

Globalization and Income Inequality: Beyond the Average Effect

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Abstract

This study reassesses the distributional consequences of globalization using a global panel spanning 1990–2023. The empirical framework distinguishes multiple dimensions of globalization and combines dynamic common correlated effects estimation with heterogeneous long-run analysis and reform-based causal validation. Pooled estimates suggest that deeper globalization is associated with lower income inequality after accounting for domestic covariates and common global shocks, but these relationships weaken substantially once cross-country heterogeneity is explicitly accommodated. Long-run average effects become statistically insignificant, while formal tests provide limited evidence that income level, transition status, regional location or institutional quality systematically explains the observed heterogeneity. Reform-based identification using the Information Technology Agreement similarly produces no significant inequality effect despite satisfactory pre-trend and permutation diagnostics. These findings challenge the presumption of a universal distributional dividend from globalization and show that favourable average associations conceal substantial heterogeneity and limited causal evidence of systematic inequality reduction.

JEL Classification: F60; F62; D31; C23; O15.

1 Introduction

Globalization has transformed the movement of goods, capital, technology, information and production across national borders, yet its implications for the distribution of income within countries remain deeply contested. A substantial strand of the literature links deeper integration with widening disparities where financial openness, international production and capital mobility strengthen returns to capital or weaken labour's relative bargaining position (Erauskin and Turnovsky 2022; Roberts and Tran 2023; Ashenafi and Dong 2023). Contrasting evidence suggests that specific forms of integration can reduce inequality or that their distributive consequences vary sufficiently across dimensions and national settings to resist a uniformly adverse interpretation (Behera and Pozhamkandath Karthiayani 2022; Naz 2023; Çakır and Ova 2026). The persistence of these competing findings suggests that the conventional question of whether globalization raises or lowers inequality may itself be too restrictive, since it implicitly treats globalization as a single exposure, assumes that an international average adequately represents national experiences, and relies heavily on aggregate inequality measures that reveal comparatively little about who ultimately gains or loses.

This ambiguity becomes clearer once globalization is recognised as a multidimensional process rather than treated as synonymous with trade openness or international interconnectedness more generally. The revised KOF framework distinguishes economic, social and political globalization while separating trade from financial integration and realised cross-border interactions from the *de jure* policies and institutional conditions that enable them (Gygli et al. 2019). Empirical evidence confirms that these distinctions are economically consequential, since trade, financial, *de facto* and *de jure* integration can display relationships with inequality that differ materially in magnitude, significance and direction across countries and stages of development (Pleninger et al. 2022; Uche et al. 2024; Kumar and Simran 2025). An aggregate index may consequently obscure important distributional relationships when different components of integration operate through competing channels, making it necessary to establish which dimensions of globalization retain meaningful associations with income distribution rather than imposing a common effect through aggregation.

Even a careful decomposition of globalization does not resolve the additional problem that an average international relationship need not describe the distributive experience of the countries from which that average is constructed.

Recent evidence indicates that the consequences of integration vary with development conditions, productive structures, financial and institutional capacity and the position within the income distribution at which outcomes are assessed (Lang and Tavares 2024; Abu Asab 2025; Khan et al. 2026), while income-share analysis further suggests that the gains associated with economic globalization need not accrue proportionately across different income groups (Bergh et al. 2026). These findings expose two closely related limitations of conventional pooled-Gini analysis, since a statistically significant international coefficient may conceal substantially different long-run national responses, while a decline in aggregate inequality may arise through gains among lower-income households, compression of income concentration at the top, or simultaneous movements at both ends of the distribution. Distinguishing these processes is particularly important for identifying the winners and losers of globalization, as similar changes in the Gini coefficient can represent fundamentally different distributive experiences.

The interconnected nature of the countries being compared creates a further empirical difficulty, since economies participating in the same global system are simultaneously exposed to international financial cycles, technological diffusion, commodity-price movements, geopolitical disturbances and policy changes, while income inequality itself tends to evolve persistently rather than adjust independently from one year to the next. Recent advances in common-correlated-effects estimation show that latent common factors, heterogeneous exposure to those factors, dynamic specification and non-stationarity can materially affect macro-panel inference, while also demonstrating that conventional country and year fixed effects do not necessarily eliminate these problems (Cao and Zhou 2022; Brown and Westerlund 2023; De Vos and Stauskas 2024; Brown et al. 2026). Applied to the globalization–inequality relationship, this evidence raises the possibility that coefficients obtained from simpler estimators may partly capture shared international dynamics or persistent domestic inequality processes rather than the distributional relationship attributed to globalization itself. An empirical strategy designed for a global panel therefore needs to accommodate both inequality persistence and cross-sectional dependence before the resulting coefficients can be interpreted with confidence.

