From Tokyo to Nairobi: Local Labor Market Consequences of the Japan–Kenya BIT*

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This is a first draft, still in progress. Comments are appreciated.

Abstract

When foreign investment arrives, who actually benefits? We analyze the labor market impacts of the Japan-Kenya Bilateral Investment Treaty (BIT), which triggered a surge in Japanese Foreign Direct Investment (FDI). Using a shift-share design, our results suggest that manufacturing FDI acts as a powerful engine for female economic empowerment, not displacement as often feared. It significantly increases women's labor force participation and formal employment, with negligible effects for men. While this reallocates labor from informal to formal work, the benefits are sharply skill-biased, rewarding higher-educated workers and displacing the primary-educated. Crucially, gains are massively amplified by digital access; employment effects for internet users are 26 times larger than for computer users. Our results challenge the narrative that globalization disadvantages women, demonstrating that inclusive growth from FDI depends critically on local skills and digital infrastructure.

Keywords: Local Labor Market, FDI, Gender, Formality, Digital Access, Kenya, Japan-Kenya BIT.
JEL Classification Codes: F23, F55, J16, J21, J31.

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1 Introduction

Foreign direct investment (FDI) has long been promoted as a key lever for economic development, bringing capital, technology, and jobs to host countries (Javorcik. 2018). Yet, a critical question remains: when FDI arrives, "who" actually benefits and "who" may be left behind. While empirical research has shed considerable light on trade-driven labor-market shocks (e.g., the "China shock" literature) (Autor et al. 2013; Dix-Carneiro and Kovak. 2017), the equivalent evidence on investment-driven "employer-composition shocks" remains surprisingly far less developed. This gap is particularly pronounced in Africa, where rigorous micro-level analyses of how FDI from major economies reshapes local labor markets, especially its interaction with pervasive informality, deep-seated gender inequality, and regional disparities, are largely absent.

Kenya offers a compelling and policy-relevant case to fill this gap. As the regional hub of East Africa, Kenya occupies a strategic position in Japan's Africa policy. Its location, anchored by the Port of Mombasa (the Northern Corridor), makes it both a logistical gateway for East Africa and a key pillar of Japan's "Free and Open Indo-Pacific" (FOIP) strategy (MOFAK 2025). The Japan–Kenya Bilateral Investment Treaty (BIT) formalized this deepening partnership and signaled Japan's long-term commitment to Kenya's industrialization agenda under the "Big Four" plan (MOFA 2016; JETRO 2016; Kajita. 2024).[1] Since the treaty's entry into force (in 20217), Japanese investment projects in Kenya have expanded rapidly (Figure 1), spanning manufacturing, logistics, and technology services, and Kenya now hosts one of the largest Japanese business presences in sub-Saharan Africa (SET 2020; KenInvest 2025). Crucially, this investment surge is not abstract: project-level data from Orbis indicate that manufacturing alone accounts for nearly 90% of total Japanese FDI and over 60% of all jobs created (Table B4). This unique alignment of treaty reform, investment policy, and national development strategy makes Kenya a timely natural experiment to investigate a central question: How does regional exposure to Japanese FDI reshape employment, wages, and their distribution across gender and formality in Kenya?[2]

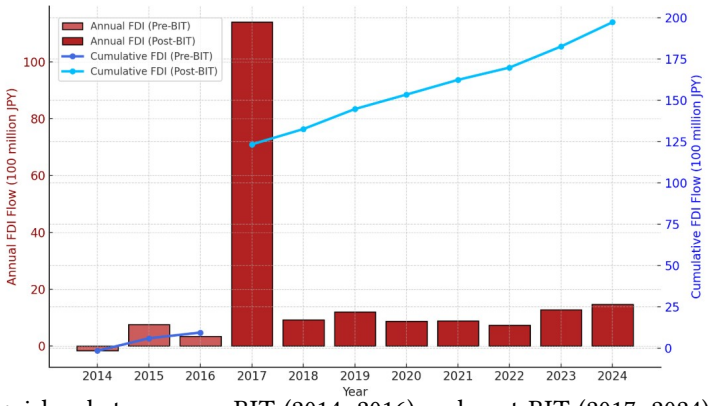
We conceptualize Japanese FDI not as a monolithic force, but as a "composition shock" to Kenya's

[1]Recent years have seen deepening economic ties between Japan and Kenya (UNCTAD. 2016), culminating in the BIT. Kenya was the first (and only) African host of the Tokyo International Conference on African Development (TICAD) and is a key partner in Japan's Free and Open Indo-Pacific strategy (MOFA 2025).

[2]This question is particularly urgent in Kenya, where over 80% of employment remains informal, gender gaps in labor-market participation persist, and manufacturing-led job creation is a central pillar of development policy (Pye et al., 2025). The Kenya–Japan partnership, institutionalized through the TICAD process, explicitly frames women's economic empowerment and formal job creation as core policy objectives (AfDB. 2022).

employer structure—one that tends to favour more capital- and skill-intensive operations (horizontal, vertical, and platform FDI) and thus may generate heterogeneous labor-market effects. Such shocks can affect labor outcomes through multiple channels: *(i) direct job creation and formalization*, *(ii) local multiplier effects and linkages*, and *(iii) displacement and distributional consequences* (See Figure 2).[3] To identify the causal impact of this investment shock, we combine detailed microdata from Kenyan population censuses with comprehensive data on Japanese FDI (2009-2024) and employ a shift–share design that exploits the Japan–Kenya BIT as a quasi-natural experiment (Toews and Vézina. 2022; Borusyak et al. 2025).[4] Unlike prior aggregate studies, our analysis draws on detailed microdata disaggregated by gender, education, and formality across commuting zones, allowing us to examine heterogeneity in who gains or loses from FDI through the multiplier effects.

Figure 1: FDI Flows from Japan to Kenya (2014–2024)



Note: This figure distinguishes between pre-BIT (2014–2016) and post-BIT (2017–2024) periods to evaluate the treaty's potential impact on FDI. Annual FDI inflows are shown with red bars, where lighter tones represent the pre-BIT period and darker tones represent the post-BIT period. The cumulative FDI stock is traced with blue lines, similarly split by tone to reflect the two periods. Please see Table A1 for further details. **Source:** Bank of Japan (BOJ), Author's visualization.

Our findings reveal a nuanced pattern: Shift-share estimates show that increased exposure to Japanese investment accelerates a structural transition from informal and self-employed work into formal wage employment, with gains strongly concentrated among higher-educated workers. At the same time, we uncover pronounced demographic heterogeneity: manufacturing FDI acts as a powerful driver of female employment and formalization, particularly among married and prime-age women, substantially improving female-to-male employment ratios. Finally, these effects are critically

[3]See, e.g., Feenstra et al. (1997), Setzler and Tintelnot. (2021), and Toews and Vézina. (2022) for related mechanisms linking FDI to employment changes through multiplier effects and skill-biased technological transfer. For further information, please visit Appendix B.3

[4]We use microdata from the Kenya National Bureau of Statistics (KNBS) and Japanese FDI data from the Bank of Japan and Orbis Crossborder Investment and M&A. Identification exploits cross-regional variation in pre-treaty industry composition and instruments local exposure using Japan's global investment patterns.

mediated by digital infrastructure, with significantly larger employment gains in regions and for individuals with better internet access.

Related Literature and Contribution: These results speak to and extend several strands of the literature. First, we contribute to the literature on multinational corporations (MNCs) and structural transformation (Liu. 2022). Recent evidence from Africa confirms this broad pattern: Hoekman et al. (2025) and Mendola et al. (2025) document that FDI is associated with a shift out of farming and into higher-skilled, formal occupations.[5] Our paper affirms this narrative but critically unpacks its micro-foundations with the shift-share design, much like resource discoveries in Toews and Vézina. (2022). We demonstrate that the reallocation is not merely a sectoral shift (e.g., agriculture to manufacturing) but a profound *contractual and gendered* transition *within* the labor market. While Hoekman et al. (2025) find no effect on self-employment at a continental level, we show that in Kenya, Japanese manufacturing FDI actively *reduces informal wage work and self-employment*, channeling labor, especially female labor, into formal wage jobs. This finding provides a missing micro-mechanism for the structural transformation process in Africa, highlighting that the nature of the *investor* and the *sector* matter profoundly (Alviarez et al. 2022).

Second, we deepen the understanding of FDI's distributional consequences and multiplier effects, a subject of intense policy debate (Bandiera et al. 2022). While recent work has documented substantial local multipliers from FDI (Toews and Vézina. 2022), the distribution of these benefits remains under-explored. First, on *skill*, we confirm that the benefits are sharply skewed towards higher-educated workers, but we document significant *displacement of primary-educated workers*. This finding resonates with the challenges highlighted by Bandiera et al. (2022) in creating salaried jobs for Africa's youth and underscores the disruptive side of this transformation. Second, and most strikingly, we uncover a profound *gender paradox*. Contrary to evidence that trade shocks often marginalize women (Gaddis and Pieters. 2017), our results highlight that Japanese manufacturing FDI acts as a powerful causal driver for *female economic empowerment*, significantly increasing women's labor force participation and formal employment (Ouedraogo and Marlet, 2018). This aligns with recent findings by Mendola et al. (2025) and Hoekman et al. (2025) of increased female employment around foreign affiliates in Africa, but our quasi-experimental design provides strong

[5]A growing consensus, supported by both macro and micro studies, posits that FDI acts as a catalyst for structural transformation, reallocating labor from traditional to modern sectors (Alfaro. 2017). A consistent finding is that foreign firms pay a wage premium (Hijzen et al. 2013; Setzler and Tintelnot. 2021) and can catalyze a reallocation of labor towards more productive, modern sectors (Javorcik. 2015).

evidence for this effect, indicating it is a dominant feature of the labor-market adjustment. Third, we move beyond the skill premium to show that the gains are critically mediated by a previously overlooked factor in traditional labor market analyses: *digital infrastructure*. The employment effects of FDI are massively amplified for individuals with internet access. This finding introduces a new dimension to the literature on local complementarities (Alfaro. 2017; Toews and Vézina. 2022) and directly connects to Hjort and Poulsen. (2019), who show that fast internet boosts employment in Africa. We demonstrate that digital connectivity is not just a standalone benefit but a fundamental *prerequisite* for maximizing the inclusive growth potential of modern, technology-infused FDI and its multiplier effects (Vrolijk. 2023).

Third, we speak to the literature on investment treaties/liberalization episodes. While macro-level analyses highlight the role of institutions and policy in attracting FDI (Kobrin. 2005; Alfaro. 2017; UNCTAD. 2024), rigorous micro-evidence on the labor market impacts of specific policy instruments, like BITs, remains scarce, especially in Africa. Studies of FDI liberalization have focused largely on China and Latin American countries (Alfaro-Ureña et al. 2023; Alviarez et al. 2022; Erten et al. 2023; Saucedo et al. 2020). By leveraging the Japan-Kenya BIT as an exogenous policy shift and using a shift-share instrument based on Japan's global investment patterns, our analysis provides quasi-experimental evidence for the causal impact of a policy-driven "employer composition shock" and its local multiplier consequences.

With respect to policy implications, our results are timely and actionable, highlighting the dual nature of FDI-driven growth. It can be a potent tool for industrialization and female empowerment/formalization, creating the "good jobs" that Javorcik. (2015) describes while generating positive spillovers through multiplier effects. The employment effects are massively amplified for individuals with internet access, highlighting digital connectivity as a fundamental prerequisite for reaping the rewards of modern, technology-infused FDI. However, without complementary investments in education, vocational training, and digital infrastructure, it risks exacerbating inequalities for low-skilled workers. More broadly, this study affirms that aggregate gains from globalization do not automatically translate into inclusive gains (Ofori and Asongu, 2024). Understanding the "who, where, and how" of investment-driven labor market change is therefore essential in an era of renewed focus on global supply chains and "quality" FDI.

The rest of the paper is structured as follows. Section 2 details the institutional background of the

Japan-Kenya BIT. Section 3 describes the data and empirical strategy. Section 4 presents the main results and heterogeneity analysis. Section 5 provides robustness checks, and Section 6 concludes with policy implications.

2 Background

The Japan–Kenya Bilateral Investment Treaty

The BIT, signed in August 2016 and entering into force on 14 September 2017, represents a cornerstone of Japan's economic diplomacy in East Africa. Kenya occupies a central place in Japan's African policy: as the first (and only) African country to host the Tokyo International Conference on African Development (TICAD VI) in 2016, Nairobi emerged as a strategic partner in advancing TICAD's priorities of industrialization and employment creation (ODI 2016; JETRO 2016). For Japan, the BIT forms part of its broader *Free and Open Indo-Pacific (FOIP)* vision, which seeks to promote rule-based connectivity, sustainable investment, and human capital development across the Indo-Pacific, with East Africa serving as a critical anchor (MOFA 2016; Keiichi. 2024; MOFA 2025).[6] For Kenya, the agreement dovetails with the country's "Big Four Agenda," which prioritizes manufacturing-led growth and job creation as drivers of structural transformation (Kajita. 2024).[7]

Table A2 summarizes the portfolio of protections and obligations embedded in the treaty. Investors are granted national and most-favored-nation treatment (Art. 3, 4), fair and equitable treatment with full protection and security (Art. 5), protection from unlawful expropriation with prompt and adequate compensation, and guarantees for free transfer of funds (Art. 13). Investor–state dispute settlement is available through ICSID or UNCITRAL arbitration (Art. 15), thereby lowering legal and political risks for both investors. Importantly, neither country lists explicit sectoral restrictions (Absences of Annex I or II), but both retain domestic regulatory authority (Article 2.2). Kenya excludes public services such as education, health, and correctional services from MFN treatment (Art. 4.3(d)), reserves the right to regulate for public health, safety, labor, and environmental standards (Art. 16), and may impose temporary capital controls consistent with IMF rules (Art. 17) (UNCTAD. 2016; MOFA 2016). These provisions reflect a nuanced calibration: opening Kenya to Japanese investment

[6] Strategically, the Port of Mombasa secures Japanese trade as a maritime gateway to access regional trade in Africa.

