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THE BORDERLAND TRAP: INSTITUTIONAL RENT EXTRACTION, CAPITAL EROSION, AND LIVELIHOOD FRAGILITY AT THE GHANA-COTE D'IVOIRE BORDER

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ABSTRACT **DOI No: 10.36713/epra29080** **Article DOI: https://doi.org/10.36713/epra29080**

This study investigates the Borderland Trap, a self-reinforcing mechanism linking institutional rent extraction at the Elubo crossing on the Ghana-Cote d'Ivoire border to household capital erosion and livelihood fragility. A mixed-methods design combined a household survey (350 ICBT-dependent, 150 comparison households), trip transaction logs (1,098 trips from 30 traders), 16-week financial diaries (40 households), focus group discussions, life histories, and key informant interviews. Six propositions and three rival mechanisms were tested. Unofficial payments were predominantly additional to formal duties (76.5 per cent of trips) and regressive (elasticity below unity). Women faced higher costs (d = 0.43) including non-monetary demands. Of trips carrying goods entitled to ECOWAS duty-free passage, 64.1 per cent were charged. Border extraction exceeded kin redistribution by 2.87 to 1. The study contributes to poverty trap theory by specifying an institutionally sited erosion mechanism, to borderland studies by linking checkpoint governance to household outcomes, and to ECOWAS policy by documenting the implementation failure converting a liberalisation instrument into an extraction site.

KEYWORDS: *Informal Cross-Border Trade; Rent Extraction; Poverty Traps; ECOWAS; Border Governance*

1. INTRODUCTION

Informal cross-border trade (ICBT) is estimated to account for between 7 and 16 per cent of formal intra-African trade and between 30 and 72 per cent of trade between neighbouring countries (ECA, 2023). Because ICBT disproportionately engages women and low-asset households, it is widely characterised as a livelihood strategy through which marginalised populations manage risk and supplement agricultural income (Afrika & Ajumbo, 2012; Golub, 2015; Koroma et al., 2017). Foundational to this resilience framing, however, is a persistent empirical puzzle: many ICBT-dependent households generate income comparable to or exceeding non-trading neighbours, yet fail to accumulate the durable productive assets (land, permanent housing, livestock) that characterise upward mobility in the same settings (Bryceson, 2002; Hickey & du Toit, 2007). The mechanism by which trade income fails to become household capital has been asserted in the adverse-incorporation literature but not measured at a specific institutional site where the appropriation can be observed and quantified.

A separate literature documents the costs traders bear at border crossings: unofficial payments, non-tariff barriers, confiscation, detention, and gendered harassment including sexual coercion (Bensassi & Jarreau, 2019; Brenton et al., 2013; UNCTAD, 2019). These costs are well documented ethnographically (Chalfin, 2010; Lund, 2006; Roitman, 2005) but have rarely been linked to measurable household-level capital outcomes. Three uncertainties remain. First, evidence connecting trip-level extraction to household-level asset dynamics is limited, because the two literatures (checkpoint ethnography and household economics) have proceeded largely in parallel. Second, studies often report average extraction costs without distinguishing whether payments are substitutive (displacing official revenue, as Titeca & De Herdt, 2011, suggest) or additional (layered on top, as Shleifer & Vishny, 1993, predict), a distinction with direct welfare implications because the two forms generate different incentives and different burdens. Third, equity concerns, particularly the gendered burden, are frequently acknowledged in principle but weakly measured in practice, despite evidence that the costs women bear at checkpoints are qualitatively different from those borne by men (Brenton et al., 2013; UNCTAD, 2019).

These issues are acute in multilingual West African border settings. The present study is situated at the Elubo crossing in

the Jomoro Municipality, Western Region, Ghana (population 23,952; GSS, 2021), where the western corridor is structurally shaped by cocoa. Ghana and Cote d'Ivoire set farmgate prices administratively, and the differential between them has repeatedly generated incentives for unrecorded cross-border movement of beans, which in turn shapes enforcement intensity, the composition of enforcement agencies present, and the risk environment faced by traders in entirely unrelated commodities. The COCOBOD farmgate price for the 2023/24 season was GHS 33,120 per tonne, raised to GHS 48,000 for 2024/25 (COCOBOD, 2024). Elubo therefore offers a setting in which enforcement intensity is high for reasons partly exogenous to the small-scale traders who bear its costs.

This study specifies and tests the Borderland Trap: a self-reinforcing cycle in which institutional extraction at the border appropriates trading surplus before it can be converted into durable assets, forecloses diversification, and deepens dependence on the extractive regime. Two research questions structure the inquiry:

1.1. Research Questions and Objectives

RQ1: What is the extent, distribution, and gendered incidence of border-sited extraction costs imposed on ICBT-dependent households at the Elubo crossing?

RQ2: Through what mechanisms does extraction at the border inhibit livelihood diversification and asset accumulation, and under what conditions does the trap hold or fail?

Three research objectives operationalise these questions:

Objective 1: To quantify the magnitude, form, and gendered incidence of border-sited extraction costs imposed on ICBT-dependent households at the Elubo crossing, and to determine whether unofficial payments are predominantly additional to or substitutive of formal fiscal liabilities under the ECOWAS ETLS.

Objective 2: To examine the mechanisms through which border extraction erodes household capital, compresses reinvestment, and forecloses livelihood diversification, including the role of ETLS implementation failure in sustaining the extractive regime.

Objective 3: To test the Borderland Trap framework against pre-specified rival mechanisms and to identify the conditions under which the self-reinforcing cycle holds or fails.

The contribution is deliberately narrow: not a grand claim about border governance in Africa, but a context-specific test of whether institutional extraction at a named crossing measurably erodes household capital under conditions that can be documented and quantified. The remainder of the article is structured as follows. Section 2 reviews the literature and develops the theoretical framework. Section 3 details the methodology. Section 4 presents findings. Section 5 provides a discussion. Section 6 concludes.

2. LITERATURE REVIEW

2.1. ICBT, Poverty, and the Resilience-Erosion Paradox

A substantial body of work estimates ICBT volumes and characterises participant profiles. Golub (2003, 2015) and Igue and Soule (1992) pioneered the measurement of unrecorded trade flows, establishing that ICBT is economically significant and disproportionately engages women, youth, and low-asset households. More recently, Bouet et al. (2020) extended these estimates with improved survey methodology, and the joint ECA-Afreximbank-ECOWAS data collection exercise across the ECOWAS region confirmed the persistence of substantial unrecorded flows and the gendered composition of ICBT participation (Afreximbank, 2023). These studies agree on the scale and gendered composition of ICBT but disagree sharply about its welfare implications. Golub frames ICBT as a rational response to regulatory distortion, consistent with De Soto's (1989) influential account of informality as entrepreneurial adaptation to bureaucratic failure; Meagher (2010, 2018), using ethnographic political economy in Nigeria, argues that informal economies reproduce rather than relieve poverty, a finding reinforced by Dzawanda and Matsa's (2025) systematic review documenting how ICBT in southern Africa reproduces vulnerability through the same institutional mechanisms that sustain livelihoods through what Hickey and du Toit (2007) term adverse incorporation, a process by which marginalised groups participate in economic activity on terms that perpetuate rather than resolve their disadvantage. Their methodological approaches differ fundamentally (trade-flow estimation versus institutional ethnography) but both lack the household-level longitudinal data needed to adjudicate whether ICBT income translates into durable assets or is consumed, transferred, or extracted before accumulation can occur. The gap is the missing measurement link between border-level costs and household-level capital dynamics, a link that requires simultaneous observation at both levels.

