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

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# INTRODUCTION

**The MSME Imperative in Global Development**

## Global Significance

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

## The Inclusion Challenge

o Trade gains remain highly skewed for MSMEs
o Disproportionate barriers: limited finance access, regulatory inefficiencies, technological gaps
o 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?
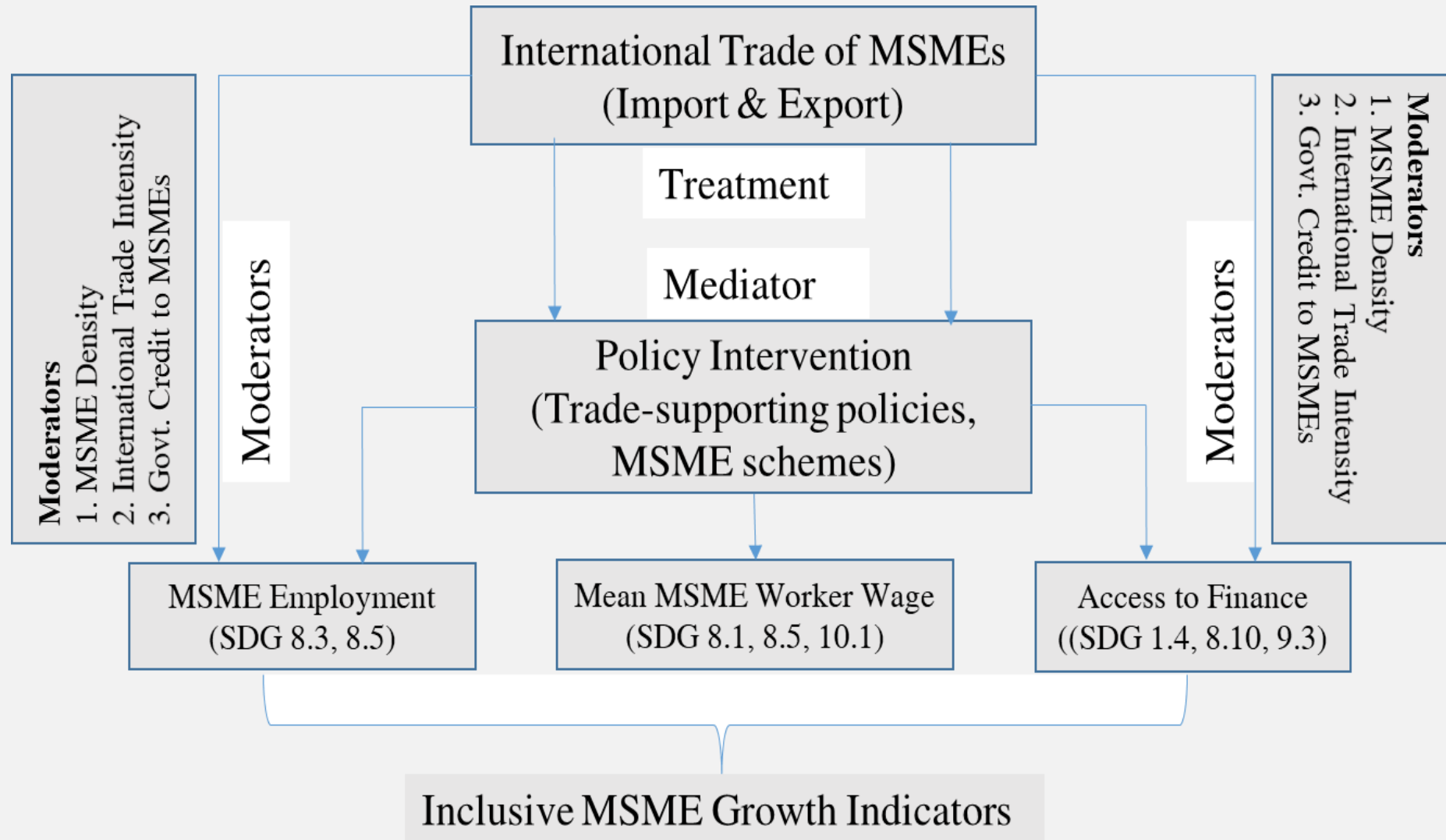
**RQ3: Structural Heterogeneity**

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



International Trade of MSMEs
(Import & Export)

Treatment

Mediator

Policy Intervention
(Trade-supporting policies,
MSME schemes)

**Moderators**
1. MSME Density
2. International Trade Intensity
3. Govt. Credit to MSMEs

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MSME Employment
(SDG 8.3, 8.5)

Mean MSME Worker Wage
(SDG 8.1, 8.5, 10.1)

Access to Finance
((SDG 1.4, 8.10, 9.3)

Inclusive MSME Growth Indicators

# DATA & VARIABLES

**Panel Dataset**: 15 Countries × 30 Years

**Country Selection Criteria**
o MSME contribution to national employment >40%
o 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)**
o MSME Employment (millions)
o Average MSME Worker Wage (USD)
o Access to Finance (% MSMEs with institutional credit)

