International Journal of Economic Practices and Theories (IJEPT)
ISSN: 2247-7225
Volume 2026, Issue 1

Tracing Tariff Policies: Implications for Income Inequality and Economic Equity

Isha Menon
R.N.Podar School, Mumbai
ishamenon2009@gmail.com

Abstract: This study empirically traces how tariff and protectionist trade policies shape income inequality and economic equity, and how these income distributional pressures call for effective governance and policy frameworks in developing economies. It works on three specific latent constructs: Tariff Policy Impact (TPI), Income Inequality and Economic Equity (IIE), and Policy Framework Effectiveness (PFE), and tests three hypotheses using Partial Least Squares Structural Equation Modelling (PLS-SEM). Data were gathered through purposive sampling of 99 economists, finance professionals, trade policy analysts, development finance professionals measured on a five-point Likert scale. The measurement model demonstrated strong reliability and validity, and all three structural paths were supported: tariff policy significantly influenced income inequality ($\beta = 0.427$), while both income inequality ($\beta = 0.462$) and tariff policy directly ($\beta = 0.229$) predicted policy framework effectiveness. A significant indirect effect (TPI→IIE→PFE, $\beta = 0.197$) confirmed partial mediation, with income inequality accounting for roughly 46% of tariff policy's total effect on framework effectiveness, and the predictors jointly explaining 35.6% of its variance. The findings indicate that inequality works as an active transmission channel supporting ex-ante distributional impact assessments, DEI conditionality in trade agreements, and sequenced reforms that stabilise distributional outcomes alongside liberalisation.

Keywords: Tariff policy; income inequality; economic equity; protectionism; PLS-SEM

Introduction

The recent years have seen an increase in protectionist trading policies, and the imposition of tariffs, quotas and subsidies as not only a means to protect domestic producers, but also as a threat to escalate geopolitical conflicts. Post the 2024 US elections, the Trump administration has headlined the tariff and protectionist trade movement, with the implementation of high tariffs on multiple countries, some going as high as 50% (Brazil). While protectionism holds some short-term benefits like increased domestic production and safeguarding of jobs for citizens, it holds adverse impacts on the global economy and can trigger deglobalisation, aggravation of trade wars, and exacerbation of poverty (The International Trade Council, 2024).

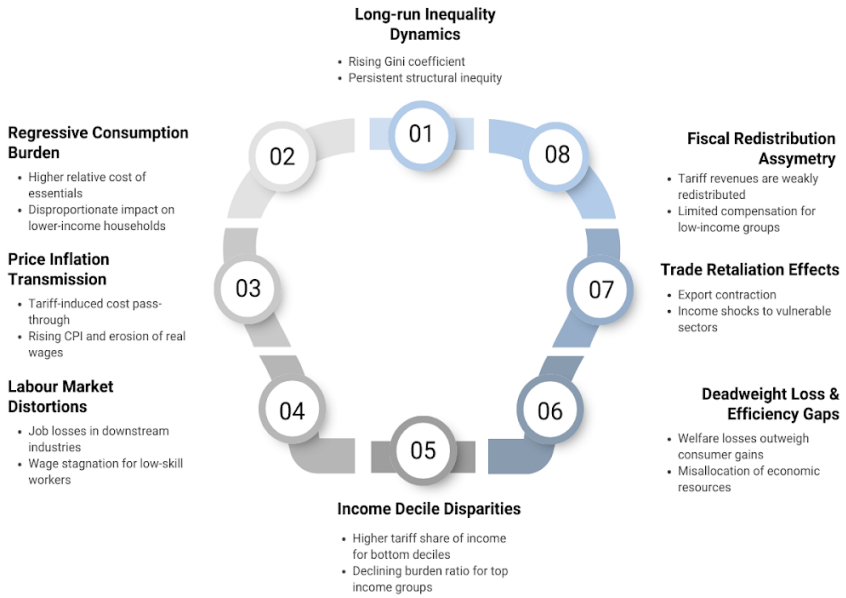

Figure 1. Protectionist Trade Instruments and their Impact on exacerbating income inequality and distorting economic equity

The effects of tariffs are felt most strongly amongst low-income communities, where their purchasing power and real income are drastically affected by the imposition of this tax (*The Effect of Tariffs on Poverty*, n.d.). Tariffs aggravate income inequality, imposing a regressive burden, through which lower-income households face relatively higher costs, suggesting that protectionism increases inequality, which calls for questioning existing studies on traditional equity systems (Bonaparte, 2025). Figure 1 highlights the implications of the imposition of tariffs in hindering global economic stability. Income inequality creates a disparity for marginalised groups in accessing resources, which hinders human capital formation, creating social barriers and hampering long-term economic growth, with adverse effects on inflation. Inflation refers to the constant increase in the general price level of goods and services and is measured through the Consumer Price Index. It reduces the purchasing power because there is a reduction in the amount of goods or services that can be bought with the same amount of money. Growth in the Gross Domestic Product can be seen as 'economic growth' since it increases standard of living and quality of life, but if not equally distributed, it exacerbates income inequality, leading to unequal and disproportionate growth amongst different sectors and communities. The regressive impact of inflation on low-income groups can be seen through Ethiopia's case, where the extremely high inflation rate of 33.8% in 2021-22, increased the prices of essential goods, further widening the gap between the rich and the poor. The bottom 10% of the population earns only 4% of the national income in Ethiopia. The Gini coefficient of Ethiopia was at a whopping 54.5% in that year. There is however a lack of sufficient research on the relationship between all these variables (Ali & Asfaw, 2023). It becomes imperative to analyse the outcomes of protectionist trade on disadvantaged communities in developing and developed nations.