2.2. Border Governance, Rent Extraction, and the Economics of Corruption

A second literature reconceptualises the African border as a site of negotiated rather than sovereign authority. Lund's (2006) account of twilight institutions, Roitman's (2005) analysis of fiscal disobedience in Central Africa, and Chalfin's (2010) ethnography of sovereignty at Ghanaian borders establish that public authority at the crossing is exercised jointly by state agents and non-state brokers whose respective jurisdictions are ambiguous by design. Nugent (2002) demonstrates at the Ghana-Togo frontier that borders are produced through ongoing negotiation between state claims and local practice. This literature is rich in institutional detail but weak in connecting the observed governance structures to measurable household-level outcomes.

The economics of corruption supplies a formal vocabulary that sharpens the welfare question considerably. Shleifer and Vishny (1993) distinguish corruption with theft (substitutive, where the unofficial payment displaces the official duty) from corruption without theft (additional, where the payment is collected alongside the duty). This distinction is not merely taxonomic: the welfare implications differ because substitutive payments retain a countervailing efficiency incentive absent from the additional form. Fisman and Wei (2004) show that evasion and informal payments respond systematically to the size of the formal tariff, implying that the informal and formal components are jointly determined. Olken and Singhal (2011) establish that informal levies are widespread and regressive, falling more heavily in percentage terms on the poor. Bensassi and Jarreau (2019) find systematic price discrimination in bribe payments at West African borders, suggesting that the functionalist reading advanced by Titeca and De Herdt (2011),

that informal payment regimes can supply predictability where formal regulation is absent, and the predatory reading advanced by Meagher (2018) may describe the same regime from different positions within it. The disagreement is partly empirical and resolvable by measuring whether payments at a specific crossing are additional to or substitutive of the applicable formal duty schedule, a test this study applies at trip level using the ECOWAS ETLS tariff as the benchmark. More broadly, Maman Adda (2024) documents that despite aggregate GDP gains attributable to the ETLS, infrastructure deficits and non-tariff barriers continue to impede its benefits at the trader level, a finding this study extends to the specific mechanism of non-application at point of crossing.

2.3. Livelihood Diversification, Poverty Traps, and Competing Claims on Surplus

The sustainable livelihoods tradition treats income diversification as a rational strategy for managing risk and reducing exposure to sector-specific shocks (Ellis, 2000; Scoones, 1998). The DFID (1999) framework provides the standard architecture, mapping vulnerability across financial, human, social, physical, and natural capital endowments, and a substantial empirical literature confirms that households with more diversified portfolios exhibit greater resilience (Alobo Loison, 2015; Owusu et al., 2011; Smith et al., 2001). Poverty trap theory supplies the dynamic component: Carter and Barrett (2006) show that households whose asset stocks fall below a critical threshold may be unable to recover, converging instead to a low-level equilibrium. Kraay and McKenzie (2014) offer an important corrective, arguing that the empirical evidence for literal multiple equilibria is thinner than the theoretical literature implies and that many apparent traps are better explained by persistent but single-equilibrium constraints. This study takes that scepticism seriously, framing its claim at the level of mechanism rather than equilibrium.

Two limitations of the livelihoods tradition require explicit treatment. The first is theoretical: the framework has been widely criticised for its inattention to power, politics, and the institutional structures that determine whether capital endowments can actually be deployed (de Haan & Zoomers, 2005; Scoones, 2009). Households are depicted as portfolio managers optimising across assets, with little account of who controls access to those assets or who appropriates their returns. The second is empirical: Clark's (1994) analysis of how Ghanaian women traders' access to capital is mediated by gendered household and matrilineal claims indicates that a study measuring only checkpoint costs will misattribute part of the gender gap in accumulation. The response taken here is not to abandon the livelihoods framework but to politicise it: the Borderland Trap uses the framework's capital taxonomy as a measurement architecture while treating the border as a political institution that determines which capital forms can be accumulated and by whom. Jakiela and Ozier (2016) provide experimental evidence that kin networks impose redistributive pressure on visible income, and their finding that concealment of earnings is an adaptive response suggests that border extraction and kin redistribution may operate as competing claims on the same surplus, a hypothesis this study tests directly using diary data.

2.4. Gendered Extraction and Non-Monetary Costs

Women constitute the substantial majority of small-scale cross-border traders across West Africa, and the burdens they bear at checkpoints are not simply larger versions of those borne by men (Brenton et al., 2013; Koroma et al., 2017; UNCTAD, 2019). The evidence base documents demands for sexual favours, confiscation of goods, physical harassment, and detention alongside monetary extraction. These are not incidental to the extraction regime; they are among its instruments, and they generate costs (avoidance behaviour, foregone trips, reliance on intermediaries, withdrawal from high-value routes) that a purely monetary accounting of border costs cannot capture. A framework that treats border extraction as gender-neutral will systematically understate its magnitude and misidentify its mechanism; a framework that treats the checkpoint as the only gendered site will overstate its share. This study accordingly treats gender as a structuring principle of the extraction regime and measures gendered claims on capital inside the household as well as at the border.

2.5. Conceptual Framework and Study Contribution

The study integrates these literatures into the Borderland Trap framework (Figure 1), a five-stage self-reinforcing cycle. At Stage 1, households enter ICBT because alternatives are foreclosed by limited asset endowments. At Stage 2, multiple state and non-state agents impose unofficial payments, non-tariff barriers, and time costs at the gateway node. At Stage 3, surplus is appropriated before conversion into durable assets, compressing margins and eroding working capital. At Stage 4, the household lacks the financial, human, or documentary capital required to diversify out of ICBT. At Stage 5, the household returns to the extractive regime with a depleted asset base. The loop closes at S2, not S1: the mechanism is re-extraction of a depleted trader, not re-entry of a new one. Six testable propositions (P1-P6) and three pre-specified rival mechanisms, namely substitutive payment (RM1), kin redistribution as binding constraint (RM2), and free-entry competitive equilibrium (RM3), are specified with adjudicating evidence, so that each proposition can be disconfirmed.

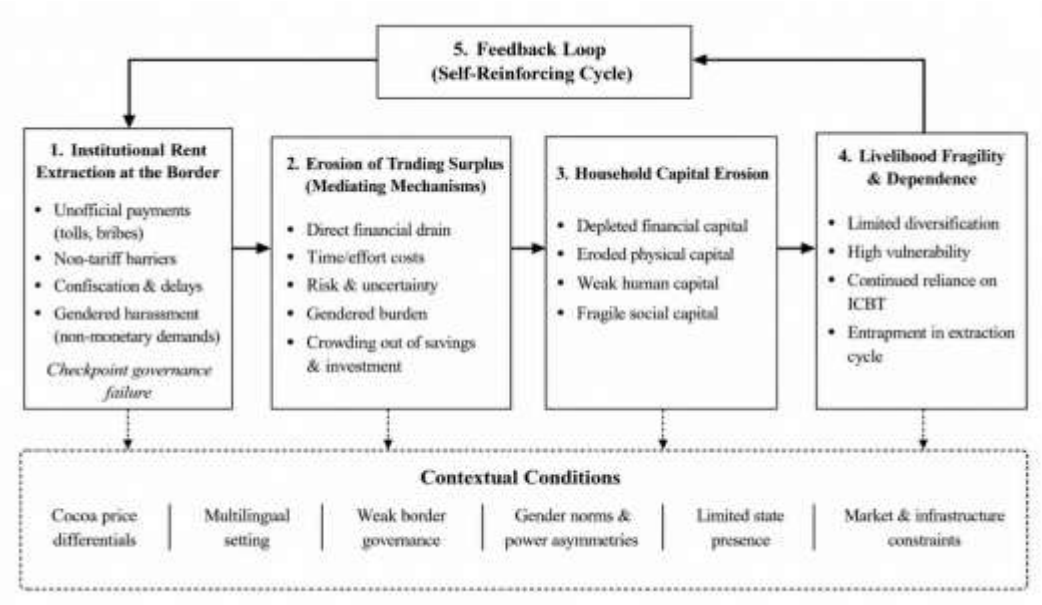


Figure 1. The Borderland Trap: a self-reinforcing cycle linking institutional rent extraction to household livelihood fragility.