The interpretation becomes more demanding when long-run globalization relationships are compared with causal evidence derived from individual liberalisation episodes, since these approaches identify substantively different forms of international integration over different adjustment horizons. Quasi-experimental research shows that sizeable tariff reforms can generate markedly different labour-market and distributional consequences depending on export opportunities, worker reallocation, labour-market power and the capacity of local economies to absorb adjustment. Kovak and Morrow (2023) identify relatively modest cumulative earnings-distribution effects from the Canada–US Free Trade Agreement despite substantial changes in trade flows, while Kondo et al. (2024) show that Chinese tariff reductions altered firms' labour-market power in ways that varied with skill intensity and local labour conditions; related evidence indicates that tariff liberalisation can narrow skill-related wage disparities in Thailand (Sudsawasd and Hayakawa 2024) yet generate adverse sectoral spillovers and weak labour absorption in South Africa (Lepelle and Edwards 2024). A discrete tariff shock and a broad globalization index should therefore not be expected to estimate the same object, since the former isolates a particular policy intervention over a defined adjustment period whereas the latter reflects the accumulated interaction of trade, finance, regulation, technology, institutional change and international connectivity over considerably longer horizons.

To this end, these measurement, heterogeneity, distributional and identification problems suggest that the unresolved gap is broader than the absence of another estimate of an average globalization coefficient. Existing research has generated extensive evidence on specific dimensions of integration, differentiated national responses, distributional incidence and individual liberalisation episodes, but these questions are less frequently examined

within an empirical architecture that allows their answers to differ without treating the resulting evidence as internally contradictory. Our study therefore asks whether globalization exhibits a systematic relationship with within-country income inequality once its distinct dimensions, common international forces, country-specific long-run responses, distributional incidence and externally determined policy shocks are considered within a unified framework. Addressing this question requires establishing whether a pooled globalization–inequality relationship survives explicit treatment of dynamics and common factors, whether any resulting pooled relationship represents a statistically common national response, where within the income distribution the relationship is concentrated, and whether externally generated liberalisation shocks reproduce the observational long-run pattern under more demanding causal identification.

Our empirical analysis addresses these questions using an unbalanced annual country panel covering 1990–2023 that combines the Standardized World Income Inequality Database, KOF Globalization Index, World Inequality Database, World Development Indicators, Worldwide Governance Indicators and historical World Bank classifications. Disposable-income Gini provides the principal inequality outcome, complemented by Top 10 per cent and Bottom 50 per cent income shares that reveal whether observed distributional changes are concentrated primarily at the upper or lower ends of the distribution. Aggregate globalization is evaluated alongside economic, financial, trade, de facto, de jure, social and political dimensions, while the preferred dynamic Common Correlated Effects specification accommodates inequality persistence and unobserved common international influences rather than the assumption that countries evolve independently. Country-specific long-run coefficients are subsequently estimated through CS-ARDL mean-group models, and the observational evidence is subjected to formal heterogeneity analysis, distributional outcomes, temporal falsification, richer dynamic specifications, sample and missingness checks, and an external-policy identification hierarchy culminating in an exact-product WTO Information Technology Agreement design constructed from predetermined pre-liberalisation exposure.

This integrated architecture advances the literature by separating several empirical questions that are frequently collapsed into a single globalization coefficient. Distinguishing aggregate globalization from economically meaningful dimensions allows realised international interaction and policy-enabled openness to carry different distributional implications rather than assuming their equivalence, while estimating country-specific long-run relationships makes it possible to test whether a significant pooled coefficient genuinely describes a common national experience. Connecting the disposable-income Gini to Top 10 per cent and Bottom 50 per cent shares further identifies whether changes in inequality reflect upper-tail compression, gains accruing to the lower half, or both, while the external-policy hierarchy separates persistent macro-panel relationships from the causal response to discrete liberalisation shocks and deliberately avoids elevating statistically favourable estimates when their identifying assumptions are unconvincing. Heterogeneity, distributional divergence and causal nulls are therefore treated as substantive information about the nature and horizon of globalization's relationship with inequality rather than as inconvenient departures from a preferred headline result.

