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Beyond the Paycheck: Incentives Shaping Worker Well-Being in Ethiopia and Kenya's Apparel Sector

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Abstract

This study examines how financial and non-financial incentives affect worker well-being in Ethiopia and Kenya's industrial sectors. Using data from 553 Ethiopian and 400 Kenyan workers surveyed in 2023, a hierarchical nested model assessed the impact of various incentive types. Salary, housing, and training significantly improved well-being, especially in Ethiopia. Ethiopian workers showed greater sensitivity to salary changes, consistent with diminishing marginal returns. In contrast, Kenyan managers, constrained by minimum wage laws and stronger labor institutions, relied more on non-financial incentives to enhance worker satisfaction.

Key words: well-being, financial incentives, non-financial incentives, income-well-being elasticity.

JEL code: J08, I32, M2

1. Introduction

The textile and apparel industry, one of the earliest global sectors, has historically driven economic growth, employment, and poverty reduction across both developed and developing nations. Initially thriving in Western countries, rising labor costs during the Industrial Revolution shifted production to lower-cost regions of Asia in the late 20th century (Rundassa et al., 2019). Countries such as China, India, Bangladesh, and Vietnam became dominant suppliers, leveraging low labor costs, scale economies, and export-oriented policies. Gereffi (2018) argues that textiles and apparel exemplify how global value chains (GVCs) have redefined capitalism, fragmenting production across geographies and creating uneven development outcomes. Globally, several trends have shaped the industry's trajectory.

The compelling suppliers to deliver at speed and low cost, often under precarious labor conditions and the fast fashion nature have forced to accelerate the production cycles, (Gereffi & Frederick, 2010). This dynamic has been documented in studies of Bangladesh and Cambodia, where shortened lead times and intense buyer demand have eroded labor protections (Anner, 2020). The

second factor, technological innovation—including automation, AI-driven design, and digital supply chains—has reshaped production processes, raised competitiveness but also concerned about labor displacement (Inter-American Development Bank [IDB], 2025). Bryson and Taylor (2010) note that automation in apparel manufacturing is altering the geography of production, while Bair and Palpacuer (2015) emphasize how digitalization strengthens buyer control over suppliers. Although the issue of sustainability in the textile and apparel industry dates back to the late 1980s and 1990s, when concerns about pollution and resource use began to surface (Allwood, Laursen, Malvido de Rodríguez, & Bocken, 2006; Fletcher, 2008), it was the rise of fast fashion in the 2000s that intensified pressures on both the environment and labor (Niinimäki, Peters, Dahlbo, Perry, Rissanen, & Gwilt, 2020). The collapse of Rana Plaza in Bangladesh in 2013 marked a decisive turning point, after which sustainability and labor rights became central concerns for regulators, consumers, and global buyers (Anner, 2013; Clean Clothes Campaign, 2014; International Labour Organization, 2021). Accordingly, some pushes were coming from different agencies. The Ellen MacArthur Foundation (2017) highlights the growing push for circular fashion, while the International Labour Organization (ILO, 2021) stresses that sustainability initiatives must also address labor rights and decent work. Moreover, at the same time, buyer–supplier relations remain highly asymmetric: lead firms in advanced economies capture most value through branding and retail, while suppliers in developing countries compete in low-margin assembly (Whitfield, Staritz, & Morris, 2020). This imbalance has fueled a “race to the bottom,” where suppliers cut costs by lowering wages and weakening labor protections. Bair (2009) and Barrientos, Gereffi, and Rossi (2011) show how governance structures in apparel GVCs institutionalize this asymmetry, with suppliers bearing the risks of fluctuating demand while buyers retain strategic control.

Finally, labor agency has nonetheless emerged as a counterforce. Workers in Asia have mobilized through unions and transnational advocacy campaigns to demand better conditions, though gains remain uneven. Tejani and Milberg (2016) highlight how industrial upgrading often reduces female employment, underscoring the gendered dimensions of labor precarity. In Africa, labor agency is constrained by weak institutions and fragmented unions, limiting workers’ bargaining power.

Ethiopia and Kenya illustrate two distinct pathways into GVCs. Ethiopia has pursued an **industrial park strategy**, attracting foreign investors to Hawassa and Bole Lemi parks. The government envisions textiles as a driver of industrialization, but Whitfield et al. (2020) show that Ethiopia remains locked into low-value assembly, with limited upgrading and wages often below subsistence levels. Kenya, by contrast, leverages **AGOA** and regional integration through the East African Community. The World Bank (2015) highlights that Kenya’s exports to the US have grown, but the sector faces competition from second-hand clothing (“mitumba”) and high production costs. Workers’ remuneration in Kenya tends to be higher than in Ethiopia, reflecting stronger labor institutions and longer industrial experience, though still modest compared to global standards. Over the past decade, both Ethiopia and Kenya have moved from being relatively marginal players in the global apparel trade to becoming recognized sourcing destinations for major international buyers. In Ethiopia, the establishment of industrial parks and targeted investment incentives attracted global retailers such as H&M and Primark, marking a significant expansion beyond the limited buyer connections of earlier years (Staritz & Whitfield, 2017;

Oqubay, 2019). This shift was not accidental but the result of deliberate industrial policy aimed at positioning the country within global value chains.

Kenya, meanwhile, consolidated its role as a reliable supplier under the African Growth and Opportunity Act (AGOA), which provided duty-free access to the U.S. market. Export Processing Zones (EPZs) became hubs for production, and partnerships with U.S. and European buyers expanded steadily (KIPPRA, 2020; World Bank, 2019). Over time, Kenya's apparel sector evolved from serving a narrow set of buyers to engaging with a broader range of global retailers, supported by institutional strategies to enhance competitiveness and logistics.

Together, these developments illustrate how both economies have enhanced their business connections with global buyers compared to a decade earlier. They also highlight the dual pressures facing firms: the opportunities created by global integration and the challenges of aligning labor incentives and well-being with the demands of international markets.