Note. S1 to S5 denote the five stages of the Borderland Trap cycle. P1 to P6 indicate the six testable propositions derived from the framework. RM1 to RM3 denote three pre-specified rival mechanisms: substitutive payment (RM1), kin redistribution as binding constraint (RM2), and free-entry competitive equilibrium (RM3). construction is based on integration of poverty trap theory (Carter and Barrett, 2006), the sustainable livelihoods framework (DFID, 1999), and the economics of corruption (Shleifer and Vishny, 1993).

The gap addressed is specific: no prior study has measured trip-level extraction and household-level capital dynamics simultaneously at a named West African crossing while attending to the form of appropriation (additional versus substitutive), gendered incidence (monetary and non-monetary), ECOWAS ETLS implementation, and competing claims from kin redistribution. The contribution is a context-specific demonstration that the mechanism connecting checkpoint costs to household poverty is measurable rather than merely assertable, and that the form of extraction, not merely its magnitude, determines its distributional consequences.

3. MATERIALS AND METHODS

3.1. Study Design

The study employed a multiphase mixed-methods design with an explanatory sequential core (Creswell & Plano Clark, 2018), adopting a critical realist epistemological position. This is stated explicitly because it does substantive work: it licensed the claim that a generative mechanism may be real and operative while being only partially manifest in observed regularities, which is precisely the epistemic situation of a study that can measure extraction and accumulation but cannot observe the counterfactual accumulation path (Beach & Pedersen, 2013). Quantitative survey data collection and analysis preceded and shaped a subsequent qualitative phase; the financial diary component ran longitudinally alongside both phases, serving as the study's internal triangulation spine.

3.2. Setting and Participants

The target population comprised households resident in the Elubo trade catchment, stratified into three distance bands (under 3 km, 3-10 km, 10-25 km) with 24 communities selected by probability proportional to size using the Ghana Statistical Service enumeration area frame. ICBT dependence was defined as ICBT income contributing 50 per cent or more of total household income, verified by a six-item screening instrument. A separate inland comparison frame (25-60 km from the border) provided 50 additional households matched on agro-ecological zone, market access, and settlement size.

Table 1 summarises the sampling design. The household livelihood survey covered 350 ICBT-dependent households across 24 catchment clusters, 100 border catchment comparison households in the same clusters, and 50 inland comparison households in six further clusters. Forty purposively selected diary households, stratified by sex and consignment size (27 women-headed, 13 men-headed), maintained weekly financial records over 16 weeks across two seasonal waves (main crop and lean season). Of these, 30 maintained daily trip transaction logs generating 1,098 trip records; the remaining 10 diary households traded too infrequently during one or both waves to generate usable trip data but were retained in the diary panel for household-level outcomes. The qualitative strand comprised seven sex-segregated focus group discussions (two groups of women small-consignment traders, one group of women larger-consignment traders, two groups of men, and two mixed-scale inland groups), 20 current-trader and 15 former-trader life history interviews (8 hardship exits, 7 positive exits), and key informant interviews with 15 customs officials, 20 brokers and intermediaries, 10 policy actors, and officials from immigration, health, and standards inspection agencies.

3.3. Instruments and Measures

Two primary quantitative instruments generated the core data. The household livelihood survey (171 variables) measured income by source, asset ownership (15 items), housing quality (type, roof, floor, electricity), credit access, shock exposure, barriers to diversification, transfers to kin, and a double-list experiment for indirect elicitation of unofficial-payment

prevalence (Blair & Imai, 2012; Glynn, 2013). The daily trip transaction log (100 variables) recorded purchase and sale values in GHS equivalents, all crossing payments disaggregated into receipted and unreceipted components, the applicable duty schedule derived from the ECOWAS ETLS tariff, clearance time, number of control points, detention, non-monetary demands (ticked checklist), ETLS tier classification (first-tier automatic duty-free versus industrial requiring approval), and whether the duty-free entitlement was applied. The household financial diary (204 variables) recorded weekly income, expenditure, reinvestment in trading stock, working capital, savings, borrowing, and outward transfers to kin. The asset index was constructed via PCA on 16 binary indicators following Filmer and Pritchett (2001). All instruments were developed in English, translated into Nzema and Twi with independent back-translation, and piloted with 40 households in a non-sampled community.

3.4. Analytical Strategy

The quantitative analysis followed a five-step pre-specified sequence: (i) descriptive analysis with Herfindahl-Hirschman Index (HHI, a measure of income-source concentration ranging from 0 for perfect diversification to 1 for complete dependence on a single source) for livelihood concentration and PCA for asset index construction; (ii) cross-group comparisons of asset position between ICBT and comparison households using Mann-Whitney U tests and Cohen's d; (iii) an elasticity test of the form of appropriation (log excess payment regressed on log consignment value, with cluster-robust standard errors clustered at trader level); (iv) within-household panel fixed effects (demeaned by household) linking weekly extraction to weekly reinvestment in the diary panel, with cluster-robust standard errors; and (v) trip-level analysis of ETLS implementation rates by tier and trader awareness. The qualitative analysis used codebook thematic analysis (Braun & Clarke, 2006, 2021) organised around six deductive code families derived from P1-P6 and supplemented by inductive codes, with process tracing for the ETLS implementation chain using probative-value criteria (Beach & Pedersen, 2013). Cluster-robust standard errors were used throughout; bootstrap inference (Cameron et al., 2008) supplemented asymptotic tests where cluster counts were small.

3.5. Ethics

The study used informed consent, confidentiality protocols with study codes replacing direct identifiers, and a distress protocol for disclosures of sexual coercion or harassment during FGDs and life history interviews, with a verified referral pathway to the Jomoro Municipal Health Directorate and the Department of Social Welfare. Women interviewers were assigned to women participants. Compensation was calibrated to cover opportunity costs without creating coercive incentives. The study adhered to internationally recognised ethical standards for research involving vulnerable populations.

4. RESULTS

4.1. Livelihood Concentration and Asset Position (RQ1, P1)

ICBT households exhibited the highest livelihood concentration (HHI = 0.763 vs 0.476 for border comparison and 0.681 for inland, Mann-Whitney U = 28,723 and 11,041 respectively, both $p < 0.001$), with a mean ICBT income share of 89.2 per cent and a median of 90.8 per cent. All 350 ICBT households exceeded the 50 per cent dependence threshold; 335 exceeded 70 per cent. They earned approximately double the comparison groups (35,077 GHS vs 16,317 and 14,473 GHS), with a mean of 3.3 income sources compared with 3.0 for border comparison and 4.2 for inland households.

The composite asset index, constructed via PCA on 16 binary indicators (PC1 explaining 13.4 per cent of variance), scored ICBT households higher (mean = 0.75, Cohen's d = 2.98 vs pooled comparison, $p < 0.001$). However, this result was driven entirely by trade-linked mobile assets: phones (factor loading +0.54), trading trolleys (+0.45), and bicycles (+0.30). When productive fixed assets were examined individually, the pattern reversed strikingly: land ownership was 22 per cent for ICBT households, 33 per cent for border comparison, and 80 per cent for inland comparison (Figure 2). Motor vehicle ownership showed a similar though smaller gradient (7.4, 8.0, 10.0 per cent).