In the past few decades, there has been an increase in the interest of income distribution globally, because of the risk of reduced economic mobility and increasing income inequality may hamper the democratic processes in democratic nations. Also, the advent of trade liberalisation and increased technological prowess, calls for an analysis of their effects on both economic growth and increasing income disparities. Increased global interest has led to an exponential increase in the number of academic literatures published in top-tier journals, which cite cross-country databases like the World Inequality Database and the World Income Inequality Database, along with many other data sources. However, they are aggregate databases that provide only limited information based on specific sample populations and may not provide granular income data and statistics on economic mobility and distribution of income within specific demographics (Guvenen et al., 2022).In developing economies, globalisation, trade liberalisation and Foreign Direct Investment (FDI) reduces income inequality, by creating employment opportunities, allowing investment in infrastructure, technology and manufacturing processes (Tabash et al., 2024). This can be observed by considering the aftereffects of the dominance of China in the global export markets. There were adverse labour market shocks since the emergence of China as a global export powerhouse, in countries where the increase in imports was not counterbalanced by the increase in exports. The surge of imports from China led to a substantial decrease in consumer prices, which positively impacted low-income groups. The subsequent loss in employment, and displacement of workers could be met with targeted policies for their welfare, rather than the imposition of protectionist tariff policies (Dorn & Levell, 2024).

Based on previous research conducted using the instrumental variable (IV) approach, across 139 countries, to identify the effects of trade liberalisation on income inequality, it is evident that trade liberalisation disproportionately benefits those in extreme poverty in developing nations, but the income inequality increases in transition countries because of the absence of welfare "cushions" and institutional benefits. Therefore, it cannot be concluded that the effect of liberal trade on economic equity is common to all nations, rather, dependent on the policies and welfare development within the nations themselves (Dorn et al., 2021). The structural transformation of the global economy because of the ongoing tariff wars and the advent of Artificial intelligence reveals the need for the integration of technology and AI-driven optimisation in policy making and governance can help reduce income inequality and ensure an equitable society (Bukhari et al., 2025). The growth of Artificial Intelligence in global labour markets has led to a strong segregation between high-skill and high-wage jobs in developed economies and low-skill and low-wage jobs in developing or under-developed economies. The inequality in income distribution has most directly impacted the Global South, who bear the burden of low-wage jobs. The outsourcing of services has worsened income inequality in many countries, which makes it essential to integrate AI in skill development, protection of wage workers and vocalise for ethical outsourcing (Houenou, 2025). Figure 2 discusses how tariff interventions reshape income distribution, wealth concentration, and labor equity in the AI-enabled global economy and the aggregate outcomes of these pathways.

The remainder of this paper is structured as follows. Section II reviews the extant literature on tariff policy evolution, income inequality, and economic equity, with particular attention to theoretical and empirical linkages identified in international trade and development economics. Section III formulates the research objectives, hypotheses, and conceptual framework underpinning the proposed analysis. Section IV details the research

methodology, including data sources, variable operationalization, and the Partial Least Squares Structural Equation Modelling (PLS-SEM) approach employed for empirical validation. Section V presents and discusses the empirical results, highlighting the direct and indirect effects of tariff policies on income distribution and economic equity outcomes. Finally, Section VI concludes the paper by summarizing the key findings, outlining policy implications for equitable trade design, and suggesting avenues for future research.

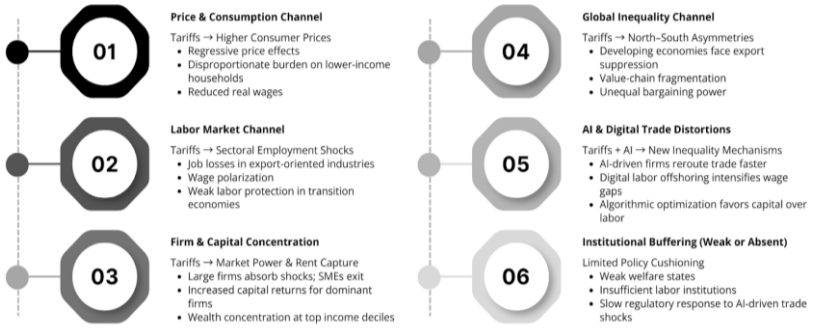

Figure 2: Pathways to Income Inequality and Economic Equity Distortion

Literature Review

The implementation of tariffs functions as a regressive fiscal mechanism which disproportionately affects the purchasing power of low-income communities and worsening the Gini coefficient. This creates structural barriers to the development of human resources and worsens income inequality. Growth without benefit to lower-income deciles hampers macroeconomic stability (Villines, 2025). The neo-mercantilist protectionism approach of the US government, and shifting its trade dependence from China, boosting domestic production, researchers argue would lead to overall systemic contraction in the welfare of consumers, and a trade-war will probably not result in the intended goals of the administration like internalisation of production (Saridakis et al., 2025).

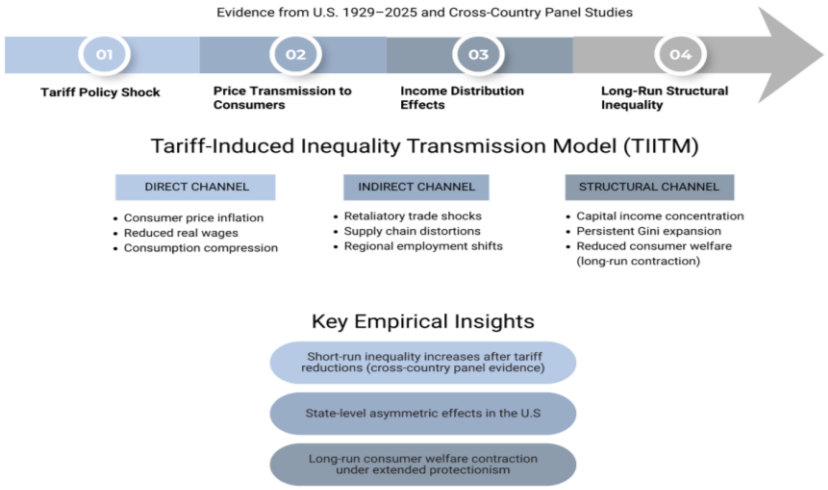

Figure 3: Impact of Tariff Policies: A Distributional Policy Framework

An empirical analysis of 37 countries showcases the direct relationship between the reduction of tariffs and increase of income inequality, even though aggregate output is increased. The income of the lowest quintile is most adversely affected, while the second richest quintile is the most benefited. There is a trade-off between economic growth and the increase in the structural barriers to market participation with such liberalisation (Rojas-Vallejos & Turnovsky, 2017). Figure 3 discusses the frameworks and insights from the empirical analysis of cross-country tariff shocks and effects. Protectionist tariff measures lead to reductions in aggregate output, increase in unemployment and disproportionately impacts female-lead households in developing countries. But liberalisation of trade often leads to income inequality in developing nations, but wealthier economies this inequality declines because of productivity improvements (Furceri et al., 2018). The usage of an SIR epidemiological model quantitatively analysed the trade-offs between the presence of economic welfare in different segments of income distribution, and the health outcomes with regards to the Covid-19 pandemic. The findings were that financial

vulnerability is intrinsically linked to the exposure to the pandemic which led to uneven economic costs across the population. There is a requirement to change focus from a binary view of lives versus livelihood to a more in-depth system of analysis to understand how economic burdens are distributed within equity systems (Kaplan et al., 2020).