In summary these dynamics suggest that Ethiopia and Kenya's participation in GVCs reflects both opportunities and constraints. Ethiopia's model emphasizes attracting foreign investment through low wages and industrial parks, while Kenya's model relies on trade agreements and regional integration. Both face structural challenges of power asymmetry, sustainability pressures, and labor precarity. For your study, this evidence underscores the importance of situating Ethiopia and Kenya within the broader debate on whether GVC participation fosters upgrading or entrenches dependency, and how labor outcomes—particularly wages and gendered employment—reflect these dynamics.

Today, global supply chains span continents, with design and branding concentrated in high-income countries, while production and assembly are outsourced to emerging economies such as Bangladesh, Vietnam, Ethiopia, and Kenya (Inter-American Development Bank, 2025).

However, this growth has been accompanied by mounting concerns over labor conditions, environmental sustainability, and ethical sourcing. The Rana Plaza disaster in 2013 catalyzed global scrutiny, prompting calls for stronger compliance with International Labour Organization (ILO) standards and more transparent supply chain governance (Egels-Zandén & Lindholm, 2015). Global supply chains have not only transformed production structures, expanded employment opportunities, and boosted exports and overall economic growth, but also raised critical concerns regarding the social and environmental conditions under which goods and services are designed, produced, and distributed (Barrientos, Gereffi, & Rossi, 2011; Barrientos, Mayer et al., 2011).

Globally, the textile and garment sector is characterized by three key trends: (1) the continued relocation of production to low-cost regions in Asia and Africa, (2) the rise of fast fashion and e-commerce, which demand shorter production cycles and flexible supply chains, and (3) increasing pressure for sustainability and compliance with labor standards (Gereffi, 2018; Tokatli, 2020; ILO, 2020). Regionally, East Africa has positioned itself as a new frontier for apparel manufacturing, leveraging preferential trade agreements such as AGOA and EBA, while also facing challenges of limited value addition and dependence on imported fabrics (Staritz & Whitfield, 2017; McCormick et al., 2006). In Ethiopia, rapid industrial growth has been driven by industrial parks, low labor costs, and abundant cotton, but the country struggles with weak labor institutions, inconsistent enforcement of labor laws, and vulnerability to external shocks such as AGOA suspension

(Gebreeyesus, 2013; ILO, 2020). These global, regional, and local dynamics inform the study by highlighting the dual pressures facing Ethiopia and Kenya: the need to remain competitive in global supply chains while simultaneously improving labor protections and worker welfare.

Equally, parallel to the current global market opportunities, both countries are rethinking how they can diversify and assess the feasibility of the growing middle classes and urban populations, which creates a potential domestic demand for apparel (6Wresearch, 2022; Hissen Global, 2026).

If firms diversify into domestic markets, the incentive structures may shift. Instead of being locked into cost-cutting pressures from dominant global buyers, firms could experiment with differentiated products, potentially allowing more flexibility in wages, working conditions, and non-financial incentives. This could have different connotations for worker well-being—possibly less pressure for “race-to-the-bottom” labor practices. However, the scale of domestic markets is still relatively small compared to export-oriented production, so firms often prioritize global buyers (KIPPRA, 2025). Acknowledging this imbalance while noting emerging opportunities will strengthen the argument.

In this global context, Ethiopia and Kenya have emerged as key players in Africa’s textile and garment landscape, albeit with distinct trajectories. Ethiopia’s industrial emergence began in the 1920s under foreign ownership but stalled after the Derg regime’s rise in 1974 (Gebreeyesus, 2013, Rundassa et al., 2019). Post-1991, Ethiopia leveraged favorable internal and external conditions to revitalize the sector. International initiatives like AGOA and Everything Except Arms attracted foreign investment, while domestic advantages—such as abundant cotton, low-cost labor, and supportive industrial policies—fueled growth. Clothing exports surged from US\$6 million in 2009–2010 to US\$126 million by 2021. Manufacturing value added rose from 1.5% to 12%, and employment tripled to 96,000. Despite Ethiopia’s recent suspension from AGOA, the industry has maintained strong momentum, growing at an average annual rate of 51% over the past 15 years (Gebre et al., 2024).

Ethiopia’s labor institutions, however, remain relatively weak. Trade unions were heavily suppressed during the Derg regime, and although the post-1991 government legalized union activity, collective bargaining remains limited (Alemu, 2017). Labor laws exist but enforcement is inconsistent, leaving workers vulnerable to poor working conditions and limited grievance mechanisms (ILO, 2020). This institutional fragility explains why Ethiopian workers often prioritize financial compensation over non-financial incentives.

Hypothesis 1 (H1): In Ethiopia, where union strength is relatively weaker and wage levels are lower, workers often prioritize basic financial compensation. This reflects the country’s industrial trajectory, where rapid growth has not been matched by strong labor protections, leaving financial incentives as the primary determinant of worker welfare. Kenya’s apparel industry dates back to the early 1900s with the introduction of cotton farming. After independence in 1963, the government prioritized the sector through import substitution policies, integrating cotton producers with mills, investing in textile infrastructure, and applying protective tariffs (Maiyo & Imo, 2012, Hast, 2024). By the 1980s, it had become Kenya’s leading manufacturing sector, accounting for 30% of employment and relying on over 200,000 household farms. The industry declined in the late 1980s due to the influx of second-hand clothing and

liberalization in the 1990s. A revival began again, in 2000 with the African Growth and Opportunity Act (AGOA), which granted Kenya duty-free access to the U.S. market. Apparel exports rose from \$55 million in 2001 to \$603 million by 2022, supporting over 150,000 livelihoods and attracting major U.S. brands (McCormick, Kamau & Ligulu, 2006, Ikiara & Ndirangu, 2003). AGOA improved job quality and industrial standards, though deeper value addition remains limited due to reliance on imported fabrics (Phelps, Stillwell & Wanjiru, 2009, Owusu & Otiso, 2021).

