & Perito, 2022; Miller et al., 2017; Uckert et al., 2023). This effect has also been observed for other FT-labelled products, such as chocolate (Bürgin & Wilken, 2022; Rousseau, 2015; Vecchio & Annunziata, 2015; Vlaeminck & Vranken, 2015) and coffee (Arnoldussen et al., 2022; Fuller & Grebitus, 2023; Fuller et al., 2022). These findings are relevant to this study due to the similar purpose of these labels in promoting fair working conditions and adequate wages. Consequently, they strengthen the evidence that there is market demand for F&V products offering greater transparency regarding labour-related issues.

The findings of this study underscore the role of information in guiding consumer choices towards Fair labour-labelled products. Although the Fair labour attribute's coefficient was positive and significant across both the aggregate analysis and the information treatments, it was deemed the least important attribute in the neutral treatment, where respondents were provided with minimal information. In this scenario, country of origin and organic labels emerged as the first and second most important attributes, respectively. By contrast, in the negative treatment, which included more information, the Fair labour attribute exhibited the highest WTP (€4.36), followed by country of origin (€2.87) and Organic label (€2.24). This indicates that, when exposed to the treatment stimuli, consumers placed greater value on the human dimension of production methods. These findings reinforce prior research highlighting the central role of information in shaping consumer WTP for ethically labelled products.

The increase in WTP observed in this study following the information treatments is consistent with previous findings (Pérez & de los Salmones, 2018; Ruggeri et al. 2021), which emphasize that enhanced information significantly boosts consumer engagement with ethical labels. Indeed, consumers are more responsive when informed about the meaning and implications of certifications,

rather than relying solely on logos, which may fail to overcome scepticism (Skarmeas & Leonidou, 2013). Contrary to the concerns raised by Clough (2014) and Jaffee and Howard (2016) regarding information overload and potential negative reactions, this study found no evidence of a reduction in WTP, suggesting that the information provided was effective.

Moreover, Hur et al. (2020) found that visual-written information—particularly when framed negatively—significantly affects consumer WTP. In line with this, the present study shows that emotionally charged visual stimuli increase WTP for ethically labelled fruit and vegetables, reinforcing the effectiveness of such treatments in activating prosocial preferences. The model also indicates that perceived trustworthiness exerts a significant and positive effect on the choice of ethical alternatives. This is consistent with literature suggesting that consumers are more inclined to make prosocial choices when they associate integrity and honesty with the label (Eberhardt et al., 2021). For example, Konuk (2019) found that trust in FT labels is a significant predictor of both WTP and purchase intentions, while Aksoy and Özsonmez (2019), in their study on millennials, identified a positive relationship between perceived trustworthiness and WTP for FT products.

Regarding the characteristics of the information treatment, the findings of this study are also in line with previous research demonstrating that negative emotions—such as guilt or indignation—can enhance ethical salience, increase the perceived urgency of the issue, and foster ethical consumer behavior (Antonetti & Maklan, 2014). This supports the "negativity bias" literature, which suggests that consumers assign more weight to potential harms than to potential benefits in morally relevant contexts (Baumeister et al., 2001; Antonetti & Maklan, 2014). Furthermore, the results are consistent with recent findings in Italy showing that feelings of guilt and the ascription of responsibility for not making more socially sustainable choices can significantly influence purchase intentions (Mirabella et al., 2025). Similarly, Carrigan and Attalla (2001) argued that ethical considerations have a stronger influence on consumer preferences when individuals are emotionally engaged with the issue. Consistent with these findings, the present study revealed that negative treatments led to a significant increase in WTP for Fair labour certification.

This evidence is further supported by studies investigating the role of positive and negative emotions in shaping consumer intentions, which have highlighted their relevance (Berki-Kiss & Menrad, 2022; Zerbini, Vergura, & Latusi, 2019). However, some contrasts emerge in the literature. For example, Fernández-Ferrín et al. (2024) identified a greater impact of positive emotions compared to negative ones. These diverging results may be explained by issue sensitivity: labour exploitation—particularly within domestic supply chains—may evoke stronger moral emotions when framed negatively, whereas environmental or community-based appeals might be more effectively communicated through hopeful

narratives. Thus, the more pronounced effect of negative stimuli observed in this study appears to be linked to the specific context of application, namely labour exploitation.

Indeed, Peloza et al. (2013) demonstrated that images and narratives evoking empathy for victims of social injustice elicit emotional responses that drive pro-social purchasing behavior. Specifically, the use of negative stimuli—such as images of exploited workers—has been shown to directly evoke a sense of moral obligation by recalling concrete injustices. This effect is particularly pronounced among Italian consumers, who exhibit heightened sensitivity to issues of social justice (Nassivera, Troiano, Marangon, Sillani, & Markova Nencheva, 2017). Negative stimuli may be especially effective within this population, as they resonate with themes of collective indignation deeply embedded in the cultural context.

In contrast, positive emotions appear to have a relatively limited influence on consumer behavior. Positive stimuli often evoke a sense of satisfaction that fails to motivate active change. Antonetti and Maklan (2014) observed that self-satisfaction derived from positive information leads to a superficial perception of the issue, reducing the perceived need for individual intervention. This could explain why, in the present study, positive treatments had a less pronounced effect on WTP compared to negative treatments.

Regarding consumer preferences for the other attributes, the findings confirm that country of origin is a decisive factor in shaping consumer choices among alternatives. This result is consistent with previous research on Italian samples involving typical food products (Bimbo, Roselli, Carlucci, & de Gennaro, 2020; Boncinelli, Dominici, Bondioni, & Marone, 2024; Farina, Casati, & Sckokai, 2024) as well as studies conducted on non-Italian consumers (Segovia & Palma, 2016). In the case of F&V, the country of origin emerges as a significant driver of purchasing decisions, with notable differences observed between countries with high sensitivity, such as Italy and France, and those with lower sensitivity, including Norway and Hungary (Török, Yeh, Menozzi, Balogh, & Czine, 2023).

Country of origin is often associated with perceived quality and ethnocentric concerns in F&V demand (Miguel, Marques, & Duarte, 2023). By contrast, organic certification captures consumers' health and environmental concerns (Schouteten, Gellynck, & Slabbinck, 2019). European consumers, in particular, tend to associate organic F&V with health benefits, reflecting a growing preference for nutritious and sustainable food options (Vukasović, 2015). In a cross-country survey conducted by Török et al. (2023), the organic label demonstrated significant relevance in the Italian sub-sample, although it ranked lower in importance than the origin attribute. Similarly, Fuentes et al. (2023) found that Spanish consumers prioritize price and country of origin over organic certification when purchasing F&V. These findings align with the present study, which underscores the

importance of the organic attribute, although it is preceded in significance by the country of origin.

Finally, this study's results indicate that socio-demographic variables do not significantly affect consumer preferences for Fair labour certification. This contrasts with previous segmentation studies on Italian consumers, which identified younger and less-educated individuals as the most ethically responsible segments (Piracci, Boncinelli, & Casini, 2022; Rossi et al., 2024). It is possible that the limited heterogeneity of this study's sample constrained the ability to detect the effects of socio-demographic characteristics on the dependent variable

4.5 Conclusions

The findings of this research in the Italian fruit and vegetable sector provide valuable insights into consumer preferences for ethical food by exploring the market potential of a hypothetical Fair labour certification label, tested under varied informational and emotional stimuli. This study emphasizes the role of information in shaping consumer perceptions and highlights opportunities to integrate ethical considerations, such as workers' rights protection, into conventional product attributes.

The results demonstrate the market potential for an ethical certification in the Italian F&V sector. A positive willingness to pay was observed across all information treatments, alongside other relevant product attributes. Notably, the Fair labour label emerged as the most influential attribute when paired with negative information about the consequences of a lack of certification, complemented by an image of a dissatisfied worker. This finding underscores the pivotal role of product communication in raising awareness of ethical issues and influencing consumer preferences.

Furthermore, the study highlights the significance of consumers' perceived trustworthiness, particularly in relation to information treatments. This relationship underscores the importance of effective product communication while illustrating a potentially paradoxical response: consumers with high confidence in certification may react unfavourably to communication that is excessively negative.

4.5.1 Theoretical and practical implications

Improving the understanding of consumer preferences related to ethical F&V consumption carries substantial implications for both theoretical advancements and managerial decision-making. From a theoretical perspective, the findings provide novel insights into trust-related theoretical frameworks by demonstrating that perceived trust in ethical certifications influences the effectiveness of informational messages. Specifically, the findings suggest that trust is not a

unidirectional factor but can be modulated by communication strategies and emotional contexts.

From a managerial perspective, the development of a private Fair labour label could enable firms to capture consumers' willingness to pay a premium, given their positive response to corporate social responsibility initiatives. A notable example in the Italian F&V context is the "SfruttaZero" (ExploitZero) initiative, promoted by small farmers in the Apulia region (Corrado, Caruso, & Martina, 2019). This initiative certifies respect for workers' rights and the absence of illegal labour intermediaries in the production of labelled processed tomatoes. The "SfruttaZero" products are distributed through short supply chains and direct business-to-consumer relationships. A similar strategy could be expanded to include broader sales channels, such as distribution through national grocery stores, or to strengthen vertical relationships, such as in business-to-business (B2B) transactions.

Additionally, the findings suggest that implementing a visual and written communication strategy may elicit prosocial responses. These results can support and extend the current state of knowledge of persuasive framing, suggesting that specific combinations of visual content and emotionally charged negative information can amplify the impact of ethical messaging, particularly in food consumption contexts. From a managerial perspective, firms' advertising campaigns aimed at raising consumer awareness and fostering commitment to CSR activities could represent an effective approach. As Carrigan and Attalla (2001) argue, consumers are more likely to engage in prosocial behavior when they feel emotionally involved in an ethical issue. For example, in the Italian tomato market, Coop Italia's "Buoni e Giusti" (Good and Fair) initiative serves as a case study of public communication on social compliance and ethical fairness in supplier control (Corrado & Caruso, 2022). Similarly, the Italian association NoCap launched a third-party certification scheme in 2019 aimed at promoting ethical practices throughout the agri-food supply chain for a wide range of products, including F&V (Corrado et al. 2019). In this respect, the adoption of narrative ethics techniques by companies, telling stories and experiences of exploited workers, or the implementation of transparent certification that communicate farms' commitment to social responsibility, can change perspectives, could raise consumer awareness of informal labour in agriculture and lead to the adoption of more responsible behaviors.

Finally, by supporting the growing body of evidence on the impact of visual-written stimuli in eliciting consumer responses, this study underscores the role of tailored information in shaping purchasing decisions and enhancing the perceived value of ethical products. In line with this finding and given the role of packaging as a communication tool), companies should pay particular attention to the information and images on packaging, as these have a specific influence on consumers' purchasing decisions.

4.5.2 Limitations and future research

However, this study has some limitations. Primarily, the convenience sampling and the sample size used do not allow the generalization of results to the broader Italian population. Additionally, as a web-based investigation, there is a potential for response bias, which may result in an overestimation of coefficients. Therefore, this study can serve as a preliminary investigation that may be useful for future large-scale studies that could address these methodological limitations by employing a larger, more stratified sample or by using experimental auctions to mitigate response bias.

Another limitation might concern the use of AI-generated images in the information treatments, which could introduce response bias. Consumers may negatively perceive the AI-authorship of emotional content, as noted by Kirk and Givi (2025). For theoretical and managerial advancements, future research could address this issue by comparing the effects of real versus AI-based images, particularly in the context of labour-related concerns. Such investigations would advance communication strategies for promoting ethical food products.

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Appendix 2 Consumers purchase habits and perception of the work in agricultural sector.

Variables	Categories	Frequency	Percent (%)
Fresh F&V frequency of purchase	Less than once a week	19	4.24
	Once a week	33	7.37
	2-3 times a week	216	48.21
	Every day	180	40.18
Influence by the production method when buying fresh F&V	Not at all	45	10.04
	A little	157	35.05
	Quite	183	40.85
	Very	63	14.06
Agricultural manual workers' salary compared to other sectors	It is lower	341	76.12
	It is equal	51	11.38
	It is higher	6	1.34
	I do not know	50	11.16
Agricultural manual workers' exposition to labour exploitation compared to other sectors	It is lower	4	0.90
	It is equal	73	16.29
	It is higher	342	76.34
	I do not know	29	6.47
Agricultural manual workers' health risk compared to other sectors	It is lower	14	3.13
	It is equal	173	38.62
	It is higher	213	47.54
	I do not know	48	10.71

5

Value-Belief and Value-Identity Norms in Ethical Food Consumption: Investigating the Influence of Worker- Friendly Labels in Italy

Abstract

This study aims to explore the main behavioral drivers influencing the consumption of ethical food products in Italy, with a specific focus on customer purchase intentions and choices for foods that adhere to workers' rights. The issue of workers' exploitation in Italian agriculture is a pressing concern, frequently highlighted in media investigations. To address this aim, the study compares three theoretical models to identify the most effective in providing the most comprehensive explanation of the phenomenon under investigation. The theories of value-belief-personal norms (VBN) and value-identity-personal norms (VIP), along with a hybrid of these models, were examined using Partial Least Squares Structural Equation Modelling. The findings reveal that factors such as self-identity, awareness of consequences, and ascription of responsibility are significant predictors of the purchasing behavior regarding food products that respect workers' rights. Notably, the integrated VBN and VIP model (VBN-VIP) demonstrates the highest level of predictive accuracy. This research contributes to the literature on ethical consumption by offering robust empirical evidence supporting these theoretical frameworks. Similarly, food companies will benefit from gaining a deeper understanding of consumer behavior in relation to ethical practices, particularly those concerning workers' rights. By emphasizing their commitment to ethical standards, food companies can potentially influence consumer attitudes and intentions more effectively

Chapter based on this Publication

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5.1 Introduction

The human dimension of food systems has become a global social and economic concern (Christiaensen et al., 2021; Lerro et al., 2018). According to the International Labour Organisation (International Labour Organization, 2021), more than 27 million people worldwide face exploitative labour conditions in both developing and developed countries, of which nearly 2 million exploited workers are employed in agriculture. Accordingly, in the last decades, this issue has attracted a growing interest among scholars and public institutions, and several qualitative and quantitative studies have been conducted to orient food systems towards advancing economic, social and cultural rights (Anderson, 2008; Malanski et al., 2021; Palumbo & Sciurba, 2015). Hence, the inclusion of this goal among the targets of the 2030 Agenda (SDG 8.7) to eradicate all forms of forced labour.

Despite the lacking nature of available data (Kalantaryan et al., 2020; Kalantaryan et al., 2021), irregular forms of labour in Europe are more prevalent in agriculture than in other sectors (William & Horodnic, 2018). According to ILO, over 60% of the European labour force employed in agriculture may be engaged in informal employment conditions that are highly susceptible to exploitative labour practices (William & Horodnic, 2018). The European Union's fruit and vegetable (F&V) sector is one of the most vulnerable within agriculture to informal employment conditions and poor worker wellbeing. This vulnerability arises from the pressure on farmers to maintain low production costs (Palumbo et al., 2022) ensure 'just-in-time' harvesting (Salvia, 2020), accommodate the sector's higher reliance on manual labourers (Martin, 2016). Among EU countries, the Italian fruit and vegetable sector is particularly sensitive to these issues (Melossi, 2021). For instance, according to the Italian National Statistics Institute, undeclared work has increased steadily over the last decade, reaching 24.1% according to the latest statistics (ISTAT, 2021). This is particularly true in F&V sector, where the relationship between migration and irregular hiring is widely debated in the literature from different research fields (e.g. Howard & Forin, 2019; King et al., 2021; Melossi, 2021; Perrotta & Raeymaekers, 2023) and in the media for the fatal consequences of the phenomenon on workers. Labour conditions in the Italian F&V sector, particularly in tomato production, have received widespread coverage in Italian media during the past decade (Corrado, 2011; Dines, 2023; Perrotta, 2015). This has generated extensive debates on the safety and rights of agricultural workers. Media coverage serves as a source of social norms that can influence consumer behaviour (Yanovitzky & Stryker, 2001). However, the coverage often presents polarised viewpoints, influenced by the political stance of the newspapers (Carnibella & Wells, 2022). Despite awareness of media bias, the Italian public's perceptions of this issue are not well defined (DellaVigna & Gentzkow, 2010). Moreover, the linkage between increased public awareness of labour conditions, and the subsequent consumer shift towards products with socially responsible certifications, underscores a complex interplay between awareness, values, and

consumption behavior. This occurrence could represent an interesting case, enriching the understanding of the dynamics of ethical consumption.