[7] Side events, such as "Technology Enabling Innovation and Industrialization in Africa," held through cooperation with UNIDO, METI, and JETRO, emphasized productivity, technology transfer, and human capital, key themes aligned with Kenya's "Big Four Agenda" (UNIDO 2016).

while preserving essential policy flexibility. These treaty provisions matter not only for investment volumes, but also for the types of firms, technologies, and employment relationships that enter the Kenyan economy, as an issue we formalize below.

Japanese FDI into Kenya

Building on the treaty architecture described above, Japanese investment into Kenya has expanded in both scale and strategic diversity. This engagement is strategically anchored by Kenya's control of the Port of Mombasa, the critical gateway for the Northern Corridor, which offers Japan secure maritime access and a vital hub for regional trade logistics (MOFAK 2025). By mitigating non-commercial risks and guaranteeing protections, the treaty provided a predictable platform that aligns Japanese capital with Kenya's structural-transformation goals, operationalizing Japan's FOIP strategy and Kenya's "Big Four Agenda" (MOFA 2016; Keiichi. 2024).[8]

To accurately trace this investment, we employ a dual-source approach, standard in recent FDI research (Toews and Vézina. 2022), that provides a robust basis for distinguishing treaty effects from concurrent global trends. At the macro level, we use the Bank of Japan's (BoJ) balance-of-payments statistics, which track net financial flows, including equity, reinvested earnings, and inter-company debt, based on the directional principle. This series, which can show negative values in cases of disinvestment, is ideal for benchmarking net financial exposure over time and motivates the pre-/post-BIT split in Figure 1. At the micro level, project-based data from Orbis Crossborder Investment and Orbis M&A captures the tangible on-the-ground impact of investment, revealing its composition, sectoral emphasis, and job creation potential. Specifically, firm-level data reveals that between 2010 and 2024, cumulative Japanese greenfield and co-location investment surpassed USD 3.5 billion, creating over 12,000 jobs (see Table B4).[9] This investment was strategically concentrated in manufacturing and infrastructure. Early flagship projects, such as those led by Toyota Tsusho, Honda, and Nissan in vehicle assembly (SCN 2025; EastAfrican 2025), were characteristic horizontal FDI: large-scale, job-creating industrial ventures replicating Japanese operations for the local market. These projects, several exceeding USD 180 million, demonstrate how the BIT catalyzed the capital-intensive industrialization it was designed to promote.

[8] At TICAD IX in 2025, Japan announced a 25 billion yen ($169 million) Samurai bond facility to support vehicle assembly and energy infrastructure in Kenya, underscoring the BIT's role in mobilizing strategic investment (Reuters 2025; MOFA 2025; KenInvest 2025).

[9] Author's calculations based on Orbis Crossborder Investment (OCI) data; see Appendix B.2.

Post-2020, the investment pattern diversified, reflecting a maturing economic relationship. While manufacturing continued, there was a marked rise in market-seeking investments such as retail outlets and service centers. This shift was complemented by a strategic surge in mergers and acquisitions (M&A). Data from Orbis M&A (Zephyr) identifies 39 transactions from 2010-2025, with a notable cluster in 2020 focused on Kenya's digital economy, including fintech, SaaS, and healthtech. This activity, ranging from minority stakes in startups to majority acquisitions like Isuzu's 57.7% purchase of General Motors East Africa and Sumitomo's 15% equity investment in Powergen Renewable Energy, represents platform FDI (see Table B5). It allows Japanese firms to embed themselves within Kenya's high-growth innovation ecosystem with significant strategic influence, a move facilitated by the BIT's protections on equity investments (EastAfrican 2025). This evolution underscores that the Japan-Kenya BIT is a strategically designed instrument with dual ambitions: to secure Japanese investors against risks while reinforcing Kenya's own industrial and employment strategies within the Indo-Pacific order (Nkala, 2021; Adem, 2023).

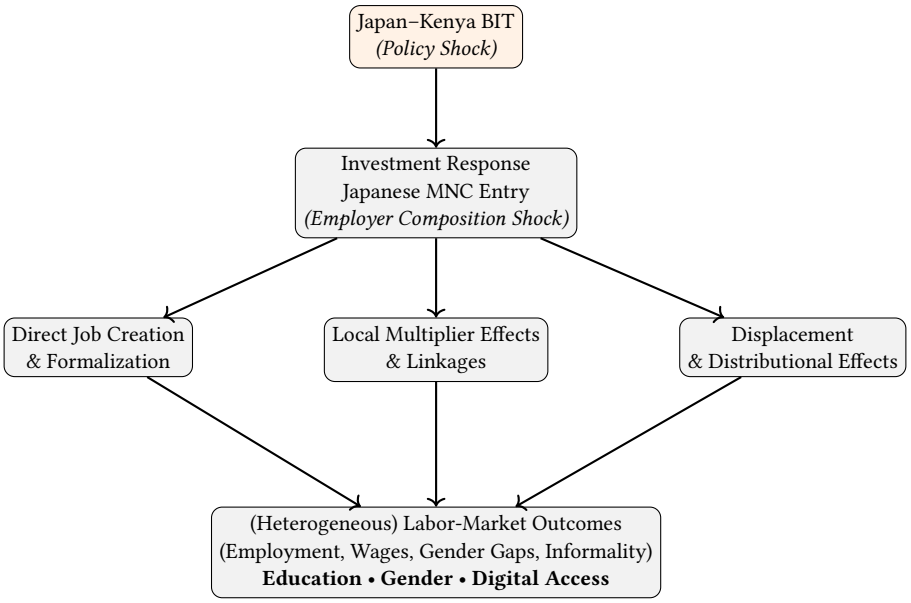
Taken together, these patterns indicate that the Japan–Kenya BIT did not merely increase the scale of foreign investment, but altered its composition, shifting the Kenyan economy toward more capital-, skill-, and technology-intensive forms of production. This raises a central question for local labor markets: how does exposure to such investment reshape employment, wages, and inequality across regions and worker groups? The following subsection develops a conceptual framework to guide this analysis.

Transmission Channels from FDI to Labor-Market Outcomes

Building on the observed shift in Japanese investment into Kenya—from large-scale manufacturing projects toward more diversified platform and market-seeking ventures—we conceptualize the Japan–Kenya BIT as an *employer-composition shock*: policy-induced change that alters the mix of firms and technologies in the domestic economy. This framework is motivated by a broad empirical literature showing that foreign MNCs bring higher capital intensity, superior management, and greater formalization, but also induce uneven labor-market adjustments (Feenstra et al. 1997; Javorcik. 2015; Alfaro-Ureña et al. 2023; Setzler and Tintelnot. 2021). Evidence from China, Mexico, and Costa Rica demonstrates that while MNC entry raises productivity and wages, it also reshapes employment composition along skill, sectoral, and demographic lines. We organize the transmission of FDI to

local labor markets around three interrelated mechanisms: *(i) direct job creation and formalization*, *(ii) local multiplier effects and production linkages*, and *(iii) displacement and distributional consequences*.

Figure 2: Transmission Channels from FDI to Labor-Market Outcomes



First, MNC entry generates formal wage employment both within affiliates and along their supply chains, often offering higher pay and better working conditions than domestic firms (Javorcik. 2015; Alfaro-Ureña et al. 2023; Saurav. et a. 2020). In developing economies, this channel represents the main source of formalization and productivity transfer.[10] Second, and crucially, we expect Japanese FDI to generate significant **local multiplier effects** through two distinct channels (Toews and Vézina. 2022; Hoekman et al. 2025; Garetto et al. 2025). The newly created high-wage jobs increase local income, which in turn boosts demand for local goods and services. This increased demand stimulates local firms to expand production, creating additional jobs and reinforcing the initial employment shock. Additionally, **backward and forward linkages** between multinationals and local firms create demand for business services such as catering, cleaning, security, legal, and consulting services (Javorcik. 2018; Garetto et al. 2025). These linkage effects can be substantial; recent evidence from Mozambique suggests that each FDI job creates 4.4 additional local jobs through multiplier effects (Toews and Vézina. 2022). Third, competitive pressures from foreign firms may crowd out less productive domestic enterprises, displacing low-skilled or informal workers (Mendola et al. 2025). Because MNCs typically operate with skill- and technology-intensive processes (Hjort and Poulsen. 2019), they increase relative demand for educated labor and raise the skill premium (Feenstra et al.

[10]Following Blanas et al. (2017), foreign-owned firms in sub-Saharan Africa not only pay higher wages but also offer more secure, less temporary work.

1997; Setzler and Tintelnot. 2021). This can generate distributional effects that favor skilled or digitally connected workers while potentially disadvantaging those with lower education levels.

Figure 2 summarizes these mechanisms. The conceptual framework therefore anticipates that the BIT-induced Japanese FDI shock produces both *efficiency gains* (through formalization, multiplier effects, and reallocation) and *distributional trade-offs* (through displacement and inequality). Crucially, the magnitude and direction of these effects depend on pre-existing local characteristics, including human capital, gender composition, and digital infrastructure. These features motivate an empirical strategy that exploits regional variation in exposure to Japanese FDI to identify heterogeneous labor-market responses.

3 Methodology and Data

3.1 Empirical Strategy

Guided by the conceptual framework above, we estimate the causal effects of Japanese FDI on local labor-market outcomes using a shift–share identification strategy standard in the local labor-market literature. Unlike early trade-shock studies that exploit import competition (Autor et al. 2013), our approach follows Toews and Vézina. (2022) in treating FDI as an externally driven shock to regional employment structures. Specifically, we leverage the Japan-Kenya BIT as a quasi-natural experiment that provides plausibly exogenous variation in FDI exposure across Kenyan regions.[11] To measure how this policy shock translates into local labor outcomes, we adapt the frameworks of Topalova. (2010) and Kovak. (2013).[12]

The core idea is that regions with relatively large pre-BIT employment shares in industries that subsequently experience larger changes in bilateral FDI with Japan will see more pronounced labor-market adjustments (Borusyak et al. 2025, 2022). Because disaggregated FDI flows are not observed at the subnational level, national shocks are mapped to regions using their baseline industry composition (Autor et al. 2013). A key step is defining the local labor market. Following the literature, I treat it as a commuting zone (CZ): a cluster of counties with strong internal socioeconomic integration

[11]The timing and implementation of the BIT create a policy shock that, much like the resource discoveries in Mozambique studied by Toews and Vézina. (2022), triggers an "investment bonanza", exogenous to local market.

[12]Following Kovak. (2013), regional wage changes can be modeled as a weighted average of national tariff reductions, with weights based on local industry employment and labor elasticities. This yields an empirical shift-share measure where the regional tariff change (RTC) is defined as: $RTC_r = \sum_i \beta_{ri} \cdot \Delta \ln(1 + \tau_i)$, where τ_i is the tariff on industry i, and β_{ri} is the adjusted employment share of industry i in region r. See also Topalova. (2010).

but limited cross-cluster mobility (Heckl. 2024; Autor et al. 2013). This definition reflects evidence that workers' labor-market opportunities are largely tied to their CZ of residence, making it a relevant unit of analysis in the Kenyan context. Consistent with Kenya National Bureau of Statistics (KNBS), the analysis is conducted across 47 CZs, aggregated from 347 sub-counties.