Data collected at the US border showcases that import tariff pass-through outweighs the exchange rate pass-through, because international exporters have maintained a stable dollar pricing despite fluctuations in currencies. Any American firms that export goods have reduced their own prices, taking a hit on profits, to curb the effects of retaliatory tariffs. Also, the retail prices in the US have compressed the profit margins and eroded purchasing power (Cavallo et al., 2021). Developed economies have seen an increase in income and wealth inequality since the early 1980s. The average income Gini coefficient has reached a high of 0.318 amongst OECD member nations, with high wealth concentration amongst the top 10% of the population, who control over 50% of the total net wealth. This disparity in wealth and income has restricted access to resources and created structural divisions which hinder overall socio-economic development and market participation (Colciago et al., 2019).

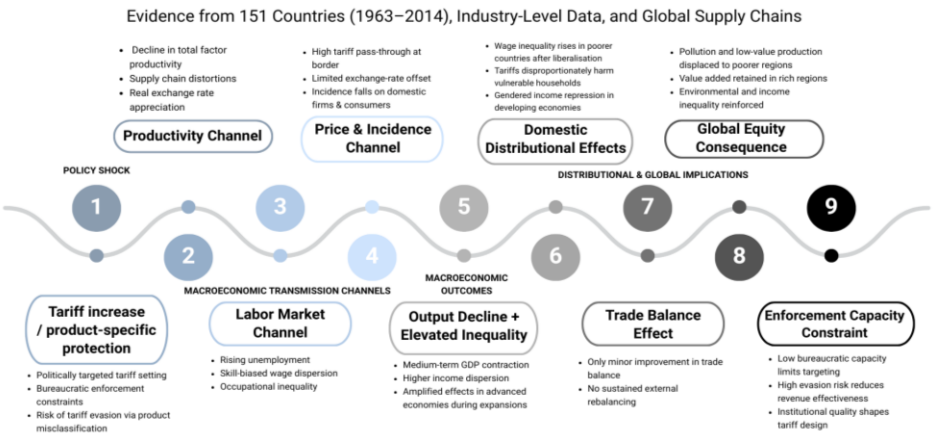

Figure 4: Macroeconomic and Equity Implications of Tariff Policy: Inequality Without Trade Balance Gains

Escalation in tariffs trigger systemic inequality, unemployment and decrease in productivity. There is a "U-shaped" link between trade reliance and wealth inequality. The environmental inequality and pollution is also visible in developed regions where they outsource emissions to marginalised regions. This hinders human capital formation and development and erodes equity systems (Zhang et al., 2018). The above figure discusses the impact of tariffs on inequality, and how the absence of trade balance gains hampers overall economic equity and stability. The usage of product-specific tariffs by the government is done to integrate trade, however low bureaucratic capacity facilitates tariff evasion. There is also an active evasion of tariffs by the classification of products into lower tariff categories. This also hampers the fiscal revenue generation and worsening income inequality and the Gini coefficient (Betz, 2019).

Table I. Extensive Literature Review Table for Implications of Tariff Policies on Income Inequity

References	**Key Findings**	**Research Gap**	**Limitations**
(Villines, 2025)	Tariffs escalate Gini through regressive consumer taxation	Difference in empirical evidence between political rhetoric and economic outcomes	Complexity in statistics hides the actual domestic effects
(Saridakis et al., 2025)	Protectionist policy increases systemic inequality, reduces overall welfare	Impact of neo-mercantilism on longitudinal macroeconomic stability	Trade wars do not stimulate industrial reshoring
(Rojas-Vallejos & Turnovsky, 2017)	Liberalisation increases production output but	Conclusive causal reasons for long run-	Uncertainty regarding long-run

	worsens Gini coefficient	effects	outcomes
(Furceri et al., 2018)	Tariffs lead to an output decline and overall inequality	Asymmetric trade-shock impacts on long-term economic growth	No specific outcomes across diverse global economies
(Kaplan et al., 2020)	Pandemic exposure directly impacted financial stability	Integrating epidemiological models with granular macroeconomic inequality	No overall analysis of different reasons for economic loss
(Cavallo et al., 2021)	US firms bear primary tariff burden	Connecting micro-level firm absorption of tariff impact to macroeconomic stability	Ignores broader socio-economic instability risks
(Colciago et al., 2019)	Despite global economic recovery post pandemic, wealth and income inequality persists	Connecting historical inequality to current tariff-shock induced inequalities	Aggregate statistics overlook granular price mechanisms
(Zhang et al., 2018)	Tariffs outsource regional pollution and increase Gini coefficient	Mapping multi-dimensional trade impacts across diverse developmental regions	Data doesn't usually recognise value added by different regions
(Betz, 2019)	Bureaucratic red tape constrains targeted product tariffs	Connecting enforcement capacity to income inequality in households	Excludes price transmission and consumers' purchasing power

I. Research Methodology

3.1 Research Design and Philosophical Stance

This study adopts a **post-positivist quantitative paradigm** using Partial Least Squares Structural Equation Modelling (PLS-SEM) as the analytical framework. PLS-SEM has been selected over covariance-based SEM (CB-SEM) given its better performance with reflective latent constructs, moderate sample sizes, and non-normal distributional assumptions inherent in survey-based economic data (Hair et al., 2011). The research model is explanatory and deductive in orientation: three a priori hypotheses are derived from the theoretical literature on tariff incidence, income distribution, and policy accountability, then tested empirically against survey observations.