Studies on ethical consumption have proliferated in recent years (Ribeiro-Duthie et al., 2021) showing a growing attention of people towards foods produced paying attention to social issues and labelled with socially responsible certifications. For instance, several contributions have examined the Fairtrade label, specific for products made in Asia, Africa and Latin America, by assessing consumers' willingness to pay (WTP) mainly for coffee (Basu & Hicks, 2008; De Pelsmacker et al., 2005), and chocolate (Didier & Lucie, 2008; Rousseau, 2015), highlighting in most cases the positive effect of ethical certification in orienting consumers' choices. In the meanwhile, a smaller body of evidence concerns the F&V products, reporting similar results (McCluskey et al., 2009; Miller et al., 2017; Rossi et al., 2024). However, while the focus of the previous studies has largely been on the consumers preferences of ethical food—how much consumers are willing to pay, they often neglect the behavioral factors that influence these preferences. When these aspects have been analyzed, the studies have generally relied on broad models like the Theory of Planned Behaviour (TPB; Ajzen, 1991) and Norm Activation Theory (NAT; Schwartz, 1977) and their extensions. In most cases, the type of food products is not specified (e.g; D'Souza et al., 2020; Eberhardt et al., 2021; Wang & Chou, 2020), or the studies focus on fair trade foods, such as coffee, cocoa, and tea mainly produced in the Global South (Canova et al., 2023; Robichaud & Yu, 2022). Consequently, there is limited research examining the behavioral intentions behind purchasing ethically produced food in Western Countries. F&Vs, a category often associated with labour exploitation even in these regions, have been particularly overlooked despite the critical hotspots such as Spain or Italy (Rye & Scott, 2018). Accordingly, the use of a well-structured behavioural approach is advocated to better understand the complexity behind the individual motivations that drive ethical fruit and vegetable consumption. Previous studies have provided important lessons on these aspects, offering more comprehensive explanations of ethical consumption drivers. In this regard, consumer identity along with personal norms, which are defined as “cultural phenomena that prescribe and proscribe behaviour in specific circumstances” (Hechter, 2001, p. 11), are among the most significant determinants of ethical products consumption (Andorfer & Liebe, 2013; Chatzidakis et al., 2016; Ladhari & Tchetgna, 2015; Shaw & Shiu, 2003). Schenk (2019) proposes a systematic comparison of three behavioural models to go beyond the analysis of individual determinants and investigate the causal relationships that result in fair trade consumption. Comparison of the norm-activation model (NAM), value-belief-norm theory (VBN; Stern et al., 1999) and value-identity-personal norm model (VIP; van der Werff & Steg, 2016) indicates that VIP yields more robust results than NAM and VBN. Furthermore, the author proposes a new model that combines VBN and VIP elements, leading to even more robust explanations, even though it has no precedent in the literature.

In light of the above, the present study aims to address the lack of research on ethically produced food in Western countries, with a particular focus on intentions and choices related to F&V that respect workers' rights, as well as to expand both the understanding and empirical application of behavioral models in this context. The investigation was based in Italy, given the relevance of workers' issues in Mediterranean/Italian agriculture and the increasing media attention, in order to analyze consumers' behavioral intentions towards a worker-friendly labelled F&V product. First, this study implemented a partial least squares structural equation model (PLS-SEM) based on three different behavioural models, the VBN, VIP and the combined VBN-VIP models, and then the results were compared in order to generate 'positive' knowledge (Alvesson & Sandberg, 2013) identifying the most robust explanation of the phenomenon under investigation. To the best of our knowledge, this study represents the first empirical application of the above-mentioned structural models to examine the main behavioral components of Italian consumers in the context of ethical food choices.

The study offers relevant theoretical and managerial implications. On the theoretical level, comparison of two different theoretical models enables to identify the theoretical framework and its corresponding behavioral constructs that most effectively predict specific consumer actions towards ethical food purchasing. On a practical perspective, the results of this study offers useful insight to managers and policy makers. For the former, the results allow them to reflect on the appropriateness of adopting social sustainability strategies, also in relation to consumer interest in food products obtained without the exploitation of workers, and appropriate communication strategy based on the most relevant drivers. On the other hand, policy makers can benefit from the information on motivational drivers in order to effectively target public campaigns to encourage ethical choices.

The paper is structured as follows: first, a brief review of the literature on the application of behavioural approaches in ethical food consumption research is presented. Then, the theories implemented by the present work are described to formulate the research hypotheses. This is followed by a description of the methodology, the results, their discussion and general conclusions.

5.2 Theoretical Background

5.2.1 Ethical consumption and behavioural approaches

Ethical consumption is a broad term that encompasses various dimensions of sustainable consumption (Harrison et al., 2005), including 'all the principles of environmental consumerism and more - taking on board the "people" element of ethical consumerism' (Strong, 1996, p. 1). Prior studies have highlighted the presence of many factors that lead to an ethical purchase gap due to scepticism of fairness claims (Nicholls & Lee, 2006) or price and quality barriers (Boulstridge & Carrigan, 2000), conceptualised as the 'myth of the ethical consumer' (Carrigan

& Attalla, 2001). Consequently, studies rooted in behavioural economics aim to advance theoretical approaches, delving deeper into the exploration of factors that influence attitudes and intentions leading to the purchase of ethical products, including food.

Among the major determinants affecting ethical consumption, several contributions have mainly highlighted the role played by attitudes (Canova et al., 2021; De Pelsmacker & Janssens, 2007; Shaw & Shiu, 2003), information about fair trade issue (Berki-Kiss & Menrad, 2022; Prasad et al., 2004), perceived trustworthiness (Eberhardt et al., 2021), self-identity (O'Connor et al., 2017), ethical obligation (Wang et al., 2020; Ozcaglar-Toulouse et al., 2006) and personal values (Ladhari & Tchetgna, 2015; Doran, 2010). Previous studies have largely referred to Ajzen's Theory of Planned Behaviour (1991) and Schwartz's Norm Activation Theory (1977) (Andorfer & Liebe, 2013). According to the TPB, also in extended versions (Beldad & Hegner, 2018), ethical consumption results from individual intentions which are influenced by attitudes, social norms and perceived behavioural control. The extended applications of TPB have been used to measure the role of subjective knowledge, information, self-identity, socially responsible attitudes, environmental attitudes, corporate loyalty, and global orientation (Ladhari & Tchetgna, 2015). However, although much evidence has been produced on the application of TPB in ethical consumption, the gap between intentions and behaviour leads one to question the validity of the theory on this category of product (Kossmann & Gomez-Suarez, 2019; McDermott et al., 2015). According to the NAT, the consumption of ethical products is influenced by Personal Norms (PN) that are moderated by the Awareness of Consequences (AC) of purchasing actions and by the Ascription of Responsibility (AR). NAT explains prosocial behaviour as the sacrifice of consumers' self-interest in favour of the well-being of others (Zerbini et al., 2019). Therefore, low levels of awareness and attribution of responsibility neutralise personal norms in driving fair trade purchases (see for instance Canova et al., 2023 and Zerbini et al., 2019). However, NAT is underrepresented in research on ethical consumption. Additionally, Schenk's (2019) systematic comparison revealed no evidence of Awareness of Consequences and Ascription of Responsibility mediating fair trade consumption within NAT. Notably, a direct effect from AR to fair trade consumption was observed. Considering the moderation effects observed in other behavioral contexts (Govaerts & Olsen, 2022; Liebe et al., 2011), it is plausible that NAT might not provide sufficiently comprehensive explanations in the context of fair-trade consumption. In support of this argument, Louis and Lombart (2024) emphasized, in the context of behavioral intentions toward CSR products, that an integrative model is needed—one that incorporates both consumers' general attitudes and those shaped by the interaction between a specific brand or label and individual perceptions of it. A similar approach was followed by Kolling et al. (2023) who employed their own conceptual frameworks distinct from the TPB and NAT. These two findings are particularly significant, as they support that the

relationship between personal norms and prosocial behavior, especially in the context of purchasing ethical products, can be more complex than what is proposed by the TPB and NAT. This issue aligns with the aim of this study, which seeks to address the shortcomings of these approaches by employing alternative conceptual models that may offer more accurate explanations of worker-friendly food purchase intentions.

5.2.2 VBN, VIP models and research hypothesis

Based on Schwartz's NAT generalization, Stern and colleagues (Stern et al., 1993; Stern et al., 1999) developed the VBN model in the case of environmentalism to expand the range of valued objects by NAT. The VBN model is based on Schwartz's observation of the presence of altruism values in social movements (Schwartz, 1992, 1994), which he labelled universalism (UNI). This model links pro-environmental behaviour to the values possessed by a person. This model links pro-environmental behaviour to an individual's values. Unlike the NAT, in the VBN model the personal norms are not moderated by AC and AR but are influenced by direct and indirect effects. AR is influenced by AC which in turn depends on the attribution of universal values (see **Figure 8**). These universal values do not refer to a specific context but pertain to a universal vision of desirable goals held by individuals (Schwartz, 2007). The theory initially considered the New Ecological Paradigm (NEP) as a universal value, but later evidence has shown that values have more robust effects on AC than NEP construct (Steg et al., 2011). In recent years, the VBN model has been applied to study various food purchasing patterns, such as green consumption (Jebarajakirthy et al., 2024; Zhao et al., 2021), healthy consumption (Carfora et al., 2020; Lai et al., 2020), and socially responsible purchasing (Golob et al., 2019; Stringer et al., 2020), demonstrating its broad applicability and the validity of its causal chain. Specifically, the positive relationship between universal values, awareness of consequences and ascription of responsibility has been identified as a robust mechanism for explaining personal norms across contexts, including healthy consumption (Borusiak & Kucharska, 2023) and environmental concerns (Lai et al., 2020; Onel, 2024). Moreover, Golob et al. (2019) showed that the VBN approach offers a comprehensive explanation of prosocial behavior in the context of CSR. However, its application to ethical food consumption remains underexplored.

Building on the previous evidence, this paper investigates the application of the VBN model to ethical fruit and vegetable consumption. Although evidence specific to this scenario is limited, ethical food consumption, as a form of prosocial behavior, is expected to be comprehensively explained by the VBN model in terms of purchase intentions. Drawing on the approach of Schenk (2019), this study examines the direct and positive effects of universal values on awareness of consequences, as well as the indirect, progressively weaker effects on subsequent variables in the causal chain. Furthermore, it is hypothesised that ascription of

responsibility and awareness of consequences will mediate the relationship with personal norms, distinguishing the VBN model from the NAT. These arguments lead to the following hypotheses:

H1: AC and AR have a significant mediating effect and a positive influence on PN.

H2: UNI has a significant effect and a positive influence on AC.

The VIP model was also primarily developed to explain pro-environmental behaviour (van der Werff & Steg, 2016). It has been less frequently used in the context of ethical food consumption compared to the models mentioned earlier. It differs from VBN in the presence of the self-identity measure (IDENT) instead of AC and AR constructs. The VIP model proposes a causal chain from values to the personal norms that directly influence the ethical consumption through the mediation of the self-identity construct. This novel factor represents the consumer's self-perception as critical and responsible for the social consequences of their purchase actions. Even though, VIP implementations are scarce, self-identity has been extensively used in extended versions of the TPB (Ateş, 2020; Zaman et al., 2023) and has been found to significantly describe the purchase intentions of green consumers (Mehmood et al., 2024).

In ethical food consumption, several studies have demonstrated the effectiveness of IDENT in predicting consumer behavioural intentions using TPB (Hanel & Basil, 2023; O'Connor et al., 2017). For example, the study of Shaw and Shiu (Shaw & Shiu, 2002) found that self-identity, as antecedent of attitude, had a positive effect on improving the explanatory power of the TPB in the case of ethical consumption. A similar result was found in Beldad and Hegner (2018), where the construct of the self-identity was found to be a positive and significant determinant of fair-trade purchase intention. Although these findings are outside of the VIP framework they support the idea of the significant role of self-identity. Recent contributions have demonstrated the validity of the VIP model in explaining the drivers of prosocial behavior (Ajibade & Boateng, 2021; Floress et al., 2022; Zhang et al., 2024). Accordingly, it is expected that the VIP model will also offer a deeper understanding of ethical F&V purchasing intentions. Based on this, the study posits the following hypothesis:

H3: IDENT has a significant mediating effect and a positive influence on PN.

Finally, according to the results of Schenk (2019), the VIP model provides a more robust explanation than the VBN model. Furthermore, for the first time, a combined VBN-VIP model has been implemented, resulting in even higher goodness of fit values. The latter consists in including IDENT between UNI and AC of the VBN model. This result is particularly important considering the novelty of this approach and the lack of studies that have applied the VIP model. The VBN

model, the VIP model and their combination are compared to understand which theoretical approach is more valid in the context of ethical food consumption. Based on the three models, this study finally tests the following hypothesis:

H4: The combined VBN-VIP model provides higher explanatory power than single models in predicting behavioral intentions towards the purchase of worker-friendly labelled F&V products.

5.3 Materials and Methods

5.3.1 Data collection and survey

To test the study's research hypotheses, data were collected in Italy from November 2023 to March 2024 via an online questionnaire using a convenience sample of individuals. Respondents were invited to participate through social media platform leveraging their network of relationships. Although snowball sampling can lead to several risks of sample bias, limiting the representativeness and external validity of the findings, it remains an efficient technique for gathering data, particularly in studies addressing sensitive topics (Parker et al., 2019). This method also facilitates the recruitment of larger sample sizes, potentially increasing statistical power in specific contexts (Emerson, 2015). Accordingly, while the sample obtained allows for testing the study's research hypotheses, generalizing the measurement of behavioral constructs to a specific population falls beyond its scope. Indeed, the minimum sample size was set at 400 to ensure a correlation among constructs of $\rho \geq |0.15|$ and to achieve a statistical power ($1 - \beta$) of 0.90. Participants were informed about the anonymity and purpose of the data collection and were asked to sign the informed consent form, stating that they were at least 18 years old. The first section of the questionnaire included two questions regarding the frequency and regularity of F&V consumption. Following this, the items concerning the different behavioural models were presented. A translation of Schenk's (2019) items was conducted, with references to the Third World removed (see

Appendix 3). Behavioral intentions towards purchasing worker-friendly labelled F&V products (WFL) were assessed using a 1-7 scale. This broader scale was chosen, rather than a narrower one, to capture more nuanced variations in respondent behavior, as recommended by Schenk (2019). The scale ranged from 1 'Never' and 7 to 'Several times in one week, and was used to assess the frequency of consumption with the question: 'How often do you intend to buy F&V food products with worker-friendly labels?'. The intentions construct was not employed as an intermediate variable but rather as a proxy for final consumption behavior. This approach aligns with previous studies, which suggest that when attitudes are measured via survey statements, the direct measurement of behavior may introduce bias (Frommeyer et al., 2022; Morwitz & Munz, 2021). UNI was measured by three items related to the commitment to equality, empathy, and environmental responsibility, emphasising global harmony and understanding (Doran, 2010). The construct of PN was evaluated by two elements measuring the moral imperative to engage in the purchase of fair-trade commodities, coupled with the attendant sense of moral obligation arising from selecting conventional alternatives (Sparks et al., 1995). IDENT was measured by two items that refer to the consumers' view of themselves as consumers responsible for social consequences (van der Werff et al., 2013). AC was measured by three items consisting of the belief that consumption of fair-trade products can improve the fairness of the food system. AR was measured by two items referring to the belief that people in Italy are responsible for decent work in agriculture.

The final section, prior to the socio-demographic questions, gathered data on respondents' perceptions of the fairness of employment in agriculture in comparison to other economic sectors. The survey asked about three aspects of working conditions: remuneration, incidence of labour abuse, and workplace safety. Only one questionnaire was removed from the analysis due to the implausible socio-demographic answers provided.

5.3.2 Empirical approach

To investigate consumer intention towards the purchase of food products with worker-friendly labels, a Partial Least Squares Structural Equation Modeling (PLS-SEM) approach was implemented. In the social sciences, structural equation models provide a powerful tool for analysing relationships between latent constructs (Boccia & Sarnacchiaro, 2020). However, within the class of SEMs (Bollen, 1989), there is ongoing debate regarding the performance of common approaches, such as Covariance-Based SEM (CB-SEM) (Jöreskog, 1970) and PLS-SEM (Hair et al., 2019; Jannoo et al., 2014). The choice of a specific SEM approach depends on the characteristics of the study and dataset. For instance, CB-SEM assumes variable normality, normality of error terms, and a sufficiently large sample size (Wold, 1982). Conversely, PLS-SEM has less stringent assumptions and demonstrates better performance in contexts involving complex structural

models, theoretical extensions of established theories, small sample sizes, and non-normally distributed data. (Hair et al., 2019). Furthermore, PLS-SEM is a well-established methodology widely used in the study of consumer preferences for food in both observational and experimental settings (Raimondo, et al., 2022). Therefore, given these characteristics and the non-probability sampling method adopted in this study, PLS-SEM represents a robust method to address the research questions. It consists of measurement models that predict relationships between latent variables and their component items, and structural models that show relationships between latent constructs themselves (Venturini & Mehmetoglu, 2019). Regarding the measurement model, internal consistency of tests and measures was estimated for each construct using Cronbach's alpha reliability (Cronbach, 1951), with a threshold value of > 0.7 , even though values between 0.6 and 0.7 are still acceptable (Kline, 2023). Further, a correlation analysis between socio-demographic variables and the latent constructs has been conducted by Pearson correlation at 99%, 95% and 90% confidence level. Moreover, an independent group t-test was carried out to compare score means of latent constructs between socio-demographic classes. For the purposes of age categorization, respondents were grouped into those born prior to 1981 (Millenials) and younger, and those born before (non-Millenials). This classification is based on the observation that individuals born after 1981 tend to exhibit more pro-social behaviour (Connel et al., 2012), also in the case of fair-trade consumption (Aksoy & Özsönmez, 2019). Regarding education, the respondents were divided into university graduates and individuals with less than a bachelor's degree. With respect to the household income, the respondents were divided into two classes based on the distribution of the sample, with those who declared to belong to the first class of income (monthly income $< €2,000$) and those not. Once VBN, VIP and VBN-VIP were specified, the internal validity of the latent constructs was estimated considering values > 0.5 of the factor loadings, $\rho_A > 0.7$ and average variance extracted (AVE) > 0.5 .

