

FROM GLOBAL TRADE TO LOCAL INCLUSION THROUGH POLICY INTERVENTIONS: A CAUSAL MEDIATION STUDY OF MSMES IN EMERGING ASIA

AVIK GHOSH

Assistant General Manager, Reserve Bank of India

INTRODUCTION

The MSME Imperative in Global Development

Global Significance

- MSMEs constitute >90% of all firms worldwide
- Generate >50% of global employment
- In Asia-Pacific: 97% of enterprises are MSMEs, employing 69% of workforce, contributing 41% of GDP

The Inclusion Challenge

- Trade gains remain highly skewed for MSMEs
- Disproportionate barriers: limited finance access, regulatory inefficiencies, technological gaps
- Post-pandemic focus: resilience, adaptability, and localized growth

MOTIVATION & CONTEXT

Why MSMEs Matter for Inclusive Development

Employment & Economic Contribution

- India: MSMEs contribute 30.1% to GDP and employ >92 million workers (2022-23)
- Malaysia: MSMEs contributed 39.1% to GDP with 5% growth in 2023, outpacing national GDP growth of 3.6%
- Indonesia: >64 million MSMEs employ over 120 million people

The Trade-Finance Nexus

- \$5.7 trillion credit gap for MSMEs in emerging economies (19% of GDP)
- India alone faces \$230-380 billion MSME financing gap
- Only 47% of MSME financing demand is met in Indonesia

MOTIVATION & CONTEXT- THE POLICY SHIFT

Transformative Policy Interventions Post-2010

Regional Policy Revolution

- 15 countries adopted major MSME-focused policies between 2010-2021
- Focus areas: Export promotion, financial inclusion, digitalization, regulatory reforms

Key Policy Milestones

2012: Malaysia SME Masterplan with 32 High-Impact Programs

2015: India MUDRA Scheme; Indonesia KUR Reform; Myanmar & Cambodia MSME Development Policies

2017: China SME Guidelines; Vietnam SME Law; Thailand SME Master Plan

2019: Nepal SME Framework; Mongolia Innovation Fund

2021: Pakistan SME Policy

Alignment with SDGs

- SDG 8 (Decent Work), SDG 9 (Industry & Innovation), SDG 10 (Reduced Inequality)
- Institutional shift: Trade facilitation + financial access + digital enablement

LITERATURE REVIEW - MSMES AND INCLUSIVE GROWTH

Theme	Key Findings	Authors & Citations
Theoretical Foundation	MSMEs reduce income inequality, enable entrepreneurship across socio-economic segments	Berner et al. (2012); Naudé (2011); Bigsten & Gebreeyesus (2007)
Employment Generation	Labor-intensive employment absorption in informal and rural sectors promotes spatial inclusivity	Rauniyar & Kanbur (2010); Acs & Varga (2005)
Market Failures & Intervention	State intervention justified by market failures disproportionately affecting smaller firms	Thorsten & Maksimovic (2004); Liedholm (2002)
Shared Prosperity	MSMEs as instruments for expanding opportunities at base of pyramid	Chandy et al. (2013)
Research Gap	Lack of empirical articulation of how MSME trade translates to inclusive growth via policy mediation	

LITERATURE REVIEW - POLICY INTERVENTIONS AND TRADE

Theme	Key Findings	Authors & Citations
Export Promotion	Direct (subsidies, tax incentives) and indirect (infrastructure, legal reforms) instruments improve MSME competitiveness	Lederman et al. (2010); Volpe Martincus & Carballo (2012)
Financial Inclusion	Access to trade finance determines extent of export-import engagement	Demirgüç-Kunt et al. (2020); Beck & Demirgüç-Kunt (2006)
Digital Enablement	E-commerce frameworks and fintech as transformational enablers for GVC integration	World Bank (2021); López González & Ferencz (2018)
Implementation Challenges	Many policies suffer from design inefficiencies, fragmented implementation, lack of targeting	Cirera et al. (2021); Cadot et al. (2012)
Research Gap	Limited insight into mechanisms through which policies mediate trade outcomes into inclusive benefits	