3.2 Construct Operationalisation and Survey Instrument

Three latent constructs are chosen based on the extant literature in trade economics, political economy, and DEI governance:

- **Tariff Policy Impact (TPI)** Exogenous latent variable (5 reflective indicators: TPI1–TPI5). Captures respondents' perceptions of how tariff regimes both protectionist and liberalising relate to macroeconomic outcomes including Gini coefficient movement, aggregate output, and trade-offs. The items have been drawn on the basis of Stolper-Samuelson theorem (Stolper & Samuelson, 1941) and the empirical studies of offsetting caused by tariffs (Goldberg & Pavcnik, 2007).
- **Income Inequality and Economic Equity (IIE)** includes mediating latent variables (5 reflective indicators: IIE1–IIE5). Works on perceived distributional consequences of tariff policy changes across income deciles, with specific sensitivity to lower-income households, female-led households, and socio-economic vulnerabilities in developing economies (Balassa, 1964).
- **Policy Framework Effectiveness (PFE)** Endogenous latent variable (5 reflective indicators: PFE1–PFE5). Measures respondents' assessment of the adequacy of accountability in institutional mechanisms and policy

frameworks designed to mitigate tariff-induced wealth polarisation and structural unemployment (Autor et al., 2013).

All items are measured on a **five-point Likert scale** (1 = Strongly Disagree to 5 = Strongly Agree).

3.3 Sampling and Data Collection

The target population comprises **economists, trade policy analysts, development finance professionals, academic researchers in development economics, and senior civil servants in trade ministries** across India. A **purposive snowball sampling** strategy was employed given the specialised and relatively small accessible population (Etikan, 2016). A total of **99 responses** were collected over a 12-week data collection window for PLS-SEM models. Respondents reported expertise in fields of finance, business and economics in India, with most of them with 10+ years of experience in these fields and a median household income of 50 lakh.

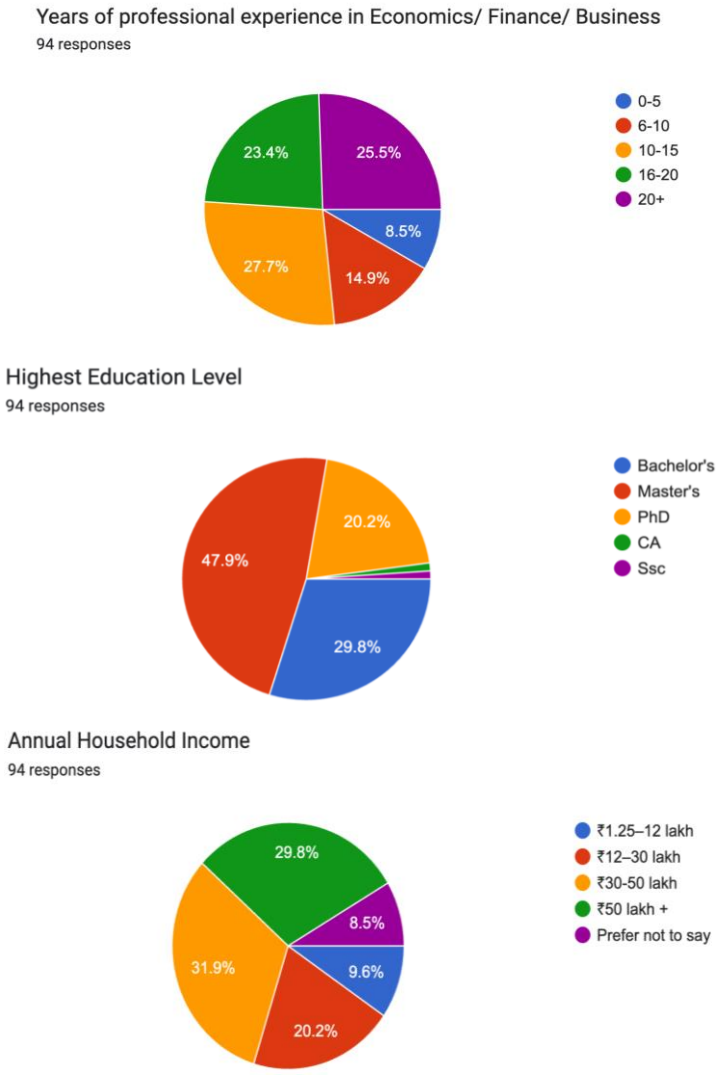

Figure 5: Survey Responses

3.4 PLS-SEM Analytical Framework

The analysis proceeds in the two-stage sequence recommended by Anderson and Gerbing ("Structural Equation Modeling in Practice: A Review and Recommended Two-Step Approach," 1988): measurement model and structural model estimation. The structural model incorporates three hypothesised paths:

- H1: Tariff Policy Impact (TPI) positively influences Income Inequality and Economic Equity (IIE) operationalising RQ1.

- H2: Tariff Policy Impact (TPI) directly affects Policy Framework Effectiveness (PFE) operationalising RQ2.
- H3: Income Inequality and Economic Equity (IIE) positively predict Policy Framework Effectiveness (PFE) operationalising RQ3. The indirect path TPI→IIE→PFE tests mediation of RQ2.

3.5 Measurement Model Evaluation Criteria

Measurement model adequacy is assessed against four sets of criteria:

(i) **Indicator reliability was assessed using outer loadings,** with a threshold of $\lambda \geq 0.70$ considered acceptable (Hair et al., 2017). As shown in Table II, all indicator loadings ranged from 0.737 to 0.860, exceeding the recommended threshold, with one exception: item 15 (loading = 0.619) under construct R3 fell below the 0.70 cut-off.