Our empirical findings reinforce the value of making these distinctions reflecting that aggregate globalization does not retain a statistically significant relationship with disposable-income inequality once inequality dynamics and common global factors are accommodated, whereas economic, financial and especially de jure globalization exhibit significant negative pooled associations, with the de jure relationship remaining particularly stable across alternative specifications and sample checks. These pooled relationships nevertheless fail to become statistically common long-run effects when national coefficients are allowed to vary, while broad income classifications, regional groupings, transition status and average institutional capacity do not convincingly explain the resulting cross-country dispersion. The distributional evidence reveals an additional distinction, since aggregate and de jure

globalization are associated with both reduced upper-tail concentration and higher Bottom 50 per cent income shares, whereas economic and financial globalization are more clearly associated with compression at the top than with statistically detectable gains accruing to the lower half. Causal validation imposes a further boundary on interpretation, as the weaker external-policy designs fail important identifying diagnostics while the exact-product ITA experiment exhibits credible pre-treatment behaviour but produces no detectable short- or medium-run effect on national inequality or the alternative income-share outcomes.

Our findings do not support replacing an adverse account of globalization with an equally universal equalising narrative but instead demonstrate why several propositions frequently conflated in the literature need to be evaluated separately. A negative pooled long-run relationship can coexist with positive, negligible or statistically uncertain national responses when countries absorb integration differently, just as a lower Gini can emerge from movements at different points in the income distribution without implying equivalent gains for poorer households. A persistent association with multidimensional international integration can also coexist with a credible causal null from a narrowly defined tariff-market-access shock when the two approaches capture different mechanisms and adjustment horizons. The more informative question is therefore not whether globalization is inherently equalising or disequalising, but which forms of globalization are associated with distributional change, who gains or losses as those forms of integration deepen, how consistently those relationships appear across countries, and whether long-run macro-panel patterns survive identification based on discrete external policy shocks.

The remainder of the paper develops this argument through a deliberately connected empirical structure, with Section 2 establishing the theoretical foundations and critically reviewing the relevant empirical literature, Section 3 presenting the data and identification strategy, Section 4 empirical results, and Section 5 drawing the evidence together through the conclusions, policy implications, limitations and directions for further research.

2 Literature Review

2.1 Theoretical Perspectives on Globalization and Income Inequality

Traditional trade theory provides the foundational explanation for the distributional consequences of globalization, although its predictions depend strongly on factor endowments and labour-market adjustment. The Stolper–Samuelson mechanism predicts that trade integration raises returns to a country's relatively abundant factor while reducing returns to its scarce factor, implying potential inequality reductions in labour-abundant developing economies but widening disparities where skilled labour and capital are relatively abundant. Subsequent theoretical developments qualify this prediction by showing that international integration can alter skill premia through within-sector reallocation, firm-level differences in skill intensity and heterogeneous worker comparative advantage, producing distributional outcomes that need not conform to conventional factor-abundance predictions (Stolper and Samuelson 1941; Helpman et al. 2010; Burstein and Vogel 2017; Lee 2020). The inequality effect of globalization therefore depends not simply on greater openness, but on how differently positioned workers participate in the sectors and activities affected by international competition.

Modern trade models reinforce this conditional interpretation by incorporating firm and worker heterogeneity, which allows globalization gains to be distributed unevenly within industries and labour markets. More productive firms are better positioned to enter export markets and benefit from declining trade costs, while workers in less productive or import-competing firms may experience weaker wage growth, displacement or unemployment.

Models combining firm heterogeneity with labour-market imperfections consequently show that international integration can raise aggregate efficiency while increasing wage dispersion, particularly where high-productivity firms disproportionately employ high-skilled workers (Egger and Kreickemeier 2009; Amiti and Davis 2012; Sampson 2014). The distributional effect can also change with the depth of integration as exporter selection and expanding participation in international markets alter the relative concentration of globalization gains over time (Nigai 2023; Nigai and Yang 2024). These mechanisms provide a stronger theoretical basis for expecting heterogeneous rather than uniform inequality responses across countries with different productive structures.