Formally, FDI exposure for region r in period t is constructed as:

$$\Delta FdiP^{\text{Jp}}_{rt} = \sum_i \underbrace{\frac{L_{irt_0}}{L_{rt_0}}}_{\text{Industry share in region } r} \times \underbrace{\frac{\Delta \text{Fdi}^{\text{Jp}}_{it}}{L_{it_0}}}_{\substack{\text{National FDI change} \\ \text{per worker in industry } i}}, \qquad \sum_i \frac{L_{irt_0}}{L_{rt_0}} = 1 \tag{1}$$

here $t-1$ or $t_0 = 2009$ is the baseline year (pre–BIT). L_{irt_0} is employment in industry i in region r at t_0, while $L_{rt_0} = \sum_i L_{irt_0}$ is total employment in region r at t_0. The ratio L_{irt_0}/L_{rt_0} is thus the initial employment share of industry i in region r (Heckl. 2024). $\Delta\text{Fdi}^{\text{Jp}}_{it}$ is the change in national-level FDI with Japan in industry i between t_0 and t. We normalize by L_{it_0}, the nationwide employment in industry i at t_0, so that $\Delta\text{Fdi}^{\text{Jp}}_{it}/L_{it_0}$ captures the per-worker FDI shock in industry i (Connolly. 2022). FDI expansion ($\Delta FdiP^{\text{Jp}}_{rt}$) presents region-specific predicted exposure. Intuitively, a region r that in 2009 had a high concentration of workers in industry i, and if industry i experienced a large increase in FDI with Japan after 2009 (like 2017), then region r is considered more "exposed" to that shock. This shift–share construction inherits exogenous variation from national-level changes in $\Delta\text{Fdi}^{\text{Jp}}_{it}$, under the maintained assumption that regional industry shares in 2009 are predetermined with respect to subsequent FDI changes (Borusyak et al. 2025). The baseline estimating equation is:

$$\Delta L_{rt} = \beta_1 \, \Delta FdiP^{\text{Jp}}_{rt} + \mathbf{X}'_{rt_0} \, \gamma + \varepsilon_{rt}, \qquad \varepsilon_{rt} \sim \mathcal{N}(0, \sigma^2_r) \tag{2}$$

where ΔL_{rt} is the change in employment in region r over period t. The vector $\mathbf{X}_{rt_0}$ includes a set of pre-BIT regional covariates measured in 2009: informality rate, foreign employment share, educational attainment, manufacturing employment share, and unemployment rate. ε_{rt} is an idiosyncratic error term. The coefficient β_1 captures how FDI penetration with Japan affects regional employment change (or growth), conditional on pre-BIT characteristics and common time trends.[13]

[13]Our identification relies on three key assumptions: The Japan-Kenya BIT timing is exogenous to regional economic conditions in Kenya. The shift-share instrument affects local employment only through FDI exposure, not through other channels. Notably, our baseline specification treats national-level changes in Japanese FDI as exogenous to Kenyan regional dynamics under its specific FOIP strategy, rather than from Kenya's local economic fluctuations. Additionally, we conduct robustness checks with alternative instruments. In other words, we strengthen our assumption and identification

3.2 Data Sources

This study combines two primary data sources: (1) detailed micro-level labor market data for Kenya, and (2) comprehensive data on Japanese FDI flows. This combination allows us to construct region-specific exposure measures and analyze their causal impact on a wide range of labor market outcomes.

Dependent Variables: Labor Market Outcomes in Kenya

Our analysis focuses on four core labor market outcomes, constructed from individual-level microdata from KNBS, specifically the 2009 and 2019 Population and Housing Censuses. (KNBS 2025).[14] These censuses are comprehensive and nationally representative (10% population samples), providing detailed information on demographics, employment, and earnings. The analysis sample is restricted to working-age individuals (15–65 years), and we apply census-provided sampling weights. Employment is defined as private-sector wage or salary work (excluding both public sector employment and self-employment). To ensure comparability across the decade, we harmonize administrative boundaries into consistent units, defining local labor markets using Kenya's 47 counties.[15] Individual-level data are then aggregated to the county level to measure regional labor market dynamics by weighted among working age groups.

Our four main dependent variables are followings. *Labor Force Participation Rate (LFPR)* is defined as the proportion of the working-age population that is either employed or actively seeking work. *Employment-to-Population Ratio* is the proportion of the working-age population that is currently employed. *Unemployment Rate* is the proportion of the labor force that is unemployed and actively seeking work. *Real Hourly Wage Growth* is the percentage change in median real hourly wages, calculated earnings from the reported hours worked over the previous seven days. Critically, these outcomes are further disaggregated by formality (formal vs informal), gender (male vs female), and education level (e.g., secondary or higher vs lower). In addition, we separately analyze self-employment, informal wage work, and formal wage work. This multi-dimensional

by implementing an instrumental variables approach, using Japan's global investment patterns interacted with regional industry composition as an additional source of exogenous variation. Regional industry composition strongly predicts subsequent FDI exposure. We verify this with first-stage F-statistics and examine the geographic distribution of Japanese investment (See Appendix B.1).

[14]The microdata is available on the Kenya National Data Archive (KeNADA) and Integrated Public Use Microdata Series (IPUMS International) platforms. Bandiera et al. (2022) proposed the Jobs of the World Project, where they combines IPUMS with other datasets like DHS surveys. See the project's webpage for more information.

[15]The 2010 Constitution abolished the provincial system and elevated districts to counties. We harmonize the 2009 and 2019 geographies using the crosswalk provided by KNBS to ensure comparability over time.

disaggregation is essential for uncovering the heterogeneous effects of FDI exposure, particularly its gendered impact and interaction with informality and skill.

Independent Variables:

To assess the causal effects of Japanese international economic engagement on Kenyan labor markets, we first construct a set of key independent variable that captures region-specific exposure to Japanese FDI flows. To measure *FDI exposure*, we draw on annual industry-level Japanese FDI flows into Kenya from two primary sources: the Bank of Japan (BoJ) and Orbis Crossborder Investment (OCI) and M&A (see Table A1 and Appendix B.2). BoJ statistics are compiled following international balance of payments frameworks—BPM5 for the years 2010–2013 and BPM6 for 2014–2024 (Table A1). We focus on the post-2010 period, where the BPM(5-6) methodology applies, offering more detailed and consistent reporting on equity flows, reinvested earnings, and inter-company debt.[16] The basic descriptive statistic of sectoral differences in FDI patterns can be viewed in Table A4 and Figure A1.

We include a comprehensive set of baseline regional covariates, drawn from the 2009 census data, to control pre-existing socio-economic, demographic, and industrial conditions that could confound the relationship between international exposure and labor outcomes. These are share of informal employment, median years of schooling, share of foreign-born population, share of workers employed in manufacturing, and share of unemployment.

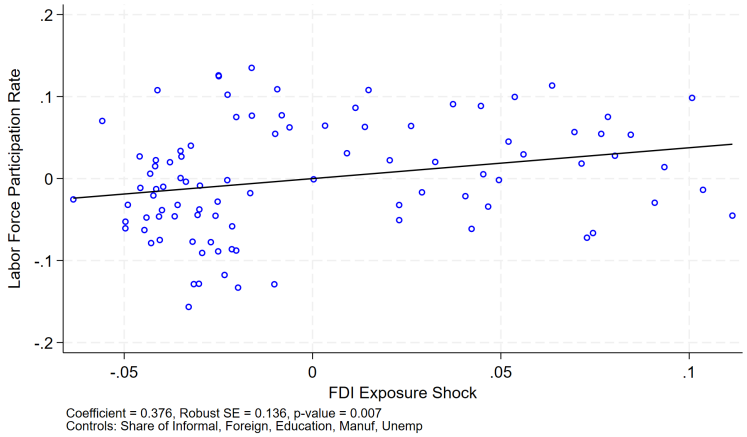
4 Empirical Result

Figure 3 provides the initial visual evidence, showing a clear positive relationship between the regional FDI shock and LFPR. The subsequent analysis reveals that the BIT-induced ”composition shock” reshapes employment along three primary dimensions: it is (1) profoundly gendered; (2) sharply skill-biased; and (3) critically mediated by digital access.

Main Findings: The results in Table 1 confirm that FDI is a powerful driver of labor market activation, but its effects vary dramatically between sectors and, most strikingly, by gender. Manufacturing FDI emerges as a robust engine for drawing people into the labor force. A one-million JPY

[16]Since the BIT entered into force in 2017. We define periods t as two intervals: $\{2010–2016, 2016–2024\}$ for FDI data due to the data availability of FDI. Regarding pre- and post-BIT FDI changes, the 2010–2016 and 2016–2024 windows allow us to assess policy shock of BIT on (medium-run) labor responses. Negative FDI values may arise under BPM accounting when disinvestment or debt repayments exceed inflows, particularly in capital-intensive sectors.

Figure 3: Partial Relationship: FDI Shock and Labor Force Participation Rate



increase in exposure raises the overall labor force participation rate by 0.376 percentage points. This aggregate effect, however, masks a revolutionary gender division: the entire net gain is driven by women, who see a 0.375 p.p. increase, while the effect for men is negligible (Panel A).

This pattern is even more pronounced for the employment-to-population ratio (Panel B), where women register a significant 0.383 p.p. gain against a slight decline for men. This finding challenges a common narrative in the globalization-literature, where trade shocks often disproportionately disadvantage women (Heckl. 2024; Gaddis and Pieters. 2017). Instead, our results suggest that the type of shock matters: the entry of skill-intensive, formal-sector multinationals in manufacturing creates new employment pathways that specifically integrate women into the labor force. In doing so, it serves as a powerful equalizer, directly linking the core policy objective of women's economic empowerment—stated goal of the Japan-Kenya partnership—to tangible job creation (AfDB. 2022).

The story of female empowerment is further solidified in Table A5, which analyzes female-to-male ratios in labor market outcomes. The results demonstrate that FDI exposure systematically improves women's relative standing. In the manufacturing sector, the female-to-male employment ratio increases by 1.797, showing that women's employment gains far outpace men's. Crucially, the -1.413 change in the unemployment ratio indicates that manufacturing FDI specifically reduces female unemployment relative to male joblessness.[17] Our quasi-experimental design provides causal evidence for this effect, corroborating and extending recent findings on FDI and female employment

[17]This pattern is consistent with several non-exclusive explanations. First, the jobs created may be in sectors with traditionally higher female employment in Kenya, such as light assembly, textiles, or agro-processing, channeled through FDI's local multiplier effects. Second, the strategic emphasis on women's economic empowerment within the Japan-Kenya partnership (AfDB. 2022) may encourage corporate practices that favor hiring women. Finally, the muted aggregate wage growth (Table 1, Panel D) raises the question of whether a gender wage differential influenced hiring decisions, a complex issue for future research on job quality.

in Africa (Mendola et al. 2025; Hoekman et al. 2025).

Table 1: Effects of FDI Exposure on Labor Market Outcomes

	All (M&W)			Men			Women		
	(1) OLS	(2) Jackknife	(3) Bootstrap	(4) OLS	(5) Jackknife	(6) Bootstrap	(7) OLS	(8) Jackknife	(9) Bootstrap
	Panel A: Labor Force Participation Rate								
	Manufacturing								
$\Delta FdiP_r$	0.376***	0.376***	0.376***	0.00165	0.00165	0.00165	0.375***	0.375***	0.375***
	(0.136)	(0.141)	(0.140)	(0.0869)	(0.0895)	(0.0949)	(0.0754)	(0.0788)	(0.0748)
	Non-Manufacturing								
$\Delta FdiP_r$	13241***	13241**	13241**	3533*	3533	3533	9708**	9708*	9708**
	(4470)	(6203)	(6342)	(2028)	(2454)	(2584)	(3753)	(5320)	(4879)
	Panel B: Employment-to-Population Ratio								
	Manufacturing								
$\Delta FdiP_r$	0.252	0.252	0.252	-0.132	-0.132	-0.132	0.383***	0.383***	0.383***
	(0.152)	(0.158)	(0.166)	(0.0930)	(0.0960)	(0.104)	(0.0856)	(0.0911)	(0.0902)
	Non-Manufacturing								
$\Delta FdiP_r$	7643	7643	7643	-894.8	-894.8	-894.8	8538**	8538	8538*
	(5923)	(8221)	(5738)	(2391)	(3085)	(2250)	(4034)	(5656)	(4499)
	Panel C: Unemployment Rate								
	Manufacturing								
$\Delta FdiP_r$	0.0169	0.0169	0.0169	0.100	0.100	0.100	-0.0833	-0.0833	-0.0833
	(0.206)	(0.215)	(0.224)	(0.121)	(0.125)	(0.128)	(0.0907)	(0.0970)	(0.100)
	Non-Manufacturing								
$\Delta FdiP_r$	3836	3836	3836	3771	3771	3771	64.90	64.90	64.90
	(8172)	(11019)	(7462)	(5661)	(7678)	(5123)	(2675)	(3510)	(2550)
	Panel D: Average Real Hourly Wage Growth (%)								
	Manufacturing								
$\Delta FdiP_r$	-0.193	-0.193	-0.193	-0.159	-0.159	-0.159	-0.194	-0.194	-0.194
	(0.133)	(0.153)	(0.124)	(0.193)	(0.223)	(0.211)	(0.252)	(0.272)	(0.263)
	Non-Manufacturing								
$\Delta FdiP_r$	-1349	-1349	-1349	-2178	-2178	-2178	1308	1308	1308
	(2817)	(3425)	(4922)	(3690)	(4233)	(6075)	(4594)	(6259)	(8218)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: The outcome variables are the labor force participation rate (Panel A), the change in the employment to population ratio (Panel B), the unemployment rate (Panel C), and the average real hourly growth (Panel D). Columns (1–3): pooled men and women. Columns (4–6): men. Columns (7–9): women. Controls include: informal employment, foreign share, education, manufacturing share, and unemployment. Regressions are weighted by the working-age population. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.10. *Source:* Author's calculations.

Heterogeneous Effects: The impacts of manufacturing FDI are not uniform; they systematically reshape employment patterns along demographic and geographic lines. To highlight "who benefits from FDI", we focus on three pillars such as Marital Status, Job Type, and Geography (See Table A6). Firstly, primary beneficiaries are married women, whose labor force participation increases by 0.341 p.p., an effect nearly eight times larger than for married men. This suggests that the stable, formal employment created by FDI can help overcome cultural barriers and liquidity constraints

that often restrict married women's workforce participation. Secondly, the FDI shock instigates a structural shift in work arrangements. It significantly reduces full-time employment (-1.302 p.p.) while boosting part-time work (+0.208 p.p.). Women capture the vast majority of these new part-time opportunities (0.202 p.p.), raising a critical question for future research: does this represent desirable flexibility or a trend toward more precarious employment? Lastly, the benefits are concentrated in rural areas, where LFPR increases by 0.679 p.p. for all workers and 0.470 p.p. for women. This rural bias indicates that FDI can be a potent tool for regional development, potentially alleviating urban migration pressures by creating formal job opportunities outside major cities.