Table II. Outer Loadings - Matrix

Questions	R1	R2	R3
1	0.845		
2	0.82		
3	0.767		
4	0.807		
5	0.767		
6		0.843	
7		0.809	
8		0.839	
9		0.737	
10		0.826	
11			0.818
12			0.857
13			0.816
14			0.745
15			0.619

(ii) **Internal consistency reliability was assessed using Cronbach's alpha and Composite Reliability (CR),** with both indices required to exceed 0.70 (*Nunnally, J. C. (1978). Psychometric Theory (2nd Ed.). New York McGraw-Hill. - References - Scientific Research Publishing*, n.d.). As shown in Table III, Cronbach's alpha values ranged from 0.833 to 0.871 (R1 = 0.862, R2 = 0.871, R3 = 0.833), and Composite Reliability (rho_c) values ranged from 0.882 to 0.906 (R1 = 0.900, R2 = 0.906, R3 = 0.882), all exceeding the recommended threshold of 0.70.

Table III. Construct reliability and validity

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
R1	0.862	0.873	0.900	0.643
R2	0.871	0.881	0.906	0.659

R3	0.833	0.860	0.882	0.601

(iii) **Convergent validity was established via Average Variance Extracted (AVE)**,with all constructs exceeding the 0.50 threshold (R1 = 0.643, R2 = 0.659, R3 = 0.601), indicating that each construct explained more than half the variance in its indicators (Fornell & Larcker, 1981). Although item 15 under R3 exhibited an outer loading below 0.70 ($\lambda = 0.619$), it was retained in the model because its removal did not meaningfully improve AVE or CR for R3, both of which already met the recommended thresholds.

(iv) **Discriminant validity was assessed using the Heterotrait-Monotrait Ratio of Correlations (HTMT),** with a threshold of HTMT < 0.85 considered acceptable (Henseler et al., 2014). As shown in Table IV, all HTMT values were well below this threshold, ranging from 0.477 to 0.635 (R1–R2 = 0.480, R1–R3 = 0.477, R2–R3 = 0.635), confirming that discriminant validity was established between all construct pairs. Multicollinearity among predictor constructs was assessed using Variance Inflation Factor (VIF) values, with VIF < 5 indicating acceptable levels (Hair et al., 2017). All inner VIF values ranged from 1.000 to 1.223 (R1 → R2 = 1.000, R1 → R3 = 1.223, R2 → R3 = 1.223), well below the threshold, indicating no multicollinearity concerns among the predictor constructs, even with IIE (R2) now included as a co-predictor of PFE (R3).

Table IV. Discriminant validity - Heterotrait-monotrait ratio (HTMT) - Matrix

	R1	**R2**	**R3**
R1			
R2	0.480		
R3	0.477	0.635	

Table V. Collinearity statistics (VIF) - Inner model - List

	VIF
R1 -> R2	1.000
R1 -> R3	1.000

IV. Results and Discussions

4.1 Respondent Profile and Descriptive Statistics

Table VI presents the descriptive statistics based on all three RQs. All three research questions have means above the scale midpoint (3.0), showcasing moderately positive assessments: TPI (M = 3.701, SD = 0.920), IIE (M = 3.673, SD = 0.938), and PFE (M = 3.764, SD = 0.929). The values of skewness fall within the acceptable range of ±1.0 across all, and kurtosis values are within ±3.0, satisfying the approximate normality assumptions for OLS-based significance testing in the bootstrapping procedure (Kenny, 2016).

Table VI. Construct Descriptive Statistics (N=99)

Construct	**N**	**Mean**	**Standard Deviation**
TPI Tariff Policy Impact (R1)	99	3.671	0.876
IIE Income Inequality and Equity (R2)	99	3.652	0.885
PPE Policy Framework Effectiveness (R3)	99	3.743	0.929

4.2 Measurement Model Assessment

4.2.1 Indicator Reliability and Internal Consistency

Table II showcases outer loadings, Cronbach's alpha, Composite Reliability, and AVE for each research question and possible connections. Fourteen of the fifteen indicator loadings exceeded the 0.70 threshold (range: 0.723 to 0.860), which confirms the strong reliability of the indicator. All Cronbach's alpha values exceeded 0.83 (TPI = 0.862, IIE = 0.871, PFE = 0.833), and Composite Reliability exceeded 0.88 for all constructs (TPI = 0.900, IIE = 0.905, PFE = 0.881), substantially exceeding the 0.70 threshold (Henseler et al., 2014). Convergent validity was established via Average Variance Extracted, with all constructs exceeding the 0.50 threshold (TPI = 0.643, IIE = 0.657, PFE = 0.600), and corresponding square roots of AVE (√AVE) of 0.802, 0.811, and 0.775 respectively (Fornell & Larcker, 1981).

Table VII. Measurement model Reliability and Convergent Validity

Construct	TPI1	TPI2	TPI3	TPI4	TPI5	α	CR	AVE	√AVE
TPI						0.862	0.900	0.643	0.802
TPI1-TPI5	0.845	0.820	0.767	0.807	0.768				
IIE						0.871	0.906	0.659	0.812
IIE1-IIE5	0.843	0.809	0.839	0.737	0.826				
PFE						0.833	0.882	0.601	0.775
PFE1-PFE5	0.818	0.857	0.816	0.745	0.619				

4.2.2 Convergent Validity

Convergent validity is confirmed for all three constructs: AVE values of 0.643 (TPI), 0.659 (IIE), and 0.601 (PFE) all exceed the 0.50 threshold established by Fornell and Larcker. This indicates that each construct accounts for more than 60% of the variance in its five reflective indicators — the shared variance substantially outweighs measurement error. Square roots of AVE values (0.802, 0.812, 0.776 respectively) are presented in Table IV for discriminant validity comparison.

4.2.3 Discriminant Validity HTMT Criterion

Table IV presents the HTMT matrix alongside construct correlations and √AVE values on the diagonal. All HTMT ratios fall well below the 0.85 threshold: HTMT(TPI,IIE) = 0.480, HTMT(TPI,PFE) = 0.477, and HTMT(IIE,PFE) = 0.635. The largest HTMT value (0.635) is comfortably below 0.85, confirming that IIE and PFE — despite their theorised relationship — remain empirically distinct latent constructs. Discriminant validity is further supported by the Fornell-Larcker criterion: all √AVE diagonal values (0.802, 0.812, 0.776) exceed the corresponding off-diagonal construct correlations (0.427, 0.426, 0.560), confirming each construct shares more variance with its own indicators than with any other construct (Fornell & Larcker, 1981).