Global production fragmentation creates further distributional effects through offshoring, outsourcing and changing worker bargaining power. Relocating less skill-intensive activities can increase relative demand for skilled labour, although task-based models demonstrate that lower offshoring costs may simultaneously generate productivity gains capable of benefiting workers whose activities become internationally tradable (Feenstra and Hanson 1999; Grossman and Rossi-Hansberg 2008; Jiang 2023). The resulting wage effects depend on the activities relocated, worker skill composition and destination characteristics, producing contrasting outcomes across occupations and sourcing locations (Koerner 2023; Jiang 2024). International production mobility can also weaken the bargaining position of workers whose tasks are more easily relocated, allowing globalization to widen wage differentials even before production moves abroad (Jeon and Kwon 2021; Afonso et al. 2023). Production globalization can therefore create winners and losers through interacting productivity, employment and bargaining channels that extend beyond conventional final-goods trade.

Financial globalization introduces comparable ambiguity because capital mobility affects financing constraints, investment opportunities, asset returns and the relative position of capital and labour. Although greater financial integration can improve capital allocation and expand investment, its gains may accrue disproportionately to households and firms possessing financial assets, collateral or international market access, particularly where domestic financial systems remain shallow. Models incorporating financial frictions and heterogeneous investment opportunities accordingly show that capital-account liberalization can either reduce or increase inequality depending on financial development and the structure of international borrowing and investment (Bumann and Lensink 2016; Erauskin and Turnovsky 2019; Pi and Fan 2022). Inequality may consequently increase where capital ownership is concentrated, financial inclusion is weak or international integration reduces labour's bargaining position, whereas stronger financial development and redistributive capacity can moderate these effects (Furceri and Loungani 2018; Erauskin and Turnovsky 2022; Pi et al. 2023). Trade and financial globalization should therefore not be expected to generate identical distributional effects across economies at different stages of development.

Domestic institutions further determine how these globalizations mechanisms translate into realised inequality by shaping access to economic opportunities, rent extraction, labour-market adjustment and governments' capacity to redistribute gains or compensate adversely affected groups. Stronger institutional environments can facilitate productive reallocation and constrain privileged groups from capturing disproportionate globalization benefits, whereas weaker institutions may reinforce existing disparities by concentrating trade- and finance-related gains among economic or political insiders. Existing research accordingly shows that stronger property rights and governance structures can moderate globalization-related inequality, while weaker institutional capacity can intensify unequal access to the benefits of international integration (Bormann et al. 2021; Hartwell 2022; Osode et al. 2022). Labour-market institutions can similarly condition the consequences of international competition and production relocation for skilled and unskilled workers (Afonso et al. 2023; Çakır and Ova 2026). The theoretical literature therefore provides little justification for expecting a single average globalization effect across countries characterised by different productive structures, development levels, financial systems and institutional capacities,

establishing the conceptual basis for the heterogeneous and institution-dependent empirical evidence examined in the following section.

2.2 Empirical Literature

Empirical evidence on globalization and income inequality remains contested, although the disagreement increasingly reflects differences in globalization dimensions, country characteristics and identification strategies rather than an inherently indeterminate relationship. Cross-country studies frequently associate deeper globalization with higher within-country inequality, particularly where international integration exposes workers and households unevenly to trade, capital mobility and structural adjustment (Dreher and Gaston 2008; Bergh and Nilsson 2010; Heimberger 2020). Heimberger (2020) meta-analysis of 123 studies confirms a small-to-moderate inequality-increasing effect of economic globalization, while also showing that estimates vary systematically with globalization and inequality measures and other study characteristics. Evidence focused specifically on trade is less consistent, since Goldberg and Pavcnik (2007), Harrison et al. (2011), Dorn et al. (2022) and Huang et al. (2022) demonstrate substantial variation across labour-market structures and development levels. Once endogeneity is explicitly addressed, Huang et al. (2022) find little support for trade as a universal cause of rising inequality, while Dorn et al. (2022), using an instrumental-variable strategy, similarly uncover pronounced cross-country heterogeneity. These results bring to light that apparently conflicting estimates partly reflect differences in empirical design and country composition rather than a stable distributional effect of international integration.