Kenya's labor institutions are comparatively stronger. The country has a long history of organized labor, with unions playing a significant role since independence (Anami, 2015). The Central Organization of Trade Unions (COTU) remains influential, and collective bargaining agreements are more common than in Ethiopia (ILO, 2019). Labor laws are better enforced, and grievance handling mechanisms are more established (Fashoyin, 2004). This institutional strength allows Kenyan workers to value non-financial incentives such as recognition, workplace conditions, and training opportunities alongside wages.

Hypothesis 2 (H2): In Kenya, with more established labor market structures, non-financial incentives such as recognition, training, workplace conditions, and grievance handling tend to play a larger role in shaping workers' well-being perceptions. This hypothesis aligns with Kenya's relatively stronger union presence and more mature industrial institutions, which allow workers to value workplace culture and non-financial benefits alongside wages.

The growing demand for labor-intensive production in developing or emerging economies has undeniably increased job opportunities, particularly for women and migrant workers. However, this expansion has not been matched by adequate employment terms or robust labor regulations. As a result, especially in countries where labor laws are absent or weak, such as Ethiopia, the safety and welfare of factory workers remain insufficiently protected, with persistent gaps in oversight and enforcement (Egels-Zandén & Lindholm, 2015). To understand the context in which the apparel and textile industries operate, it is essential to briefly examine the labor laws and union histories of Kenya and Ethiopia.

Several studies have examined whether workers receive minimum wages and decent working conditions (dos Santos, da Graça & Orchard, 2022, Grimshaw, & de Bustillo, 2021, Mayer & Pickles, 2014), earn a living wage (Gebrehiwot, 2025, Meyer, Krkoska & Maaskant, 2021), experience social upgrading (Marslev, 2019, Islam & Stringer, 2020, Khattak et al., 2017), or, more broadly, whether their overall well-being has improved since joining their current employer. However, these investigations remain too general to effectively inform policymakers or industrial employers. Comparisons based on minimum or living wage benchmarks often lack contextual nuance and do not reflect workers' prior living standards. Applying a uniform income threshold to workers from diverse economic backgrounds can be misleading. For instance, individuals with no previous income may perceive significant welfare gains from employment, while those with prior work experience may report only modest improvements. Others, despite earning higher wages, may feel their well-being has declined due to long working hours, rigid industrial discipline, or unfamiliar workplace culture. These complexities underscore the need for more context-sensitive assessments of labor outcomes and worker welfare.

Moreover, most studies tend to focus narrowly on whether workers' well-being has improved, without disentangling the relative influence of financial versus non-financial incentives. This study aims to identify the factors affecting workers' self-reported well-being by accounting for both financial variables—such as salary, bonuses, meal allowances, housing, and transport subsidies and training opportunities—and non-financial dimensions theorized to shape workplace experience. These include workers' perceptions of grievance handling procedures, access to leave, sanitation facilities, recognition mechanisms, and overall working environment. By integrating both sets of variables, the study seeks to provide a more nuanced understanding of what drives improvements in worker welfare.

This study is highly relevant because it addresses a critical gap in understanding how different types of incentives—financial and non-financial—shape worker well-being in industrial sectors of developing economies. While much of the global literature focuses narrowly on wages or living wage benchmarks, your study expands the lens to include housing, training, grievance handling, and workplace conditions. This broader perspective is crucial for policymakers and employers who must balance cost-efficiency with decent work standards.

The study is interesting because it compares Ethiopia and Kenya, two countries with contrasting institutional strengths and labor market structures. Ethiopia's weaker unions and inconsistent enforcement of labor laws make financial incentives—such as salary and housing—more decisive for worker welfare. In contrast, Kenya's stronger labor institutions and minimum wage laws push managers to rely more on non-financial incentives, such as training and recognition, to enhance satisfaction. This comparative approach not only highlights the diversity of labor experiences within Africa but also demonstrates how institutional contexts shape incentive effectiveness.

What we may learn from this study is twofold. First, financial incentives remain vital in contexts where labor protections are weak, but their impact diminishes as wages rise, consistent with the principle of diminishing marginal returns. Second, non-financial incentives become increasingly important in environments where wage floors are enforced and labor institutions are stronger. These insights provide actionable lessons: Ethiopia must strengthen labor institutions to complement financial incentives, while Kenya can deepen value addition by leveraging non-financial mechanisms to sustain worker morale and productivity. More broadly, the study contributes to global debates on how industrial growth in developing countries can be harmonized with worker welfare, offering evidence-based guidance for industrial policy, labor regulation, and management practices.

2. Theoretical framework

The study is framed within the Global Value Chain (GVC) and Global Production Network (GPN) perspectives, which emphasize how production, labor, and governance are organized across borders (Gereffi, 2018; Barrientos et al., 2011). These frameworks highlight the dual processes of economic upgrading (moving into higher value-added activities) and social upgrading (improving labor conditions and worker welfare). By situating Ethiopia and Kenya within these frameworks, the analysis connects local labor dynamics to broader global supply chain pressures.

Additionally, the study indirectly employs institutional labor economics and comparative industrial relations theory (Fashoyin, 2004; ILO, 2019). These approaches stress the importance of labor institutions—such as unions, collective bargaining, and grievance mechanisms—in shaping worker outcomes. Ethiopia’s weaker institutional environment and Kenya’s relatively stronger labor structures provide contrasting cases that enrich the analysis.

The analytical framework therefore integrates: (1) GVC/GPN theories to explain global and regional dynamics, (2) institutional labor economics to capture the role of unions and enforcement, and (3) welfare economics to assess both financial and non-financial incentives. This triangulation allows the study to move beyond narrow wage-based comparisons and instead examine how structural, institutional, and incentive-based factors interact to shape worker well-being.