Furthermore, Figure 4 reveals two critical dimensions of heterogeneity: age and technology. The effects follow a distinct life-cycle pattern: youth (under 30) experience a decline in participation (-0.249 p.p.) (Bandiera et al. 2022), possibly due to a skill mismatch, while prime-age (30-50) and older workers (50+) see strong positive effects (Figure 4a). Most importantly, digital access emerges as a fundamental multiplier of FDI's benefits. The labor market returns to FDI are massively amplified for individuals with internet access (4.943 p.p. increase) in line with literature (Hjort and Poulsen. 2019; Vrolijk. 2023). This underscores that technological infrastructure is not a side note but a core prerequisite for maximizing the inclusive growth potential of foreign investment, creating a new digital dimension of inequality(Figure 4b).

A final puzzle concerns the unemployment rate. The largely insignificant coefficients across both sectors (Table 1, Panel C) indicate that the new jobs filled by women primarily absorbed new entrants into the labor force—individuals who were previously not actively seeking work—rather than drawing from the pool of the existing unemployed. This suggests that the FDI shock expanded the labor force by increasing participation, rather than reducing existing unemployment.[18] Lastly, non-manufacturing FDI presents a more complex and less robust picture. The point estimates for LFPR are exceptionally large (e.g., 13,241 for all workers). However, these must be interpreted with extreme caution. Given the sector's modest actual growth post-BIT, these coefficients likely reflect a high sensitivity to limited FDI variation rather than a genuine, scalable effect of such magnitude.

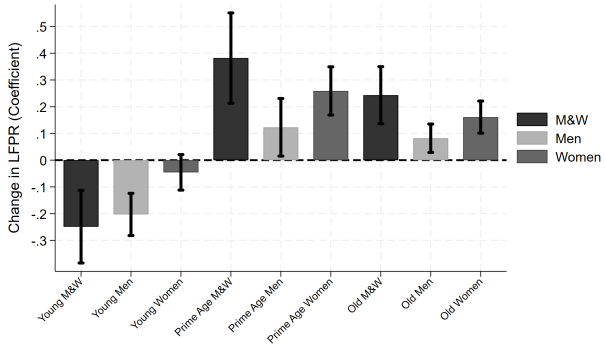
This expansion of the labor force, combined with a significant shift toward part-time work captured largely by women, helps explain the lack of strong aggregate real wage growth (Table 1, Panel D). The absence of aggregate wage growth should therefore not be interpreted as a lack

[18]This may stem from the population becoming more active in seeking employment or from participation-driven employment growth; in this case, improved job availability encourages previously inactive individuals to look for work.

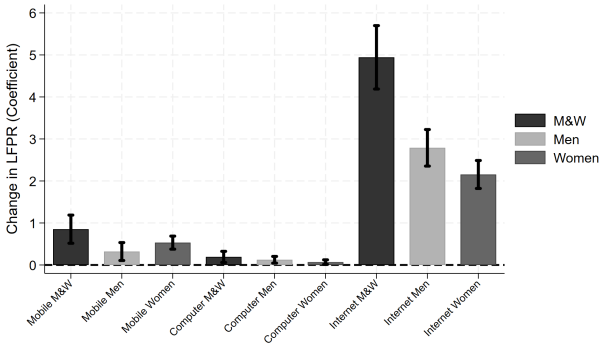
of welfare improvement. Instead, it reflects a compositional adjustment within the labor market. As documented above, the FDI shock induces a substantial inflow of new workers—predominantly women—into formal employment, many of whom transition from unpaid household work or low-productivity informal activities. These entrants are likely to start at the lower end of the formal wage distribution, exerting downward pressure on average wages even as individual welfare improves through formalization, job stability, and access to non-wage benefits.

Figure 4: Labor Force Participation Rate Heterogeneity

(a) Younger, Prime-Age, and Older Workers



(b) Mobile Phone, Computer, and Internet Users



Notes: These figures illustrate heterogeneous effects of FDI exposure on labor force participation across demographic and technological dimensions. **Panel (a)** displays effects by age cohort, showing how FDI impacts young (<30 years), prime-age (30-50 years), and older workers (>50 years). **Panel (b)** examines effects by technology access, measuring how FDI influences labor force participation among mobile phone, computer, and internet users (measured by weekly to yearly usage frequency). All specifications include controls for informal employment, foreign share, education, manufacturing share, and unemployment. Regressions are weighted by the working-age population. Bar colors indicate: black for all workers (M&W), dark grey for women, and light grey for men. Error bars represent 95% confidence intervals. *Source:* Author's calculations.

Overall, the initial results paint a picture of a transformative but double-edged shock. Japanese manufacturing FDI is a powerful force for female empowerment and formalization, yet its benefits are sharply mediated by demographic characteristics and, crucially, by access to digital technology. The following section will delve deeper into the quality of these new jobs, examining the shift from informality to formality and the stark skill-based winners/losers of this structural change.

The Quality of Jobs: Self, Formal, and Informal Employments

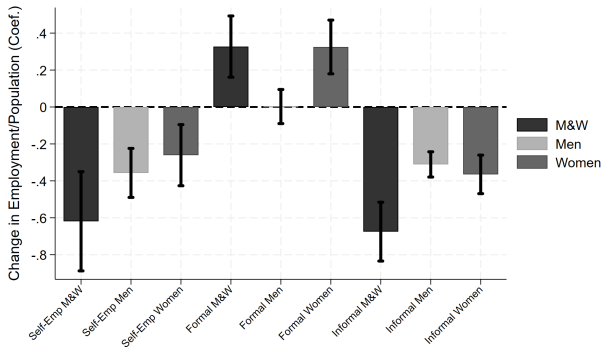
The preceding results demonstrate that FDI powerfully draws individuals, especially women, into the labor force. A critical question remains: does this represent a shift to higher-quality employment, or merely more jobs? To answer this, we shift our focus from the quantity of employment to its structure, analyzing the reallocation of labor across formality and skill segments, distinguishing

between self-employment, formal, and informal work.[19] This distinction is crucial in the Kenyan context, where a large informal sector acts as a buffer for the working poor.[20] Figure 5 reveals that manufacturing FDI is not just creating jobs; it is actively restructuring the economy, accelerating a dual transition with clear winners and losers.

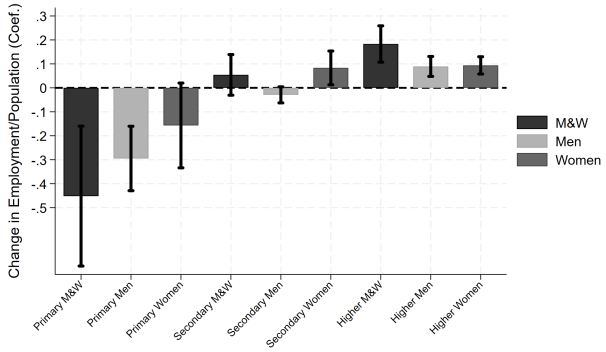
As illustrated in Figure 5a (Panel a), manufacturing FDI acts as a key channel for formalization. We observe a significant 0.327 percentage point increase in the formal employment-to-population ratio. The gender breakdown of this effect is striking: women capture virtually the entire gain (0.325 p.p.), while the effect for men is statistically insignificant. This indicates that the pathway into formal work created by foreign manufacturing investment is almost exclusively accessed by female workers. Concurrently, this formalization is accompanied by a contraction in more vulnerable employment forms, a hallmark of structural transformation. We find substantial declines in both informal wage employment (-0.675 p.p.) and self-employment (-0.619 p.p.). This pattern suggests a net reallocation of labor out of precarious work and into regulated, protected formal sector jobs. Notably, women experience a smaller decline in self-employment than men, hinting that for some women, self-employment may remain a persistent, if less desirable, option or that the transition to formal work is not yet complete.

Figure 5: Employment-to-Population Ratio Heterogeneity

(a) Self-Emp, Formal, and Informal Workers



(b) Primary, Secondary, and Higher Education



Notes: This figure displays heterogeneous effects of FDI exposure on employment-to-population ratios across different worker characteristics. **Panel (a)** examines employment type, showing effects on self-employment, formal sector employment, and informal sector employment. **Panel (b)** analyzes educational attainment, presenting effects for workers with primary or below education, secondary education, and higher education. All specifications include controls for informal employment, foreign share, education, manufacturing share, and unemployment. Regressions are weighted by the working-age population. Bar color coding: black for all workers (men and women combined), dark grey for female workers, and light grey for male workers. Error bars represent 95% confidence intervals based on robust standard errors. *Source:* Author's calculations.

[19]Please note that we extend our assumption, including Self-employment, and then re-estimate ΔFdiP_r accordingly.

[20]In Kenya, informality is typically defined by employment in small, unregistered enterprises or as workers without a formal contract, social security, or other labor protections.

This structural shift, however, is not neutral. Figure 5b (Panel b) reveals a pronounced skill-biased transition, consistent with models of skill-biased technological transfer from multinationals. The employment effects exhibit a sharp educational gradient: Higher-educated workers are the clear winners, experiencing a strong 0.183 p.p. increase in employment, with benefits shared nearly equally by men and women. Secondary-educated workers show a gendered split: women see a significant 0.083 p.p. gain, while men experience a slight loss, suggesting the semi-skilled jobs created are a better match for the female labor force in this sector. Primary-educated workers face significant displacement, with employment falling by 0.452 p.p. This indicates that low-skilled workers are the most vulnerable to the disruptive forces of technological upgrading associated with FDI, a finding that echoes the distributional consequences of FDI liberalization in other contexts (Ignacio. 2025).

The narrative that emerges is one of two simultaneous, intertwined transitions. First, a sectoral and contractual transition from informal and self-employed work to formal wage employment, a shift that disproportionately empowers women. Second, a skill transition that rewards higher education and penalizes lower skills. This dual process aligns with the concept of FDI as a "composition shock" that reshapes the employer landscape in a skill-biased manner (Hijzen et al. 2013; Setzler and Tintelnot. 2021). Therefore, this presents a classic trade-off between efficiency and equity. The opportunity lies in leveraging manufacturing FDI as a potent tool for female economic empowerment and formalization.[21] The challenge is to manage the disruptive side of this transformation. The significant displacement of primary-educated workers underscores the urgent need for robust, targeted investments in education, vocational training, and social protection systems to upskill the workforce being left behind. FDI, therefore, is not just a source of capital but a catalyst that can accelerate Kenya's journey toward a more formal and skilled economy, provided its distributional consequences are deliberately managed.

5 Robustness Analysis

To strengthen the causal interpretation of our findings, we address potential endogeneity in the shift-share design using an instrumental variable (IV) approach that leverages Japan's global FDI

[21]This powerful formalization, however, is not accompanied by broad-based wage growth in the aggregate data (Table 1, Panel D). This underscores that the primary "quality" upgrade for female workers lies in the transition from informality to formality itself—a move that confers stability, legal protections, and access to benefits—rather than in immediate entry into high-wage occupations. The job quality story is thus one of contractual upgrading more than of rapid wage premia. The skill-biased nature of the transition (Figure 5b)—where gains for higher-educated workers are partially offset by the displacement of lower-wage, primary-educated labor—directly explains the muted aggregate wage response.

patterns, as detailed in Appendix B.1. The IV results in Table B3, far from merely confirming our baseline estimates, reveal that conventional OLS methods substantially understate the transformative potential of manufacturing FDI, particularly for women. Specifically, the employment-to-population ratio impact nearly triples from 0.252 (OLS) to 0.703 (IV), while the effect on labor force participation more than doubles from 0.376 to 0.928. This pattern of upward revision suggests that OLS suffers from significant downward bias. Crucially, the IV results intensify the central gender narrative. Women's manufacturing employment gains jump from 0.383 (OLS) to 0.713 (IV), while the effects for men remain precisely estimated at zero (insignificant).

Table 2: Employment-to-Population Ratio Heterogeneity, 2SLS Estimation

	(1) All (M&W)	(2) Men	(3) Women	(4) All (M&W)	(5) Men	(6) Women	(7) All (M&W)	(8) Men	(9) Women
	Mobile Phone Users			**Computer Users**			**Internet Users**		
$\Delta FdiP_r$	1.115***	0.316**	0.798***	0.214***	0.127**	0.0870***	5.627***	3.107***	2.520***
	(0.227)	(0.138)	(0.118)	(0.0802)	(0.0497)	(0.0313)	(0.533)	(0.296)	(0.243)
	Primary Education			**Secondary Education**			**Higher Education**		
$\Delta FdiP_r$	-0.0271	-0.220**	0.193**	0.159**	-0.00679	0.166***	0.268***	0.132***	0.136***
	(0.167)	(0.0998)	(0.0835)	(0.0753)	(0.0570)	(0.0366)	(0.0713)	(0.0413)	(0.0312)
	Young (<30)			**Prime Age (30-50)**			**Old (>50)**		
$\Delta FdiP_r$	-0.181**	-0.217***	0.0358	0.503***	0.0868	0.416***	0.380***	0.120***	0.261***
	(0.0765)	(0.0484)	(0.0383)	(0.127)	(0.0837)	(0.0728)	(0.0715)	(0.0325)	(0.0426)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: This table displays heterogeneous effects of FDI exposure on employment-to-population ratios across technology access, educational attainment, and age cohorts using IV estimation. Controls include: informal employment, foreign share, education, manufacturing share, and unemployment. Regressions are weighted by the working-age population. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.10. *Source:* Author's calculations.