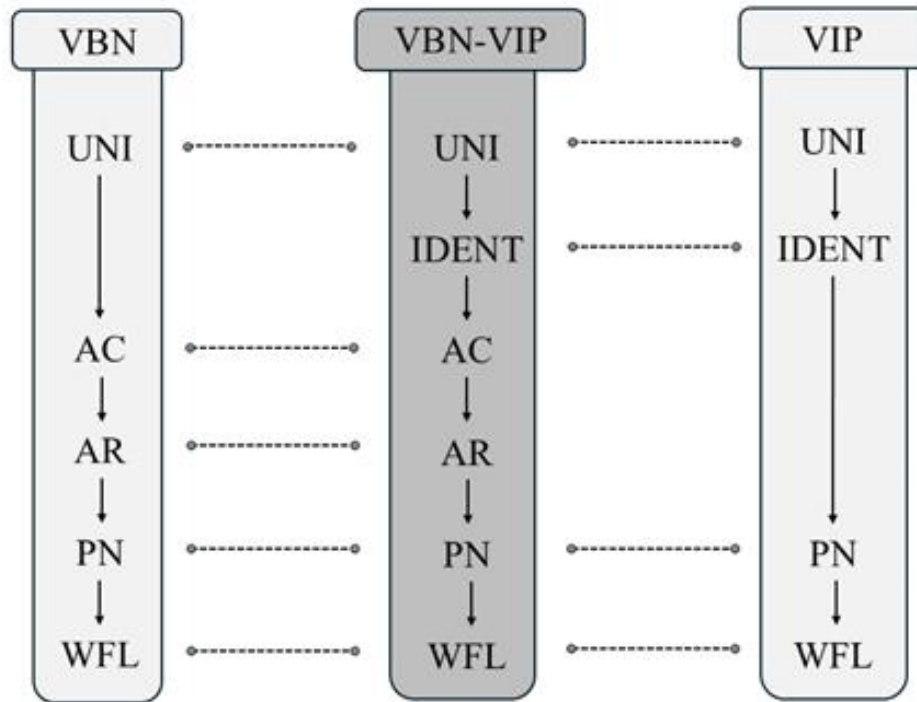


Figure 8 Representation of the constructs of the VBN, VIP models and their combination (VBN-VIP).

5.4 Results

5.4.1 Descriptive analysis

The final sample consists of 446 respondents whose characteristics are shown in **Table 12**. From the initial sample of 447 respondents, only one questionnaire was omitted from the dataset for illogical answers. The sample is mainly represented by women (65%) with an age between 18 and 34 (50%), a higher level of education (75%) and a monthly household income between 2,000 and 4,000 euros (38%). The sample presents a strong concentration in modal classes, showing overall a high frequency of well-educated young people.

The Pearson correlation test indicated a significant and positive correlation between age and all latent constructs, while sex exhibited the opposite pattern (**Table 14** shows the results of the t-test conducted among independent groups. The results indicated a negative and statistically significant difference between millennials-younger and older in all latent constructs mean scores. This implies that, on average, older respondents reported different and higher levels of values than the youngest. The sex of respondents resulted in a significant influence on the behavioral constructs in all cases, except for IDENT and WFL. Female respondents exhibited higher and significantly different mean scores in UNI, AC, AR and PN. The two groups of educational level showed a low but significant difference only

in WFL. While, regarding the income level, statistically significant differences were observed only in PN mean scores among the two groups.

Table 13). Regarding income level, the results show a negative correlation between higher income and latent constructs, while the stated frequency of consumption did not yield significant results. Furthermore, education level was also negatively correlated with WFL.

Table 12 Descriptive sample statistics.

Variables	Categories	Frequency	Percent (%)
Age	18-34 years	221	49.55
	35-54 years	139	31.17
	55-74 years	85	19.06
	≥ 75 years	1	0.22
Gender	Male	153	34.31
	Female	290	65.02
	Other	3	0.67
Education	High school	10	2.24
	Secondary school	101	22.65
	University	244	54.71
	Post university	91	20.40
Monthly household income	≤€2,000	142	31.84
	€2,001-€4,000	169	37.89
	≥ €4,001	64	14.35
	n.a.	71	15.92

Table 14 shows the results of the t-test conducted among independent groups. The results indicated a negative and statistically significant difference between millennials-younger and older in all latent constructs mean scores. This implies that, on average, older respondents reported different and higher levels of values than the youngest. The sex of respondents resulted in a significant influence on the behavioral constructs in all cases, except for IDENT and WFL. Female respondents exhibited higher and significantly different mean scores in UNI, AC, AR and PN. The two groups of educational level showed a low but significant difference only in WFL. While, regarding the income level, statistically significant differences were observed only in PN mean scores among the two groups.

Table 13 Pearson correlation test results.

Sociodemographic characteristics	UNI	IDENT	AC	AR	PN	WFL
Age	0.189***	0.268***	0.134***	0.175***	0.234***	0.193***
Sex (=1 if female)	0.174***	0.062	0.160***	0.123***	0.119**	0.060
Education	0.002	0.047	-0.021	-0.019	-0.032	-0.098**

Net income	-0.070	-0.025	-0.036	-0.049	-0.096*	0.003
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Table 14 Two-sample t test with equal variances between independent groups.

Sociodemographic characteristics		UNI	IDENT	AC	AR	PN	WFL
Age	Millenials and younger (n=251)	-0.332	-0.503	-0.293	-0.373	-0.443	-0.287
	Non millennials (n=195)	(***)	(***)	(***)	(***)	(***)	(***)
Sex	Female (n=290)	0.365	0.129	0.335	0.259	0.249	0.126
	Male and other (n=156)	(***)		(***)	(***)	(**)	
Education	Graduated and post (n=335)	-0.006	0.043	-0.154	-0.142	-0.023	-0.203
	Not graduated (n=111)						(*)
Income	≥ €2001 monthly income (n=233)	-0.158	-0.101	-0.110	-0.162	-0.294	-0.099
	≤ €2000 monthly income (n=142)					(***)	

Diff = mean (first group) – mean (second group). Significance level .10, .05, .01 indicated by *, **, *** respectively

5.4.2 PLS-SEM

Results show that Cronbach's α values indicate good overall reliability of the items included in the model (**Table 15**, **Table 18** and **Table 21**). Universalism's reliability is discrete, with a Cronbach's α of 0.613. Although the value is less than 0.7, it is in line with the measurement obtained by Schenk (2019). The personal norm's reliability is good, with Cronbach's α value of 0.811. Self-identity showed an acceptable value of 0.841 as well. The Cronbach's α value for awareness of consequences was 0.58, indicating insufficient reliability. To solve the issue, the second item of the construct was removed due to low factor loading. As a result, the construct' reliability increased to 0.758. Finally, the reliability of the Ascription of Responsibility measure showed a good value of 0.837. **Table 15** summarises the results of the Value-Belief-Personal norm (VBN) measurement model. The

values of rhoA and AVE are for all constructs above the threshold of 0.7, except for the UNI latent construct.

Regarding the VBN structural model (**Table 16**), consistent with literature findings, the PN construct appears to be a significant descriptor of WFL consumption ($\beta = 0.317$, $p\text{-value} < 0.01$) (**Table 16**). PN is directly explained by the constructs of AR ($\beta = 0.231$, $p\text{-value} < 0.01$) and AC ($\beta = 0.340$, $p\text{-value} < 0.01$), confirming H1. H1 is also supported by the significant and positive causal relationships of UNI on AC ($\beta = 0.342$, $p\text{-value} < 0.01$), and AC on AR ($\beta = 0.456$, $p\text{-value} < 0.01$). However, due to the mediation effects, distant latent constructs showed low effects with no significance in some cases, such as UNI on PN, UNI on WFL, and AC on WFL.

Table 15 Measurement of the PLS-SEM for Value-Belief-Personal norm model (VBN).

Item/Construct	UNI	AC	AR	PN	WFL
UNI1	0.697				
UNI2	0.699				
UNI3	0.841				
AC1		0.902			
AC3		0.893			
AR1			0.928		
AR2			0.927		
PN1				0.912	
PN2				0.922	
WFL					1
Cronbach α	0.613	0.758	0.837	0.811	1
rhoA	0.651	0.759	0.837	0.813	1
AVE	0.560	0.805	0.860	0.841	1

Significance level .10, .05, .01 indicated by *, **, *** respectively.

Indeed, indirect effects shown in **Table 17** demonstrate the role of PN in mediating the effect of AR and AC on WFL, as the mediation effect of AC in UNI-PN causal relationship. Therefore, the impact of AC extends beyond the subsequent construct and also indirectly affects PN, supporting H1. Additional indirect effects. AR and AC both have indirect effects on WFL, which are mediated by PN. Additionally, significant influences are observed in more distant relationships. UNI seems to have indirect effects on AC-mediated PN formation.

Furthermore, hypothesis H2 is confirmed, as UNI's influence on AC is significant. The model's absolute goodness of fit (GoF) value is 0.40, and the average R2 is 0.22.

In **Table 18** are shown the results for the structural equation model of the Value-Identity-Personal norm (VIP) model. All constructs present rhoA and AVE values above 0.5, except for UNI latent construct. According to this model, PN is explained by the construct of self-identity that replace AC and AR of the VBN model.

Table 16 Results for the structural equation model of the Value-Belief-Personal norm (VBN) theory. Standardised path coefficients.

β					β				
PN	→	WFL	0.317	***	AC	→	PN	0.340	***
AR	→	WFL	0.135	**	UNI	→	PN	0.020	
AC	→	WFL	0.026		AC	→	AR	0.456	***
UNI	→	WFL	0.020		UNI	→	AR	0.203	***
AR	→	PN	0.231	***	UNI	→	AC	0.342	***

Table 17 Significance testing of (standardised) indirect effects for VBN theory.

Statistics	AR→PN→WFL	AC→PN→WFL	AC→AR→PN	UNI→AC→PN
Indirect effect	0.073	0.108	0.105	0.116
P-value	0.000	0.000	0.000	0.000
Confidence interval	(0.035, 0.111)	(0.062, 0.153)	(0.057, 0.153)	(0.072, 0.161)

Table 18 Measurement of the PLS-SEM for Value-Identity-Personal norm (VIP).

Item/Construct	UNI	IDENT	PN	WFL
UNI1	0.673			
UNI2	0.701			
UNI3	0.855			
IDENT1		0.924		
IDENT2		0.934		
PN1			0.899	
PN2			0.933	
WFL				1
Cronbach α	0.613	0.841	0.811	1
rhoA	0.671	0.844	0.833	1
AVE	0.559	0.863	0.840	1

Regarding the VIP model, the results presented in **Table 19** support hypothesis H3, indicating that IDENT provides a significant influence on PN ($\beta = 0.431$, p-value < 0.01). Furthermore, the self-identity construct also exhibits a positive and significant effect on WFL ($\beta = 0.420$, p-value < 0.01). Unlike the VBN model, the VIP model showed a positive and significant effect of UNI on PN. The only causal relationship that was not found to be significant was that between the first variable of the chain, UNI, and the last, WFL. The indirect effects also supported H3 by

demonstrating the significance of the effect of UNI on WFL mediated by PN, and the role played by IDENT in mediating the effect of UNI on PN and WFL (**Table 20**). About the goodness of fit of the model, the results do not align with those of Schenk (2017). In fact, the VIP exhibits lower values than the VBN model, with Gof of 0.38, and the average R2 equal to 0.20.

Finally, **Table 21** shows the results of the combined VBN and VIP models as proposed by Schenk (2019). The model incorporated the AC and AR constructs between IDENT and PN of the VIP model and tested various combinations of direct effects on WFL. The rhoA and AVE values are also good, all above the previously indicated threshold values, except for the construct of UNI with rhoA = 0.655. The direct effect exhibited a similar pattern to that observed in the previous models (**Table 22**). The PN constructs was found to be explained by positive and significant relationships from AR ($\beta = 0.140$, p-value < 0.01) and AC ($\beta = 0.299$, p-value < 0.01), while IDENT also provided significant effects on both AC ($\beta = 0.267$, p-value < 0.01) and AR ($\beta = 0.246$, p-value < 0.01). Furthermore, significant results on WFL are observed from the PN construct ($\beta = 0.189$, p-value < 0.01).

Table 19 Results for the structural equation model of the Value-Identity-Personal norm (VIP) theory. Standardised path coefficients.

β					β				
PN	→	WFL	0.205	***	IDENT	→	PN	0.431	***
IDENT	→	WFL	0.420	***	UNI	→	PN	0.088	**
UNI	→	WFL	-0.028		UNI	→	IDENT	0.308	***

Significance level .10, .05, .01 indicated by *, **, *** respectively.

Table 20 Significance testing of (standardised) indirect effects for VIP theory.

Statistics	IDENT→PN→WFL	UNI→IDENT→WFL	UNI→IDENT→PN
Indirect effect	0.088	0.129	0.133
P-value	0.000	0.000	0.000
Confidence interval	(0.046, 0.131)	(0.083, 0.176)	(0.086, 0.179)

As in the previous models, the effects are significant between adjacent latent constructs, and no significant effects are observed between distant variables, such as UNI on PN or UNI on WFL. In this regard, the indirect effects shown in **Table 23** demonstrate that IDENT significantly mediate the effect of UNI on WFL, PN, AR and AC. This result shows that indirect effects limit the strength of direct effects on more distant constructs. Regarding the model's goodness of fit, the analysis revealed the highest values among the three models, with an absolute GoF value of 0.44 and an average of R2 = 0.25. Therefore, H4 is confirmed.

Table 21 Measurement of the PLS-SEM for the combination of Value-Belief- Personal norm (VBN) and Value-Identity- Personal norm (VIP) theories.

Item/Construct	UNI	IDENT	AC	AR	PN	WFL
UNI1	0.688					
UNI2	0.704					
UNI3	0.844					
IDENT1		0.924				
IDENT2		0.933				
AC1			0.901			
AC3			0.894			
AR1				0.931		
AR2				0.923		
PN1					0.906	
PN2					0.927	
WFL						1
Cronbach α	0.613	0.841	0.758	0.837	0.811	1
rhoA	0.655	0.844	0.759	0.839	0.819	1
AVE	0.536	0.845	0.819	0.855	0.851	1

Table 22 Results for the structural equation model of the combination of Value-Belief-Personal norm (VBN) and Value- Identity-Personal norm (VIP) theories. Standardised path coefficients.

β				β			
PN	→	WFL	0.189 ***	UNI	→	PN	-0.025
AR	→	WFL	0.042	AC	→	AR	0.389 ***
AC	→	WFL	0.014	IDENT	→	AR	0.246 ***
IDENT	→	WFL	0.409 ***	UNI	→	AR	0.149 ***
UNI	→	WFL	-0.040	IDENT	→	AC	0.267 ***
AR	→	PN	0.140 ***	UNI	→	AC	0.260 ***
AC	→	PN	0.299 ***	UNI	→	IDENT	0.307 ***
IDENT	→	PN	0.300 ***				

Significance level .10, .05, .01 indicated by *, **, *** respectively.

Table 23 Significance testing of (standardised) indirect effects for VBN and VIP combined theory.

Statistics	UNI→IDENT →WFL	UNI→IDENT →PN	UNI→IDENT →AC	UNI→IDENT→ AR
Indirect effect	0.125	0.092	0.082	0.076
P-value	0.000	0.000	0.000	0.000
Conf. interval	(0.079, 0.172)	(0.054, 0.130)	(0.046, 0.118)	(0.042, 0.0109)

Confidence level: 95%

5.5 Discussion

This study aims to examine the key behavioral drivers influencing the consumption of ethical food products in Italy, particularly focusing on consumer intentions to purchase F&V food products that support workers' rights. All the models implemented suggest that the act of engaging in workers' friendly consumption is driven by personal norms that are seen as a moral obligation to engage in pro-social behavior. The three patterns compared in this study attempt to identify which causal chain better mediate the effect of universal values in determining personal norms through different behavioral models. Many relevant findings can be discussed from the comparison carried out.