Key contributions employed include Gereffi’s (2018) work on global value chains, Barrientos et al. (2011) on social upgrading, and Fashoyin (2004) on labor institutions in Africa. Together, these provide a robust theoretical lens for analyzing Ethiopia and Kenya’s textile and apparel industries. Importantly, this framework directly informs the two hypotheses: H1, which emphasizes the primacy of financial incentives in Ethiopia due to weaker labor institutions, and H2, which highlights the role of non-financial incentives in Kenya where labor institutions are stronger and more established.

To maximize utility, industrial workers require equitable compensation comprising both financial and non-financial incentives at the factory level. The financial package, in our context, typically includes take-home salary in US dollars, bonuses, housing, transportation, food subsidies, and access to training opportunities. Non-financial benefits encompass favorable working conditions, employee recognition, fair treatment (including effective grievance handling), adequate sanitation facilities, training opportunities, and sufficient leave entitlements. Factories allocate resources to deliver these compensation and benefits packages with the dual objective of enhancing worker satisfaction and minimizing the cost of achieving a reasonable level of labor retention. In perfectly competitive labor markets, the cost of the reservation compensation package corresponds to the employee’s marginal revenue product.

The household model was originally designed to capture household behavior, specifically how families allocate their endowments—such as labor, time, and land—in order to maximize utility given the resources at their disposal. In a similar vein, apparel industries in the Global South must exert maximum effort to incentivize workers, both financially and non-financially, to enhance productivity and improve retention. At the same time, firms are compelled to maximize profits as part of their business objectives. All of these dynamics unfold within the framework of global value chains (GVCs), where producers operate as price takers while buyers exercise price-making power, shaping the balance of influence across the chain. Although the household decision model is highly valuable for understanding how households prioritize choices and seek to maximize utility—thereby offering important policy insights—it inevitably reduces complex human behavior to the manipulation of a limited set of parameters. For this reason, it must be

complemented by other approaches, particularly qualitative methods, which can capture the nuanced, context-specific dimensions of decision-making that the model alone cannot fully explain.

With this brief background, we can model the problem formally by assuming that a firm selects a vector of compensation packages, C , with the objective of minimizing the cost of inducing employee work effort. For a factory offering two compensation components, C_1 and C_2 , the firm seeks the cost-minimizing combination that still provides the minimum reservation utility required to induce a representative or hypothetical worker to accept employment. This formulation can be expressed as follows (Adler et al., 2017):

Objective function

$$\min = P_1 C_1 + P_2 C_2 + \lambda[U\{h(C_1), h(C_2)\} - U_R] \quad (1)$$

$$\min(C_1, C_2)$$

Constraint

The worker must receive at least their reservation utility U_R , which is derived from the utility function:

$$U(h_1(C_1), h_2(C_2)) \geq U_R \quad (2)$$

Setting the Lagrangian function:

$$L = P_1 C_1 + P_2 C_2 + \lambda(U_R - U(h_1(C_1), h_2(C_2))) \quad (3)$$

Taking the partial derivatives of the Lagrangian with respect to C_1 , C_2 and λ :

With respect to C_1 :

$$\frac{\partial L}{\partial C_1} = P_1 - \lambda \cdot \frac{\partial U}{\partial h_1} \cdot h'_1(C_1) = 0 \quad (4)$$

With respect to C_2 :

$$\frac{\partial L}{\partial C_2} = P_2 - \lambda \cdot \frac{\partial U}{\partial h_2} \cdot h'_2(C_2) = 0 \quad (5)$$

From the above two FOCs,

$$\lambda \cdot \frac{\partial U}{\partial h_1} \cdot h'_1(C_1) = P_1 \text{ and } \lambda \cdot \frac{\partial U}{\partial h_2} \cdot h'_2(C_2) = P_2$$

solving the above,

$$\frac{P_1}{h'_1(C_1)} = \lambda \frac{\partial U}{\partial h_1} \text{ and } \frac{P_2}{h'_2(C_2)} = \lambda \frac{\partial U}{\partial h_2} = \frac{P_1}{h'_1(C_1)} \cdot \left(\frac{1}{\frac{\partial U}{\partial h_1}}\right) = \frac{P_2}{h'_2(C_2)} \cdot \left(\frac{1}{\frac{\partial U}{\partial h_2}}\right), \text{ which simplifies to;}$$

$$\frac{P_1}{h'_1(C_1)} = \frac{P_2}{h'_2(C_2)} = \frac{\frac{\partial U}{\partial h_1}}{\frac{\partial U}{\partial h_2}} = \frac{U_1}{U_2} \quad (6)$$

Equation (6) highlights the Pareto-efficient condition where firms equalize the marginal cost of delivering utility across financial and non-financial incentives. In practice, however, institutional environments shape how this balance is achieved. In Ethiopia, weaker labor institutions and limited enforcement mechanisms make financial incentives the dominant lever for improving worker well-being (H1). By contrast, in Kenya, stronger unions and minimum wage laws constrain salary

adjustments, compelling firms to rely more heavily on non-financial incentives such as recognition, grievance handling, and favorable working conditions (H2). where $P_i(i=1, 2)$ is the price of supplying the two types of incentive or compensation packages C_i and U_R is the reservation utility level to induce workers to accept an employment at one of the industries at the two countries industry sites in our sample, but also produce the minimum cost to owners. Hence, we predict the level of individual worker well-being using, financial incentives, non-financial amenities and firm and country fixed effects.

$$W_{ij} = \alpha_0 + \alpha_n C_j + \gamma F_{ij} + \beta I_{ij} + \varphi N_{ij} + \varepsilon \quad (7)$$

Here, W_{ij} denotes the workers' self-reported ordinal well-being indicator. Workers were asked: "*Since starting work in your current job, has your overall well-being improved or worsened?*" Responses were coded on a five-point scale, where *improved a lot* = 1 and *got a lot worse* = 5. C_j includes amenities valuation by workers which includes variables such as working conditions (how satisfied workers are with the working conditions at their current employer), toilet, training opportunities, grievance handling (how workers are satisfied with the available opportunities to place your complaints or grievances), leave (able to take all the leave and holidays you are entitled to), and recognition (whether workers received recognition or praise for doing good work). F_{ij} includes, financial incentives variables: salaries (in natural log form), bonuses, meal service, housing, and transport subsidies. I_{ij} captures industry dummies or fixed effect where garment=1 and 0 otherwise. N_{ij} is country dummies or fixed effect where Ethiopia =1 and Kenya=0.