LITERATURE GAP - WHAT REMAINS UNANSWERED

A. Mechanism Ambiguity

1. No causal decomposition of direct vs. policy-mediated effects
2. Black box between trade participation and inclusive outcomes

B. Structural Heterogeneity Ignored

1. Limited understanding of how MSME density, credit access, trade intensity condition policy effectiveness
2. One-size-fits-all policy assumptions

C. Regional Disparities Unexplored

1. Lack of comparative analysis: ASEAN vs. SAARC
2. No assessment of institutional capacity differences

D. Distributional Effects Neglected

1. Missing analysis across outcome quantiles
2. Unclear who benefits: low-wage vs. high-wage workers

RESEARCH QUESTIONS

RQ1: Direct Trade Effects

How does MSME participation in international trade influence inclusive growth outcomes (employment, wages, financial access)?

RQ2: Policy Mediation

To what extent do policy interventions mediate the relationship between MSME trade and inclusive growth?

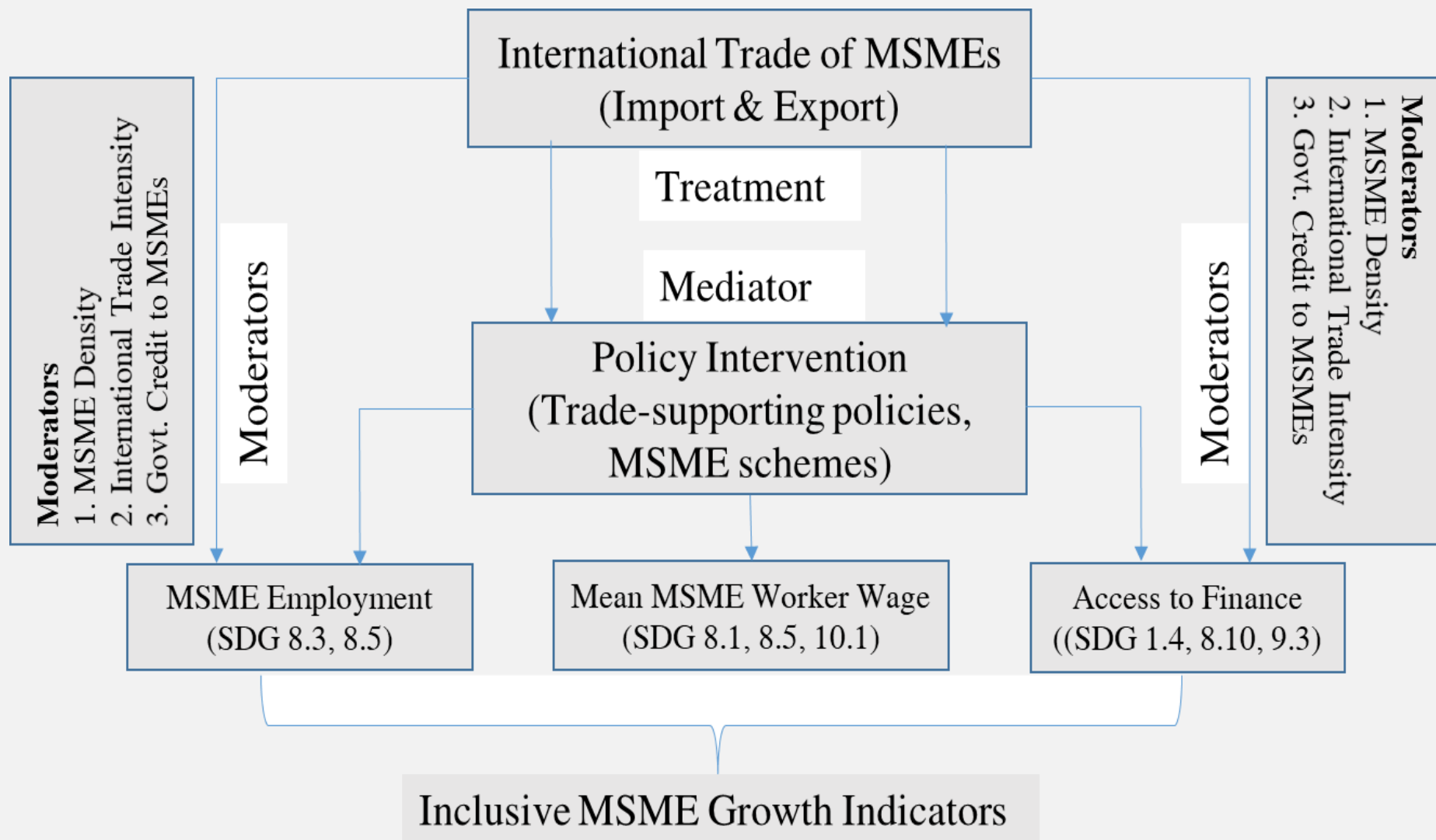
RQ3: Structural Heterogeneity

How does policy effectiveness vary across structural conditions (MSME density, trade intensity, government credit)?

RQ4: Regional Disparities

Are there regional disparities in trade-inclusiveness pathways between SAARC and ASEAN economies?

CONCEPTUAL FRAMEWORK



DATA & VARIABLES

Panel Dataset: 15 Countries × 30 Years

Country Selection Criteria

- MSME contribution to national employment >40%
- MSME share in GDP/value-added ≥30%