First, the present study finds that AC positively influences AR, and both have a significant mediating effect as well as a positive influence on PN, which is consistent with previous empirical evidence on ethical consumption in which similar hypotheses were supported within the VBN model (Golob et al., 2019; Schenk, 2019). Furthermore, the awareness of the purchasing's consequences plays a major role in driving consumers to recognize their individual responsibility toward the issue of labour exploitation. This sense of responsibility, in turn, affects the construction of personal norms that encourage prosocial behaviour. Awareness of consequences by itself was found to be a significant and positive descriptor of PN, also in line with several exploratory studies, even if these studies did not specifically implement the VBN model (Zerbini et al., 2019) or did not focus on ethical consumption (Gomes et al., 2022; Liobikienė & Juknys, 2016; Long et al., 2022). The influence of AC on AR was also found to be significant and positive in the VBN-VIP model, coherently with Schenk (2019), reinforcing the thesis of the role played by the awareness of consumption consequences and the recognition of the self-responsibility of Italian consumers in the construction of personal norms.

Second, in line with Schenk (2019), this study finds that UNI has a significant and positive influence on AC. This finding within the VBN framework is consistent with previous research on consumers prosocial behavior (Betzler et al.,

2022; Pasquariello et al., 2024) which has found the same significant relationship between values and AC. This result strengthens the values-beliefs-norms chain in explaining the act of purchasing workers-friendly products, unlike Zerbini et al. (2019). The latter, in their extended NAT implementation on fair trade consumption, achieved a consistent effect of AC on PN, but neglected to consider antecedent AC and AR. Consequently, by supporting H2, this study sheds light on the importance of enriching causal chains to achieve more comprehensive explanations of ethical consumption. Both behavioural models in this study showed the relevance of values as a starting point in the causal chain. Therefore, an individual's set of values can translate into practical beliefs about purchasing acts. This finding is also relevant as it suggests that consumers' value orientation and behavior may be related to general fairness beliefs, as demonstrated in other ethical consumption paradigms such as green (Peattie, 2010) or animal welfare-friendly food (Cembalo et al., 2016).

Third, this study confirms that IDENT positively influences PN, indicating that Italian consumers who identify themselves as responsible for the social consequences of their purchasing choices tend to be more oriented towards worker-friendly food products. This finding is in line with Schenk (2019), where the VIP model was implemented and IDENT resulted significantly linked to the PN construct and is also consistent with other empirical evidence based on the self-identity extended TPB (Chatzidakis et al., 2016; D'Souza et al., 2020; Kumar et al., 2023; O'Connor et al., 2017). In addition, although AC and AR were found to be relevant in explaining PN according to the results obtained, the VIP model provided similar explanatory power to the VBN model. This could be since the items of IDENT include in their meaning both awareness and ascription of responsibility (van der Werff et al., 2013). However, in the VBN-VIP implementation, the results showed that the co-presence of IDENT, AC and AR still provides significant influences of both on PN. Therefore, this finding revealed the importance of self-identity as a key factor influencing socially responsible behavior, which also affects awareness of consequences and ascription of responsibility, highlighting the need to include this construct in behavioral models. Indeed, the role of self-identity in stimulating sustainable purchase intentions is in line with previous studies (Hanel & Basil, 2023; Luan, 2023; Sharma et al., 2022; Zaman et al., 2023) in which IDENT was found to positively impact the behavioral intentions of consumers. This result is also confirmed by the indirect effects showing that IDENT mediates the effect of UNI on PN, as indicated by van der Werff and Steg (2016). Furthermore, by confirming H4, this study finds that the VBN-VIP model provides greater explanatory power than single models in predicting the behavioral intentions towards the purchase of worker-friendly labelled F&V products.

The goodness of fit of the three compared models suggests that AC and AR alone are not sufficient to fully explain WFL, that IDENT synthesises AC and AR

and enriches the explanatory power of the model, and finally that the inclusion of both constructs does not affect the significance of the individual latent variables. This is despite the strong correlation between each variable and its direct successor in the causal chain. This finding suggests that a theoretical synthesis of the VBN and VIP models is reasonable. According to this combined model, universal values are responsible in subjects' recognising as a responsible consumer, which in turn affects the subjects' beliefs. Thus, the VBN-VIP model represents a conceptual step further than Stern's (1999) framework, implying that beliefs result indirectly from values and directly from the perspective one takes on oneself (Rise et al., 2010). This extension is valuable given that UNI and IDENT measure different latent dimensions in people. While the former pertains to universal altruistic values, IDENT reflects socio-demographic characteristics, social traits, and personality (Thoits & Virshup, 1997). Therefore, this set of individual's characteristics measured by IDENT affects the concern for one's own responsibility, which in turn influences the personal norms in the combined VBN-VIP model.

5.6 Conclusions, implications and future research directions

The labour conditions in food production are a matter of public interest that is receiving growing attention in both public discourse and literature. In this field, literature on ethical consumption through the behavioural theoretical modelling approach aims to investigate what factors drive consumers to engage in fair trade purchases. This study compares three theoretical frameworks to explain ethical food consumption with the aim of identifying which of the models proposed in the literature most comprehensively explains consumer choices. Following Schenk's (2019) research, the present study used PLS-SEM to compare VBN, VIP, and a combination of both models. The results indicate that personal norms and self-identity are factors that influence the behavioral intentions to purchase worker-friendly labelled F&V products. According to the VBN model, personal norms are influenced by the degree to which an individual holds themselves responsible for the consequences of their purchasing decisions and the guilt they feel for not making more socially sustainable choices. The VIP model assumes that ethical choices are driven by recognizing oneself as a socially concerned consumer, which is based on universal, non-situational values that acknowledge universal rights. The combined VBN-VIP model that integrates these two theoretical approaches by incorporating both self-identity and the elements present in VBN into a single structural model found that this combined model addressed limitations of the individual frameworks by providing a more comprehensive understanding of the role of the antecedents of personal values in ethical consumption decisions.

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Appendix 3 Items of VBN and VIP models.

Variable	Item	Mean	SD
Behavioral Intentions (WFL) (1 = 'Never'; 7 = 'Several times in one week')			
WFL	How often do you intend to buy F&V food products with worker-friendly labels?	3.33	1.71
Universalism (UNI) (1 = 'Not at all like me'; 6 = 'Very much like me')			
UNI1	You consider it important that every person in the world is treated equally. You believe that everyone should have the same opportunities in life.	5.64	0.81
UNI2	It is important for you to listen to people who are different from you. Even if you do not agree with them, you still want to understand them.	5.40	0.88
UNI3	You firmly believe that people should take care of nature. Taking care of the environment is important to you.	5.56	0.79
Personal Norm (PN) (1 = 'Not at all'; 5 = 'Strongly')			
PN1	You firmly believe that people should take care of nature. Taking care of the environment is important to you.	2.72	1.17
PN2	I feel morally obliged to buy food products with worker-friendly labels.	2.80	1.21
Self-identity (ID) (1 = 'Not at all'; 5 = 'Strongly')			
IDENT1	To what extent do you see yourself as a consumer reflecting on the social consequences of your purchasing decisions?	3.55	1.02
IDENT2	To what extent do you consider yourself a consumer who considers human working conditions when shopping?	3.35	1.09
Awareness of consequences (AC) (1 = 'Totally disagree'; 5 = 'Totally agree')			
AC1	By buying F&V products with worker-friendly labels I can contribute to improving the income of farmers and farm workers.	3.96	0.97
AC2	Buying F&V food products with worker-friendly labels is not an effective action to improve the living conditions of farmers and farm workers [reverse coding]	3.16	1.33
AC3	Every purchase of ethical products contributes to making the market fairer	3.70	1.05
Ascription of responsibility (AR) (1 = 'Totally disagree'; 5 = 'Totally agree')			
AR1	Those who buy the products, i.e. people like me, are responsible for doing something against the exploitation of farm workers	3.74	1.11
AR2	All people in Italy, including me, are responsible for doing something to improve the living conditions of agricultural workers	3.85	1.08

6

Reshaping labour intermediation: an integrated workforce management strategy to contrast agricultural workers exploitation

Abstract

Labor exploitation within agri-food supply chains poses significant ethical and managerial challenges, particularly in Mediterranean contexts where irregular employment persists. This study investigates the case of NoCap, a third-party ethical certification initiative operating in Italy that integrates social responsibility into agricultural labour governance. By addressing structural dysfunctions such as informal labour markets, precarious working conditions, and power asymmetries along the supply chain, NoCap offers a multidimensional workforce management model. The study explores whether such a social innovation can function as a viable alternative to illegal labour intermediation and promote ethical value creation among supply chain stakeholders. Adopting a qualitative single-case study design, data were collected through 22 semi-structured interviews with workers, farmers, retailers, NGOs, and experts. Data were analyzed using the Gioia methodology, allowing for an inductively grounded theorization of the organizational model. Findings highlight that NoCap's certification model contributes to improving transparency, fair wages, and labour conditions, while simultaneously enabling downstream actors to leverage ethical value as a reputational asset. Retailers and farmers reported positive perceptions of the initiative's potential to differentiate products and strengthen consumer trust, although limitations remain regarding economic scalability, logistical capacity, and marginal profitability. These results underline the strategic relevance of ethical labour governance as a competitive positioning mechanism in socially sensitive markets. The study advances theoretical understandings of hybrid governance models and public-private complementarities in business ethics, and offers managerial insights into how socially driven certifications may serve as instruments of both risk mitigation and value generation in agrifood systems.

This chapter is based on a paper co-authored by Mirabella, C., Schimmenti, E., Galati, A, Borsellino, V. It is currently under review by the journal “Strategic Change”.

6.1 Introduction

In recent years, as advanced economies have developed, labour shortages are reshaping agri-food systems, with countries shifting from a state of surplus to one of increasing scarcity (Christiaensen et al., 2021). This demographic shift, in combination with declining interest in agricultural work among the native population, has resulted in an increased reliance on migrant labour to maintain production levels (Ryan, 2023). Consequently, in most high-income countries, migrant workers are essential, despite their temporary or even undocumented visa status (Reid et al., 2021; Reid & Schenker, 2016). For instance, in Europe, migrant workers have become a structural component of the agricultural workforce, addressing labour shortages while contributing to the sector's economic viability (European Committee of the Regions, 2024; Kalantaryan et al., 2021). Although data fail to accurately reflect the labour force in the agri-food sector due to the prevalence of temporary and undeclared work (Palumbo et al., 2022), the estimates carried out by scholars have shown how the ongoing outflow of national farmworkers is partially offset by the increasing presence of both intra-EU and extra-EU migrants, whose numbers continue to rise to meet labour demand (Augere-Granier, 2021; Kalantaryan et al., 2021). Furthermore, the reliance on migrant workers is higher in sectors with heavy labour demand, such as fruit and vegetables (F&V). Dependence on migrant workers also varies between EU members, with Mediterranean countries such as Italy and Spain showing the highest share of foreign farmworkers (Soldi & Cavallini, 2023). For instance, according to the most recent statistics, Italy has approximately 18% of its total agricultural workers being foreign (over 150,000), representing an increase from 15% in the preceding decade (Crea, 2024).

While in Europe migrant workers play a crucial role in mitigating rural areas' depopulation and ensuring the continuity of structurally weak or technologically backwards food production systems (Collantes et al., 2014; Corrado et al., 2019), they also experience critical labour issues. The discrepancy in working conditions between migrant and native workers is widely recognised at the global level, with agriculture identified as one of the sectors exhibiting the highest degree of disproportionality (Amo-Agyei, 2020). Consistent with this global trend, the EU Labour Force Survey shows that migrant workers are more likely to hold temporary jobs and receive lower wages in agriculture (Fassani & Mazza, 2020; Ruiz-Ramírez et al., 2024). Italy reports the same vulnerability, with a particularly high incidence of irregular employment in the sector. In 2023, the National Institute of Statistics (Istat, 2023) reported a share of irregular workers in Italian agriculture equal to 17.4% of the total workforce, with an undeclared added value connected to the irregular work component alone equal to 15.3% of the total of the sector in 2022 (Istat, 2024). Concurrently, data from the National labour Inspectorate (INL) indicate that in 2023, 59.2% of inspections within the agricultural sector revealed

labour law violations, thereby underscoring the pervasive nature of precarious employment conditions (Osservatorio Placido Rizzotto, 2024).

A key manifestation of this systemic vulnerability in Italy is the persistence of the caporalato system, an illicit labour intermediation system that exploits the precariousness of farmworkers to typically offer them employment, even in the absence of a regular visa, accommodation, and transportation to the work fields. The literature on the subject is extensive, and caporalato is widely described as a system characterised by coercive working conditions, wage suppression and human rights violations (Di Martino, 2015; Guidi & Berti, 2023; Perrotta & Sacchetto, 2014; Poppi & Travaglino, 2019). In line with this, previous studies have described the multifaceted nature of the underlying factors of the caporalato by demonstrating the interrelation between the phenomenon and the role of structural and symbolic violence against workers (Lo Cascio & Perrotta, 2019; Marconi, 2022), migration policies and the formation of informal settlements (Brovia & Piro, 2021), the shortage of workers and the relationship with large food retailers (Perrotta & Raeymaekers 2023; Salvia 2020). In accordance with this complexity, Perrotta et al. (2014) and Salvia (2020) have emphasized the need to conceptualize caporalato as a structural component of the agri-food supply chain, highlighting that it is not merely a criminal phenomenon but a mechanism embedded within the sector's economic dynamics. This reinterpretation of the concept of caporalato should prompt a reflection on the approaches adopted to combat this phenomenon. Existing research has focused mainly on the vulnerabilities of workers or farmers through exploratory approaches, overlooking the analysis of approaches that act at multiple levels of the agri-food chain and are aimed at contrasting caporalato. Consequently, a gap in the literature remains. To close this research gap, the present study has set out to answer the following research questions:

RQ1. Can a multidimensional and multistakeholder approach to labour management effectively contrast the phenomenon of caporalato?

RQ2. How and why can such an approach be economically sustainable for all actors in the agri-food system?

In light of the above, this study aims to further explore the role of caporalato within the agri-food supply chain and the effectiveness of an integrated labour management initiative in counteracting it, while maintaining both economic and social sustainability. To this end, the article presents the findings of a qualitative case study conducted in the province of Foggia (Apulia, Italy) on the NoCap association, which has developed an ethically driven, market-oriented strategy to manage farm labour. By improving working conditions, addressing labour shortages, and promoting fair and environmentally friendly food systems through the introduction of a homonymous ethical label, NoCap aims to provide an

innovative paradigm for food production as an alternative to the caporalato system. Indeed, despite the government of Italy has acknowledged the gravity of the labour issue by adopting Law no. 199/2016, which aims to combat caporalato through repressive measures, caporalato still persists. Consistently, law studies have acknowledged the limits of criminal intervention (Piva, 2017; Stolfa, 2017), suggesting that the complexity of the phenomenon requires a multilevel governance approach capable of promoting an advanced cooperation between private-public actors for the assumption of “public” responsibilities, as also highlighted by the latest report of the Three-Year Plan to contrast caporalato adopted by the Italian Ministry of Labour and Social Policies (2024). Therefore, this case study has the potential to offer empirical insights into the potential for ethical labour practices to integrate within market mechanisms, contributing to a broader discussion on socially sustainable business strategies in the agri-food sector.

6.2 Literature review

6.2.1 Definition, causes and framing of caporalato system

Caporalato is a system of illicit labour intermediation that is widespread in Italian agriculture, whose presence has been documented since the mid-nineteenth century (Perrotta 2014). The role of the 'caporali', the brokers, consists of providing informal labour to farmers, managing work teams, transportation to the workplace, and accommodation (Fanizza & Omizzolo, 2019). Although caporalato and labour issues deal with relationships between economic actors, understanding their underlying causes has required interdisciplinary approaches (Malanski et al., 2021), which have largely been explored through in-depth exploratory studies (Kissi & Herzig, 2020). A growing body of research has described the link between caporalato and unethical labour practices, such as reducing wages (Uleri et al., 2023), charging deductions (Guidi & Berti, 2023), forcing long overtime hours (Di Martino, 2015; Perrotta & Sacchetto 2014), and poor working conditions, including blackmail and violence (Poppi & Travaglino, 2019).

The caporalato's historical and current presence suggests framing the existence of caporalato also as a response to a market need. Scaturro (2021) frames the persistence of caporalato within a demand-supply framework, identifying the economic drivers that lead farmers to rely on illicit labour intermediation. In this context, wage differentials are highlighted as an opportunity by foreign workers, who are willing to accept lower pay compared to native workers. Indeed, small Italian farms, and to a lesser extent medium and large-sized farms in the case of production system with a high degree of manual labour (Corrado et al., 2019), foster dependence on foreign farmworkers (Crea, 2020), also reinforced by the reluctance of the local population to physically demanding and low-skilled jobs (Garrapa, 2017). Moreover, the reliance on exploited and low-cost labour appears

to be further exacerbated by the asymmetry of bargaining power between large-scale retail and small agricultural enterprises (Corrado et al., 2019; Ippolito et al., 2021; Martino 2018). This imbalance exerts downward pressure on farmgate prices, often forcing producers to cut labour costs. Consequently, migrant seasonal workers play a pivotal role in sustaining agricultural production in Italy (Anderson et al., 2021; Kalantaryan et al., 2021), a dependency that became particularly evident during the COVID-19 crisis, when severe labour shortages emerged due to mobility restrictions (Corrado & Caruso, 2022; Sanfelici, 2021). Despite the implementation of restrictive immigration policies, the rising number of undocumented migrants intensifies labour market vulnerabilities, with farmers continuing to assert the need for their presence (Corrado et al., 2024). Even in the absence of regular status, migrants are able to work undeclared and live on the territory in informal settlements (Perrotta & Sacchetto, 2014). In this regard, caporali act as pivotal intermediaries, facilitating employment for irregular migrants lacking the requisite permits, and, conversely, satisfying the labour needs expressed by farmers. This dynamic, abetted by institutional gaps and labour demand, reinforces the role of caporalato as a structural mechanism within the agricultural sector (see **Figure 9**).