3. Data and Methods

3.1 Nature and Source of Data

This study draws on two data sources: secondary data from the ILO SIRAYE (Better Work) program in Ethiopia (2023) and primary data from the Creating and Capturing Value project in Kenya (2023). The ILO survey in Ethiopia covered 1,075 workers across 37 apparel and textile firms—both exporting and non-exporting—selected randomly from foreign and domestic enterprises located within and outside industrial parks. For this study, only 550 workers from exporting firms were included to align with the Kenyan sample, which focused exclusively on export-oriented firms. In Kenya, the survey targeted 400 workers from eight apparel firms located in Athi River and Kilifi, selected randomly from firm-provided employee lists. Both surveys were conducted through face-to-face interviews using standardized ILO instruments during November–December 2023.

The datasets encompass a broad range of topics, including employee demographics, wages and benefits, savings behavior, production targets, job satisfaction, union membership and representation (e.g., works councils), access to well-being services (transportation, housing, health and sanitation, and training), workplace safety and conditions, perceptions of well-being improvements, indicators of abuse and sexual harassment, grievance mechanisms, and strike activity. For the purposes of this analysis, a pooled cross-sectional data-set was constructed comprising 950 workers from 29 export-oriented apparel firms. This adjustment was necessary to ensure comparability, as the Ethiopian sample included non-exporting firms while the Kenyan sample was exclusively export-focused. The final data-set is structured at country levels, firm and

individual responses which includes the detail financial and non-financial packages as perceived by the respondent.

2.3 Model specification

Behavioral and social data often exhibit a nested structure. In this study, observations are hierarchically organized within countries—specifically Kenya and Ethiopia—which differ in macroeconomic conditions, labor union strength, and experience in the apparel sector, industries/firms and individuals. To appropriately capture this complexity, a formal multi-level modeling approach is employed, with distinct sub-models representing each hierarchical level. These sub-models define relationships among variables within each level and specify how variables at one level influence dynamics at another.

In our framework:

Model 1 accounts for country-level heterogeneity through country fixed effects.

Model 2 incorporates industry-level factors, including firm size, industry fixed effects, sectoral experience, human resource policies, and remuneration schemes.

Model 3 captures individual-level dynamics, such as workers' valuation of workplace amenities and conditions, their perception of financial incentives, and their assessment of both financial and non-financial benefits, alongside their self-reported well-being.

The general model specified in equation (7) can be depicted in detail as follows:

$$\text{Model 1: } W_i = \beta_{k0} + \beta_1 C_{i1} + \epsilon_i \quad (8)$$

$$\text{Model 2: } W_i = \beta_{k0} + \beta_1 C_{i1} + \beta_2 I_{i1} + \epsilon_i \quad (9)$$

$$\text{Model 3: } W_i = \beta_{k0} + \beta_1 C_{i1} + \beta_2 I_{i1} + Y_1 X_{i1} + \dots + Y_k X_{ik} + \theta_1 X_{ij} + \dots + \theta_j X_{ij} + \epsilon_i \quad (10)$$

Where

C_i is country fixed effect, 1= Ethiopia, 2 Kenya

I_i is industry fixed effect

$Y_1 X_{i1} + \dots + Y_k X_{ik}$ = Non-financial incentives and work environment variables such as grievance_{i=1,...,K}, Leave_{i,...,N}, toilets_{i,...,N}, recognition_{i,...,N}, working_condition_{i,...,N}, and

$\theta_4 X_{ij} + \dots + \theta_j X_{ij}$ = financial incentives, such as salary, bonus, transport, housing, food subsidies and training opportunities.

4. Results and Discussion

4.1 Descriptive analysis

Table 1 summarizes descriptive statistics for both continuous and dummy variables, highlighting the relative magnitudes of mean values and variance across Ethiopia and Kenya. With respect to basic demographic characteristics, the average educational attainment among workers is approximately 11 years, with no statistically significant difference between the two countries—

underscoring the sector's relatively low skill intensity. In terms of gender composition, while the industry is broadly female-dominated, Ethiopia reports a notably higher share of female workers (88.9%) compared to Kenya (72.5%).

A comparative analysis of the labor forces in Kenya and Ethiopia reveals a clear advantage for Kenya in terms of take-home salary (USD), indirect financial subsidies, and non-financial workplace incentives—including daily working hours, weekly workdays, leave entitlements, performance recognition, grievance handling, and overall working conditions. As shown in Table 1, when asked, “In the last seven days, have you received recognition or praise for doing good work?” Nearly 40% of Kenyan workers responded affirmatively, compared to only 25% of Ethiopian workers. Furthermore, 85% of Kenyan employees reported consistently being able to take all their entitled leave and holidays, whereas this figure stood at just 51% among Ethiopian workers. These differences are statistically significant at the 1% level. Table 2 presents workers' responses regarding grievance handling, measured on a 5-point Likert scale. Among Ethiopian respondents, 44.3% reported being either very dissatisfied or dissatisfied, in stark contrast to only 5.3% of Kenyan workers.