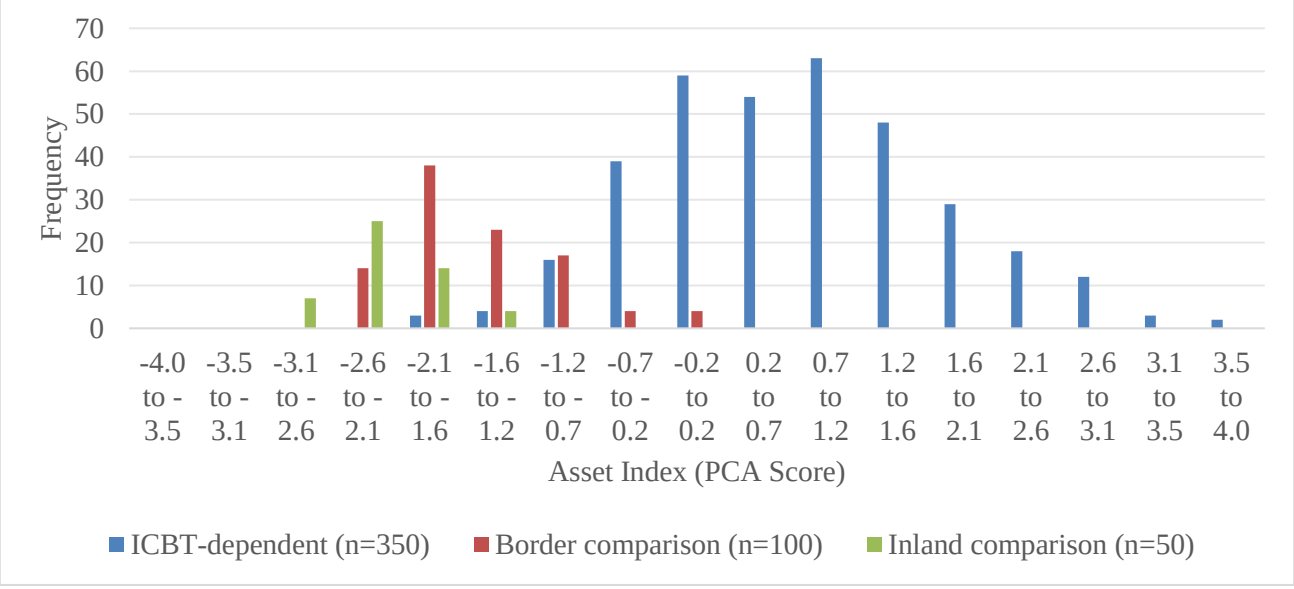


Figure 2. Distribution of asset index by household group.

Note. Asset index constructed via principal component analysis (PCA) on 16 binary indicators following Filmer and Pritchett (2001). PC1 explained 13.4 percent of variance.

This divergence between mobile and fixed asset ownership is the quantitative signature of the mechanism P1 predicts: income sufficient to acquire portable, trade-linked assets but insufficient to accumulate the durable productive assets that characterise upward mobility in the comparison groups. Current traders confirmed the pattern qualitatively. A 22-year female trader (CT01) described purchasing a small plot of land in 1998 as the only productive asset she had ever acquired, and reported watching her margins shrink while household obligations grew. A two-year male trader (CT04) reported owning nothing beyond a mobile phone despite regular trading. A one-year male trader (CT16), an SHS graduate who placed first in his class in mathematics, described trying to save 5,000 GHS for a university application from 30-GHS-margin trips, a target he recognised as unreachable at current margins. FGD participants in the inland comparison group described a qualitatively different experience: farming income is lower but it builds on land, and land can be passed to children.

4.2. Extraction Magnitude and Regressivity (RQ1, P2)

Across 1,098 trips, mean total crossing payments were 209 GHS, absorbing 63.7 per cent of mean gross margin (328 GHS). Unreceipted payments constituted 66.9 per cent of total payments (mean 140 GHS). Mean applicable duty under the ETLS schedule was 91 GHS; mean excess payment above this was 151 GHS. The median net margin across all trips was negative (-3.9 GHS); 50.6 per cent of trips produced negative net margins overall, rising from 29.4 per cent in Wave 1 (main crop season) to 74.5 per cent in Wave 2 (lean season).

The elasticity test, specified prior to data collection, returned a coefficient of -0.139 (se = 0.062, p = 0.025, R-squared = 0.007) for log excess payment on log consignment value, significantly below unity ($t = -18.36$, $p < 0.001$). The large, significant intercept (5.697) and near-zero elasticity confirmed that extraction operates predominantly as a fixed per-crossing levy rather than a proportional tax on margin. A fully specified model controlling for consignment value, gross margin, sex, and wave (R-squared = 0.082) showed only Wave 2 as significant (+0.573, $p < 0.001$), confirming that extraction intensified during the lean season independent of consignment characteristics.

Total payments exceeded applicable duty in 840 of 1,098 trips (76.5 per cent), confirming a predominantly additional-payment structure and refuting RM1 as the dominant form. The remaining 258 trips (23.5 per cent) showed a substitutive pattern concentrated among larger consignments, consistent with Titeca and De Herdt's (2011) functional account. Brokers confirmed the fixed-cost form qualitatively: the payment does not vary with the size of the bag. FGD Group 3 (larger-consignment women) reported that officers sometimes waive official duty in exchange for a single large unofficial payment, confirming that substitutive structures coexist with the dominant additional form at a different position in the consignment-size distribution.

4.3. Gendered Burden (RQ1, P3)

Women faced significantly higher total crossing payments (242 vs 168 GHS, $d = 0.43$, $p < 0.001$), excess payments (173 vs 123 GHS, $d = 0.29$, $p = 0.0002$), and clearance times (162 vs 149 min, $d = 0.16$, $p = 0.012$), conditional on comparable gross margins (342 vs 311 GHS, $d = 0.10$, $p = 0.042$). The number of control points did not differ ($d = -0.01$, $p = 0.94$), indicating the gendered burden operates at each checkpoint rather than through differential routing. Detention rates were higher for women (26.8 vs 22.4 per cent).

FGD evidence documented non-monetary demands that structured instruments substantially understate due to self-censorship. All seven FGD groups addressed gendered extraction; three patterns emerged. First, women trading alone with small headloads are identified as easy targets. Second, the gendered burden includes demands that women describe as difficult to discuss, including physical proximity, verbal sexual comments, and requests to step aside. The distress protocol was activated in two interviews. Third, a counter-pattern case (CT09) demonstrated that collective organisation (an 18-member matriarchal trading network providing information, collective bargaining power, and physical safety in numbers) can mitigate gendered extraction, suggesting the mechanism operates through institutional isolation rather than gender per se.

4.4. Extraction, Reinvestment, and Capital Erosion (RQ2, P4)

Weekly border extraction averaged 440 GHS (54.6 per cent of income), dwarfing kin transfers (154 GHS, 19.0 per cent) and reinvestment (151 GHS, 18.7 per cent). Reinvestment collapsed from 220 GHS/week in Wave 1 to 82 GHS in Wave 2, a 63 per cent decline, as extraction's income share rose from 51.9 to 59.5 per cent (Figures 3 and 4). By wealth level, the pattern was monotonic: wealth-level-1 households (poorest third) reinvested a mean of 36 GHS/week compared with 150 GHS for level 2 and 367 GHS for level 3.