Furthermore, the IV framework also allows us to re-examine the dimensions of heterogeneity with greater causal confidence, as shown in Table 2. Three critical patterns emerge: First, technology access dramatically amplifies FDI benefits, with internet users showing extraordinary employment gains (5.627*** for all workers). This represents a 5-fold increase over mobile effects and a 26-fold increase over computer effects. Second, the educational gradient reveals unexpected gender patterns. Women benefit across all education level, in particular primary (0.193), secondary (0.166), and higher education (0.136), while men face challenges at lower education levels. Third, age patterns highlight structural adjustments: young workers face displacement (-0.181), particularly men (-0.217), while prime-age (0.503) and older workers (0.380) show strong gains. The massive benefits for prime-age women (0.416) suggest FDI creates opportunities specifically for experienced female workers. Overall, the instrumental variable analysis does more than just validate our research design. It reveals that

the transformative impact of Japanese manufacturing FDI is causally larger than initially observed.

6 Conclusion

This paper demonstrates that the labor market impacts of FDI are not monolithic but are fundamentally shaped by its interaction with local socio-economic structures. Using the Japan-Kenya BIT as a quasi-experiment, we show that Japanese manufacturing investment catalyzes female economic empowerment by creating formal employment pathways in Kenya. Contrary to common fears about globalization, our shift-share estimates suggest that women are the primary beneficiaries, gaining access to formal employment at a significantly higher rate than men. However, this positive narrative is nuanced. The benefits are sharply skill-biased, accruing to higher-educated workers while displacing the low-skilled. Furthermore, the employment gains are not accompanied by aggregate wage growth, suggesting the primary benefit for women is contractual formalization rather than immediate high wages. The gains are not automatic; they are critically mediated by technological infrastructure, with digital access serving as a powerful multiplier of FDI's positive effects.

These findings offer a clear, dual-pronged policy lesson. Leveraging FDI for inclusive growth requires proactive investments in education, vocational training for low-skilled workers, and the expansion of digital infrastructure. At the same time, our results underscore that "quality" FDI should be evaluated not only by aggregate job creation, but by its distributional consequences and its capacity to generate equitable pathways into high-quality, formal work. Ultimately, foreign investment can be a powerful engine of inclusive development, but only when the local foundations for shared prosperity are firmly in place.

Potential Challenges and Data Limitations

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Appendix A Tables and Figures

Table A1: Japanese FDI Flows to Kenya: Bank of Japan vs. Orbis Data (2010–2024)

Source	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Bank of Japan Data (100 million JPY)															
Manufacturing	na	na	-1.00	-4.00	-2.14	5.81	0.54	112.82	8.64	9.47	6.67	8.91	7.18	7.05	0.18
Non-Manufacturing	na	-0.82	0.00	-6.00	0.50	1.78	2.93	1.13	0.67	2.64	2.08	–	0.25	5.71	14.54
Total BOJ FDI	**0.00**	**-0.82**	**-2.00**	**-10.00**	**-1.64**	**7.59**	**3.48**	**113.95**	**9.30**	**12.11**	**8.75**	**8.91**	**7.43**	**12.76**	**14.72**
Cumulative BOJ	**0.00**	**-0.82**	**-2.82**	**-12.82**	**-14.46**	**-6.87**	**-3.39**	**110.56**	**119.86**	**131.97**	**140.72**	**149.63**	**157.06**	**169.82**	**184.54**
Orbis Data (USD$ Million)															
Orbis OCI	80.87	153.65	200.13	898.24	725.49	5.23	49.65	10.11	493.12	13.34	n.a.	n.a.	4.08	2.60	4.33
Orbis M&A	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.10	0.60	23.70	1.15	87.75	12.00	24.00
Total Orbis FDI	**80.87**	**153.65**	**200.13**	**898.24**	**725.49**	**5.23**	**49.65**	**10.11**	**493.22**	**13.94**	**23.70**	**1.15**	**91.83**	**14.60**	**28.33**
Cumulative Orbis	**80.87**	**234.52**	**434.65**	**1,332.89**	**2,058.38**	**2,063.61**	**2,113.26**	**2,123.37**	**2,616.59**	**2,630.53**	**2,654.23**	**2,655.38**	**2,747.21**	**2,761.81**	**2,790.14**

Notes: This table compares two different Japanese FDI in Kenya through BoJ and Orbis. **Bank of Japan data** (top) uses balance of payments methodology, compiled using the Directional Principle under two international accounting standards (BPM5 for 2010–2013, and BPM6 for 2014–2024). Data for 2010–2013 are sourced from the BOJ BPM5 portal, while post-2014 figures follow BPM6 methodology available at the BOJ BPM6 database. This approach measures net flows from the investor's perspective and deducts reverse investments (e.g., loans or equity repatriation from affiliates), which can result in negative values. Net FDI values may be negative, indicating that capital outflows exceeded inflows in that year. **Orbis data** (bottom) aggregates project-level investment values. FDI (OCI) sums the capital expenditure of greenfield, expansion, and co-location projects reported in Orbis Crossborder Investment (OCI). *FDI (M&A)* aggregates disclosed deal values from Orbis M&A (Zephyr); values were originally reported in thousands of USD and are converted here to millions. Because many M&A deals do not disclose a value, the M&A column should be interpreted as a lower-bound estimate of transactional FDI. `n.a.` indicates missing or undisclosed deal value. Unlike BOJ data, OCI reports individual project-level capital expenditures (e.g., greenfield and expansion investments) without netting out reverse flows, and thus does not reflect negative values (See Appendix B.2). Currency: BOJ data in 100 million JPY; Orbis data in USD millions. Cumulative totals calculated from annual flows. **Sources:** Bank of Japan (BOJ); Orbis Crossborder Investment; Orbis M&A (Zephyr); compiled by author.

Table A2: Sectoral Investment Restrictions in the Japan–Kenya BIT (Summary)

Party	Explicit Sector Restrictions in BIT	Example of Possible Sector Mentions	Legal Basis
Kenya	Not explicitly listed	Public services excluded from MFN treatment (e.g., education, health, correctional services, etc.)	Article 2.2, Article 4.3(d)
Japan	Not explicitly listed	Subject to Japan's domestic foreign ownership and investment regulations	Article 2.2

Note: Both Japan and Kenya admit foreign investment subject to their respective domestic regulations (Article 2.2). This treaty does not contain **Annex I or II**, nor any attached **sectoral list for exclusions or reservations**, which are common in some BITs (especially U.S. model BITs or trade-related agreements like CPTPP). However, Article 4.3 of the BIT excludes certain public service sectors (e.g., health, education, correctional services) from MFN treatment, indicating these areas may remain under domestic control. Kenya retains the right to regulate for public health, safety, environment, labor standards, and essential security during emergencies (Art.16). Temporary capital controls are allowed under IMF rules (Art.17). Prudential financial regulations apply (Art.18). Kenya cannot waive health, safety, environmental, or labor standards to attract investment (Art.22). Kenyan investors in Japan benefit from national and MFN treatment (Art.3, 4), fair and equitable treatment with full protection and security (Art.5), protection against expropriation with prompt and adequate compensation, free transfer of funds (Art.13), and access to Japanese courts (Art.6). Performance requirements are prohibited (Art.7). The BIT provides two dispute settlement mechanisms. State-to-State disputes are resolved through arbitration under the New York Convention (Art.14). Investor-State disputes can be resolved through ICSID or UNCITRAL arbitration (Art.15), following a six-month consultation period and subject to a three-year claim deadline. Based on recurring patterns in Japan's other BITs, it is reasonable to infer that Both Japan and Keny's reserved sectors likely include banking and finance, utilities, information and communications, land ownership and leasing, natural resources, and security services, consistent with broader Japanese investment policy practices (METI 2019). **Source:** Author's analysis of the Ministry of Foreign Affairs of Japan (MOFA) and UNCTAD treaty texts.

Table A3: Labor Market (Commuting Zone) Statistics by Gender (2009–2019)

	Total		**Employed**		**Unemployed**		**Formal**		**Informal**	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Female LFPR, 2009	0.476	0.048	0.438	0.064	0.038	0.024	0.237	0.081	0.200	0.041
Female LFPR, 2019	0.502	0.036	0.451	0.074	0.051	0.044	0.312	0.059	0.139	0.024
Male LFPR, 2009	0.524	0.048	0.474	0.038	0.050	0.037	0.297	0.038	0.177	0.027
Male LFPR, 2019	0.498	0.036	0.424	0.042	0.075	0.061	0.298	0.038	0.125	0.017
Female/Pop, 2009	0.515	0.027	0.356	0.067	0.030	0.019	0.194	0.074	0.161	0.031
Female/Pop, 2019	0.515	0.021	0.366	0.067	0.040	0.033	0.252	0.054	0.112	0.020
Male/Pop, 2009	0.485	0.027	0.383	0.034	0.040	0.028	0.240	0.036	0.143	0.018
Male/Pop, 2019	0.485	0.021	0.345	0.042	0.059	0.046	0.241	0.037	0.101	0.014

Note: Table shows summary statistics by commuting zone. For the labor market outcomes, the summary statistics are weighted (wgt.) by the CZ's working age population. LFPR is labor force participation rate. **Source:** Authors' calculations.

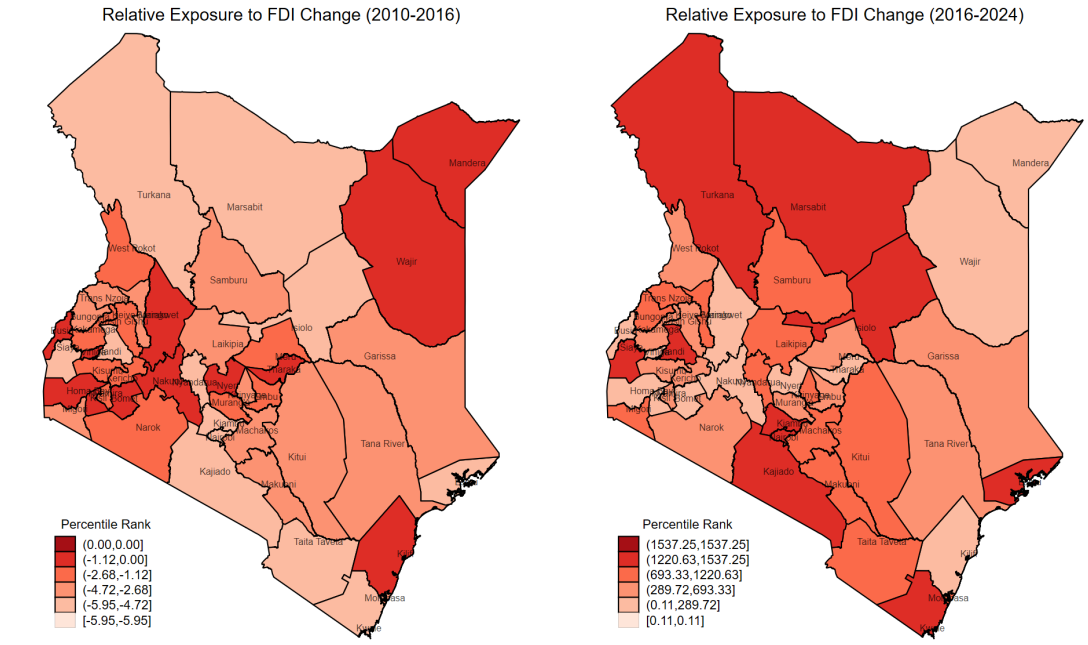
Table A4: Summary Statistics: FDI Exposure and Cumulative Changes

	Cumulative FDI % Change		
	Manufacturing	Non-Manufacturing	Total FDI
2010–2016 (Pre-BIT)	-0.79	-1.60	-3.39
2016–2024 (Post-BIT)	203.97	16.85	55.40

	County-Level FDI Exposure per Worker					
	p25	p50	p75	Mean	SD	Max
$\Delta \text{FdiP}_r^{(2010-2016)}$	−5	−3	−1	−3	2	0
$\Delta \text{FdiP}_r^{(2016-2024)}$	290	693	1,221	677	475	1,537

Note: Top panel shows cumulative percentage changes in Japanese FDI flows to Kenya. Bottom panel shows summary statistics for county-level FDI exposure per worker (ΔFdiP_r). Period 1 (2010–2016) represents pre-BIT era; Period 2 (2016–2024) represents post-BIT era.

Figure A1: Geographic Distribution of FDI Exposure per Worker across Kenyan Counties



Note: Each map shows quintiles of FDI exposure for each commuting zone across Kenya within its respective period (2010-2016 vs 2016-2024)

Table A5: FDI Exposure on Female-to-Male Labor Market Outcome Ratios

	Employment Share Ratio		Wage Growth Ratio		LFPR Ratio		Unemployment Rate Ratio	
	(1) OLS	(2) Bootstrap	(3) OLS	(4) Bootstrap	(5) OLS	(6) Bootstrap	(7) OLS	(8) Bootstrap
Manufacturing								
$\Delta FdiP_r$	1.797***	1.797***	0.306	0.306	1.052***	1.052***	-1.413***	-1.413***
	(0.299)	(0.281)	(0.586)	(0.665)	(0.200)	(0.218)	(0.288)	(0.257)
Non-Manufacturing								
$\Delta FdiP_r$	42113***	42113**	4974	4974	21746*	21746*	-14803*	-14803
	(13965)	(16550)	(11868)	(23812)	(11136)	(12761)	(8338)	(9052)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.10. All ratios are calculated as female outcomes divided by male outcomes. Columns (1–2): Employment-to-Population Ratio (Female/Male). Columns (3–4): Real Hourly Wage Growth Ratio (Female/Male). Columns (5–6): Labor Force Participation Rate Ratio (Female/Male). Columns (7–8): Unemployment Rate Ratio (Female/Male). Controls include: informal employment, foreign share, education, manufacturing share, and unemployment. Regressions are weighted by the working-age population. *Source:* Author's calculations.