A similar trend was observed in satisfaction with factory working conditions: 46.1% of Ethiopian workers expressed dissatisfaction, compared to just 5.8% of their Kenyan counterparts. In addition to the favorable working conditions previously discussed, Kenyan workers earn nearly three times more in take-home salary (USD) than their Ethiopian counterparts, which is consistent with our expectations. To assess the broader impact of these conditions, workers were asked whether their overall well-being had improved since starting their current job. Among Ethiopian respondents, 44% reported that their lives had become either a bit worse or a lot worse, compared to just 17.8% of Kenyan workers.

However, Ethiopian workers reported more favorable provisions in terms of transport services or subsidies, meals, and housing. When asked whether their employer provides free or subsidized meals, 68% of Ethiopian respondents answered affirmatively, compared to just 21.5% of Kenyan workers. Similarly, 60.7% of Ethiopian workers reported receiving transport services or subsidies, while only 2.5% of Kenyan workers did. Although the overall figures are low, housing provision was also more common among Ethiopian workers, with 2.3% reporting access to housing services, compared to 0.7% of Kenyan respondents.

Given the above findings, it can be inferred that the existence of a minimum wage policy—ranked as the fourth-highest in Africa (Business Insider Africa. (n.d.)—has compelled apparel and textile factories in Kenya to pay higher salaries. In addition to relatively better pay, Kenya's strong labor unions, robust rule of law, and relatively more developed market structure contribute to significantly more attractive working conditions compared to Ethiopia. Conversely, Ethiopian workers benefit from greater access to subsidies in areas such as food, transport, and housing. Based on the descriptive statistics, results align with our expectations, particularly in support of Hypothesis H2. However, the data does not support Hypothesis H1. Key factors include the absence of a minimum wage policy in Ethiopia, lower productivity among Ethiopian workers relative to their Kenyan counterparts—largely due to differences in industrial experience, with Ethiopia entering the apparel sector in 2000 and Kenya in the 1980s—and the availability of a larger, lower-cost labor force in Ethiopia.

Table 1 here

Table 2 here

4.2 Empirical results and discussion

4.2.1 Results

The preceding descriptive analysis highlights significant differences between the labor forces of Ethiopia and Kenya, particularly in relation to non-financial incentives (e.g., working conditions and human resource management systems), financial incentives (e.g., wage earnings), and material subsidies (e.g., food, transportation, and housing). However, these findings do not establish causal relationships and lack the robustness required for inference. To address this limitation, the following section presents an econometric analysis designed to identify the variables and direction of their influence on the dependent variable—workers' self-reported well-being—and to assess the relative importance of the two incentive packages across the two countries.

As shown in Table 3 (fitness indices for the hierarchical model), the analysis adopts a hierarchical estimation strategy, followed by a stepwise approach. In the first stage, only the country-level variable is included; the second stage adds firm-level variables; and the third stage incorporates all financial and non-financial variables (Table 4, column 4). Although individual control variables—such as age, gender, and years of schooling—were initially considered, they were excluded due to their lack of statistical significance and minimal contribution to the model's explanatory power (R^2).

To account for substantial cross-country heterogeneity in macroeconomic policy, labor market structures, institutional frameworks, and industrial experience in the apparel and textile sectors, separate country-level estimations were conducted. These structural differences render a single global model inadequate for precise analysis and effective policy formulation. The robustness of the results is confirmed by the fitness indices for the nested regression (Table 3), the F-statistic, and the consistency of coefficient signs and magnitudes across specifications (Table 4). These improvements demonstrate that the results are statistically sound and suitable for further analysis.

Table 3 here

The econometric results (estimates of equations 8–10), which partially align with the descriptive findings and strongly support our a priori hypothesis, reveal notable disparities in the conditional distribution of covariates across the two countries and between the two types of incentive packages—financial and non-financial. The pooled data estimation indicates that nearly all variables exhibited the expected signs, with the exception of meal and transport subsidy variables. Overall, more than 90% of the variables were consistent with theoretical expectations and existing literature and remained statistically significant (see Table 4).

4.2.2 Discussions

As indicated in Table 4, the coefficient for the categorical grievance variable is both negative and statistically significant. A shift from the base category (very satisfied) upward towards very dissatisfied reveals a significant inverse relationship with self-reported well-being, consistent with our expectations. Improved grievance handling procedures—by resolving genuine complaints—are likely to enhance worker satisfaction and, *ceteris paribus*, improve overall well-being.

These findings align with evidence from a study on public hospital workers in Kenya, which reported that effective grievance mechanisms positively influence staff satisfaction and work performance (Wesonga & Van Der Westhuizen, 2024). Robust grievance management is essential for fostering harmonious workplace relations, strengthening employee loyalty and

commitment, and enhancing organizational productivity. Conversely, inadequate or absent grievance systems can result in adverse outcomes, including reduced productivity, increased absenteeism, insubordination, disciplinary issues, and deteriorating work quality (Obiekwe & Eke, 2019; Aktar, 2021). While the Kenyan country-level results, consistent with our expectation, support our H2 hypothesis. The country-specific estimation for Ethiopia did not yield statistically significant results, suggesting that grievance handling procedures do not have a measurable impact on workers' well-being in that context.

Although the categorical variable was statistically significant and aligned with our expectations—indicating that improved working conditions are associated with greater worker happiness, performance, and well-being—it exhibited a consistent pattern across both countries. Consequently, no country-specific behavioral differences could be inferred. The leave variable (“Are you always able to take all the leave and holidays you are entitled to?”) was found to be positive and statistically significant across Models 2 through 4, confirming a positive relationship with well-being. These findings are consistent with prior research by Gaffar Khan, Ul Huq, and Nazmul Islam (2019), as well as Javaid et al. (2025).