# DATA & VARIABLES

**Key Independent Variable**
o Total MSME Trade (exports + imports as % of GDP)

**Mediator Variable**
o Policy Intervention Dummy (1 from year of major national MSME initiative adoption)

**Moderating Variables**
o MSME Density (per 1,000 people)
o Trade Intensity (total trade % GDP)
o 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), $\mu_i, \delta_t$ = 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:** $TE = ACME + ADE$

**Moderated Mediation & Distributional Analysis**

**1. Moderated Mediation Model:**

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

- $Z_{it}$ = 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% |

o **High-density contexts**: Strong positive mediation across all outcomes - mature MSME ecosystems amplify policy impacts

o **Low-density contexts**: Negative/ineffective mediation - fragmented MSME structures undermine policy transmission

o **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 |

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

# RESULTS - REGIONAL COMPARISON: SAARC VS. ASEAN)
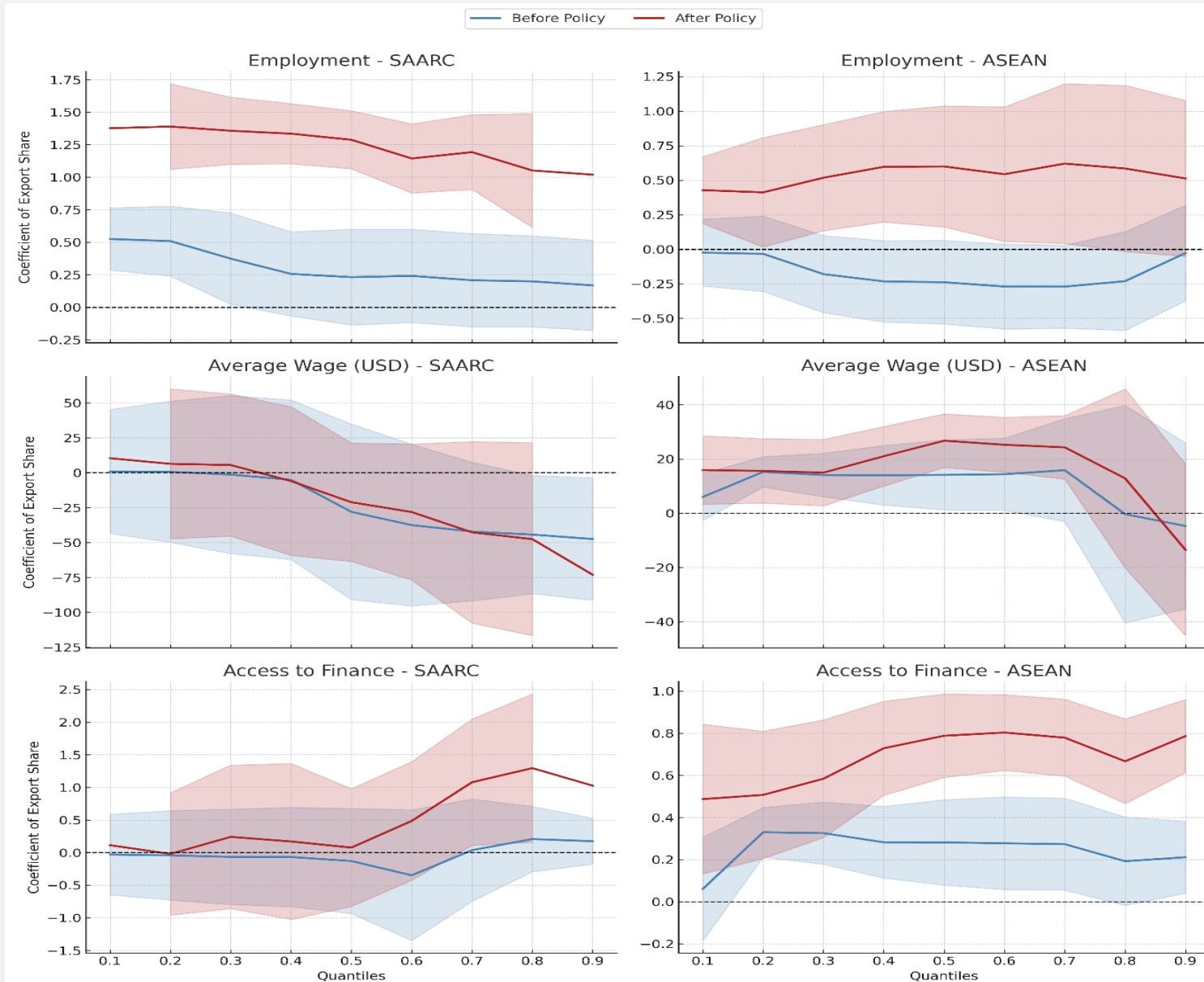
# RESULTS - REGIONAL COMPARISON: SAARC VS. ASEAN)

**Institutional Capacity Shapes Regional Outcomes**

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

*ASEAN Economies (Post-Policy)*
o Employment: Strong balanced gains
o Wages: Consistent positive effects
o Credit Access: Robust improvements
o Advantage: Stronger institutional capacity to operationalize MSME trade benefits
o 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