Table A6: Heterogeneity of Labor Force Participation Rate: Manufacturing FDI Exposure

	(1) M&W	(2) Men	(3) Women	(4) M&W	(5) Men	(6) Women
	Married			**Single**		
$\Delta FdiP_r$	0.384***	0.0434	0.341***	-0.0158	-0.0465	0.0306
	(0.0812)	(0.0490)	(0.0616)	(0.107)	(0.0661)	(0.0470)
	Full-Time Job			**Part-Time Job**		
$\Delta FdiP_r$	-1.302***	-0.898***	-0.403***	0.208***	0.00673	0.202***
	(0.205)	(0.133)	(0.0836)	(0.0736)	(0.0279)	(0.0496)
	Urban			**Rural**		
$\Delta FdiP_r$	-0.303	-0.207	-0.0956	0.679**	0.209	0.470***
	(0.341)	(0.220)	(0.124)	(0.337)	(0.196)	(0.147)
Controls	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.10. This table examines labor force participation rate heterogeneity across marital status, job type, and geographic location for all workers, men, and women. Part-time refers to those who work fewer than 40 hours. Controls include: informal employment, foreign share, education, manufacturing share, and unemployment. Regressions are weighted by the working-age population. *Source:* Author's calculations.

Appendix B External IV Analysis and FDI Information

Appendix B.1 Shift–Share Instrument

Identification Strategy and Motivation: A potential threat to our estimation is the endogeneity of Japanese FDI location choices within Kenya. If Japanese multinationals strategically select regions based on time-varying unobserved factors that also influence local labor outcomes, such as improving infrastructure or rising local productivity, our OLS estimates will be biased. To isolate causal effects, we require exogenous variation in regional FDI exposure. We therefore implement a shift-share instrumental variable (SSIV) strategy, following the quasi-experimental framework of Autor et al. (2013) and Connolly. (2022). This approach isolates variation in Japanese FDI to Kenyan regions that is driven by Japan's global investment patterns rather than Kenya-specific economic conditions. Our identification leverages the fact that Japan signed and implemented BITs with several other countries, namely Israel, Oman, Saudi Arabia, Uruguay, and Iran, in the same pivotal year of 2017.[22]

Table B1: Japanese FDI Patterns in Comparator BIT Countries

	Comparator BIT Countries					
	Uruguay	Saudi Arabia	Oman	Israel	Iran	Total
Cumulative FDI (Billion Yen)						
End of 2016	247.77	1,635.33	36.63	263.44	4.64	2,187.81
End of 2024	333.39	480.81	439.13	1,416.64	8.65	2,678.62
Net Change (2016-2024)	+85.62	-1,154.52	+402.50	+1,153.20	+4.01	+490.81
	Sectoral Growth Patterns (%)					
Average of all sectors						
$g_{2010-2016}$	29.76	17.15	-18.02	112.24	4.64	20.83
$g_{2016-2024}$	0.35	-0.71	10.99	4.38	0.86	0.22
Manufacturing						
$g_{2010-2016}$	-2.12	21.84	-0.90	419.08	0.00	22.24
$g_{2016-2024}$	-5.73	-0.82	0.22	-1.88	0.00	-1.09
Non-Manufacturing						
$g_{2010-2016}$	275.80	7.43	18.49	8.12	4.64	17.54
$g_{2016-2024}$	0.87	0.04	10.72	129.10	0.86	4.20

Notes: This table presents Japanese FDI patterns in the five comparator BIT countries used for instrument construction. All values in billion yen unless noted. The data reveal substantial heterogeneity in investment patterns across countries and sectors, with notable volatility events driven by country-specific factors. The distinct sectoral reallocation—manufacturing peaking pre-2016 while non-manufacturing sustained growth—provides exogenous variation for the shift-share instrument. Total cumulative FDI increased by 490.81 billion yen (22.4%) from 2016 to 2024, driven primarily by Israel. These global investment patterns, uncorrelated with Kenya-specific conditions, ensure instrument relevance while supporting the exclusion restriction. **Source:** Bank of Japan.

We construct our instrument using Japanese FDI change to these other BIT partners as shocks. The core identifying assumption is that these shocks are as-good-as-randomly assigned with respect to unobserved local shocks in Kenya. This is plausible because Japanese FDI in these comparator countries reflects a diverse set of external, country-specific drivers: resource-seeking investment in Saudi Arabia and Oman (tied to global commodity markets), technology-seeking investment in Israel, and market-seeking investment in Uruguay. These global strategic objectives are orthogonal to unobserved local demand shocks in Kenyan regions. Consequently, they provide a source of

[22]Briefly, Japan signed and implemented BITs with several economies around the same time as Kenya, including Israel (2017), Oman (2017), Saudi Arabia (2017), Uruguay (2017) and Iran (2017). See MOFA for treaty timelines.

quasi-experimental variation that influences Kenyan regions only through their exposure to Japan's worldwide industry-level investment dynamics, as dictated by the common BIT policy.

Empirical Strategy

Formally, the instrument for FDI exposure in region r and year t is:

$$Z_{rt} = \Delta FdiP_{rt}^{\text{Jp},IV} = \sum_i \frac{L_{irt_0}}{L_{rt_0}} \times \frac{\Delta \text{Fdi}_{it}^{\text{Other}}}{L_{it_0}}$$

where $\Delta \text{Fdi}_{it}^{\text{Other}}$ represents Japanese FDI change in industry i to other parallel BIT countries in 2017, normalized by base-year national employment. This design yields a powerful exclusion restriction. The instrument Z_{rt} affects regional labor outcomes in Kenya *only* through its impact on actual Japanese FDI in Kenya ($\Delta FdiP_{rt}^{\text{Jp}}$). This is because the investment shocks from other BIT countries are driven by external factors (e.g., oil prices, global tech demand) that are uncorrelated with unobserved local Kenyan shocks affecting employment. Furthermore, the selected comparator countries had minimal economic ties with Kenya during the study period, negating potential channels of direct competition or spillovers that would violate the exclusion restriction.

First-Stage Validity and Supporting Evidence: The relevance of our instrument is strongly supported by both economic logic and empirical evidence. The heterogeneous yet substantial Japanese FDI flows to the comparator countries, detailed in Table B1, provide the necessary variation. Table B1 further reveals a global sectoral reallocation in Japanese investment—with manufacturing peaking pre-2016 and non-manufacturing sustaining growth—which, when interacted with Kenya's regional industrial composition, generates a strong predictor of actual FDI inflows.

We estimate the following two-stage system:

$$\text{First stage: } \Delta FdiP_{rt}^{\text{Jp}} = \alpha_1 Z_{rt} + \alpha_2 \mathbf{X}'_{rt_0} + v_{rt}$$

$$\text{Second stage: } \Delta L_{rt} = \pi_1 \widehat{\Delta FdiP_{rt}^{\text{Jp}}} + \pi_2 \mathbf{X}'_{rt_0} + \epsilon_{rt}, \qquad \epsilon_{rt} \sim \mathcal{N}(0, \sigma_r^2)$$

Table B2: First-Stage Regression for Instrumental Variable

	Dependent Variable: $\Delta FdiP_{rt}^{\text{Jp}}$	
Instrument (Z_{rt})	Manufacturing	Non-Manufacturing
$\Delta FdiP_{rt}^{\text{Jp},IV}$	-5.983^{***}	-0.192^{**}
	(0.631)	(0.071)
Controls	Yes	Yes
R-squared	0.495	0.128
First-stage F-statistic	90.02	7.21
Kleibergen-Paap F-statistic	90.02	7.21
Cragg-Donald	71.49	3.01

Notes: Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$. The table presents first-stage regression results separately for manufacturing and non-manufacturing sectors. The instrument demonstrates exceptional strength in manufacturing, while the instrument shows moderate strength in non-manufacturing with significant coefficient. Additional diagnostics: Manufacturing - Anderson-Rubin = 25.55 (p = 0.000); Non-manufacturing - Anderson-Rubin = 14.31 (p = 0.000). Weak-instrument-robust tests remain significant for both sectors.

This empirical strategy isolates exogenous variation in Japanese FDI driven by global investment patterns rather than Kenya-specific factors, thereby addressing potential bias from endogenous location choices. The instrument's strength is confirmed by first-stage diagnostics reported in Table

B2. For manufacturing, the Kleibergen-Paap F-statistic of substantially exceeds conventional weak instrument thresholds. For non-manufacturing, however, the test indicates a weak instrument. The OLS results for non-manufacturing are as benchmark estimates. While OLS estimates may be biased by omitted variables, they are typically preferred to potentially more biased and unstable 2SLS estimates when the first stage is weak.

IV Results

The instrumental variable estimates in Table B3 reveal a striking pattern: conventional OLS methods presented in Table 1 substantially underestimate FDI's labor market effects. When accounting for endogeneity concerns through our shift-share instrument, the causal impacts of manufacturing FDI emerge as dramatically larger and more precisely estimated.

Table B3: Effects of FDI Exposure on Labor Market Outcomes, IV Estimation

	All (M&W)			**Men**			**Women**		
	(1) 2SLS	(2) Jackknife	(3) Bootstrap	(4) 2SLS	(5) Jackknife	(6) Bootstrap	(7) 2SLS	(8) Jackknife	(9) Bootstrap
	Panel A: Employment-to-Population Ratio								
	Manufacturing								
$\Delta FdiP_r$	0.703***	0.703***	0.703***	-0.0103	-0.0103	-0.0103	0.713***	0.713***	0.713***
	(0.207)	(0.231)	(0.211)	(0.125)	(0.135)	(0.132)	(0.128)	(0.146)	(0.133)
	Non-Manufacturing								
$\Delta FdiP_r$	70926*	70926	70926	15884	15884	15884	55042*	55042	55042
	(36337)	(59869)	(129050)	(10425)	(13943)	(24054)	(28515)	(48742)	(108691)
	Panel B: Labor Force Participation Rate								
	Manufacturing								
$\Delta FdiP_r$	0.928***	0.928***	0.928***	0.193	0.193	0.193	0.734***	0.734***	0.734***
	(0.209)	(0.230)	(0.220)	(0.124)	(0.134)	(0.131)	(0.129)	(0.142)	(0.142)
	Non-Manufacturing								
$\Delta FdiP_r$	86033**	86033	86033	24058*	24058	24058	61976*	61976	61976
	(41471)	(69441)	(160170)	(12306)	(17893)	(34935)	(31878)	(54724)	(127401)
	Panel C: Unemployment Rate								
	Manufacturing								
$\Delta FdiP_r$	-0.114	-0.114	-0.114	0.0406	0.0406	0.0406	-0.169	-0.169	-0.169
	(0.146)	(0.160)	(0.146)	(0.0905)	(0.0969)	(0.0947)	(0.126)	(0.140)	(0.138)
	Non-Manufacturing								
$\Delta FdiP_r$	-33361*	-33361	-33361	-22011	-22011	-22011	-24871	-24871	-24871
	(19989)	(29262)	(49048)	(14363)	(21968)	(40239)	(17647)	(20132)	(78526)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.10. The outcome variables are the change in the employment to population ratio (Panel A), the labor force participation rate (Panel B), and the unemployment rate (Panel C). Columns (1–3): pooled men and women. Columns (4–6): men. Columns (7–9): women. Controls include: informal employment, foreign share, education, manufacturing share, and unemployment. Regressions are weighted by the working-age population. *Source:* Author's calculations.

Three compelling findings stand out: First, manufacturing FDI effects are dramatically amplified under IV estimation. The employment-to-population ratio increases from 0.252 (OLS) to 0.703*** (IV), while labor force participation jumps from 0.376*** to 0.928*** (Table 1 vs Table B3). This pattern suggests OLS suffers from downward bias, potentially due to measurement error in FDI exposure or omitted variable bias. Second, the IV results intensify the gender narrative, revealing manufacturing FDI as an even more powerful causal driver for female economic empowerment

than OLS suggested. Women's employment gains jump from 0.383*** (OLS) to 0.713*** (IV), while men's effects remain precisely estimated at zero. This stark divergence provides compelling causal evidence that manufacturing FDI creates employment opportunities almost exclusively for women in Kenya's labor market. Third, the non-manufacturing coefficients, while large, remain less robust across estimation methods. The jackknife and bootstrap often fail to maintain statistical significance, suggesting these effects are sensitive to sampling variation despite their magnitude. The upward revision in coefficient magnitudes under IV estimation supports the hypothesis that FDI generates larger causal impacts than observational correlations suggest. This pattern is consistent with classical measurement error or positive selection bias in OLS, where unobserved factors simultaneously attract FDI and improve labor markets.

Appendix B.2 Japanese FDI Projects and M&A Activities in Kenya

Crossborder FDI Projects

Japanese foreign direct investment (FDI) in Kenya, as tracked by the Orbis Crossborder Investment (OCI) database from 2010 to 2024, reveals a strategic and evolving engagement. A total of 42 projects were identified, with investment heavily concentrated in two distinct phases. The initial phase (2013–2014) was characterized by large-scale, capital-intensive manufacturing FDI. Flagship projects led by firms like Toyota, Honda, and Nissan in vehicle assembly, alongside investments from Nissin Foods, established a strong industrial base. This period saw multiple projects exceeding USD 180 million in capital expenditure, creating thousands of jobs and demonstrating a clear horizontal FDI strategy, replicating Japanese manufacturing operations for the local and regional market (Table B4).