To capture the effect of financial incentive packages on workers' well-being, our estimation includes the natural logarithm of salary, bonus, transport, food, housing subsidies, and training opportunities—assuming that training enhances a worker's capacity, productivity, and potential for higher income. While most financial incentives behaved as expected, two anomalies emerged: food subsidies showed a negative association with well-being, and bonuses were statistically insignificant. These results may reflect contextual realities—food subsidies could signal inadequate base wages, while bonuses may be too irregular to influence long-term satisfaction. Such anomalies highlight the importance of interpreting incentive effects within country-specific institutional and cultural contexts. Accordingly, the natural logarithm of salary was found to be positive and statistically significant at the 1% level for Ethiopia but not significant for Kenya at the 5% level of significance. Our results align with the findings of Yesuf et al. (2014) and Abubakar, Esther & Angonimi (2020), who observed that financial incentives have a stronger impact than non-financial ones. Similarly, Mathauer & Imhoff (2006), Singh et al. (2017), and Alnsour & Kanaan (2021) reported a balanced effect between the two incentive packages. However, Gabriel & Nwaeke (2015); Manjenje & Muhanga (2021); and Islam (2025) concluded that employees are more motivated by non-monetary incentives than financial ones. This contradicts our findings for Ethiopia but supports our results for Kenya. This finding supports our hypothesis (H1): “In Ethiopia, where union strength is relatively weaker and wage levels are lower, workers often prioritize basic financial compensation.” Although Ethiopian workers earn, on average, nearly one-third of the salaries of their Kenyan counterparts, the elasticity of well-being with respect to salary increases is higher in Ethiopia. This outcome aligns with the widely known theory of diminishing marginal utility of income (Lane, 2000; Easterlin, 2005).

Similarly, the coefficients for housing (10%) and training (5%) were positive and statistically significant. These findings suggest that industrial managers in Ethiopia increasingly prioritize financial incentive packages—such as salary and material subsidies—in alignment with the theory of diminishing marginal utility of income. In contrast, in Kenya, in contexts characterized by minimum wage policies, strong labor unions, and relatively well-functioning

labor markets, managers face constraints in raising salaries beyond the market-clearing wage while remaining competitive (Tubey, Rotich, & Bundotich, 2015; Otenyo, 2016; Mwangi et al., 2017; Adhiambo & Odhiambo, 2023). As a result, they tend to rely more on non-financial incentives compared to their Ethiopian counterparts. However, when faced with trade-offs between financial and non-financial incentives (e.g., workplace amenities), managers in Ethiopia appear to favor marginal increases in financial compensation—given its higher elasticity of well-being—over improvements to the general working environment, which exhibits relatively lower elasticity.

Table 4 here

Conclusions and policy implications This study points out the importance of financial incentives—particularly salary, housing subsidies, and training opportunities—in enhancing worker well-being across industrial sectors, especially in Ethiopia. The findings reveal that Ethiopian workers, despite earning significantly less than their Kenyan counterparts, exhibit greater well-being elasticity in response to salary increases. This supports the theory of diminishing marginal returns and highlights the critical value of basic financial compensation in contexts characterized by weaker labor unions and lower wage floors.

Conversely, Kenyan industrial managers emphasize non-financial incentives while operating within a framework of minimum wage regulations and stronger labor institutions. Moreover, increases in financial compensation did not show any significant effect on workers' well-being, unlike in the Ethiopian context.

Policy Implications

Policymakers in Ethiopia and similar economies should prioritize incremental wage increases for low-income workers. These adjustments have a disproportionately positive impact on well-being and can serve as a foundational strategy for labor welfare. While financial incentives are essential—especially in low-wage environments—a holistic approach that integrates non-financial benefits such as improved working conditions, career development opportunities, and workplace amenities is vital for long-term employee satisfaction and retention. Worker training should be a policy priority given its dual impact on productivity and income potential. As a high-return intervention, training enhances both individual well-being and organizational performance.

In contexts like Kenya, where non-financial incentives play a significant role, employers should explore cost-effective interventions that elevate worker satisfaction. Strategic investment in amenities and career development can yield productivity gains that offset associated costs.

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Clinical Trial Number: not applicable

Declarations:

Ethical Approval This study was conducted in accordance with all relevant ethical guidelines and regulations. Ethical clearance was obtained from the Research and Community Engagement Directorate of the College of Business and Economics, Mekelle University (Approval No. EBE/MM/RD/45/2023). Clearance was granted on 19 December 2023, prior to the commencement of fieldwork and data collection.

Consent to Participate Informed consent was obtained from all interviewees immediately before participation. Enumerators were instructed to clearly explain the objectives and purpose of the study, as well as the rights of interviewees to voluntarily participate. Participants were informed of their right to withdraw or decline to answer any question at any stage without consequence. Confidentiality was assured through anonymization of responses.

Consent to Publish Alongside consent to participate, interviewees provided oral consent for their anonymized and confidential data to be published.

Conflict of Interest Statement The authors declare no conflict of interest.

Data Availability The data used in this study are available from the corresponding author upon reasonable request.

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Tables

Table 1 Summary statistics of the major explanatory variables: dummy and continuous

Variables	Description	Ethiopia (n=553)		Kenya
		Mean	SE	Mean
Female	Gender of the worker (Female =1, 0 otherwise)	0.889	0.013	0.725
Age	Age in years	23.126	0.142	32.315
educ_yrs	Level of education in years	10.768	0.084	10.837
hh_size	Household size	2.866	0.076	3.316
Salary_th_usd	Take home salary in USD	41.039	0.946	120.162
ownership	Type of ownership 1= domestic and 2 otherwise	1.842	0.015	1.837
meals	Whether their employer provide them free or subsidized meals or not (yes=1, 0 otherwise)	0.678	0.019	0.215
remit_in	Do your parents or your family members normally give you or send you money? (yes=1, 0 otherwise)	0.314	.0019	0.092
days_week	In an average week, how many days do you work in this	5.792	0.020	5.527

ot_hours	factory? The number overtime hours a worker works in a normal or average week	1.690	0.037	7.637
housing_subs	Does your employer provide you with housing allowances or housing subsidies? (yes=1, 0 otherwise)	0.080	0.011	0.921
housing	Do you live in housing provided by your employer?	0.023	0.006	0.007
transPort	Does your employer normally provide a bus service or any kind of other motorized?	0.607	0.020	0.025
migrated	Whether the worker has migrated from his home town or village to take the job in this factory or not (yes=1, 0 otherwise)	0.676	0.019	0.42
recognition	In the last seven days, have you received recognition or praise for doing good work	0.253	0.018	0.397
leave	Whether the worker is always able to take all the leave and holidays you are entitled to or not (yes=1, 0 otherwise)	0.509	0.0212	0.852

Significant levels are indicated with *, p <0.1; **, p <0.05; ***, p <0.0

Source(s): ILO SIRAYE (Better Work) program in Ethiopia (2023) and Creating and Capturing Value project in Kenya (2023) and own calculation.