Countries: Bangladesh, Cambodia, China, India, Indonesia, Laos, Malaysia, Mongolia, Myanmar, Nepal, Pakistan, Philippines, Sri Lanka, Thailand, Vietnam

Dependent Variables (Inclusive Growth Dimensions)

- MSME Employment (millions)
- Average MSME Worker Wage (USD)
- Access to Finance (% MSMEs with institutional credit)

DATA & VARIABLES

Key Independent Variable

- Total MSME Trade (exports + imports as % of GDP)

Mediator Variable

- Policy Intervention Dummy (1 from year of major national MSME initiative adoption)

Moderating Variables

- MSME Density (per 1,000 people)
- Trade Intensity (total trade % GDP)
- Government Credit to MSMEs (% of total domestic credit)

Data Sources: ADB Asia SME Monitor, ILOSTAT, World Bank, UN Comtrade, WTO, National Statistical Agencies

EMPIRICAL STRATEGY - BASELINE MEDIATION FRAMEWORK

Causal Mediation Analysis (Imai, Keele & Tingley, 2010)

Mediator Model: $M_{it} = \alpha_0 + \alpha_1 T_{it} + \alpha_2 X_{it} + \mu_i + \delta_t + \varepsilon_{it}$

Outcome Model: $Y_{it} = \beta_0 + \beta_1 T_{it} + \beta_2 M_{it} + \beta_3 X_{it} + \mu_i + \delta_t + \eta_{it}$

Where: T_{it} = Total MSME trade (treatment), M_{it} = Policy intervention (mediator), Y_{it} = Inclusive growth outcome (employment/wages/finance), X_{it} = Control variables (GDP growth, inflation, FDI, population), μ_i , δ_t = Country and year fixed effects

Key Effects Estimated:

Average Causal Mediation Effect (ACME): $ACME = E[Y(T = 1, M(T = 1)) - Y(T = 1, M(T = 0))]$