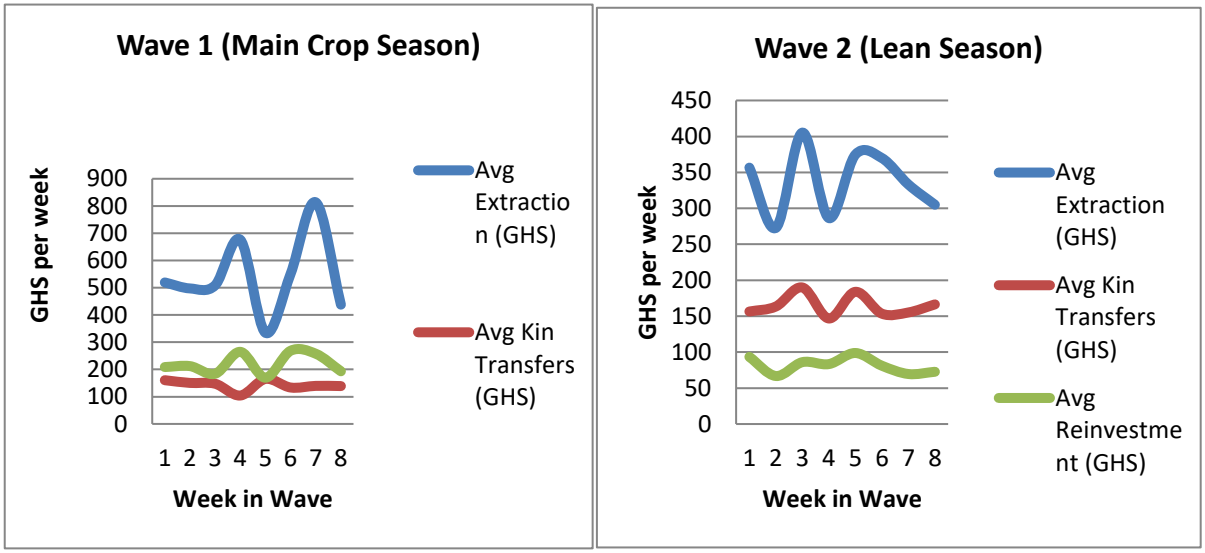


Figure 3. Competing claims on trading surplus by diary wave.

Note. Data from 40-household financial diary panel over 16 weeks. Wave 1 = main crop season (8 weeks); Wave 2 = lean season (8 weeks). Border extraction includes all receipted and unreceipted crossing payments. Kin transfers include all outward transfers to extended family members. Reinvestment denotes funds reinvested in trading stock and working capital. All values reported in Ghana cedis (GHS) per week.

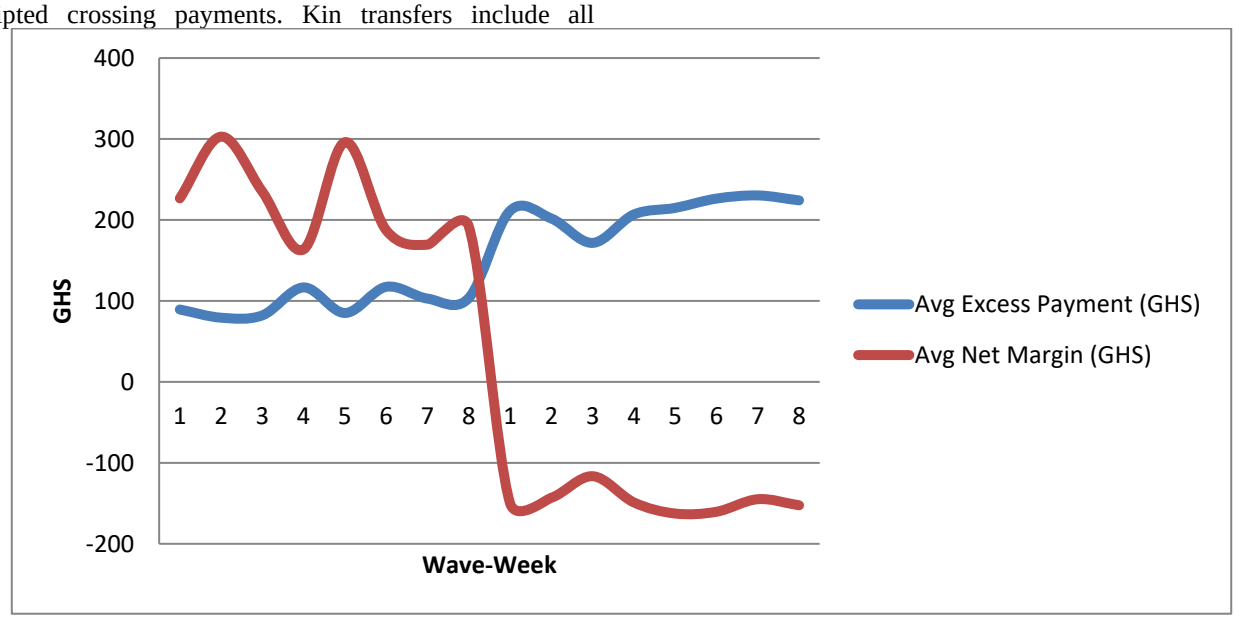


Figure 4. Seasonal dynamics of extraction and returns.

Note. Data from 30 traders who maintained daily trip transaction logs across two 8-week seasonal waves (1,098 trip records). Wave 1 = main crop season; Wave 2 = lean season. Net margin = gross margin minus total crossing payments. The lean-season wave coincided with cedi depreciation, which compressed margins independently of extraction and confounds wave comparisons.

The within-household fixed-effects regression (demeaned by household, cluster-robust standard errors) returned coefficients of +0.065 ($p = 0.20$) for extraction, -0.043 ($p = 0.22$) for transfers, and +0.254 ($p < 0.001$) for income (R-squared = 0.76). The extraction and transfer coefficients were not individually significant, reflecting insufficient within-household variation in a 40-household, 16-week panel. The descriptive collapse is mechanism-consistent evidence rather than a causal estimate. Former traders documented the severe tail censored by survivorship bias in the cross-sectional sample: five of eight hardship exits named border extraction combined with currency depreciation as the primary cause, describing progressive asset depletion in which working capital shrinks, trip frequency declines, and the trader eventually cannot restock.

4.5. ETLS Implementation Failure (RQ2, P5)

Of 1,098 trips, 471 (42.9 per cent) carried goods classified as first-tier under the ETLS schedule, namely unprocessed agricultural products, handicrafts, and natural resources entitled to automatic duty-free passage without documentation. Of these, the entitlement was applied in only 169 (35.9 per cent); the remaining 302 (64.1 per cent) were charged despite legal entitlement (Figure 5). Among the 30 traders, only 7 (23.3 per cent) reported awareness of the ECOWAS entitlement; 13 (43.3 per cent) reported no awareness and 10 (33.3 per cent) reported uncertainty.