Table 2 Summary statistics of the major explanatory variables: ordinal and categorical variables

Variables	Ethiopia					Kenya				
	1	2	3	4	5	1	2	3	4	5
Well-being status (5=improved a lot, 1=got a lot worse)	189 (34.2%)	54 (9.8%)	29 (5.2%)	243 (43.9%)	38 (6.8%)	62 (15.5%)	9 (2.3%)	2 (0.5%)	201 (50.3%)	126 (31.5%)
Grievance handling (5=very dissatisfied, 1=very satisfied)	74 (13.4%)	171 (30.9%)	119 (21.5%)	159 (28.8%)	30 (5.4%)	1 (0.3%)	20 (5.0%)	52 (13.0%)	242 (60.5%)	85 (21.3%)
Working conditions (1=very dissatisfied, 5=very satisfied)	200 (36.2%)	55 (9.9%)	113 (20.4%)	155 (28.0%)	30 (5.4%)	21 (5.3%)	2 (0.5%)	55 (13.8%)	233 (58.3%)	89 (22.3%)

Source(s): ILO SIRAYE (Better Work) program in Ethiopia (2023) and Creating and Capturing Value project in Kenya (2023) and own calculation.

Table 3 Model fitness indices

Block	Block Residual		Pr>F	Change In R ²		
	F	df		R ²		
1	128.88	1	0.000	0.121	-	
2	21.48	2	0.000	0.159	0.039	
3	10.96	17	0.000	0.301	0.142	

Robust standard errors in parentheses; ***p < 0.01, **p < 0.05 and *p < 0.1

Table 4 Factors affecting the state of workers well-being: hierarchical regression

VARIABLES	Model (1) Ethiopia	Model (2) Kenya	Model (3) Oprobit-pulled	Model (4) Nestreg-pulled
Dependent variable: well-being (5= improved a lot, 1= got a lot worse)				
Country (Ethiopia 0, Kenya=1)	-	-	-0.343 (0.236)	-0.569** (0.263)
Industry	-0.796*** (0.187)	---	-0.893*** (0.179)	-1.075*** (0.196)
firm_size	0.018 (0.066)	0.184*** (0.059)	0.113*** (0.043)	0.103** (0.046)
Non-financial incentives				
Incentive	0.0577 (0.100)	0.455** (0.178)	0.182** (0.086)	0.176* (0.095)
Grievance handling (1=very satisfied, 5=very dissatisfied)	(0.285) -0.097 (0.267) 0.114 (0.266) 0.188 (0.251) -	(1.594) -0.919*** (0.355) -0.955*** (0.265) -0.571*** (0.192) -	(0.218) -0.597*** (0.188) -0.507*** (0.177) -0.376** (0.148) -	(0.242) -0.560*** (0.207) -0.402*** (0.195) -0.190 (0.161)
Facilities	0.262* (0.158)	0.313 (0.319)	0.278** (0.137)	0.313** (0.150)
Recognitions	0.214* (0.125)	0.131 (0.128)	0.186** (0.088)	0.185* (0.097)
Working conditions (1=very satisfied, 5=very dissatisfied)	-0.825*** (0.267) -0.990***	-0.819** (0.376) 0.195	-0.961*** (0.187) -1.042***	-0.820*** (0.205) -0.953***

	(0.304)	(1.186)	(0.236)	(0.259)
	-0.483*	-0.596**	-0.675***	-0.471**
	(0.266)	(0.259)	(0.176)	(0.192)
	-0.270	-0.587***	-0.535***	-0.289*
	(0.252)	(0.191)	(0.149)	(0.161)
	-	-	-	
Financial incentives				
nsPort	-0.214*	0.287	-0.165	-0.281**
	(0.110)	(0.413)	(0.104)	(0.115)
using	0.590*	0.654	0.387	0.539*
	(0.347)	(0.776)	(0.307)	(0.331)
eals	-0.299***	-0.000	-0.155*	-0.214**
	(0.113)	(0.159)	(0.089)	(0.098)
ining	0.215**	0.108	0.174**	0.195**
	(0.108)	(0.135)	(0.081)	(0.090)
Salary_th	0.303***	0.436*	0.320***	0.350***
	(0.109)	(0.226)	(0.097)	(0.108)
nus	0.145	0.312**	0.260***	0.273***
	(0.098)	(0.130)	(0.076)	(0.084)
constant cut1	2.131**	5.694**	2.288***	
	(1.069)	(2.311)	(0.786)	
constant cut2	2.424**	5.796**	2.519***	
	(1.070)	(2.312)	(0.787)	
constant cut3	2.588**	5.821**	2.635***	
	(1.071)	(2.312)	(0.787)	
constant cut4	4.386***	7.565***	4.351***	
	(1.079)	(2.325)	(0.794)	
constant				0.0521
				(0.863)
ob>chi2	0.000	0.000	0.000	0.000
observations	553	389	942	942
squared				0.301

Source(s): ILO SIRAYE (Better Work) program in Ethiopia (2023) and Creating and Capturing Value project in Kenya (2023) and own calculation.

Robust standard errors in parentheses; ***p < 0.01, **p < 0.05 and *p < 0.1