Coherently, recent studies have moved beyond a purely criminalised interpretation of caporalato, instead emphasizing the need to situate it within broader supply chain dynamics (Salvia, 2020), as an “infrastructure of farm labour recruitment” (Perrotta & Raeymaekers, 2023). Accordingly, caporalato has been conceptualised as a form of “service agency” (Omizzolo, 2020), also emphasizing the complicity between the exploiter and the exploited, in the case of irregular migrants benefiting the informality of labour (Guidi & Berti, 2023; Uleri et al., 2023). This conceptualization of the role of caporalato suggests including caporali (the agents) among the actors in the agri-food supply chain. Given this structural perspective on caporalato, an open question remains—whether, rather than eradicating the phenomenon, it could be replaced within a legal framework that replicates its core functions. The absence of studies on this alternative approach highlights the need for a deeper understanding of both the mechanisms sustaining informal labour intermediation and the structural demands of the agricultural sector. Such an effort

would require a comprehensive policy design that aligns labour supply mechanisms with regulatory enforcement while ensuring ethical labour conditions.

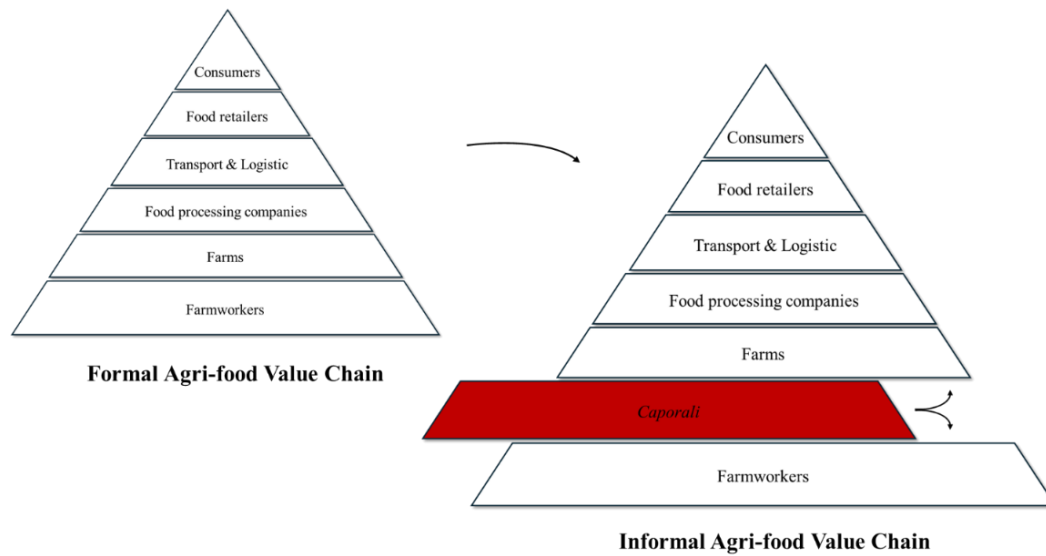


Figure 9 The role of caporalato in the agri-food supply chain.

6.2.2 Mitigating labour exploitation through social innovation

Addressing complex challenges requires a multidimensional transformation of existing systems (Folke et al., 2011), a process in which social innovations play a crucial role. Defined as any "products, processes or programs that profoundly change the basic routines, resource and authority flows, or beliefs of the social system in which the innovation occurs" (Westley & Antadze, 2010), social innovations have the potential to address wicked societal challenges by fostering new organizational models and collaborative approaches (Moore et al., 2018). These initiatives take shape across a diverse spectrum of organizational forms, encompassing companies that create social value through Corporate Social Responsibility (CSR) actions, as well as non-profit organizations committed to systemic change (Phillips et al., 2015).

Given the complexity of issues such as labour exploitation in agriculture, achieving meaningful and lasting impact requires initiatives that are both broad in scope and collectively implemented (Zadra & Elsen, 2024), as unilateral and unidirectional actions are insufficient to address labour issues (Nayak et al., 2019). According to Ferraro et al. (2015), the effectiveness of social innovations depends on the extent to which they mobilize different actors towards shared objectives. In this case, they can drive systemic change through the embeddedness within the structures they seek to transform, fostering new forms of collaboration and institutional adaptation (Pato & Teixeira, 2016). However, to what extent social innovations can have a large-scale or systemic impact is an open question in the literature. According to Moore et al. (2015) for a non-profit organization to

generate large-scale change, its social innovation must scale out, by expanding geographically or engaging a broader range of stakeholders; deep, by fostering cultural shifts that sustain long-term transformation; and up, by embedding innovative approaches within laws, policies, and institutional frameworks. To achieve the latter, the connection with government bodies can support the societal actions to make them more impactful (Marchetti et al., 2020; Shirgholami et al., 2024). Coherently, Kalkanci et al. (2019) propose an even more expansive strategy, emphasizing that businesses, policy makers, civil society organizations, and local communities must work together to promote social sustainability. Without this alignment, social innovations risk remaining fragmented and ineffective.

A key mechanism to foster these collaborations is transparency, which can facilitate the integration of consumers into these strategies (Branstad & Solem, 2020; Jaeger-Erben et al., 2015). Increased access to information has been shown to reinforce the engagement and the active participation of consumers in social innovation processes (Howells, 2005). This underscores the role of ethical consumption, encompassing self-transcendent behaviours aimed at benefiting others (Carrington et al., 2021). Various ethical certification schemes aim to signal socially responsible food production practices. Among the most widespread, these include B2B standards, such as SA8000, which certify compliance with labour rights along supply chains, and B2C labels, such as Fairtrade, which communicate ethical commitments directly to consumers. However, Fairtrade and similar schemes have not gained traction for certain categories, including F&V and staple foods (Ribeiro-Duthie et al., 2021), in the Italian market too, despite the presence of labour-related concerns. Nonetheless, consumer interest in ethical labour certification remains significant (Narayanan & Singh, 2023). As observed by Rossi et al. (2024), there is market potential for a labour-focused certification in Italy, suggesting that transparent communication of fair labour practices could enhance consumer engagement. In this regard, a social innovation strategy promoted by an ethical labelling could serve as a viable mechanism to convey the value of fair labour standards, fostering both consumer awareness and market-driven incentives for sustainable practices.

6.3 Materials and Methods

6.3.1 NoCap

In order to investigate the research questions raised in this paper, the NoCap association was selected as an exemplary illustrative case study. NoCap is an Italian association founded in 2011 with the aim of contrasting labour exploitation and caporalato in the agricultural sector, along with the promotion of a socially and environmentally sustainable agri-food chain. To this end, NoCap has developed a labour management platform based in Italy for the commercialization of F&V. The products traded are both fresh F&Vs (oranges, cabbage, melons, peppers,

tomatoes) and processed products, such as tomato passata. Such a system also includes the provision of housing services to farm workers, legal assistance, and transportation to farms where they are formally employed through collaboration with other projects. Since 2019, NoCap has launched an ethical certification with its homonymous name, with the aim of promoting fair food products. By stipulating agreements in a network protocol, actors in the supply chain agree on prices deemed fair, based on criteria of fairness and transparency. NoCap earns a royalty on a percentage of the sale of labelled products, both domestically and abroad. This operation aims to make the association economically sustainable and to ensure a symmetrical negotiation of profit margins between the actors in the chain. Furthermore, the auditing process for companies is not carried out by a third party, but by themselves, and is based on a multi-criteria matrix that includes respect for workers' rights, environmental requirements and fair pricing. To accomplish this, NoCap manages the logistics part of the process and the negotiation, mediating between farmers and food distribution companies to obtain a fair final sale price to consumers. Consequently, the NoCap organization serves as a case example for developing a deep understanding of a strategic solution to the agricultural labour issue based on a transparent agricultural labour management system.

6.3.2 Research design and data collection

This study employed a single case study approach as a research method, followed by the Gioia methodology for data analysis (Gioia et al., 2013). The choice of this combination among the array of qualitative research methods was guided based on the following considerations regarding the subject of this study, the scope and features of a case study. Firstly, the case study enables an in-depth investigation of a complex contemporary social phenomenon, retaining a “holistic and real-world perspective” (Yin 2009, p.4). This distinctive need aligns with this paper’s purpose of collecting information on the whole web of relationships between economic actors, labour market dysfunction, and corporate and policy inefficiencies to describe and understand how and why NoCap’s initiative can be effective. Furthermore, a case study enables the investigation of complex and emerging phenomena that have been under-explored in literature, by organizing a plan of collection of empirical evidence based on both primary sources (interviews) and secondary multiple sources (Institutional reports, newspaper articles) to be triangulated and analyzed, ensuring internal validity and reducing the researchers’ subjectivity. In order to analyze qualitative collected data, the Gioia methodology was employed as a data analysis protocol to move beyond the static representation of a complex phenomenon and build an inductive model grounded in the data (Gioia et al., 2013).

Following the assumption of “knowledgeable agents” (Gioia et al., 2013), this paper used semi-structured interviews focusing on the reporting of informants’

voices, avoiding suggesting terminologies, constructs or a priori explanations. The selection of participants followed the goal to encompass all the economic actors surrounding the activities of NoCap organization. A guide for interviews was built, comprising a pre-determined set of open-ended questions designed to stimulate discussion and address the research objective. These questions were adapted according to the informant's role or function. As semi-structured interviews, they permitted the exploration of unanticipated yet significant topics that emerged during the discussion (Adams, 2015). **Table 24** presents the final sample of twenty-two participants, who have been anonymised for privacy.

Table 24 Key informant interviewed.

Key informant	Subject	Role	Interview mode	Sampling
F1	Farmer	Manager	Face-to-face	Purposive
F2	Farmer	Manager	Face-to-face	Purposive
N1	NGO	Agent	Face-to-face	Purposive
N2	NGO	Agent	Face-to-face	Purposive
U	Unionist	Agent	Phone	Purposive
D1A	Distributor	Quality & Assurance	Videocall	Purposive
D2A	Distributor	Buyer	Videocall	Purposive
D3A	Distributor	Responsible of NoCap project	Videocall	Purposive
D4B	Distributor	Social Responsibility Specialist	Videocall	Purposive
D5B	Distributor	Sustainability Manager	Videocall	Purposive
D6B	Distributor	Buyer	Phone	Purposive
O1	NoCap organization	Press Office	Phone	Purposive
W1	Manual worker	Seasonal worker	Face-to-face	Convenience
W2	Manual worker	Seasonal worker	Face-to-face	Convenience
W3	Manual worker	Seasonal worker	Face-to-face	Convenience
W4	Manual worker	NoCap seasonal worker	Face-to-face	Convenience
W5	Manual worker	NoCap seasonal worker	Face-to-face	Convenience
W6	Manual worker	NoCap seasonal worker	Face-to-face	Convenience
W7	Manual worker	NoCap seasonal worker	Face-to-face	Convenience
W8	Manual worker	Seasonal worker	Face-to-face	Convenience
E1	Expert	Agent	Videocall	Purposive
E2	Expert	President	Videocall	Purposive

For workers, a convenience sampling was used to deal with the difficulty of reaching them, while for all other subjects, a purposive sampling was used, based on the following reasons. Two F&V farmers were interviewed, as they are among the largest and most established affiliates of NoCap. Two Italian Non-Governmental Organization' (NGO) agents belonging to two different organizations were interviewed, considering their affiliation with NoCap: N1, responsible for worker housing, and N2, in charge of legal support, logistics, and transport. Two major food retail companies were interviewed, one operating in Southern Italy (D1A, D2A, D3A) and the other nationwide (D4B, D5B, D6B). A member of the local agricultural trade union was interviewed as a knowledgeable informant regarding the problems of workers and the informal settlements. Only one member of NoCap's administrative staff was formally interviewed, which was deemed sufficient due to the numerous informal discussions with the president. Then, a total of eight seasonal foreign workers were interviewed, four of whom belonged to NoCap. In addition, two experts were interviewed to collect information regarding the policy and economic background of caporalato. The interviews were carried out in Italian, and mostly conducted face-to-face in August 2024. Subsequent interviews took place by videocall or phone from September to November 2024. The interviews typically lasted between 30 and 90 minutes, and, with the consent of the participants, were audio-recorded and transcribed.

6.3.3 Data analysis

The approach adopted in this study follows the Gioia Methodology in order to develop a rigorous model grounded in the data by translating informants' perspectives into theoretical constructs. The Gioia Methodology is a qualitative approach to data that has its philosophical foundations in interpretivism and constructivism perspectives (Magnani & Gioia, 2023). It aims to generate a plausible and defensible explanation through a rigorous methodology transitioning from an inductive to an abductive process to understand how or why a phenomenon occurs (Gioia et al., 2022). To this end, the method gives emphasis on reporting the data structure to show the process followed, and to support the conclusions drawn by the researchers through direct representative quotes for each thematic interpretation. This approach is particularly suited to studies dealing with nascent theory aimed at concept development (Edmondson & Mcmanus, 2007). Moreover, its use is consistent with the objective of this study to broadly investigate supply chain dynamics, as the Gioia Methodology for the in-depth understanding of a social phenomenon recognizes that its interrelated parts "cannot be separated, but must be examined in a holistic context" (Magnani & Gioia 2023, p. 1).

Practically, each transcribed semi-structured interview was carefully analyzed, with the relevant excerpts highlighted and assigned labels in the informants' own terminology. Relevant excerpts were defined as segments in which key informants expressed opinions, judgments, or descriptions incorporating a degree of

subjectivity. In the initial coding phase, 64 first-order codes (informant-based) were generated. This number was subsequently reduced through iterative refinement, which involved merging similar codes and excluding those underrepresented or not directly relevant to the research question, such as discussions on regional variations in labour exploitation, farmers' strategies on other certifications, and assessments of the evolution and functioning of the INL. The final coding phase resulted in 41 first-order codes. In the next step, the emerging themes were conceptualised at a more abstract and theoretical level, formulating second-order themes (theory-based) in the terms of academia. Following the establishment of a coherent set of themes and concepts, and the absence of any further themes that can be distilled from the first-order codes, the development of the themes leads to what is termed 'theoretical saturation' (Glaser & Strauss, 2017). Finally, second-order themes were grouped into a more distilled categorization of aggregate dimensions, forming the foundation of the data structure, as illustrated in **Figure 10**. This structure does not illustrate sequential or causal relationships between concepts. Instead, it is organized into hierarchical categories that progress from informant terms to themes, and ultimately to overarching theoretical dimensions. To ensure the reliability of the coding process and the development of second-order themes and aggregate dimensions, multiple co-authors were involved in analysing the data following Lincoln and Guba (1985). This collaborative approach allows for cross-validation of interpretations and enhances the trustworthiness of the results.