Table B4: Japanese FDI Projects in Kenya by Year and Sector, 2010–2024

Panel A: Annual Summary

Year	Projects	Total CapEx (USD million)	Total Jobs	Key Investors
2010	1	81	200	Toyota
2011	1	154	970	Toyota
2012	1	200	70	Honda
2013	10	1,197	5,820	Toyota, Honda, Nissin, Mitsubishi
2014	5	906	3,880	Toyota, Nissan, Nissin, Sumitomo
2015	2	5	30	Toyota Tsusho, Nikon
2016	4	53	258	Toyota Tsusho, Takeda, MUFG, Sony
2017	3	10	56	Miniso, Nippon Express, Mitsui OSK
2018	8	492	2,058	Isuzu, Toyota, Toyota Tsusho
2019	3	13	75	Ishida, Terumo
2020	0	0	0	–
2021	0	0	0	–
2022	1	4	1	Ebara Pumps
2023	2	3	16	HIS, Casio
2024	1	4	25	Nippon Paint
Total	**42**	**3122.9**	**13429**	

Panel B: Sectoral Breakdown

Sector / Function	Projects	Total CapEx (USD million)	Total Jobs	Avg. CapEx / Jobs
Manufacturing	10	2,806	8,330	280.6 / 833
Sales Offices	22	99	525	4.5 / 24
Retail	5	6	38	1.2 / 8
Logistics	2	49	400	24.7 / 200
Regional HQs	2	164	400	81.8 / 200
Data Centre	1	149	200	149.4 / 200
Healthcare	1	40	200	39.5 / 200
Maintenance	1	69	150	69.2 / 150
Total	**42**	**3122.9**	**13429**	**74.4 / 320**

Note: Compiled from Orbis Crossborder Investment (OCI) data for 2010–2024: 8 Greenfield, 2 Expansion, and 2 Co-location projects. CapEx represents reported capital expenditure (USD millions). Panel A summarizes annual project activity; Panel B groups projects by functional sector. Manufacturing accounts for roughly 90% of total CapEx and 62% of total job creation, highlighting Japan's focus on capital-intensive industrial projects. Other functions (sales, logistics, regional HQs) support broader regional integration. *Source:* Orbis Crossborder Investment (Moody's Analytics), accessed July 2025; author's compilation.

Post-2020, the investment pattern shifted towards a more diversified and leaner model. While manufacturing continued, there was a marked rise in market-seeking investments, such as sales offices, retail outlets, and service centers. These projects, typified by entrants like Miniso and expanded presence from firms like Panasonic, required lower capital expenditure but were crucial

for deepening market penetration and building distribution networks, reflecting elements of vertical FDI. As shown in Table B4, the strategic nature of this investment is clear. Manufacturing, though comprising only 10 of the 42 projects, accounted for nearly 90% of the total capital expenditure (USD 2.8 billion) and 62% of the jobs created. This underscores its role as the cornerstone of Japan's initial FDI drive. The high number of Sales Offices (22 projects) highlights the subsequent focus on market consolidation and service provision, essential for sustaining the industrial base built in the first phase. In summary, Japan's crossborder investment in Kenya demonstrates a calculated, two-stage strategy: an initial wave of horizontal, job-creating industrial FDI, followed by a pivot to vertical and market-seeking investments that secure long-term presence and supply chain efficiency.

Mergers & Acquisitions Activities

While greenfield FDI establishes new physical operations, Japanese investment in Kenya has been significantly supplemented by strategic Mergers and Acquisitions (M&A). Data from Orbis M&A (Zephyr) from 2010 to 2025 reveals 39 transactions, representing a distinct channel of platform FDI focused on gaining strategic equity positions in existing Kenyan enterprises, particularly within the technology and innovation ecosystem (See Table B5).

Table B5: Japanese Mergers and Acquisitions in Kenya by Year and Sector, 2010–2025

Panel A: Annual Summary

Year	Deals	Disclosed Value (USD thousand)	Deals with Disclosed Value	Key Sectors
2015	1	0	0	Food & Beverages
2017	1	0	0	Automotive
2018	3	100	1	Logistics, Publishing
2019	3	600	2	Energy, Technology
2020	11	23,700	11	Technology, Insurance
2021	4	1,150	3	Technology, Telecom
2022	6	87,745	6	Technology, Agriculture
2023	4	12,000	3	Technology, Healthcare
2024	1	24,000	1	Electric Vehicles
2025	3	0	0	Automotive, Healthcare
Total	**37**	**149,295**	**27**	

Panel B: Sectoral Breakdown

Target Sector	Deals	Disclosed Value (USD thousand)	Avg. Deal Size (USD thousand)	Primary Deal Type
Other services (incl. technology platforms)	22	121,195	5,509	Minority stake (predominant)
Publishing & Printing	4	3,650	1,217	Minority stake
Machinery & Equipment	2	24,150	12,075	Minority stake / JV
Wholesale & Retail	2	0	n.a.	Acquisition / JV
Insurance / Financial	1	150	150	Minority stake
Post & Telecommunications	1	150	150	Minority stake
Food & Beverages	1	0	n.a.	Joint Venture
Transport & Logistics	1	0	n.a.	Joint Venture
Healthcare / Education	1	0	n.a.	Joint Venture
Chemicals, Rubber, Plastics	1	0	n.a.	Joint Venture
Total	**37**	**149,295**	**4,032 (overall)**	

Note: Computed from 39 Japanese M&A deals in Kenya (2010–2025) recorded in Orbis M&A (Zephyr). "Disclosed Value" sums only numeric deal values reported (USD thousands). "Deals with Disclosed Value" counts those years/sectors with known deal amounts. Technology and other service-oriented investments dominate, accounting for over 60% of deal count and 80% of reported value. The predominance of minority stakes suggests exploratory or partnership-based entry rather than full control. *Source:* Orbis M&A (Zephyr, Bureau van Dijk/Moody's Analytics), accessed July 2025; author's calculations.

The data reveals a clear temporal and sectoral focus. Deal activity surged in 2020 (11 deals) and remained strong in 2022 (6 deals), indicating a strategic pivot coinciding with Kenya's accelerated digital transformation. This is reflected in the sectoral breakdown: the vast majority of deals (22 of 39) targeted *"Other services"*, a category encompassing high-growth sectors like fintech, SaaS, and healthtech. This stands in stark contrast to the industrial focus of greenfield investments and underscores a strategic intent to embed Japanese capital within Kenya's dynamic digital economy. The structure of these deals is equally telling. The predominant use of *minority stakes* (15 deals) suggests a strategy of exploratory, partnership-based entry, allowing Japanese firms to gain exposure to innovative startups with lower risk and capital commitment. However, the presence of significant majority acquisitions, such as Isuzu's 57.7% stake in General Motors East Africa, demonstrates a parallel track of seeking operational control in established, strategic industries.

Dual-Source Perspective

The integration of OCI and Orbis M&A data reveals a structured evolution in Japan's investment strategy in Kenya. Greenfield activity between 2013 and 2014 was dominated by horizontal FDI—large-scale manufacturing projects replicating domestic operations. In contrast, the post-2020 period shows a rise in platform FDI, characterized by minority equity stakes and joint ventures in tech-driven and service-oriented sectors. Vertical FDI, supporting logistics and distribution, plays a complementary role, while conglomerate FDI remains marginal.

Despite their utility, the OCI and Orbis M&A datasets provide only a partial view of Japanese FDI in Kenya. OCI emphasizes large greenfield and expansion projects, often missing smaller or informal investments, while M&A figures reflect only disclosed deal values—many transactions, especially in startups or minority stakes, remain unreported. Both datasets face challenges in accurately attributing sector and geography, particularly when investments are routed through subsidiaries or holding companies. Indirect capital flows and special-purpose entities are also excluded, understating real investment volumes.

In contrast, the Bank of Japan reports FDI based on internationally recognized balance of payments methodologies—specifically BPM5 (applied until 2013) and BPM6 (from 2014 onward). These frameworks capture FDI as financial flows from a macroeconomic perspective, including equity, reinvested earnings, and intercompany loans. Crucially, the BOJ applies the directional principle, which nets inflows against outflows (e.g., loan repayments or equity divestments). This can result in negative FDI values in specific years, indicating net disinvestment or capital withdrawal rather than new inflows. Such accounting-driven measures differ fundamentally from project-level data reported by OCI, which records announced investment intentions and physical project launches (e.g., new factories or service centers). Because Orbis data represent gross capital expenditures rather than financial account flows, they do not show negative values and tend to emphasize headline-grabbing projects.

Methodological differences further limit comparability. The BOJ's FDI statistics—based on balance of payments methodologies—track both equity and inter-company debt positions but are subject to their own inconsistencies. Orbis data do not align with international standards like BPM6, used by the BOJ, which affects consistency over time and across sources. Taken together, these limitations suggest that Orbis-based figures should be interpreted with caution.[23] They are best suited for analyzing major trends and flagship projects rather than capturing the full spectrum of investment activity. For rigorous empirical work, it is advisable to combine Orbis data with macro-based sources such as BoJ statistics, recognizing the strengths and limits of each approach.

[23]Annual FDI flow in Table A1 do not match as nature of the dataset from Orbis present (i) limited coverage of smaller or private deals in Orbis, (ii) misclassification of deal geography or industry, and (iii) the need to include indirect ownership structures or subsidiaries.

Appendix B.3 Conceptual Framework of the FDI–Employment Nexus

The literature on FDI and labor markets has evolved from documenting aggregate effects toward identifying causal mechanisms and distributional consequences. Our study builds on three key strands of this literature. A well-established literature documents that foreign-owned firms pay higher wages than domestic firms. Early studies found a consistent "MNE wage premium"—foreign affiliates pay several percentage points more than otherwise-similar local firms (Javorcik. 2015; Hoekman et al. 2025). Recent worker-level analyses confirm this pattern: Hijzen et al. (2013) estimate a 6% premium in Brazil, while Alfaro-Ureña et al. (2023) find roughly 9% in Costa Rica (Garetto et al. 2025). Theoretical explanations emphasize that only the most productive firms undertake FDI, and their higher profits may be shared with workers through rent-sharing mechanisms (Harish et al. 2020).

Beyond direct employment, recent research has documented significant indirect effects through local multipliers and linkages. Toews and Vézina. (2022) provide compelling evidence from Mozambique that each FDI job creates 4.4 additional local jobs through multiplier effects. These operate through two channels: increased local demand from higher-wage employees and backward/forward linkages with local suppliers (Javorcik. 2018). Supporting evidence comes from Alfaro-Ureña et al. (2023), who show that MNE expansions in Costa Rica lead to faster earnings growth for workers in connected firms, and from Abebe et al. (2023) and Vrolijk. (2023), who find that MNE entry expands employment in local domestic firms through supply-chain linkages.

FDI often accelerates structural transformation toward modern, skill-intensive sectors. Feenstra et al. (1997) showed that U.S. FDI in Mexico increased the skilled-labor share of wages, while Erten et al. (2023) exploit China's FDI liberalization to document shifts out of agriculture into manufacturing and services. In Africa, Hoekman et al. (2025) find that FDI exposure reallocates workers into modern industries and higher-skilled occupations. However, these transformations create distributional trade-offs: benefits tend to favor skilled workers, potentially displacing low-skilled or informal workers (Bandiera et al. 2022).

The gendered impacts of globalization reveal complex patterns. While macroeconomic studies often find FDI improves women's outcomes (Ouedraogo and Marlet, 2018), trade shocks typically show mixed or adverse effects for female labor (Gaddis and Pieters. 2017). Recent African evidence suggests foreign investment may disproportionately benefit women: Mendola et al. (2025) find increased female employment around foreign affiliates, while Toews and Vézina. (2022) document no statistically different effects on jobs for women and men in Mozambique.