Table VIII. Discriminant Validity Fornell-Larcker Criterion and HTMT Matrix

Construct	TP1 (R1)	IIE (R2)	PFE (R3)
TPI Tariff Policy Impact (R1)	0.802	0.480	0.477
IIE Income Inequality and	0.427	0.812	0.635

Equity (R2)			
PPE Policy Framework Effectiveness (R3)	0.426	0.560	0.776

4.3 Structural Model Assessment and Hypothesis Testing

4.3.1 Multicollinearity Diagnostics

Prior to structural path estimation, inner VIF values are examined for predictor constructs in each endogenous equation. TPI→IIE yields VIF = 1.000, while TPI and IIE as joint predictors of PFE yield VIF = 1.223 for both paths. This confirms the absence of multicollinearity concerns even with IIE included as a co-predictor of PFE.

4.3.2 Path Coefficients, t-Statistics, and Effect Sizes

Table IX. Discriminant Validity Fornell-Larcker Criterion and HTMT Matrix

H	**Path**	**B (Path coefficients)**	**t-value**	**p-value**	**Decision**
H1	TPI -> IIE	0.427	4.834	0.000	Supported
H2	TPI -> PFE	0.229	2.090	0.037	Supported
H3	IIE -> PFE	0.462	4.693	0.000	Supported

Table X. Coefficient of Determination (R^2)

Endogenous Construct	**R^2**	**R^2 Adj**
IIE Income Inequality and Equity	0.182	0.174
PFE Policy Framework Effectiveness	0.356	0.343

Table XI. Coefficient of Effect Sizes (F2)

Predictor: Endogeneous Construct	**f^2**
TPI -> IIE	0.233
TPI -> PFE	0.066
IIE -> PFE	0.272

4.4 Interpretation Answering the Research Questions

RQ1: How do tariff reductions directly influence Gini coefficients and income inequality despite boosting aggregate output?

H1 is supported: TPI → IIE, $\beta = 0.427$ ($t = 4.834$, $p < 0.001$). This significant path coefficient ($f^2 = 0.223$, classified as medium-to-large by Cohen's convention) indicates that tariff policy configurations have a meaningful independent influence on the perception of income inequality. The effect magnitude ($\beta \approx 0.43$) highlights the fact that trade liberalisation raises returns to the abundant factor, creating aggregate gains that manifest as distributional divergence when labour market rigidities prevent lower-income sections of the population from capturing proportional benefits (Stolper & Samuelson, 1941)(Balassa, 1964).

RQ2: What trade-offs arise between protectionist tariffs, economic growth, and vulnerabilities in lower/middle-income households?

H2 (TPI → PFE) and H3 (IIE → PFE) together address RQ2. The direct effect of TPI on PFE is significant (β = 0.229, t = 2.090, p = 0.037; f^2 = 0.066, small). The indirect effect of TPI on PFE operating through IIE is significant and substantial (β = 0.197, t = 3.045, p = 0.002) — approximately 86% of the magnitude of the direct path. This mediation structure reveals that income inequality serves as a meaningful transmission mechanism through which tariff policy pressures translate into demands for policy framework reform, accounting for 46.2% of TPI's total effect on PFE (VAF = 46.2%, indicating partial mediation). The total effect of TPI on PFE (β = 0.426, t = 4.652, p < 0.001) confirms a robust aggregate relationship, but policy analysts should attend closely to the indirect channel: tariff disruptions that aggravate income inequality in lower- and middle-income households generate meaningful downstream pressure for accountability reforms, DEI enforcement, and resilience frameworks (Autor et al., 2013).

RQ3: Can targeted policy frameworks enhance accountability and DEI reinforcement to mitigate tariff-induced wealth polarisation?

H3 is strongly supported: IIE → PFE, β = 0.462 (t = 4.693, p < 0.001; f^2 = 0.272, medium-to-large effect). This result validates the proposition that income inequality perceptions directly drive demand for, and perceived effectiveness of, equity-reinforcing policy frameworks. The R^2 of 0.356 for PFE indicates that TPI and IIE together explain 35.6% of variance in policy framework effectiveness assessments — a substantial effect (Hair et al., 2017). The significant indirect path (TPI→IIE→PFE, β = 0.197, p = 0.002) confirms that the effects of tariff policy reform can only be felt when the DEI and accountability frameworks are designed with awareness of how tariff policy affects the population through multiple inequality channels before reaching the domain of the governance. (WTO Secretariat, 2020).

4.5 Discussion of Broader Implications

The findings show four substantive implications for formulation of trade policy and government interventions in developing economies:

- **First**, the significant TPI→IIE path (β = 0.427) reinforces that tariff policy cannot be designed in isolation from distributional analysis. Ex-ante income distributional impact assessments — modelled on environmental impact assessment frameworks — should be mandatory for major tariff reform proposals, particularly those affecting food, energy, and manufactured goods consumed disproportionately by lower-income deciles.
- **Second**, the mediation structure confirms that income inequality is not a background condition but an active transmission channel between tariff policy and institutional reform demand. The significant indirect effect (TPI→IIE→PFE, β = 0.197, p = 0.002), accounting for 46.2% of TPI's total effect on PFE (VAF = 46.2%), motivates a sequenced reform approach: stabilising distributional outcomes through targeted transfers and wage floor policies should precede or accompany liberalisation to pre-empt the inequality-driven governance pressures identified in this study.
- **Third**, the direct path TPI→PFE (β = 0.229) suggests that tariff policy changes also independently create demands for accountability and DEI reinforcement, even net of their inequality effects. Because this direct effect remains significant alongside the indirect pathway, the relationship reflects partial rather than full mediation — implying that trade negotiators should incorporate DEI conditionality frameworks and gender-disaggregated impact monitoring directly into trade agreement design, rather than treating equity frameworks solely as downstream corrections to inequality.
- **Fourth**, the R^2 of 18.2% for IIE and 35.6% for PFE indicate that while TPI and IIE jointly explain a substantial share of variance in policy framework effectiveness, which remains attributable to macroeconomic mediators not captured in the present model, notably terms-of-trade shocks, exchange rate regimes, fiscal space constraints, and political economy factors governing trade policy choice.