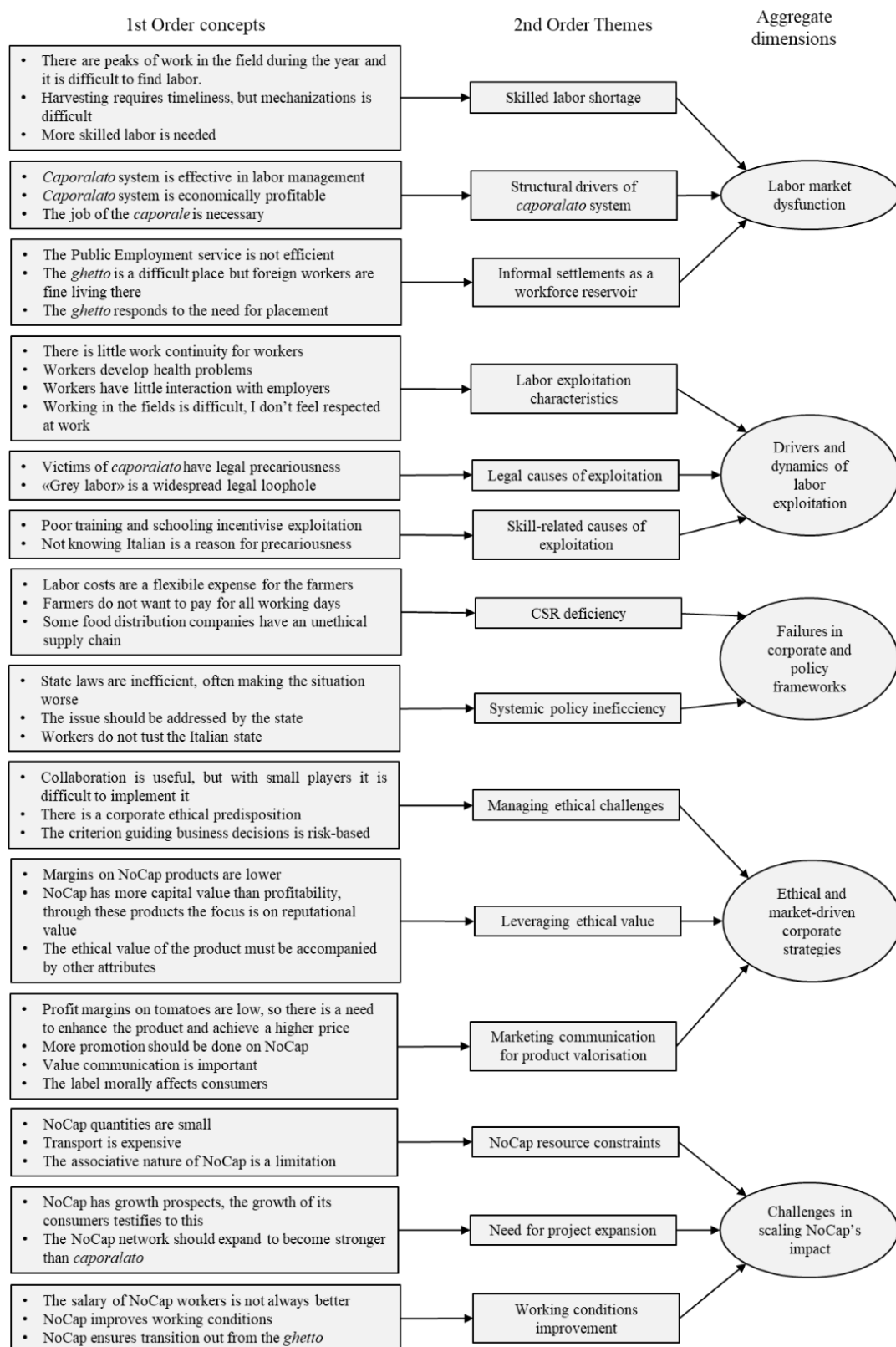


Figure 10 Data structure.

6.4 Results

The results provide a deeper understanding of the role of *caporalato* within the agri-food supply chain and assess the effectiveness of the strategies promoted by

NoCap, in line with the study's research objective. The data collected enabled the definition of five aggregate dimensions. For each of them, **Table 25** presents three informants' representative quotes per second-order themes.

Table 25 Data supporting interpretations of second-order themes.

Theme	Representatives Quotations
labour market dysfunction	
Skilled labour shortage	"Specialised people who today would be needed much more than unskilled labour is normally needed" (F1) "For example, now the companies, all the companies want tractor drivers, because all the Italian tractor drivers are retiring. There are no more tractor drivers, they are all my age" (N2) "There are certainly fewer people willing to work in agriculture. There is difficulty in finding manpower" (D3)
Informal settlements as a workforce reservoir	"Since you have a very short time frame between when the request is made and when you need it, maybe the worker has found another job, because they can't just sit around waiting" (N1) "It is for that [exploitation] that informal settlements exist just as ghettos exist. Informal settlements are reserves of workforce" (N2) "We have truly taken a piece of humanity and relegated it to the margins of our civilization; we deliberately keep it on the margins only because we need hands that come to work for us every now and then" (E1)
Structural drivers of caporalato system	"The caporalato system saves you all those steps that are unfortunately necessary when it comes to finding workers" (F1) "The caporalato system is convenient because the problem is finding the manpower; he manages to organize a team of workers that otherwise could not be found, or with slower times, especially in the period in which there are peaks" (F2) "So, on the one hand, caporalato system is economically advantageous, unfortunately. This also needs to be said, because 1500 euros monthly in agriculture are not easy to make. I see the workers' pay checks, and they never reach those earnings" (N1)
Drivers and dynamics of labour exploitation	
Labor exploitation characteristics	"Then you see them at sixty years old who are worn out by work, have multiple hernias, have not been treated, have high blood pressure problems because, in any case, when you do physical work, you develop heart problems" (N1)

	“Because where I spent two years farming and animal husbandry, a chainsaw cut off my leg, you understand?” W1
	“Yes, in Borgo, without contract. You work until you finish the work, until the morning, no contract” (W2)
Legal causes of exploitation	“At that time, there were no documents, nothing, you understand? That problem, that's why I don't like working in the countryside” (W1) “For me, to me who has a finger on the throat from people, it can't be more than saying a person: if you don't have a house, I won't give you the job, if you don't have a bank account, I won't give you the job. He tells me, What reason is that? I can never understand” (W8)
Skill-related causes of exploitation	“From what I've seen, exploitation here is linked to the condition. I can blackmail because you can't go and live somewhere else: you have to work illegally” (U) “Here, 80% of the workers don't speak Italian well. The boss comes to talk to them, they don't even understand” (W7) “Sometimes they don't know where the working days are written, or we check on the INPS website” (U) “Those who become victims of caporalato are those who have fewer tools to defend themselves, and therefore those who have low levels of education” (N1)
Failures in corporate and policy frameworks	
CSR deficiency	“These farmers, the first thing they say to you is: «but let's make one thing clear: I won't put them in my pay check every day». What do you do? Do you leave them without work and force them to return to the informal settlement or do you accept this compromise with the farmer?” (N1) “There is also the difficulty in finding owners who want to make the contract. In Italy, unfortunately, there is this problem” (O) “It is, however, clear that the large-scale retail trade plays a very important role in this whole situation” (E1)
Systemic policy inefficiency	“Institutions should probably step in and introduce rules that can better regulate this uncomfortable situation that is being created in terms of work” (D2) “I continue to work for twenty-odd years, paid contributions for twenty-odd years. One day, you come and throw me out of the house, you throw me out right in the village, you don't give me any more work, you don't give me anything anymore, for what? For a law that came out like that, for no reason at all” (W8)

	“So, the problem in this country is that the tools already exist, they already exist on paper. But there is an evident political will not to make them work and perhaps an inability to put them together” (E1)
Ethical and market-driven corporate strategies	
Managing ethical challenges	“However, in the DNA of our group, there is an attention to work, workers, collaborators and employees under any qualification” (D3) “Only the most structured companies do it [addressing social sustainability], certainly on a cultural level, but also on a means level, on a political level and on a trade economy level” (F1)
Leveraging ethical value	“The criterion that guides us is risk-based” (D5) “It is not through those products [NoCap labelled] that we seek profitability. Through those products, we seek to have a social impact on the people in the places where we are that is shared” (D1) “We prefer not to create a selling price with the margins necessary for the product's economic viability, but rather a sort of investment is made by giving up that margin” (D2) “Reputation for sure and coherence towards our brand” (D6)
Marketing communication for product valorization	“From an economic point of view, it is not even that convenient” (F2) “That is, a tomato pays less to the producer, 50 cents per kg. You can't go lower than that price. Because, well, that's the fundamental point” (N2) “From a remuneration point of view in the field there should certainly be at least 20% more than what is paid for tomatoes today or what is perceived by the final consumer” (F1)
Challenges in scaling NoCap's impact	
NoCap resource constraints	“The only criticality I think is that it is a project of an association” (U) “For the commercial part, we really haven't done huge volumes. It's always been a niche” (D1) “We receive few orders from NoCap” (F2)
Need for project expansion	“I am confident because the project is just beginning, and it is just a matter of getting to know more about NoCap's activity” (F2) “But the fact that people are getting closer and closer to certain types of purchases within the store and various other things, makes it clear how this hustle and bustle, this attention is increasing” (D1) “I think we are in a growth phase” (O)

Working conditions improvement	“So, if you are part of the NoCap network and have all your days declared, your agricultural unemployment will be much higher than a person who is exploited” (N1) “They monthly earn slightly less but they have a real house, instead of living in a slum” (U) “With them [NoCap] it is regular. Instead, when you are not with them, you can have your wage later” (W6)
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6.4.1 labour market dysfunction

The analysis of the collected evidence highlighted a set of significant structural dysfunctions in the agricultural labour market. Farmers have indicated a persistent shortage of skilled labour, a need that is particularly pronounced during specific seasonal periods. Conversely, the public employment service has been criticized for its inefficiency in matching agricultural labour supply and demand. Consequently, informal settlements serve as a source of informal and unskilled workforce. The interplay of these contextual factors contributes to the consolidation of the *caporalato* system, which is regarded as a market failure associated with unethical practices.

Skilled labour shortage

The scarcity of skilled workers represents a structural concern, which limits the possibility of conducting in-field operations using machinery. Key informants have highlighted that the shortage of skilled labour leads to the reliance on seasonal manual workers, who are only required for a limited period. This is due to the workers' inability to use technologies:

“The gap that I now see, from our point of view, is that of workers training. There are far fewer people who are capable of driving tractors with this technology” (F1)

The farmer (F1) interviewed highlighted the challenge of managing seasonal labour peaks, particularly in crops where timely harvesting is crucial to preserving product quality:

“The tomato campaign here is fast. In the sense that once the tomato is ripe, it is not waiting for you, you must be quick” (F1)

Informal settlements as a workforce reservoir

Although public employment services have the potential to match labour supply and demand, the informants (F2, N1, N2, E1) highlighted their inefficiency in the Italian context. For instance, the agent of the NGO (N2) stated that:

“The Public Placement does not work. I have been doing this job here for six years, I have never seen a person hired through the Public Placement. Not even through the unions” (N2)

This inefficiency is particularly problematic for undocumented and seasonal workers, who struggle to access formal employment opportunities. Some informants (N1, N2, U, E1) linked this dysfunction to the persistence of informal settlements, which serve as labour reserves for exploitative employment systems.

“Cheap labour reserves are fundamental to the capitalist system. So, this is the structural part. So, to the question “why do ghettos exist?” it is because of that. Ghettos are cheap labour reserves” (N2)

Structural drivers of caporalato system

According to the key informants and secondary sources (La Repubblica, 2020; Leogrande, 2015), farmers rely on the *caporalato* system due to economic and efficiency advantages. The economic advantages derive from the low wages that this system provides to farmworkers, while the efficiency advantages consist of the effective and timely matching of workers. As stated by N1, *caporali* are convenient for the farmers: “it goes to informal settlements, at least here, in this territory. It finds fifty people and I, a farmer, don't have to think about anything”. Additionally, Expert 1 added a further perspective:

“Today, we still have a capitalist agricultural system based on the maximum extraction of value both in terms of production and the exploitation of human resources. (...) to this day, we really do have an approach, also stemming from some wrong choices in the CAP, which basically still favours this type of agricultural approach, the latifundist approach. And when you have an agricultural approach of this kind, it is evident that instead of pushing the farmer towards quality, you push the farmer towards large numbers, and at that point it is absolutely clear that the use of cheap labour becomes a structural element of the country's agricultural economic system” (E1)

6.4.2 Drivers and dynamics of labour exploitation

Aligned with institutional reports (Euricse, 2023; Macrì, 2021) and previous studies, the collected evidence depicted a set of common characteristics of labour exploitation issues: inadequate wages, discrimination, lack of human rights, and no job security. To go in-depth with the understanding of the phenomenon, two main dimensions have been identified as causes. Coherently with international reports (Amo-Agyei, 2020), the illegal status of migrants and the lack of skills are factors of workers' vulnerability.

Labor exploitation characteristics

Labor exploitation is characterised by precarious employment, limited worker-employer interaction, and poor working conditions. The informants (F1, N1, U, W1,2,3,5,6,7) emphasized the lack of job continuity, which exacerbates workers' vulnerability:

“There is no continuity in working in agriculture. They use you for as long as they need you, and then after that, they have no more work” (W7)

Workers reported minimal interaction with their employers, as intermediaries often manage labour relations, further distancing them from contractual transparency and fair treatment. Regarding working conditions, workers (W2,3,4) were reluctant to provide details but expressed dissatisfaction with the lack of respect they experienced in agricultural work:

“Because some farmers take you like an animal. I don't like that” (W1)

Legal causes of labour exploitation

Legal precariousness resulted a key driver of labour exploitation in agriculture, as it exposes workers to severe vulnerabilities. Informants (N1, N2, U, D3, E1) highlighted that the difficulty in obtaining or renewing residence permits forces many migrants into irregular employment.

“But the main problem is that often the victims of caporalato are vulnerable individuals who have been in precarious legal situations for many years” (N1).

Even when contracts are issued, migrant workers fall into the category of "grey work," where formal employment conditions do not reflect actual working hours or wages.

“This is recurrent: it is the norm not to count all working days” (U)

Skill-related causes of exploitation

Recurring vulnerabilities were identified, including a lack of language skills and below-average levels of education. The former impedes the acquisition of a comprehensive understanding of their rights and contractual obligations, leaving them vulnerable to potential exploitation:

“The less you know, the better they exploit you. Italy is like that. If you don't even know how to read how many hours you've done, how many days of work you've done, you don't even know how to calculate how much your

net pay should be. Employer can do what he wants, he is free to do what he wants” (W7)

As key informants noted (N1, U), agricultural workers' low educational level significantly limits their awareness of legal obligations, including the need for a residence permit, pay slips, and social security contributions.

“They don't understand what's going on around them, because they don't understand why they need a pay slip, for them it's a piece of paper. They don't understand why they need a residence, for them it's a piece of paper with stuff written on it” (N1)

6.4.3 Failures in corporate and policy frameworks

Exploitation of workers does not occur without the participation of other actors. Farms, large-scale distribution, and inefficient policy instruments are identified to create an environment in which unethical labour practices can thrive.

CSR deficiency

Interviews reveal a significant corporate social responsibility (CSR) deficiency both at the farms and large-scale distribution level. From the farm's side, the farmers' perception of labour cost as a 'flexible expense' was highlighted as a criticism. This leads to the spread of "grey work", where the wages are decided by the farmer, who holds the greatest bargaining power:

"The problem is that as soon as you start telling them that they have to work 6-7 hours, they don't want to; that they have to pay overtime, they don't want to; that they have to pay every day, they don't want to. And they're all like that, you can't find one who accepts the regulations" (N2)

From the perspective of large-scale retail, opinions were divided. While some informants (O1, E1) highlighted the role of retailers in unbalancing contractual relationships within the agri-food supply chain, representatives from the retail sector argued that this claim is a generalization, as only certain supermarket chains engage in such practices:

"From a problem, it is spread equally to all those who work in that sector, when the problem is the prerogative of some brands" (D1)

“Saying that large-scale distribution is a multi-headed monster is a bit of a simplistic conclusion" (D3)

Systemic policy inefficiency

Key informants (F1, U, D2, E1) have emphasized the deficiencies in policy tools by offering criticism of several institutional strategies, such as Flows and Cutro Decrees, and measures on the Italian labour inspectorate. They have highlighted that, in some cases, the laws “*sail in the opposite direction. They produce illegality*” (U). The key informants have demonstrated a low level of trust in the political will to effectively combat labour exploitation in agriculture, highlighting the absence of rigorous intervention, despite the existence of public tools and projects such as the Quality Agricultural Work Network, or the Working Table launched by the Minister of labour and Social Policies:

“To date, the State cannot compete with the caporale who is able to set up work teams in no time at all, take them to the fields, and make them work” (E1)

6.4.4 Challenges in scaling NoCap's impact

The impact of NoCap is limited by its associative nature, the small number of affiliations with farms, and the still-limited market of ethical food products. Although NoCap improves the working conditions and wages of seasonal workers, it does not improve job continuity, and the salary is not always more profitable than informal work. Consequently, while the project expansion is worthwhile, challenges in scaling the impact of NoCap have been identified.

NoCap resource constraints

The current limited impact of NoCap derives from the fact that “*the project is going through its startup phase*”, consequently “*on one hand the poor availability of the product and on the other the price make it a non-continuous and expensive product*” (D6). The number of farms involved varies from year to year, from 10 to 15 relationships. Therefore, NoCap is currently unable to provide large quantities to food distribution companies.

“There are few references with seasonality and so on, you put few references within the department, so you don't have a massiveness” (D1)

In addition, key informants (N2, U) have noted that economies of scale are not being achieved, thus resulting in high operating costs, including transportation expenses. In this regard, the interviewed (N2) stated that:

“We are trying to analyze how much the transportation costs are, it is one of the major costs in the project” (N2)

Need for project expansion

According to the key informants (F2, N1, D1, D6, O1), NoCap's limitations can be overcome by project expansion in the future:

"The NoCap network should be so large that it can guarantee a cyclical nature of the work that then allows you to become stronger than the caporale" (N1)

Indeed, food distribution companies reveal optimism regarding the project's growth potential, declaring that "*a whole series of consumers has been created that constantly buys NoCap products*", and that "*the consumers are constantly more and more interested*" (D1). Farmers and the NoCap member interviewed also shared this same optimism.