Average Direct Effect (ADE): $ADE = E[Y(T = 1, M(T = 0)) - Y(T = 0, M(T = 0))]$

Total Effect: $TE = ACME + ADE$

EMPIRICAL STRATEGY - EXTENSIONS

Moderated Mediation & Distributional Analysis

I. Moderated Mediation Model:

$$Y_{it} = \gamma_0 + \gamma_1 T_{it} + \gamma_2 M_{it} + \gamma_3 (T_{it} \times Z_{it}) + \gamma_4 (M_{it} \times Z_{it}) + \gamma_5 Z_{it} + \gamma_6 X_{it} + \mu_i + \delta_t + v_{it}$$

- Z_{it} = Structural moderators (MSME density, trade intensity, government credit)
- Captures conditional mediation effects across institutional contexts

2. Quantile Regression:

$$Q_{Y_{it}}(\tau|T_{it}, M_{it}, X_{it}) = \delta_0^\tau + \delta_1^\tau T_{it} + \delta_2^\tau M_{it} + \delta_3^\tau X_{it}$$

- $\tau \in \{0.1, 0.25, 0.5, 0.75, 0.9\}$ = Quantiles
- Estimated separately for **SAARC** and **ASEAN** subgroups, Assesses distributional heterogeneity

RESULTS - CAUSAL MEDIATION EFFECTS

Mediation Decomposition Across Outcomes

Outcome	ACME (Indirect)	ADE (Direct)	Total Effect	% Mediated
MSME Employment	0.3741***	0.2746***	0.6487***	57.7%
Mean Worker Wage	5.2179***	11.0984***	16.3163***	32.0%
Access to Finance	0.1767***	0.7627***	0.9395***	18.8%

- Policy interventions explain majority of employment effects (57.7%)
- Direct trade effects remain dominant for wages, but policy adds 32% through institutional support
- Financial inclusion shows both pathways matter, with policy mediating nearly one-fifth

Interpretation: Dual-channel hypothesis confirmed - trade impacts inclusive growth both directly through market mechanisms and indirectly via institutional mediation

RESULTS - HETEROGENEITY BY MSME DENSITY

MSME Density	Outcome	ACME	ADE	Total Effect	% Mediated
High Density	Employment	0.3448***	0.3344***	0.6792***	50.8%
High Density	Wages	6.0114***	14.1575***	20.169***	29.8%
High Density	Finance Access	0.2357***	0.6817***	0.9174***	25.7%
Low Density	Employment	0.2241*	-0.5332***	-0.3091***	-72.5%
Low Density	Wages	8.9479**	-9.277**	-0.3291***	-2719.3%
Low Density	Finance Access	0.0116**	0.8187**	0.8303***	1.4%

- **High-density contexts:** Strong positive mediation across all outcomes - mature MSME ecosystems amplify policy impacts
- **Low-density contexts:** Negative/ineffective mediation - fragmented MSME structures undermine policy transmission
- **Policy Implication:** Critical mass of MSMEs creates network effects essential for policy effectiveness