V. CONCLUSION

With the use of Partial Least Squares Structural Equation Modelling, this paper used a purposive survey of 99 professionals in the field of business, trade, economics and finance to trace the implications of tariff policies for

income inequality and economic equity in an empirical manner. The three constructs'/ research questions used were through tracking Tariff Policy Impact (TPI), Income Inequality and Economic Equity (IIE), and Policy Framework Effectiveness (PFE), the survey was on a 5-item scale and was subject to rigorous PLS-SEM analysis. The measurement model demonstrated strong psychometric properties: 14 of 15 indicator loadings exceeded 0.70 (range 0.737–0.860). Cronbach's alpha ranged from 0.833 to 0.871, Composite Reliability from 0.882 to 0.906, and Average Variance Extracted from 0.643 to 0.659. Discriminant validity was confirmed via HTMT ratios, which were all below 0.64, well within the 0.85 threshold, as stipulated by the Fornell-Larcker criterion. The structural model supported all three hypotheses: H1 (TPI→IIE, $\beta = 0.427$, $p < 0.001$) which confirmed a significant tariff-inequality transmission pathway. H2 (TPI→PFE, $\beta = 0.229$, $p = 0.037$) and H3 (IIE→PFE, $\beta = 0.462$, $p < 0.001$) together showcase that policy framework effectiveness is driven primarily by income inequality perceptions and secondarily by tariff policy disruptions acting directly. Critically, the mediation analysis identified a significant indirect effect (TPI→IIE→PFE, $\beta = 0.197$, $p = 0.002$), accounting for 46.2% of TPI's total effect on PFE (VAF = 46.2%). Because the direct TPI→PFE path remained significant alongside this indirect pathway, the results indicate **partial** mediation. IIE represents a substantial but not exclusive channel through which tariff policy influences governance and accountability frameworks. TPI and IIE jointly explained 35.6% of variance in PFE ($R^2 = 0.356$), while TPI alone explained 18.2% of variance in IIE ($R^2 = 0.182$), indicating that a meaningful share of variation in inequality perceptions stems from factors beyond tariff policy exposure alone.

These findings address the three RQs: reduction in tariff influence the perceived level of income inequality (RQ1), the trade-off based between low income groups and the imposition of tariffs occur because of a combination of governance pressures and inequality-mediated channels, where income inequality is a partial transmission mechanism (RQ2); and that targeted DEI and accountability frameworks are the most effective when they are created keeping the direct and indirect inequality-mediated pathways in mind through which tariff policy reached governance domains (RQ3). This study contributes an empirically validated framework for analysing tariff-inequality-governance linkages that can inform multilateral trade negotiations, national trade adjustment assistance programme design, and DEI-sensitive fiscal policy architecture in developing and emerging economies. Future research incorporating country-level macroeconomic controls is warranted to account for the substantial unexplained variance in inequality perceptions identified in this study.

VI. LIMITATIONS AND FUTURE SCOPE OF STUDY

6.1 Limitations: The following are the limitations of the study that affect its generalisability:

- Purposive Sampling: The purposive sampling involved limits probability-based generalisation. The respondent base may not capture trade policy dynamics in post-industrial economies, small island developing states, or in economies whose tariff structures and income distribution differ materially.
- Construct Coverage: Three constructs through three research questions and 15 items represent a parsimonious model that necessarily excludes potentially important mediators and moderators: terms-of-trade volatility, exchange rate regime and political economy constraints on trade policy reform. The unexplained variance in IIE (81.8%) and PFE (64.4%) likely reflects these omitted variables.
- Gender and Household Disaggregation: While the research objectives specifically reference female-led households and lower-income deciles as disproportionately vulnerable to tariff-induced inequality, the present survey instrument does not include sufficient demographic differentiation to test these differential effects empirically.
- Environmental Dimension: The study references environmental outsourcing as a negative tariff policy externality but does not operationalise an environmental equity construct. The carbon and ecological distributional implications of tariff regimes represent an important unmeasured dimension.

6.2 Future Research Directions: Building on the present findings, the following priority directions are identified for future inquiry:

- Multi-country panel PLS-SEM: Future studies should construct a panel dataset spanning multiple trade liberalisation events across 20–30 developing countries over a 10–15-year window, enabling dynamic PLS-SEM (DY-PLS) analysis that captures how tariff-inequality-governance relationships evolve across policy cycles. This would directly address the cross-sectional limitation and establish temporal causal ordering.
- Real-time tariff event study integration: Exploiting the increasing availability of harmonised tariff schedule databases (WTO IDB, TRAINS), future research could link survey-based perceptions to

objective tariff change events, constructing a quasi-experimental design around tariff binding overhangs or MFN tariff reductions as natural experiments for identifying the causal tariff-inequality effect.

- Machine learning augmentation: Integrating Random Forest or XGBoost importance scoring alongside PLS-SEM would identify non-linear and interaction effects between tariff policy dimensions and inequality outcomes that linear SEM cannot capture — particularly important for threshold effects where tariff changes exceed critical levels triggering structural adjustment labour market disruptions.
- Policy simulation modelling: The validated structural model provides coefficients usable in computable general equilibrium (CGE) calibration. Embedding the behavioural parameters ($\beta = 0.427$ for TPI→IIE, $\beta = 0.462$ for IIE→PFE, and the significant indirect effect $\beta = 0.197$ for TPI→IIE→PFE) into a micro-founded CGE model would enable ex-ante simulation of proposed tariff reforms' distributional effects before policy implementation, directly operationalising the accountability and DEI enforcement framework proposed in RQ3.