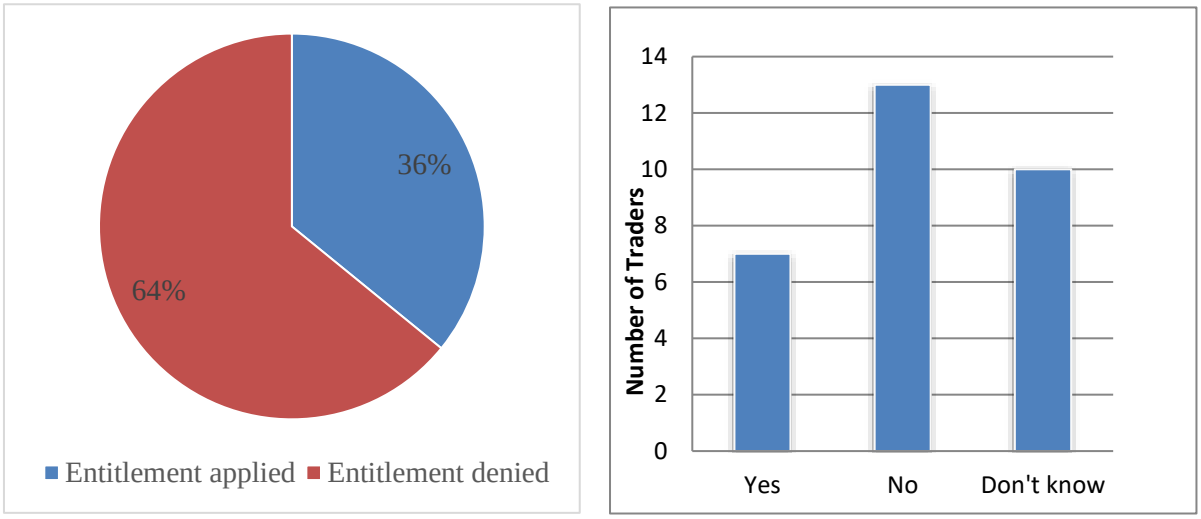


Figure 5. ETLS implementation failure at Elubo.

Note. Based on 471 trips carrying goods classified as first-tier under the ECOWAS Trade Liberalisation Scheme (ETLS), which provides automatic duty-free entitlement for unprocessed agricultural products, handicrafts, and natural resources without documentation.

Process tracing identified a five-link causal chain from legal entitlement to localised extraction. Link 1: the ECOWAS ETLS creates a binding obligation (confirmed by ECOWAS Secretariat official, PA-01). Link 2: implementation presupposes inaccessible documentation (GRA official PA-02 confirmed that the practical pathway requires certificates of origin procedurally inaccessible to headload traders). Link 3: officers exercise discretion (12 of 15 acknowledged this; Officer C04 stated the decision is his). Link 4: revenue targets create incentives against application (11 of 15 indirectly acknowledged). Link 5: non-application generates extractable rents. The customs officer evidence is particularly probative because it constitutes testimony against institutional interest: Officer C03 stated that the entitlement is rarely applied due to a combination of inadequate trader knowledge, inadequate officer training, absent documentary verification, and the volume of discretion available.

4.6. Competing Claims and Rival Mechanisms (RQ2, P6)

Border extraction exceeded kin transfers by a factor of 2.87 across the full diary panel (Figure 6). The pattern held across both waves (Wave 1: 3.81, Wave 2: 2.06) and both sexes (women: 3.01, men: 2.60). FGD participants consistently identified the border as the binding constraint: when asked directly what would change if border charges disappeared, they named savings, stock growth, and the ability to expand, not relief from kin claims. Concealment of earnings from kin was a universal coping strategy, consistent with Jakiela and Ozier's (2016) experimental findings, confirming that redistributive pressure is operative but is not the binding constraint.

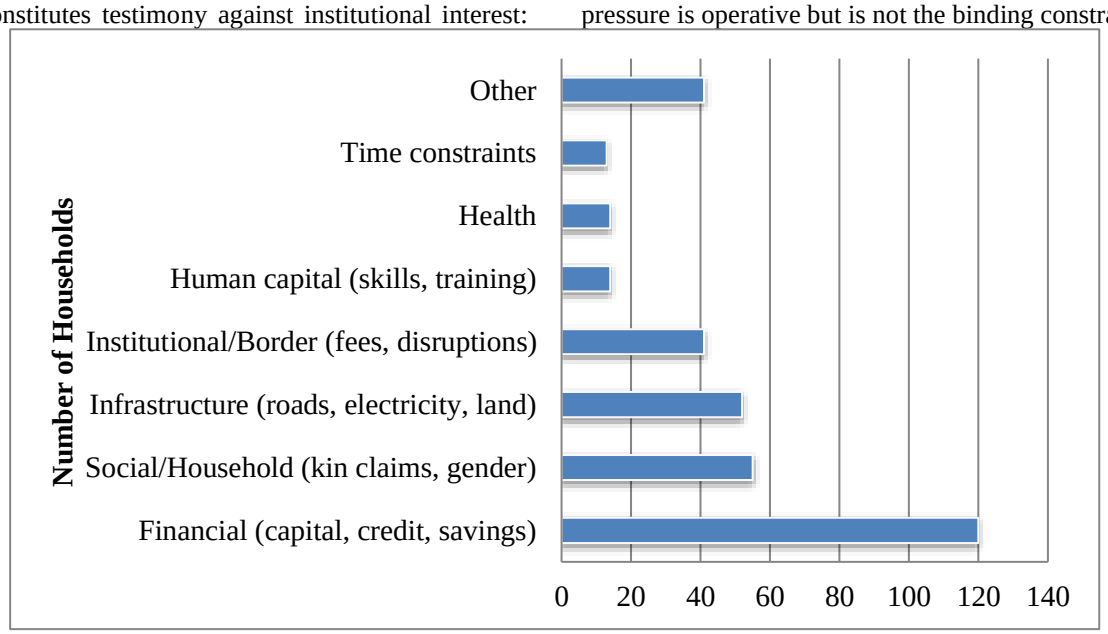


Figure 6. Self-reported barriers to livelihood diversification (n = 350)

Note. Self-reported barriers from the household livelihood survey administered to 350 ICBT-dependent households. Respondents could select multiple barriers. Border extraction encompasses unofficial payments, confiscation, and time costs at the crossing. Percentages do not sum to 100 because categories are not mutually exclusive.

RM2 (kin redistribution as binding constraint) is real but secondary: 19 per cent of income versus 55 per cent for border extraction. RM3 (free-entry competitive equilibrium) is inconsistent with the 74.5 per cent negative-margin rate in Wave 2: if entry drives profits to zero, traders should exit or adjust frequency, yet the diary data shows many continue trading at a loss, consistent with the trap mechanism (foreclosed alternatives) rather than competitive equilibrium. However, RM3 cannot be definitively excluded without external benchmark data on sector-wide returns.

5. DISCUSSION

5.1. Overview of Findings

Across the reported analyses, the pattern was consistent: border extraction at Elubo operates as a regressive, predominantly additional levy that absorbs a majority share of trading surplus, compresses reinvestment, and forecloses diversification. Five of six propositions were supported by converging quantitative and qualitative evidence; the sixth (P4) was supported descriptively but the formal within-household test was underpowered. RM1 was refuted as the dominant structure but operative in a minority of trips; RM2 was real but secondary; RM3 was inconsistent with the evidence but not definitively excluded. The counter-pattern case demonstrated that accumulation is possible but conditional on collective organisation, savings discipline, and opportunity.

5.2. Interpretation and Likely Mechanisms

The central result is not that border extraction causes poverty in any simple sense. It is that extraction operates through a specific form (fixed, additional, regressive) that is maximally damaging to small, frequent consignments, and that this form prevents the translation of trade income into productive assets. The large intercept and near-zero elasticity in the extraction model indicate that the border functions as a tollgate whose cost is invariant to the value of the transaction, consistent with Shleifer and Vishny's (1993) prediction that uncoordinated extraction by independent agents exceeds monopoly-corruption levels. The mechanism account remains inferential rather than causally identified: the diary panel documents the descriptive co-movement of extraction and reinvestment but cannot isolate the causal elasticity with 40 households over 16 weeks. The qualitative evidence fills this gap with mechanism-consistent testimony, but the honest framing is that P4 is supported as a mechanism rather than a causal estimate.