RESULTS – HETEROGENEITY BY TRADE INTENSITY & CREDIT ACCESS

By Trade Intensity

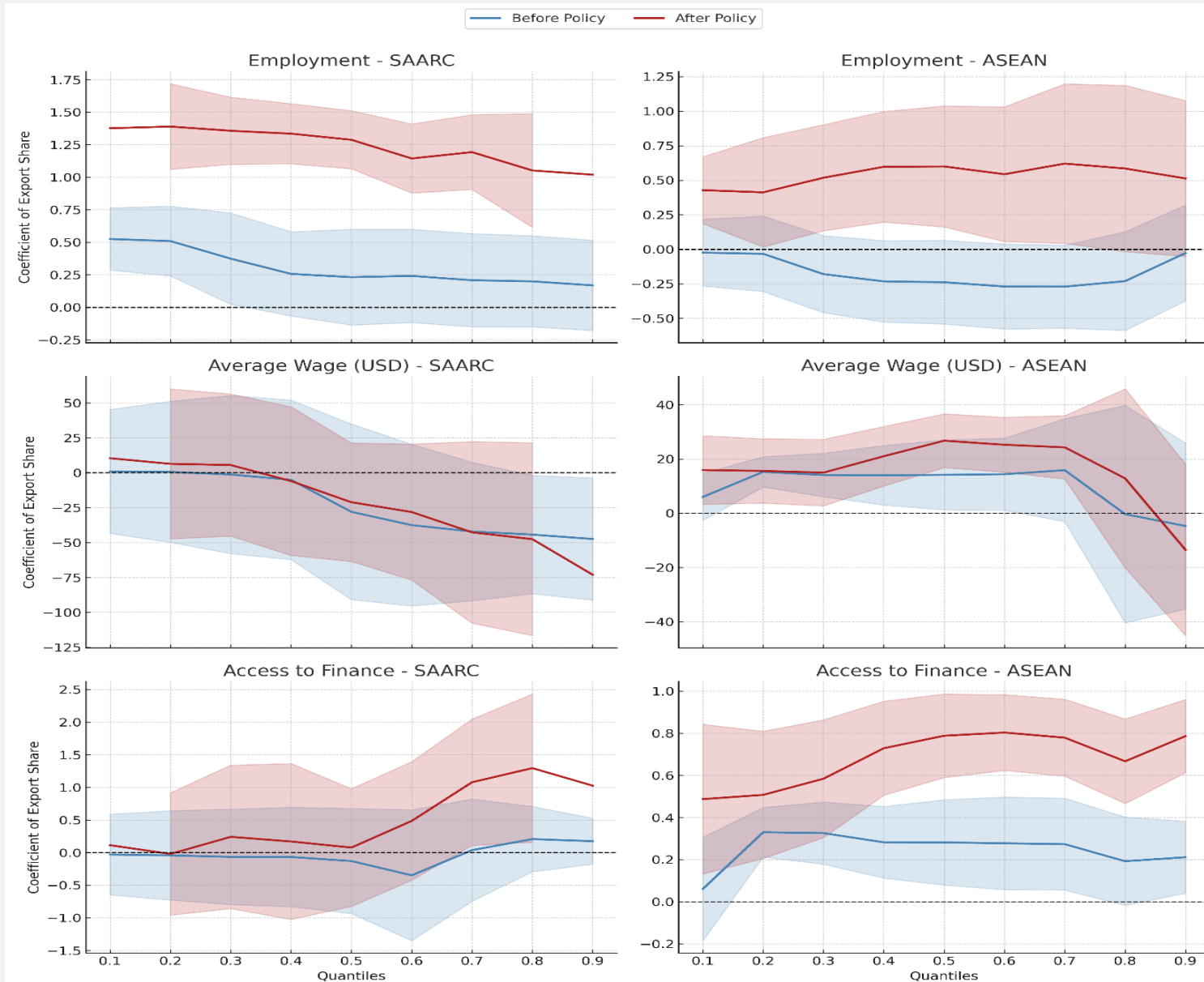
Trade Intensity	Outcome	% Mediated	Interpretation
High	Employment	51.6%	Strong coherent mediation
High	Wages	19.0%	Policy enhances competitiveness
Low	Employment	-697.1%	Policy ineffective without market access

By Government Credit to MSMEs

Credit Level	Outcome	% Mediated	Interpretation
High	Employment	89.8%	Financial access as pivotal enabler
High	Wages	3.7%	Credit alone insufficient for wage equity
Low	Employment	40.7%	Policy works but constrained
Low	Wages	53.7%	Different transmission channel

- **Countries integrated in GVCs benefit more from trade policies**
- **Institutional credit access significantly enhances employment effects**
- **Adaptive policies needed: credit-rich vs. credit-poor environments require different interventions**

RESULTS - REGIONAL COMPARISON: SAARC VS. ASEAN)



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Institutional Capacity Shapes Regional Outcomes

SAARC Economies (Post-Policy)