Transmission Channels from FDI to Labor-Market Outcomes

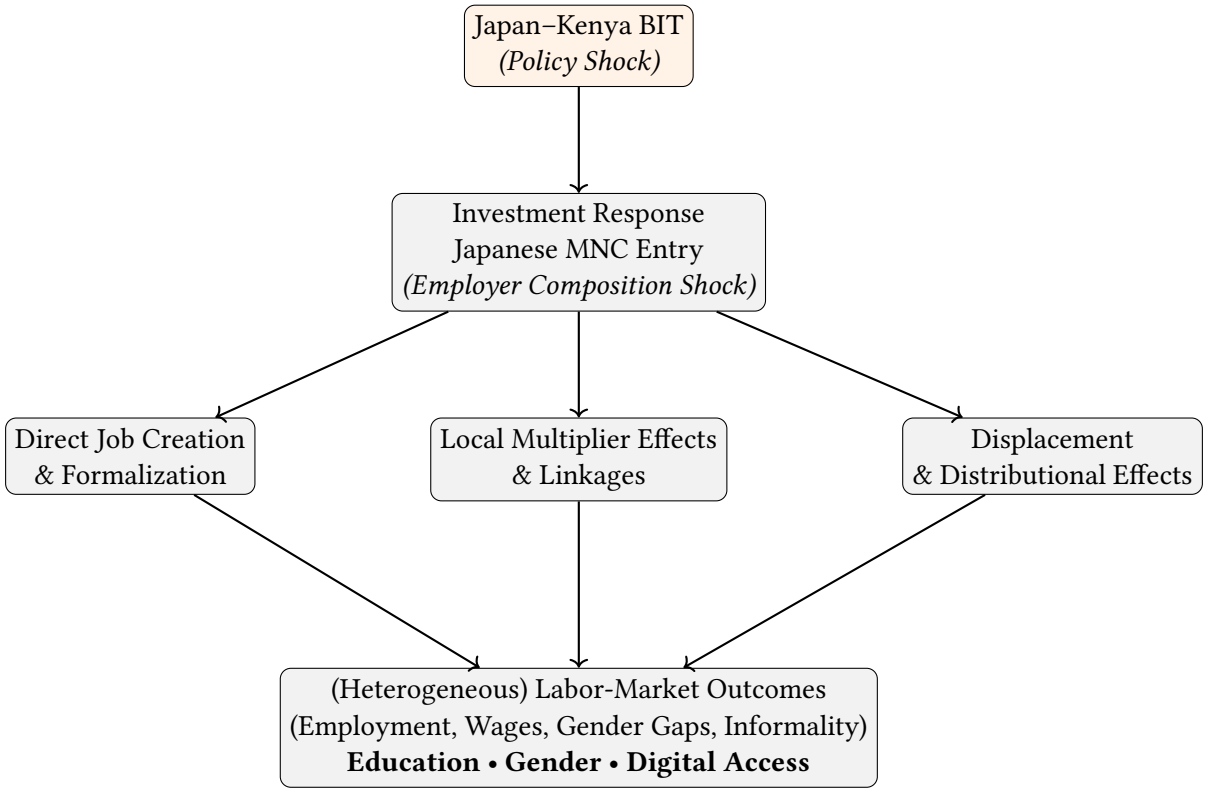
Building on the global evidence linking foreign investment to labor-market transformation, this framework conceptualizes the Japan–Kenya BIT as an *employer-composition shock*—a policy-induced change that alters the mix of firms and technologies in the domestic economy. Empirical studies from China, Mexico, and Costa Rica demonstrate that foreign multinational corporations (MNCs) bring higher capital intensity, superior management, and greater formalization, but also induce uneven labor-market adjustments (Feenstra et al. 1997; Javorcik. 2015; Alfaro-Ureña et al. 2023; Setzler and Tintelnot. 2021). These experiences motivate our analysis of how Japanese investment affects Kenya's employment structure, especially in a context of high informality and gender gaps. FDI affects local labor markets through three interrelated mechanisms: *(i) Direct job creation and formalization*, *(ii) Local multiplier effects and linkages*, and *(iii) Displacement and distributional consequences*.

First, MNC entry generates formal wage employment both within affiliates and along their supply chains, often offering higher pay and better working conditions than domestic firms (Javorcik. 2015; Alfaro-Ureña et al. 2023; Saurav. et a. 2020). In developing economies, this channel represents the main source of formalization and productivity transfer.[24] Second, and crucially, we expect Japanese

[24]Following Blanas et al. (2017), foreign-owned firms in sub-Saharan Africa not only pay higher wages but also offer more secure, less temporary work.

FDI to generate significant **local multiplier effects** through two distinct channels (Toews and Vézina. 2022; Hoekman et al. 2025; Garetto et al. 2025). The newly created high-wage jobs increase local income, which in turn boosts demand for local goods and services. This increased demand stimulates local firms to expand production, creating additional jobs and reinforcing the initial employment shock. Additionally, **backward and forward linkages** between multinationals and local firms create demand for business services such as catering, cleaning, security, legal, and consulting services (Javorcik. 2018; Garetto et al. 2025). These linkage effects can be substantial; recent evidence from Mozambique suggests that each FDI job creates 4.4 additional local jobs through multiplier effects (Toews and Vézina. 2022). Third, competitive pressures from foreign firms may crowd out less productive domestic enterprises, displacing low-skilled or informal workers (Mendola et al. 2025). Because MNCs typically operate with skill- and technology-intensive processes (Hjort and Poulsen. 2019), they increase relative demand for educated labor and raise the skill premium (Feenstra et al. 1997; Setzler and Tintelnot. 2021). This can generate distributional effects that favor skilled or digitally connected workers while potentially disadvantaging those with lower education levels.

Figure B1: Transmission Channels from FDI to Labor-Market Outcomes



Note: The framework illustrates the causal pathways from the Japan–Kenya BIT to labor-market outcomes.

The conceptual framework therefore anticipates that the BIT-induced Japanese FDI shock produces both *efficiency gains* (through formalization, multiplier effects, and reallocation) and *distributional trade-offs* (through displacement and inequality), as presented in Figure B1. The magnitude and direction of these effects depend on local mediators such as human capital, gender composition, and digital infrastructure. Our empirical design, the shift–share identification approach, tests these theoretical predictions by quantifying how pre-existing regional characteristics shape heterogeneous labor-market responses to FDI exposure, with particular attention to the potential for large local multipliers similar to those documented in resource-discovery contexts (Toews and Vézina. 2022).

Structural Model of Japanese FDI Impact on Kenyan Labor Markets

In Progress!!!!

This section develops a dynamic general equilibrium model to analyze how Japanese multinational corporation (MNC) entry affects Kenya's labor market, characterized by search frictions and a large informal sector. The model builds on the seminal work of Ignacio. (2025) but adapts the framework to capture Kenya-specific institutional features and the distinctive nature of Japanese investment patterns.

Model Environment

We consider a small open economy populated by two types of agents: heterogeneous workers and firms. Workers are differentiated by skill level $s \in \{H, L\}$, representing high-skilled and low-skilled labor. Firms are characterized by their productivity ϕ and origin $o \in \{D, J\}$, where J denotes Japanese MNCs and D domestic firms.

We consider an economy with two types of agents: workers and firms. Workers are heterogeneous in skill, categorized as high-skill (S_H) and low-skill (S_L). Firms are heterogeneous in productivity and can be either domestic firms or multinational corporations (MNCs). The key innovation is to model the labor market not as a spot market but as one with frictions, where matching workers to jobs is a costly and time-consuming process.

The economy features formal and informal sectors. While formal firms and workers are subject to labor regulations and taxes, others serve as an outside option for workers not matched with a formal job, offering a lower, competitive wage.

The Labor Market Matching Function

The core friction in the labor market is captured by a matching function. In any given period, the number of new successful matches between job seekers and vacancies is given by a constant-returns-to-scale function:

$$M_t = m(U_t, V_t) = \mu U_t^{\epsilon} V_t^{1-\epsilon}$$

where M_t is mass of new job matches in period t. U_t is number of unemployed workers searching for jobs. V_t is number of job vacancies posted by firms. μ is matching efficiency parameter. ϵ is elasticity of the matching function with respect to unemployment. From this, we can define the key probabilities. Job-finding rate equalt to $\lambda_t = \frac{M_t}{U_t} = \mu\theta_t^{1-\epsilon}$. Vacancy-filling rate would be $q_t = \frac{M_t}{V_t} = \mu\theta_t^{-\epsilon}$. Labor market tightness is defined as $\theta_t = V_t/U_t$.

Firm Entry and Production

Firms produce a single good using a skill-biased production technology. A firm with productivity ϕ has a production function:

$$y(\phi) = \phi \left[\alpha_H L_H(\phi)^{\frac{\sigma-1}{\sigma}} + \alpha_L L_L(\phi)^{\frac{\sigma-1}{\sigma}}\right]^{\frac{\sigma}{\sigma-1}}$$

where $L_H(\phi)$ and $L_L(\phi)$ are number of high-skill and low-skill workers employed, respectively. α_H, α_L is Skill-intensity parameters. MNCs are assumed to have a higher α_H/α_L ratio. σ is elasticity of substitution between skill types. To enter the market, domestic firms pay a fixed cost f_D, while MNCs pay a higher fixed cost $f_F > f_D$, reflecting entry barriers. A firm enters if its expected stream of profits exceeds this cost.

Wage Determination

Wages are determined through bargaining or can exhibit rigidities. A simple wage equation capturing this can be:

$$W_{s,t} = \gamma \cdot J_{s,t} + (1 - \gamma) \cdot b_s$$

where $W_{s,t}$ is Wage for skill type s in period t. $J_{s,t}$ is marginal product of labor for skill type s. b_s present outside option of the worker (e.g., informal sector wage). γ stand for bargaining power of workers. This formulation implies wages are a weighted average of the worker's productivity and their fallback option.

Firm Heterogeneity and Value Functions

Firms are heterogeneous in productivity, denoted by $\phi \sim G(\phi)$, where $G(\phi)$ is the cumulative distribution function. A firm's type is defined by its productivity ϕ and origin $o \in \{D, F\}$ (Domestic or Foreign).

Incumbent Firm's Problem: An incumbent firm maximizes the present discounted value of profits. The value function of a firm with productivity ϕ and origin o is given by:

$$V_o(\phi, L_H, L_L) = \max_{v_H, v_L} \left\{ \pi_o(\phi, L_H, L_L) - c(v_H, v_L) + \beta \mathbb{E}\left[V_o(\phi, L'_H, L'_L) \right] \right\}$$

subject to the laws of motion for employment:

$$L'_H = (1 - \delta_H) L_H + q(\theta_H) v_H$$
$$L'_L = (1 - \delta_L) L_L + q(\theta_L) v_L$$

where, $\pi_o(\phi, L_H, L_L)$ is period profits from production. $c(v_H, v_L)$ is cost of posting vacancies. δ_s is skill-specific separation rate. $q(\theta_s)$ is skill-specific vacancy filling rate. β is discount factor.

Entry Decision: A potential entrant of type o pays a fixed entry cost f_o and draws a productivity from $G(\phi)$. Entry occurs if the expected value exceeds the cost:

$$\int V_o(\phi, 0, 0) dG(\phi) \geq f_o$$

Skill-Biased Production Technology

Following the reduced-form evidence that MNCs are more skill-intensive, we specify the production function as:

$$y(\phi, o) = \phi \cdot \left[\alpha_H(o) L_H^{\frac{\sigma-1}{\sigma}} + \alpha_L(o) L_L^{\frac{\sigma-1}{\sigma}} \right]^{\frac{\sigma}{\sigma-1}}$$

where the skill-intensity parameters depend on firm origin by $\alpha_H(F) = \psi \cdot \alpha_H(D), \quad \psi > 1$ and $\alpha_L(F) = \alpha_L(D)$. The parameter $\psi > 1$ captures the *additional* skill bias of multinational firms beyond what can be explained by their productivity alone. This specification allows us to test whether MNCs have inherently different skill intensities. Period profits are then:

$$\pi_o(\phi, L_H, L_L) = p \cdot y(\phi, o) - w_H L_H - w_L L_L - f_o$$

Wage Determination through Nash Bargaining

Wages are determined through generalized Nash bargaining between firms and workers. For a worker of skill type s employed in a firm of type o with productivity ϕ, the wage $w_s(\phi, o)$ solves:

$$\max_{w_s} \left[E_s(\phi, o) - U_s\right]^{\gamma} \left[J_s(\phi, o)\right]^{1-\gamma}$$

where, $E_s(\phi, o)$ is value of employment for a worker of skill s. U_s is value of unemployment (outside option). $J_s(\phi, o)$ is value of a filled job for the firm. γ is worker's bargaining power. The first-order condition yields the wage equation:

$$w_s(\phi, o) = \gamma \cdot \left(p\frac{\partial y}{\partial L_s} + \beta(1-\delta_s)\mathbb{E}[J_s'(\phi, o)]\right) + (1-\gamma) \cdot b_s$$

General Equilibrium

A stationary equilibrium consists of value functions, policy functions, wage schedules, and labor market tightness. Regarding labor market clearing, for each skill type $s \in \{H, L\}$ defined by $N_s + U_s + I_s = \bar{L}_s$. N_s is mass of formally employed workers of skill s. U_s is mass of unemployed workers of skill s. I_s is mass of workers in informality of skill s. $\bar{L}_s$ is total labor supply of skill s.

For each firm type $o \in \{D, F\}$:

$$\int V_o(\phi, 0, 0) dG(\phi) = f_o$$

The aggregate job-finding and vacancy-filling rates must be consistent with the matching functions by $\lambda_s = m(1, \theta_s)$ and $q_s = m(\theta_s^{-1}, 1)$. The distribution of firms and workers across states is constant in steady state.

Calibration Strategy: We calibrate the model to match key moments of the Kenyan economy before the 2017 FDI liberalization. Parameters are divided into two groups:

Table B6: Externally Calibrated Parameters

Parameter	Value	Source
Skill shares (η_H, η_L)	[0.15, 0.85]	RAIS (1994)
Elasticity of substitution (σ)	1.8	Fernandez & Messina (2018)
Matching function elasticity (ϵ)	0.5	Petrongolo & Pissarides (2001)
Separation rates (δ_H, δ_L)	[0.08, 0.10]	RAIS worker flows

The remaining parameters are estimated to match key empirical targets:

Table B7: Internally Calibrated Parameters and Targets

Parameter	Empirical Target
MNC fixed cost (f_F)	MNC employment share (2.3% in 1994)
MNC skill bias (ψ)	Skill intensity difference (Table 1)
Informality wage (b_s)	Informality rates by skill
Vacancy posting cost	Firm size distribution
Productivity distribution	Wage dispersion

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