5.3. Comparative Positioning

The extraction magnitude documented here (63.7 per cent of gross margin absorbed by crossing payments) substantially exceeds the rates reported by Bensassi and Jarreau (2019) at Benin's borders and by Olken and Singhal (2011) in Indonesia. The difference likely reflects the gateway-node concentration of multiple independent agencies at Elubo, where customs, immigration, health, standards, and security services each extract independently, consistent with the Shleifer-Vishny prediction that uncoordinated extraction exceeds the monopoly level. The gendered burden (d = 0.43 for total payments, d = 0.29 for excess payments) is consistent with Brenton et al.'s (2013) and UNCTAD's (2019) qualitative findings but provides the first quantified effect size for gender-differentiated extraction at a West African crossing. The ETLS non-application rate of 64.1 per cent extends the implementation literature beyond aggregate trade-flow analysis to trader-level measurement of entitlement denial, documenting the specific institutional pathway through which a liberalisation instrument is converted into an extraction platform.

5.4. Implications

Four policy implications follow from the findings. First, the finding that 64.1 per cent of first-tier trips were charged despite automatic entitlement (Section 4.5), combined with the process-tracing evidence that documentation requirements are procedurally inaccessible to headload traders, indicates that ECOWAS ETLS reform should eliminate the documentation requirement for first-tier headload consignments below a de minimis threshold. Second, the finding that 11 of 15 customs officers acknowledged revenue pressure as influencing discretionary decisions (Section 4.5, Link 4) indicates that revenue targets for individual border posts create structural incentives against application of liberalisation instruments; these targets should be reformed to remove the contradiction between liberalisation commitments and collection mandates. Third, the finding that border extraction absorbs 54.6 per cent of weekly income while reinvestment receives only 18.7 per cent (Section 4.4, Table showing extraction at 440 GHS/week vs reinvestment at 151 GHS/week) indicates that livelihood programmes providing microcredit without addressing border extraction are addressing a symptom downstream of the binding constraint. Fourth, the counter-pattern case (CT09, Section 4.3) demonstrated that an 18-member matriarchal trading network mitigated gendered extraction through collective bargaining and information sharing, suggesting that support for collective trader organisations may be more effective than individual asset transfers.

5.5. Reflection on the Study

Three reflective observations bear on the interpretation of the findings and the design of future research. First, the study's strength, simultaneous measurement at trip and household level, is also a source of complexity that may obscure as much as it reveals. The transaction log captures what happens at the crossing; the diary captures what happens at home; but the connection between the two is inferred from temporal co-movement rather than causally identified. A study that measured only extraction would overstate its explanatory power; a study that measured only household dynamics would miss the institutional site; this study measures both but cannot claim to have closed the causal gap between them. Second, the qualitative evidence revealed dimensions of the extraction regime, particularly the gendered non-monetary burden, that the quantitative instruments were not designed to capture with precision. The distress protocol was activated in two interviews, and the self-censorship documented in FGDs suggests that the most severe costs are the least visible in the data. Future research should consider qualitative-dominant designs for these dimensions rather than treating them as secondary to monetary measurement. Third, the counter-pattern case (CT09) raised an uncomfortable question for the framework: if accumulation is possible within the same regime, is the trap a property of the institution or of the trader's position within it? The honest answer is both, and the framework should be refined to specify more precisely the threshold conditions (network size, savings duration, initial capital) that distinguish trapped from non-trapped trajectories within the same extractive environment.

5.6. Limitations

Seven limitations qualify the findings and must be stated plainly. First, the study was conducted at a single crossing; generalisability to other ECOWAS border posts requires replication. Second, the comparison-group design is observational, not experimental: the large cross-group differences in the asset index (d = 2.98) should be interpreted with caution, as unobserved differences between ICBT-dependent and comparison households may confound the estimate. Third, the diary panel of 40 households over 16 weeks is adequate for descriptive and mechanism-oriented analysis but insufficient for powered inferential tests of within-household effects; the non-significant fixed-effects coefficients for P4 reflect this limitation directly. Fourth, self-censorship on gendered non-monetary costs means the study almost certainly understates sexual harassment and coercion at the border. Fifth, the lean-season wave coincided with cedi depreciation that compressed margins independently of extraction, confounding wave comparisons. Sixth, RM3 (free-entry equilibrium) cannot be definitively excluded without external benchmark data on sector-wide returns. Seventh, the study was not prospectively registered, placing additional weight on independent replication.

5.7. Directions for Future Research

Future research should pursue five directions. First, replication at other ECOWAS crossings to establish whether the Borderland Trap is site-specific or systemic. Second, natural experiments exploiting the introduction of border automation or ETLS reform at specific posts, which would permit causal identification of the effect of extraction reduction on household accumulation. Third, longitudinal extension of the diary panel over two or more years to capture asset-accumulation effects that operate over timescales no 16-week diary can observe. Fourth, stronger process measurement including direct observation of checkpoint interactions, more granular extraction logs, and qualitative evidence on how implementation differs across crossings. Fifth, comparative testing of whether the active ingredient is extraction reduction or whether similar accumulation gains could be achieved through equally well-resourced supply-side interventions matched for cost; until that comparison is made, claims about the relative importance of border governance reform versus livelihood programming should remain provisional.

6. CONCLUSIONS

This study provides context-specific evidence that institutional rent extraction at the Elubo crossing on the Ghana-Cote d'Ivoire border operates through a self-reinforcing mechanism, the Borderland Trap, in which a regressive, predominantly additional levy appropriates trading surplus before it can become durable household capital, forecloses livelihood diversification, and deepens dependence on the extractive regime. The contribution is threefold. First, to poverty trap theory: the study specifies an institutionally sited mechanism operating through capital erosion at a named governance node rather than through initial asset deficiency, responding to Kraay and McKenzie's (2014) call for mechanism-level rather than equilibrium-level evidence. Second, to borderland studies: the study connects ethnographic accounts of checkpoint governance (the twilight institutions, the negotiated authority, the discretionary extraction) to measurable household-level outcomes in income, assets, and diversification, a link that has been asserted but not previously quantified at this level of granularity. Third, to ECOWAS trade policy: the 64.1 per cent non-application rate for automatic first-tier entitlements documents an implementation failure with direct policy salience, and the process tracing identifies the specific institutional mechanisms that produce it.

The Borderland Trap is not inevitable. The counter-pattern evidence demonstrates that accumulation is possible where collective organisation, savings discipline, and opportunity converge over sustained periods. Given the single-site design, observational comparison group, limited panel size, and exploratory subgroup analyses, larger and more clearly identified studies with longer follow-up are needed before firmer conclusions can be drawn. The policy challenge is to remove the institutional extraction that makes successful accumulation exceptional rather than routine.