- Employment: Sharp improvements across quantiles
- Credit Access: Substantial gains
- Wages: Limited improvements - institutional capacity constraints
- Challenge: Wide intra-regional disparities (India, Bangladesh strong; Nepal, Pakistan weaker)

ASEAN Economies (Post-Policy)

- Employment: Strong balanced gains
- Wages: Consistent positive effects
- Credit Access: Robust improvements
- Advantage: Stronger institutional capacity to operationalize MSME trade benefits
- Regional coordination: ASEAN Strategic Action Plan for SME Development

Key Differentiators

ASEAN: More structured integration strategies, coordinated regional frameworks

SAARC: Policy fragmentation, institutional inertia, weaker credit market efficiency

Implication: Regional integration platforms and policy harmonization critical for translating trade to inclusion

RESULTS - ROBUSTNESS CHECKS

Placebo Test (10-Year Pre-Policy Assignment)- Policy dummy shifted 10 years earlier

Outcome	% Mediated (Placebo)	Interpretation
Employment	1.7%	Negligible effect
Wages	1.6%	Confirms no pre-existing trends
Finance Access	1.1%	Effects not spurious

Observed effects are not driven by pre-existing structural trends - validates causal interpretation

Lagged Mediation Models- $T_{i,t-1}$ and $M_{i,t-1}$ specifications

Specification	Outcome	% Mediated	Interpretation
Lagged Treatment	Employment	65.4%	Delayed but potent policy influence
Lagged Treatment	Wages	31.4%	Institutional reforms show lagged effects
Lagged Mediator	Employment	64.4%	Confirms temporal reliability
Lagged Mediator	Wages	34.4%	Effects persistent over time

Policy interventions exhibit lagged yet persistent effects - institutional reforms take time but deliver sustained impact

POLICY RECOMMENDATIONS

Strengthen Trade-Focused MSME Policies

Integrate trade finance, market info systems, simplified customs

Prioritize digital trade facilitation and e-commerce platforms

Adopt regional/global best practices

Embed Financial Inclusion in Trade Strategies

Expand collateral-free credit lines, credit guarantee schemes

Support fintech-led MSME scoring models

Scale models: India's Credit Guarantee Fund, Thailand's Soft Loan Program

Target MSME Density and Structural Heterogeneity

Low-density economies: Prioritize ecosystem development

Tailored support for women-led and rural MSMEs (SDG 5, 10)

Technical assistance from ADB, UNESCAP

Institutionalize Monitoring

National MSME Trade Regulator with granular & disaggregated data

Regional platforms (ASEAN, SAARC) for knowledge exchange and policy benchmarking

Adaptive Policy Design for SAARC

Context-sensitive models addressing institutional inertia

Regional trade facilitation corridors, cross-border financing mechanisms

Harmonize MSME certification standards

CONCLUSION

Core Contributions

1. **First causal evidence:** Policy interventions significantly amplify inclusive impacts of MSME trade
2. **Heterogeneity matters:** Effects conditional on MSME density, credit access, trade integration
3. **Distributional insight:** Policies compress inequality, expand benefits across economic segments
4. **Regional lessons:** ASEAN's structured integration vs. SAARC's fragmentation offers actionable insights

Theoretical Advancement

- Validates dual-channel hypothesis: Trade + institutional mediation
- Confirms capabilities approach (Sen, 1999): Institutional arrangements expand economic freedoms

Supports North's (1990) institutions-performance nexus

CONCLUSION

Policy Message

- **Trade alone is insufficient** - requires targeted, context-sensitive policy interventions
- **One-size-fits-all fails** - structural readiness and absorptive capacity determine outcomes
- **Regional coordination amplifies impact** - harmonized frameworks accelerate inclusive growth

Future Research

- Firm-level microdata for sector-specific analysis
- Digitalization as new mediator in trade-inclusiveness nexus
- Climate-resilient MSME strategies in post-pandemic recovery

Inclusive MSME growth requires embedding equity into trade and industrial policy framework

THANK YOU