Working conditions improvement

NoCap provides an alternative to exploitative systems, ensuring fair wages and legal employment. Workers themselves recognize the benefits of this approach, as one states:

"They tell the boss to make a work contract, with them you can find a good work contract" (W6)

However, through long hours, irregular work and *caporalato*, workers could in some cases earn more. This observation puts a limit on the current NoCap initiative:

"NoCap's salary certainly does not compete in the high season" (N1).

6.4.5 Ethical and market-driven corporate strategies

NoCap's aim is to provide consumers with fair and accessible food products. To this end, a negotiation between suppliers and buyers is aimed at balancing the distribution of value by reducing profit margins for food distribution companies. As key informants revealed, the collaboration with NoCap still leads to positive margins, although reduced compared to alternative products. Consequently, the collaboration follows a strategy oriented towards the creation of social capital value aimed at improving brand reputation. Furthermore, for food distribution companies that have an ethical predisposition in their mission, NoCap represents a guarantee of the reduction of the risk of social issues. Therefore, farms and companies aim to integrate ethics as a main value in their market-oriented communication strategies.

Managing ethical challenges

Managing ethical challenges requires balancing collaboration, corporate values, and risk mitigation. Informants emphasized (F1, F1, N1) that while collaboration supports ethical commitments and market competitiveness, it is more feasible for well-structured firms, whereas smaller actors face greater challenges. Additionally, CSR orientation influences companies' willingness to integrate ethics into their strategies. Firms with an existing strong ethical mission align more easily with NoCap, viewing the partnership as an extension of their communication goals.

“We started working with NoCap because *** is historically committed to the issue of ethics” (D5)

Finally, risk-based decision-making plays a crucial role, as food distribution firms recognize that fair labour certification minimizes reputational risks, reinforcing both ethical integrity and economic sustainability in corporate strategy

Leveraging ethical value

The decision to adopt the NoCap label reflects a strategic orientation toward ethical value creation rather than maximizing profitability. Both farms and food distribution companies acknowledge that margins on NoCap products are lower. This aligns with NoCap's objective of ensuring a competitive and accessible final price for consumers. Despite these lower profits, businesses recognize the capital value of NoCap products, as the collaboration enhances reputational positioning. As one informant states:

"It's a question of commercial policy, of a choice that the company wanted to carry forward by giving up some margins to support the initiative" (D2)

However, ethical value alone is insufficient. Informants (D1, D2) emphasize that ethical attributes must be complemented by other product qualities, as consumers remain sensitive to overall quality. This reinforces the need for a balanced approach to ethical market positioning.

Marketing communication for product valorization

The need to enhance marketing communication emerges as a key factor in valorising Italian tomatoes, both with and without the NoCap label. Informants (F1, N1, N2) highlight that profit margins on tomatoes are low, making it challenging to adopt ethical strategies that further constrain profitability. Additionally, they emphasize that more promotion should be done on NoCap to increase brand awareness:

"In my opinion, consumers should be given much more information before they get to the shelf with advertising campaigns" (F2)

Furthermore, according to key informants (F1, D1, O1), the NoCap label morally affects consumers, serving as a powerful tool to evoke ethical sensitivity. Strengthening communication efforts can therefore enhance consumer engagement and support ethical purchasing decisions.

6.4.6 Summarizing the emerging grounded model

Figure 11 presents the grounded model conceptualised from the findings. The conceptual model illustrates how labour exploitation is caused by a set of labour market dysfunctions and systemic inefficiencies. The data structure reveals that these market dysfunctions encompass a shortage of skilled labour and inefficiencies in public employment services, which are ineffective and inadequate in matching labour supply with demand. Moreover, structural drivers of *caporalato* engender economic incentives for informal labour intermediation. Concurrently, the persistence of unethical labour practices is influenced by legal and skill-related causes of exploitation, systemic policy and corporate inefficiencies. The interconnection between these various factors is illustrated by the dotted line surrounding them.

In response, the NoCap initiative can be defined as an Integrated labour Management System (ILMS), as it addresses multiple dimensions of exploitation through a multifaceted intervention strategy. As these interventions are carried out by NoCap and different NGOs, they must be considered as independent functions. Among these, by facilitating the matching between labour supply and demand, ILMS offers an alternative to *caporalato* system, ensuring that workers are employed through legal channels. The ILMS also provides legal assistance, helping seasonal workers navigate regulatory vulnerabilities and reduce their risk of exploitation. It has also developed a housing service, with the aim of reducing workers' dependence on informal and exploitative living arrangements, such as informal settlements. Similarly, ILMS's transport services counteract one of the primary control mechanisms used in labour exploitation, granting workers greater mobility and autonomy. Beyond labour protection, NoCap integrates an ethical certification system to enhance transparency and provide consumers with clearer information about fair labour practices. Ethical labelling allows companies to differentiate themselves by committing themselves to socially responsible labour practices and targeting specialised market segments. Furthermore, the ILMS facilitates fair negotiation processes between farms and large-scale distribution companies, ensuring more balanced economic relationships and reducing pressures that could otherwise contribute to exploitative labour conditions.

This comprehensive intervention defines an ethical value-driven strategy aimed at providing transparency regarding the company's commitment towards the engagement of ethical practices. Consequently, this strategy aims to enhance brand reputation at the farm and distribution levels. Additionally, considering the label

potential and the need for more NoCap promotion, as well as the corporate strategies acknowledged by key informants to manage ethical challenges, the model's outcomes extend beyond working conditions improvement, defining an ethical and market-driven strategy.

However, ILMS is currently facing resource constraints that limit its operational capacity. Therefore, expanding the initiative by reinforcing the independent functions is necessary to fully meet the demands of ethical labour management and ensure that all systemic labour exploitation challenges are effectively addressed.

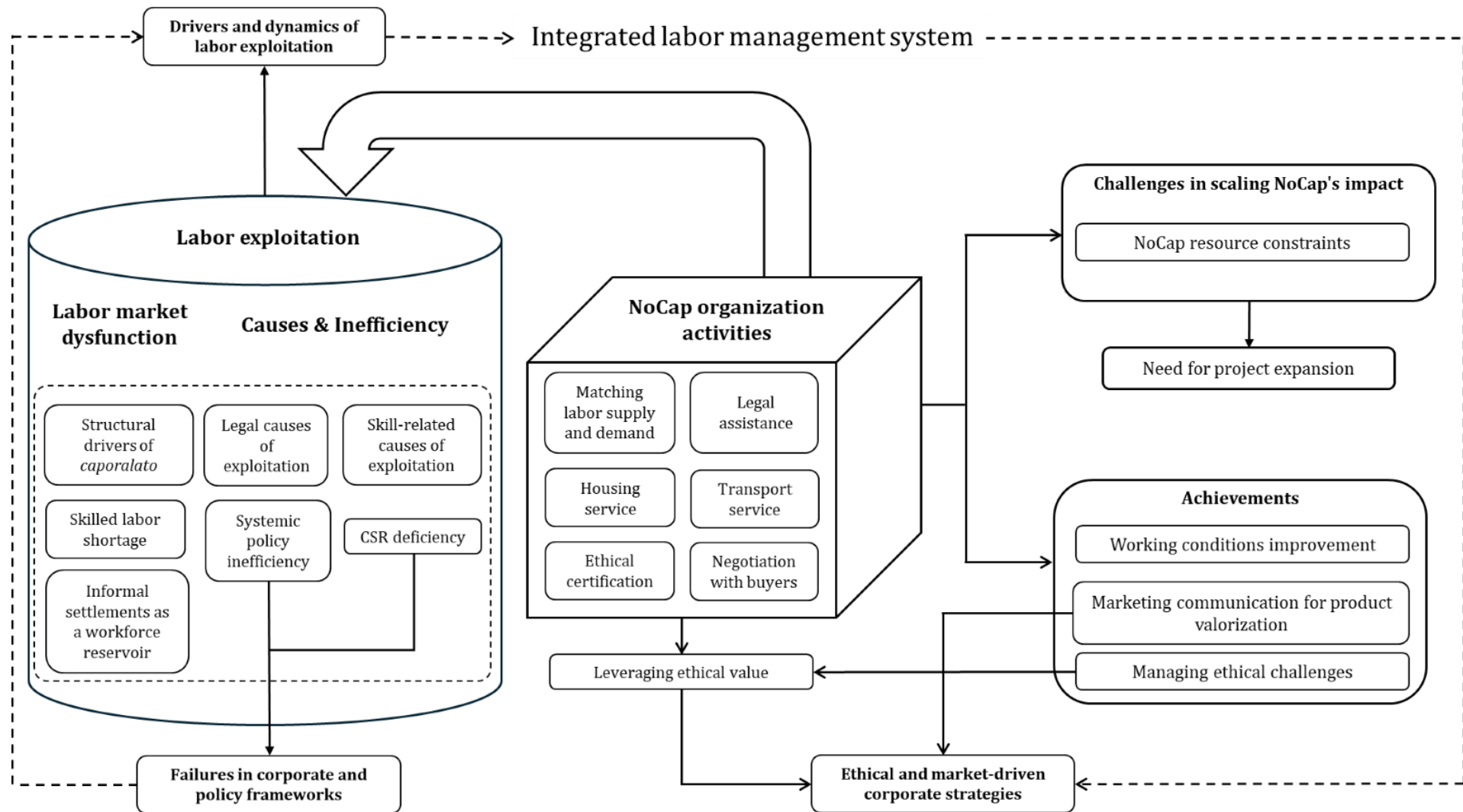


Figure 11 Grounded theory model.

6.5 Discussion

This study aims to contribute to the ongoing discussion on socially sustainable agricultural practices by examining the case of NoCap, a multistakeholder labour management initiative. By investigating its social and economic viability in counteracting the *caporalato* system (RQ1), the findings demonstrate the effectiveness of NoCap's initiative, albeit to a limited extent due to challenges in scaling out. As far as the economic sustainability of NoCap's approach for all the actors involved (RQ2), the findings indicate that this can be achieved through workers' empowerment, B2B negotiation, and enhanced transparency to consumers via ethical certification. While focused on NoCap's intervention framework, the findings also allow for the illustration of the structural determinants of labour exploitation in Italian agriculture and reinforce conceptual evidence in the literature.

Consistent with institutional declaration (Coldiretti, 2025) and recent studies (Corrado et al., 2024; Palumbo, 2024), the results support the link between low-skilled labour shortages and the persistence of inadequate working conditions as a critical nexus within the Italian agricultural labour market. This perspective is further supported by previous research indicating the sector's reliance on a manual and seasonal workforce, often composed of vulnerable migrants with precarious or irregular legal status (Guidi & Berti, 2023; Kalantaryan et al., 2021). This condition of widespread irregularity represents a serious problem for crops that require higher labour. Within this context, the reluctance of farmers to provide regular employment, as reported by key informants, aligns with the framing of these labour dynamics in terms of power asymmetry between farmers and workers (Corrado et al., 2024).

With regard to the function of informal settlements, the findings propose a novel terminological definition in the literature as "workforce reservoir", which supports a conceptualization discussed in recent studies. Indeed, the perspective advanced by Perrotta and Sacchetto (2014) underscores the pivotal role of spatial organization in informal settlements in shaping the labour process, facilitating workforce mobilization, and enabling *caporali* to effectively allocate labour. The proximity of these settlements to production sites, as evidenced in this case study, serves to reinforce the inherent power asymmetries within an agricultural system that is oriented to maximize value extraction through the utilization of flexible, low-wage labour (Brovia & Piro, 2021; Castracani, 2019; Sanò, 2018). Coherently, with Corrado et al. (2024) the *caporalato* system emerges as a structural component of the agricultural labour market to address economic pressures and labour shortages, while simultaneously ensuring employment for vulnerable migrants with limited legal alternatives. This view aligns with the arguments put forward by Perrotta and Raeymaekers (2023) and Salvia (2024), who advocate for a systemic understanding of labour intermediation as a response to the evolving

dynamics of rural economies rather than as a merely criminalised phenomenon. Therefore, the persistence and high profitability of the *caporalato* system (Osservatorio Placido Rizzotto, 2018) indicate that it is not merely an anomaly but a functional necessity within the current agricultural labour market.

The NoCap initiative constitutes a social innovation of workforce management, encompassing the regular hiring of foreign workers, the provision of legal assistance to facilitate the acquisition of residence permits, and the facilitation of their transition out of informal settlements. From a social sustainability perspective, these strategies represent an improvement, as workers employed through NoCap receive fair wages on time, are not forced into excessive overtime, and avoid the precarious living conditions widely documented in informal settlements, which lack basic services and safety (Brovia & Piro, 2021). However, from an economic standpoint, perspectives diverge. While NoCap offers a higher hourly wage, it enforces regulated working hours, meaning that workers outside the initiative, who frequently endure longer shifts or unpaid overtime, may ultimately earn more. This result supports the complicity observed by Guidi and Berti (2023) that workers may, in certain cases, benefit from irregular working conditions. Regarding job continuity, NoCap does not yet provide a significant improvement, as the network of participating farmers remains limited. Key informants within the organization (N1, N2) indicated that expanding this network is a priority for addressing this limitation in the future. Despite these constraints, NoCap has been recognised as an exemplar of good practice (Ceccarelli and Fattibene, 2020; Raeymaekers, 2024) and a promising case of social innovation in the agricultural sector (Palmioli et al., 2024). As noted by Uleri et al. (2023), developing a multifaceted and multistakeholder strategy represents an effective approach to improve the social sustainability of the Italian food supply chain.

The findings illustrate the complexity of NoCap's organizational model in integrating labour management, ethical certification, and structured commercial partnerships, while also highlighting its operational limitations. As depicted in **Figure 12**, based on insights from key informant N2, the model primarily focuses on mediating the relationship between workers and farmers. However, the initiative lacks a formalised training system that could enhance workers' technical skills and language proficiency, thereby increasing their long-term employability. Additionally, structured healthcare assistance, such as vaccination programs or broader medical support, remains absent. Strengthening these areas could enhance the overall effectiveness of the initiative, particularly through training programs that mitigate occupational risks and reduce workers' vulnerability (Caffaro et al., 2018).

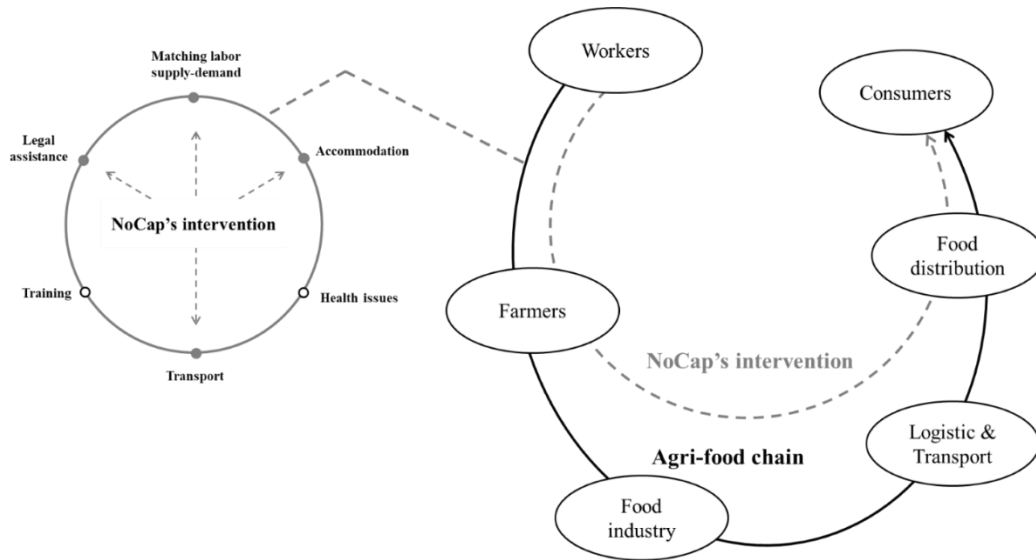


Figure 12 Scope of the initiative and issues addressed by NoCap.

The findings highlight a shared assertion among stakeholders that the complexity of labour exploitation necessitates state intervention, as NoCap's social innovation alone has limited capacity to comprehensively reshape labour governance. This aligns, at least in part, with Shirgholami et al. (2024), who discuss the constrained ability of non-commercial organizations to influence supply chain governance. However, despite its legal status as an association, NoCap operates at the intersection of ethical advocacy and market-driven strategies, aiming to introduce ethically certified products into the agri-food market. Consequently, its role extends beyond traditional non-profit activities, actively engaging with commercial actors to redefine pricing mechanisms and labour conditions. NoCap's constraints primarily stem from operational limitations, including insufficient infrastructure for worker accommodation, limited financial and human resources, and logistical challenges such as transportation capacity. These findings raise critical questions about the scalability and long-term viability of NoCap's model, as its associative nature restricts its ability to sustain social innovations independently. In this regard, NoCap's strategy finds concurrence with the approaches delineated by Sanzo-Pérez et al. (2024) for assessing the scalability of non-profit organizations, as it has developed an ethical advocacy strategy and has developed strategic partnerships with companies to leverage its infrastructure. However, its effectiveness remains limited by the relatively small number of firms participating in its certification system, restricting the overall market penetration of NoCap-labelled products. This suggests that while NoCap represents an important step toward ethical labour governance, achieving systemic transformation requires broader institutional support at both national and local levels (Palumbo & Sciarba, 2018). Although interviewees often framed NoCap's intervention and State action as a dichotomy, a collaborative approach should not be excluded, as this kind of strategy is recognised as essential to fostering social sustainability in food supply chains (Toussaint et al., 2021).