REFERENCES

1. *Afrika, J.-G. K., & Ajumbo, G. (2012). Informal cross-border trade in Africa: Implications and policy recommendations. Africa Economic Brief, 3(10), 1–13.*
2. *Afreximbank. (2023). Informal cross-border trade in the Economic Community of West African States (ECOWAS) region. African Export-Import Bank. https://www.afreximbank.com/reports/informal-cross-border-trade-in-the-economic-community-of-west-african-states-ecowas-region-2023/*
3. *Dzawanda, B., & Matsa, M. M. (2025). A systematic review of informal cross-border trade in African economies towards vision 2030. Discover Sustainability, 7, Article 84. https://doi.org/10.1007/s43621-025-02443-8*
4. *Maman Adda, S. (2024). Implementation of ECOWAS Trade Liberalization Scheme and its influence on ECOWAS GDP. SSRN. https://doi.org/10.2139/ssrn.4832295*
5. *Alobo Loison, S. (2015). Rural livelihood diversification in Sub-Saharan Africa: A literature review. The Journal of Development Studies, 51(9), 1125-1138. https://doi.org/10.1080/00220388.2015.1046445*
6. *Beach, D., & Pedersen, R. B. (2013). Process-tracing methods: Foundations and guidelines. University of Michigan Press.*
7. *Bensassi, S., & Jarreau, J. (2019). Price discrimination in bribe payments: Evidence from informal cross-border trade in West Africa. World Development, 122, 462-480. https://doi.org/10.1016/j.worlddev.2019.05.025*
8. *Blair, G., & Imai, K. (2012). Statistical analysis of list experiments. Political Analysis, 20(1), 47-77. https://doi.org/10.1093/pan/mpr048*
9. *Bouet, A., Cissé, B., & Traoré, F. (2020). Informal cross-border trade in Africa. In A. Bouet, S. P. Odjo, & C. Zaki (Eds.), Africa agriculture trade monitor 2020 (pp. 119–148). International Food Policy Research Institute.*
10. *Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. Qualitative Research in Psychology, 3(2), 77-101. https://doi.org/10.1191/1478088706qp063oa*
11. *Braun, V., & Clarke, V. (2021). One size fits all? What counts as quality practice in (reflexive) thematic analysis? Qualitative Research in Psychology, 18(3), 328-352. https://doi.org/10.1080/14780887.2020.1769238*
12. *Brenton, P., Gamberoni, E., & Sear, C. (Eds.). (2013). Women and trade in Africa: Realizing the potential. World Bank.*
13. *Bryceson, D. F. (2002). The scramble in Africa: Reorienting rural livelihoods. World Development, 30(5), 725-739. https://doi.org/10.1016/S0305-750X(02)00006-2*

14. *Cameron, A. C., Gelbach, J. B., & Miller, D. L. (2008). Bootstrap-based improvements for inference with clustered errors. The Review of Economics and Statistics, 90(3), 414-427. https://doi.org/10.1162/rest.90.3.414*
15. *Carter, M. R., & Barrett, C. B. (2006). The economics of poverty traps and persistent poverty: An asset-based approach. The Journal of Development Studies, 42(2), 178-199. https://doi.org/10.1080/00220380500405261*
16. *Chalfin, B. (2010). Neoliberal frontiers: An ethnography of sovereignty in West Africa. University of Chicago Press.*
17. *Clark, G. (1994). Onions are my husband: Survival and accumulation by West African market women. University of Chicago Press.*
18. *COCOBOD. (2024). Review of the producer price of cocoa for the 2024/2025 cocoa season. Ghana Cocoa Board. https://cocobod.gh/news/review-of-the-producer-price-of-cocoa-for-the-20242025-cocoa-season-wednesday-11th-september-2024*
19. *Creswell, J. W., & Plano Clark, V. L. (2018). Designing and conducting mixed methods research (3rd ed.). Sage.*
20. *de Haan, L., & Zoomers, A. (2005). Exploring the frontier of livelihoods research. Development and Change, 36(1), 27-47. https://doi.org/10.1111/j.0012-155X.2005.00401.x*
21. *De Soto, H. (1989). The other path: The invisible revolution in the Third World. Harper & Row.*
22. *Department for International Development. (1999). Sustainable livelihoods guidance sheets. DFID.*
23. *ECA. (2023). Measuring ICBT is key to monitoring intra-African trade. United Nations Economic Commission for Africa. https://allafrica.com/stories/202306060314.html*
24. *Ellis, F. (2000). Rural livelihoods and diversity in developing countries. Oxford University Press.*
25. *Filmer, D., & Pritchett, L. H. (2001). Estimating wealth effects without expenditure data, or tears. Demography, 38(1), 115-132. https://doi.org/10.1353/dem.2001.0003*
26. *Fisman, R., & Wei, S.-J. (2004). Tax rates and tax evasion: Evidence from 'missing imports' in China. Journal of Political Economy, 112(2), 471-500. https://doi.org/10.1086/381476*
27. *Ghana Statistical Service. (2021). 2021 Population and housing census. GSS.*
28. *Glynn, A. N. (2013). What can we learn with statistical truth serum? Public Opinion Quarterly, 77(S1), 159-172. https://doi.org/10.1093/poq/nfs070*
29. *Golub, S. S. (2003). Informal cross-border trade in West Africa (Working paper No. 234). OECD Development Centre.*
30. *Golub, S. S. (2015). Informal cross-border trade and smuggling in Africa. In O. Morrissey et al. (Eds.), Handbook on trade and development (pp. 179-209). Edward Elgar.*
31. *Hickey, S., & du Toit, A. (2007). Adverse incorporation, social exclusion and chronic poverty (Working paper No. 81). CPRC.*
32. *Igue, J. O., & Soule, B. G. (1992). L'entrepot commercial au Benin. Karthala.*
33. *Jakiela, P., & Ozier, O. (2016). Does Africa need a rotten kin theorem? Experimental evidence from village economies. The Review of Economic Studies, 83(1), 231-268. https://doi.org/10.1093/restud/rdv033*
34. *Koroma, S., Nimarkoh, J., You, N., Ogalo, V., & Owino, B. (2017). Formalization of informal trade in Africa. FAO.*
35. *Kraay, A., & McKenzie, D. (2014). Do poverty traps exist? Assessing the evidence. Journal of Economic Perspectives, 28(3), 127-148. https://doi.org/10.1257/jep.28.3.127*
36. *Lund, C. (2006). Twilight institutions: Public authority and local politics in Africa. Development and Change, 37(4), 685-705. https://doi.org/10.1111/j.1467-7660.2006.00497.x*
37. *Meagher, K. (2010). Identity economics: Social networks and the informal economy in Nigeria. James Currey.*
38. *Meagher, K. (2018). Taxing times: Taxation, divided societies and the informal economy in Northern Nigeria. The Journal of Development Studies, 54(1), 1-17. https://doi.org/10.1080/00220388.2016.1262026*
39. *Nugent, P. (2002). Smugglers, secessionists and loyal citizens on the Ghana-Togo frontier. Ohio University Press.*
40. *Olken, B. A., & Singhal, M. (2011). Informal taxation. American Economic Journal: Applied Economics, 3(4), 1-28. https://doi.org/10.1257/app.3.4.1*
41. *Owusu, V., Abdulai, A., & Abdul-Rahman, S. (2011). Non-farm work and food security among farm households in Northern Ghana. Food Policy, 36(2), 108-118. https://doi.org/10.1016/j.foodpol.2010.09.002*
42. *Roitman, J. (2005). Fiscal disobedience: An anthropology of economic regulation in Central Africa. Princeton University Press.*
43. *Scoones, I. (1998). Sustainable rural livelihoods: A framework for analysis (Working paper No. 72). IDS.*
44. *Scoones, I. (2009). Livelihoods perspectives and rural development. The Journal of Peasant Studies, 36(1), 171-196. https://doi.org/10.1080/03066150902820503*
45. *Shleifer, A., & Vishny, R. W. (1993). Corruption. The Quarterly Journal of Economics, 108(3), 599-617. https://doi.org/10.2307/2118402*
46. *Smith, D. R., Gordon, A., Meadows, K., & Zwick, K. (2001). Livelihood diversification in Uganda: Patterns and determinants of change. Food Policy, 26(4), 421-435. https://doi.org/10.1016/S0306-9192(01)00012-4*
47. *Titeca, K., & De Herdt, T. (2011). Real governance beyond the 'failed state'. African Affairs, 110(439), 213-231. https://doi.org/10.1093/afraf/adr005*
48. *UNCTAD. (2019). Borderline: Women in informal cross-border trade in Malawi, the United Republic of Tanzania and Zambia. United Nations.*