References

1. The effect of tariffs on poverty. (n.d.). The Budget Lab at Yale. https://budgetlab.yale.edu/research/effect-tariffs-poverty
2. The International Trade Council. (2024). *The rise of protectionism in 2024 and beyond*. https://tradecouncil.org/wp-content/uploads/2024/12/The-Rise-of-Protectionism-in-2024-and-Beyond.pdf
3. Bonaparte, Y. (2025). Tariffs and the Unequal Burden: How trade policy Deepens income Inequality. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.5219949
4. Ali, A. K., & Asfaw, D. M. (2023). Nexus between inflation, income inequality, and economic growth in Ethiopia. *PLoS ONE*, *18*(11), e0294454. https://doi.org/10.1371/journal.pone.0294454
5. Tabash, M. I., Elsantil, Y., Hamadi, A., & Drachal, K. (2024). Globalization and Income Inequality in Developing Economies: A Comprehensive analysis. *Economies*, *12*(1), 23. https://doi.org/10.3390/economies12010023
6. Dorn, D., & Levell, P. (2024). Trade and inequality in Europe and the US. *Oxford Open Economics*, *3*(Supplement_1), i1042–i1068. https://doi.org/10.1093/ooec/odad046
7. Bukhari, S. R. H., Khan, H. A., & Ullah, R. (2025, March 16). *Designing a New World Economic Order: A critical examination of the intersection of tariff wars, global governance, and artificial intelligence*. https://dialoguessr.com/index.php/2/article/view/409
8. Houenou, B. (2025). AI Labor Markets: Tradability, wage inequality and talent development. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.5163063
9. Villines, G. (2025). The Tariff Mirage: How Trade War Claims Diverge from Economic Reality in Trump's Second Term. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.5358663
10. Saridakis, G., Hosein, R., Intosh, I. J. M., Torres, R. I. M., Deo, A., Ramnath, R., & Jackson, K. (2025). Neo-mercantilism in Action - Mexico, Canada, and China under Trump's 2025 Tariffs: a trade perspective. *Critical Perspectives on International Business*, 1–43. https://doi.org/10.1108/cpoib-03-2025-0077
11. Rojas-Vallejos, J., & Turnovsky, S. J. (2017). Tariff reduction and income inequality: Some empirical evidence. *Open Economies Review*, *28*(4), 603–631. https://doi.org/10.1007/s11079-017-9439-y
12. Furceri, D., Hannan, S., Ostry, J., & Rose, A. (2018). *Macroeconomic consequences of tariffs*. https://doi.org/10.3386/w25402
13. Kaplan, G., Moll, B., & Violante, G. (2020). *The great lockdown and the big stimulus: tracing the pandemic possibility frontier for the U.S.* https://doi.org/10.3386/w27794
14. Cavallo, A., Gopinath, G., Neiman, B., & Tang, J. (2021). Tariff Pass-Through at the Border and at the Store: Evidence from US Trade Policy. *American Economic Review Insights*, *3*(1), 19–34. https://doi.org/10.1257/aeri.20190536
15. Colciago, A., Samarina, A., & De Haan, J. (2019). CENTRAL BANK POLICIES AND INCOME AND WEALTH INEQUALITY: A SURVEY. *Journal of Economic Surveys*, *33*(4), 1199–1231. https://doi.org/10.1111/joes.12314
16. Zhang, W., Liu, Y., Feng, K., Hubacek, K., Wang, J., Liu, M., Jiang, L., Jiang, H., Liu, N., Zhang, P., Zhou, Y., & Bi, J. (2018). Revealing Environmental Inequality Hidden in China's Inter-regional Trade. *Environmental Science & Technology*, *52*(13), 7171–7181. https://doi.org/10.1021/acs.est.8b00009
17. Betz, T. (2019). Tariff evasion and trade policies. *International Studies Quarterly*, *63*(2), 380–393. https://doi.org/10.1093/isq/sqz008
18. Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: indeed a silver bullet. *The Journal of Marketing Theory and Practice*, *19*(2), 139–152. https://doi.org/10.2753/mtp1069-6679190202

19. Structural Equation Modeling in Practice: A Review and Recommended Two-Step Approach. (1988). In *Psychological Bulletin* (Vol. 103, Issue 3, pp. 411–423). https://www3.nd.edu/~kyuan/courses/sem/readpapers/ANDERSON.pdf
20. Stolper, W. F., & Samuelson, P. (1941). *Protection and real wages*. https://econpapers.repec.org/article/ouprestud/v_3a9_3ay_3a1941_3ai_3a1_3ap_3a58-73..htm
21. Goldberg, P. K., & Pavcnik, N. (2007). Distributional effects of globalization in developing countries. *Journal of Economic Literature*, *45*(1), 39–82. https://doi.org/10.1257/jel.45.1.39
22. Balassa, B. (1964). The Purchasing-Power Parity Doctrine: a reappraisal. *Journal of Political Economy*, *72*(6), 584–596. https://doi.org/10.1086/258965
23. Autor, D. H., Dorn, D., & Hanson, G. H. (2013). The China Syndrome: Local labor market effects of import competition in the United States. *American Economic Review*, *103*(6), 2121–2168. https://doi.org/10.1257/aer.103.6.2121
24. Etikan, I. (2016). Comparison of convenience sampling and purposive sampling. *American Journal of Theoretical and Applied Statistics*, *5*(1), 1. https://doi.org/10.11648/j.ajtas.20160501.11
25. Hair, J. F., Jr., Hult, G. T. M., Ringle, C. M., & SAGE Publications, Inc. (2017). *A primer on Partial Least squares Structural Equation Modeling (PLS-SEM)*. SAGE Publications, Inc.
26. *Nunnally, J. C. (1978). Psychometric Theory (2nd ed.). New York McGraw-Hill. - References - Scientific Research Publishing*. (n.d.). https://www.scirp.org/reference/ReferencesPapers?ReferenceID=1867797
27. Fornell, C., & Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research*, *18*(1), 39–50. https://doi.org/10.1177/002224378101800104
28. Henseler, J., Ringle, C. M., & Sarstedt, M. (2014). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, *43*(1), 115–135. https://doi.org/10.1007/s11747-014-0403-8
29. Kenny, D. A. (2016). Principles and practice of structural equation modeling. In T. D. Little (Ed.), *Methodology in the Social Sciences*. The Guilford Press. https://dl.icdst.org/pdfs/files4/befc0f8521c770249dd18726a917cf90.pdf
30. WTO Secretariat. (2020). *WORLD TRADE REPORT 2020*. https://www.wto.org/english/res_e/booksp_e/wtr20_e/wtr20-0_e.pdf