The grounded theory model conceptualizes NoCap's core functions as distinct operational components, highlighting their potential integration into sector-specific public interventions. For instance, the “Matching labour supply-demand” function could be institutionalised within a formalised public framework. A relevant example is the Gangmasters Licensing Abuse Authority (GLAA) in the UK, which provides a legal mechanism for regulating labour market intermediation in the agricultural sector (Schenner, 2017). Similarly, other key functions performed by NoCap—such as legal assistance, housing support, and ethical certification—could be incorporated into a structured governmental approach, reducing reliance on non-commercial initiatives. This perspective aligns with discussions on public-private complementarities in social governance (George et al., 2024), where hybrid models leverage the adaptability and innovation of non-state actors while ensuring stability and scalability through institutional support.

The emergence of consumers’ interest towards NoCap labelled products aligns with recent investigations, which highlight the potential for an ethical labelling system in the Italian fresh produce sector (Rossi et al., 2024). The objective of acquiring ethical value and morally influencing consumers through certification is a strategy that is grounded in the literature, since moral obligation is a factor influencing the intention to purchase ethical products (Berki-Kiss & Menrad, 2022; Canova et al., 2023), also in the case of F&V in Italy (Mirabella et al., 2025). Furthermore, the study highlights the adoption of a risk-based approach by large retail companies to reduce the risk associated with any dissemination of news about the presence of unfair practices. This strategy has been identified as effective in mitigating negative consumer reactions, particularly in cases where public awareness is high (Aktar, 2013). Consequently, ethical values can be transformed into economic benefits for downstream entities within the agricultural supply chain, despite the reduction in profit margins. This trade-off reflects a market-driven approach in which ethical commitment is leveraged as a competitive advantage (Shah & Khan, 2019). This perspective is also consistent with broader discussions on consumer trustworthiness as a key determinant in purchasing decisions for ethically certified products (Aksoy & Özsönmez, 2019; Konuk, 2019). By incorporating ethical certification into their market positioning, retailers and suppliers can both capitalize on consumer preferences and mitigate reputational risks, reinforcing the role of ethical labelling as a strategic asset within the food supply chain.

6.6 Conclusions

The issue of labour exploitation in agri-food systems remains a persistent and systemic issue, deeply embedded in the economic and institutional structures of food supply chains. Despite the legislative efforts, irregular employment conditions, wage suppression, and caporalato continue to persist within the Italian agriculture. In this context, the search for alternative governance models capable

of promoting fair labour practices while ensuring competitive economic performance has gained increasing relevance. To this end, this study contributes to this debate by exploring the social innovation promoted by the NoCap initiative, an integrated management of workforce designed to contrast caporalato system through a multifaceted strategy encompassing direct employment, legal assistance, housing, transportation, and ethical certification. NoCap aims to provide an answer to systemic inefficiencies in labour allocation and establish an alternative to caporalato. However, the findings show that the achievements of NoCap implementation clash with the lack of job continuity and the regular but lower monthly salaries from irregular work. NoCap also seeks to promote a fairer distribution of value across the supply chain by negotiating fair pricing mechanisms that constrain the profit margins of large-scale food retailers. Participation in the initiative by companies is driven by the desire to enhance their brand reputation and align their business strategies with growing consumer expectations for ethically sourced products. Indeed, the introduction of an ethical certification serves as a key instrument to strengthen consumer engagement. While still in its early stages and limited in market penetration, the certification has been positively received, indicating potential for further expansion.

6.6.1 Policy and managerial implications

From a policy perspective, the findings highlight the necessity for a multistakeholder approach to address labour exploitation phenomena such as caporalato, given their inherently multilevel nature. In conjunction with the consolidation of repressive interventions, for example, through the intensification of annual inspection, policy action should also focus on structural improvements to social sustainability. The latest report of the national table on caporalato describes an approach aimed at favouring multi-level and multistakeholder governance, with the involvement of public-private partnerships. Although the projects presented are mostly small-scale, the findings of this case study highlight the benefits of this direction, with the only limitation being scalability, which should therefore be addressed. Furthermore, one key issue is the mismatch between labour demand and supply, which can be tackled through two complementary strategies: first, by activating public employment services in the critical hotspots of exploitation; second, by adopting a governance model similar to the UK's GLAA, which oversees labour conditions in this high-risk sector. From a managerial perspective, the increasing responsiveness of consumers to ethically certified products highlights the strategic relevance of social responsibility in agri-food markets. Initiatives such as "SfruttaZero" and Coop Italia's "Buoni e Giusti" show how storytelling and transparent communication can build consumer trust and strengthen brand positioning through ethical differentiation. Similarly, international programs like Germany's Naturland Fair combine organic standards with social justice principles, offering producers a competitive edge in markets where ethical awareness is growing. These cases suggest that ethical labelling,

when supported by credible narratives and third-party verification, can serve not only as a reputational asset but also as a lever to secure consumer loyalty and price premium in value-driven segments.

6.6.2 Limitations and future research directions

This study has certain limitations that should be acknowledged. Firstly, the analysis is based solely on qualitative assessments, thus lacking quantitative measures of job quality and the economic profitability of the initiative. Future research could integrate mixed method approaches to provide a more comprehensive evaluation. Secondly, the analysis revealed operational difficulties during the interviews with farm workers. These difficulties were attributed to two main factors: language, as many of the workers did not speak Italian or English fluently, and a reluctance to provide detailed answers, citing previous experiences in which, following interviews with journalists, they did not observe tangible improvements in their working conditions. This may have constrained the depth of insights collected. Lastly, institutional mechanisms such as the Public Employment Service and the INL were discussed only by external informants, limiting direct perspectives from professionals operating within these entities which could be explored by future studies.

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7

Final Remarks

The human dimension of food production has increasingly emerged as a matter of global concern, attracting growing attention in both scholarly research and public debate. This attention is driven by international reports exposing unethical practices and the realization that decent work is essential not only for social justice, but also for achieving inclusive economic growth, as set out in SDG 8 of the 2030 Agenda. In this context, strategies that could counteract labour exploitation and enhance the social sustainability of agricultural systems were examined and evaluated, with a focus on Italy, which is considered one of the most critical hotspots in Europe.

Addressing such a complex phenomenon requires a multilayered approach that combines conceptual, market-oriented, and organizational perspectives. To this end, the dissertation is structured into a common thread that allows the phenomenon to be analyzed in several chapters from different perspectives and levels of approach to guide the reader through a coherent and progressive path of analysis and reflection.

As discussed, the evolution of regulatory frameworks at both the European and Italian levels demonstrates an increasing institutional commitment to promoting ethical labour practices and strengthening transparency within agri-food production. Alongside the intensification of enforcement measures, the most recent data on violations of Italian Law No. 199/2016 suggest promising progress in counteracting severe forms of labour exploitation. However, the same law also introduced a preventive mechanism, the Quality Agricultural Work Network, designed to foster ethical engagement and good practices among farms. Complementing public regulation, civil society and private actors have promoted voluntary standards and ethical certifications, such as SA8000, ISO 26000, and GlobalG.A.P. GRASP, aimed at operationalising decent work principles through third-party auditing and continuous improvement systems. These instruments not only enhance compliance and risk management but also serve market-driven purposes, enabling firms to demonstrate social responsibility, access new markets, and strengthen stakeholder trust across increasingly globalised supply chains.

Both the global spread of labour exploitation in agriculture and the inherent difficulties in investigating the phenomenon through institutional secondary data. The informal and often hidden nature of exploitative practices makes systematic monitoring particularly challenging. As a result, scholars have increasingly relied on qualitative approaches to provide in-depth explorations of exploitation and to identify its context-specific drivers. These studies highlight how structural, economic, and social conditions vary across regional contexts. At the same time, quantitative analyzes have also been employed, particularly through econometric modelling to validate causal relationships, and through the construction of multidimensional indices aimed at detecting the presence of decent work. However, the latter approach is constrained by the extensive data requirements it

entails, especially at the level of individual workers, which are rarely available in a consistent and reliable form.

Ensuring transparency in production processes emerges as a pivotal strategy, one capable of being rewarded by the market responding to a latent demand among consumers for ethically labelled products. The results provide strong evidence of the existence of a viable market space for a worker-friendly certification in the Italian fresh F&V sector. However, it is unclear how large this market segment could become and whether it could effectively counteract labour exploitation in agriculture. One aspect that should not be ignored is that the crimes of labour exploitation and caporalato occur within corporate decisions and dynamics. Therefore, the market has a strong responsibility and can encourage or discourage unfair farmers behavior. Consequently, despite the strong labour exploitation's relationships with institutional and cultural driving factors, the choice to employ and underpay or exploit has a predominant economic component. Therefore, successfully combating this phenomenon should be achieved through market dynamics that severely disadvantage the practice of unethical practices commercially. In order to achieve this through a consumer-based strategy alone, consumers should demand an ever-increasing quantity of ethically certified products. The demand would need to be so significant that farms would be almost obliged to adopt ethical standards, as the market would reward this commitment. Otherwise, the ethical commitment of farms to improve working conditions should be monitored throughout the supply chain and included in mandatory product labelling. Moreover, it is important to recognise how distorted the agrifood market is when social justice is threatened in terms of marketability. Ensuring decent working conditions, regular and adequate wages, and workers' rights is a legal requirement. When a company demonstrates its commitment to working conditions, it is exhibiting behaviour that could not be (legally) any other way. What, then, does it mean when a company does not demonstrate the same commitment? Logically, this does not necessarily mean that a company is involved in unethical practices. When the worker-friendly label is present, the level of ethical transparency is certified twice: by law and by the certifying body. In its absence, ethical standards are ensured only by law. Therefore, for all these reasons, while a worker-friendly certification could exist, it is difficult to consider it as a standalone tool for addressing the issue of farmworkers. In fact, no existing voluntary certification has had such a strong influence on the market to date.

The results offers insights into effective communication strategies, showing that consumers demonstrate significant interest in ethically labelled alternatives, particularly when labels are accompanied by emotionally charged information. In addressing Objective 4, the findings underscore the relevance of visual and written communication and the impact of negative stimuli in shaping WTP. Importantly, these effects are also observed in relation to established labels such as organic and

local certifications, suggesting that worker-friendly labels can compete in already crowded markets if designed effectively.

Beyond consumer preferences, the investigation extends to behavioural dimensions, highlighting that purchasing intentions for worker-friendly F&V are significantly driven by moral obligations. These moral drivers are themselves influenced by awareness of individual responsibility, thus confirming the importance of internalised ethical norms in shaping consumer behaviour.

Finally, the findings frame caporalato as a complex and systemic phenomenon embedded within agri-food supply chains. Multiple structural causes, including distortive dynamics in the agricultural labour market, combine to make caporalato function as a mechanism to match labour supply with farmers' demand for low-wage labour. In this sense, the search for a simple solution or "magic bullet" is meaningless. Instead, the results support the need for multi-stakeholder and multi-level strategies. Within this framework, the case of the NoCap organization is instructive. Its workforce management model, providing regular contracts and wages, decent accommodation, legal assistance, and reliable transport, emerges as a concrete example of how social and economic sustainability for workers can be enhanced in practice. At the same time, this model demonstrates potential benefits for downstream actors, including improved brand reputation and greater alignment with consumer expectations for ethically produced food.

The results advance theoretical knowledge in two main directions. First, the systematic review of multidimensional indices and the case study on caporalato jointly contribute to the development of a conceptual framework for analysing labour exploitation in agriculture. By highlighting both the strengths and the limitations of existing indicators, the results offers a foundation for building a composite index that could serve as a more robust tool for future research. Second, the consumer-focused studies extend the literature on ethical consumption by identifying novel determinants of worker-friendly food choices. In particular, the role of label trustworthiness as a driver of ethical consumption has been underexplored in the Italian context, and the empirical comparison of behavioural models shows that a combined VBN–VIP framework provides the best explanatory power. In behavioural economics approaches, the choice of theory is critical. This is why recent investigations into ethical consumption, starting from the TPB and NAM, have experimented with new theories such as VBN and VIP. Consequently, within the context of ethical consumption, combining the two VBN-VIP models with the proposed causal chain yields the greatest explanatory power.

Major practical implications arise from the findings. First, from a policy standpoint, the persistent lack of reliable, granular, and comparable data emerges as a structural barrier to both academic research and effective policy design. This

highlights for policymakers the limitations of current monitoring systems and the consequent risk of underestimating the scale of exploitation. Recognising these constraints is crucial to inform the design of more targeted interventions and to ensure that enforcement and support measures are based on accurate evidence. Second, the analysis of NoCap illustrates that contrasting caporalato cannot rely solely on repression but requires multistakeholder and multilevel governance tools. However, the Italian Taskforce against Caporalato must move beyond a strategy based on small-scale civil society initiatives and implement a wide-reaching, structured intervention to have a significant impact on the labour market. The Taskforce against caporalato should include sectoral interventions based, for example, on the pillars of NoCap in its actions. The Italian job centre could be strengthened to ensure timely employment for seasonal workers. A more significant impact is expected by creating new territorial offices near critical hotspots, such as informal settlements. Furthermore, policymakers should increase the number of field inspections and strengthen penalties for contractual irregularities. Since the issue of housing is a critical source of precariousness in workers' conditions, the Task Force against caporalato should also promote non-monetary benefits. For example, it should provide for the development of a network of decent housing and organized transportation for seasonal workers. The results also suggest implementing a framework for easily issuing residence permits based on agreements between migrants and employers. In fact, given the urgency of legal assistance, consideration should be given to training migrant workers on Italian regulations and allowing them to obtain residence permits for work purposes with greater flexibility. Implementing all these measures would help to establish a new equilibrium in the labour market, where farmworkers have increased bargaining power (given interventions to reduce vulnerability), labour demand and supply are better matched (given the strengthening of the Italian Job centre)), and irregularities are discouraged (due to increased inspections).

On a business level, the research highlights clear opportunities for producers, retailers, and civil society organizations. Producers and retailers can leverage worker-friendly practices and certification schemes not only to comply with regulations but also to capture consumer demand for ethical products and improve brand reputation. Beyond adopting ethical labels, companies should invest in strengthening and communicating these certifications as distinctive sources of value. Moreover, they can foster multi-stakeholder partnerships with labour unions, NGOs, and public authorities to promote shared accountability across supply chains. Internally, companies should develop compliance frameworks and continuous training programmes to ensure adherence to labour standards, enhance awareness among employees and suppliers, and embed social responsibility into corporate governance structures.

This dissertation is not without limitations, which in turn indicate promising directions for future investigations. A first limitation concerns the absence of a

quantitative empirical application of a multidimensional index of decent work to agricultural workers in the Italian context. Indeed, the implementation of such an index requires a large amount of detailed workers-related data, often difficult to obtain due to the informality nature of employment, and thus to a certain degree of reluctance in providing private information, as already observed in Chapter 6. Consequently, since a similar investigation currently does not exist, future studies could address this gap by developing context-specific analysis and implementing a multidimensional index.

The case study of NoCap, although rich in qualitative depth, lacks a quantitative assessment of its outcomes. Future research could strengthen this dimension through longitudinal, quantitative, or comparative analyses across different organizations that experiment with alternative labour governance models. This would enable a more systematic evaluation of their effectiveness and scalability, offering additional insights for both scholarship and policy.

A second limitation relates to the consumer studies, which relied on non-representative samples. While these exploratory analyses provide valuable insights into the determinants of ethical consumption, future research could build upon them by employing representative samples of the Italian population. Such an approach would allow for stronger external validity and the possibility of generalising findings on consumer WTP and behavioural drivers of worker-friendly certifications.

In the end, the complexity of the labour exploitation issue in agriculture and its interconnectedness with extensive societal challenges was illustrated. The marginalisation of rural areas, social disparities, irregular migration, asymmetrical bargaining power in the agri-food chain and systemic policy inefficiency all contribute to the emergence of precarious working conditions. The results argue that labour exploitation in agriculture can only be effectively addressed through a broad approach. Research must also be broad in scope to gain an in-depth understanding of the issue and generate new insights. Although exploitation is not an economic concept, it constitutes a contractual asymmetry between employer and worker. Due to economic and social vulnerability, the worker decides to submit to a disadvantageous contract, thereby contributing to the creation of an unfair labour market equilibrium. This lack of ethics and legality can only persist due to the power of agromafias, institutional failures and the opacity of data and monitoring. In short, the market is rigged. Therefore, food systems must be fundamentally rethought to ensure stronger institutions enforce ethical standards. The solution cannot be left to consumers or small, private initiatives. Large-scale, structured and lasting interventions are needed to change the rules of the game. Only then can the current distortion of the market be corrected to achieve a healthy balance between labour supply and demand for all workers in the agricultural supply chain.