Disaggregating globalization reveals a clearer distinction between trade and financial integration. Financial globalization and capital-account liberalisation are more consistently associated with widening inequality, particularly where international capital flows disproportionately reward capital owners and skilled workers or where domestic financial inclusion remains limited (Jaumotte et al. 2013; Asteriou et al. 2014; de Haan and Sturm 2017; Furceri and Loungani 2018; Furceri et al. 2019). Furceri and Loungani (2018) and Furceri et al. (2019) further show that liberalisation can produce persistent increases in inequality and top income shares, while de Haan and Sturm (2017) demonstrate that political and institutional conditions alter these effects. Trade globalization produces less uniform outcomes, with Jaumotte et al. (2013) and Asteriou et al. (2014) identifying inequality-reducing effects, whereas Bergh and Nilsson (2010), Goldberg and Pavcnik (2007) and Pleninger et al. (2022) find that trade-related gains can remain concentrated among specific workers and income groups. Measurement also matters, since Pleninger et al. (2022) identify stronger distributional effects for realised globalization than for policy-based openness, while Osinubi and Olomola (2020) and Mishra et al. (2020) show that economic, social and political globalization can generate distinct inequality responses. This implies that aggregate globalization measures may therefore conceal mechanisms that differ materially across dimensions and modes of international integration.

Development level provides another important source of heterogeneity, although empirical findings remain sufficiently divergent to caution against simple income-group classifications. Villanthenkodath et al. (2024) find that economic globalization and trade openness reduce inequality in middle- and high-income economies but increase it among low-income countries, whereas financial openness produces an opposing pattern across these groups. Huang et al. (2022) likewise identify inequality-reducing trade effects mainly among middle- and high-income economies after correcting for endogeneity, although their insignificant low-income result differs from the disequalising effect reported by Villanthenkodath et al. (2024). Dorn et al. (2022) offer a further qualification by showing that trade can raise the relative income shares of poorer households in emerging and developing economies, while Pleninger et al. (2022) find that globalization reduces the income shares of the poorest quintile and middle class but benefits the richest quintile, particularly in low- and middle-income countries. These tensions echo earlier developing-country evidence showing substantial variation in distributional responses across

productive structures, skill compositions and trade regimes (Goldberg and Pavcnik 2007; Meschi and Vivarelli 2009; Harrison et al. 2011). Differences across development groups consequently appear to interact with the position of households within the income distribution, making average country-level effects insufficient for identifying globalization's winners and losers.

Institutional conditions provide an important explanation for why these distributional responses differ, although the empirical evidence does not support the simpler proposition that stronger institutions invariably neutralise globalization-related inequality. Hartwell (2022) finds that stronger property rights and democratic institutions moderate trade-related inequality, while Nam et al. (2024) identify institutional quality as an important moderator of a nonlinear trade–inequality relationship in ASEAN economies. Similar conditionality arises for international investment, since Huynh (2021) finds that FDI initially exacerbates inequality across Asian economies but that sufficiently strong institutional quality can reverse this effect, while de Haan and Sturm (2017) show that political institutions condition the distributional consequences of financial liberalisation (Huynh 2021; de Haan and Sturm 2017; Hartwell 2022; Nam et al. 2024). The interaction is nevertheless more complex in Osode et al. (2022), whose instrumental-variable quantile estimates show that institutional quality can alter the effects of trade and financial globalization differently depending on the prevailing level of inequality, including circumstances in which improved institutions coexist with stronger disequalising effects. Recent evidence from Çakır and Ova (2026) similarly finds that institutional factors account for substantially more long-run cross-country variation in inequality than globalization itself, while trade openness reduces inequality and FDI increases it. Institutional quality should therefore be understood as a conditioning environment that changes the transmission of globalization rather than as a uniformly equalising mechanism, which strengthens the case for examining institutional heterogeneity directly rather than relegating governance indicators to conventional controls.

The findings in existing literature narrows the unresolved empirical problem considerably as meta-analytic and cross-country evidence demonstrates substantial sensitivity to development composition, globalization measures and endogeneity treatment (Heimberger 2020; Huang et al. 2022), while distribution-sensitive studies show that average inequality measures can conceal divergent effects across poorer, middle-income and richer groups (Dorn et al. 2022; Pleninger et al. 2022). Institutional and heterogeneous-panel evidence further indicates that globalization effects depend on domestic governance, common international shocks and country-specific adjustment processes (Hartwell 2022; Osode et al. 2022; Nam et al. 2024; Balan et al. 2015; Destek 2018). Existing studies have therefore advanced substantially beyond estimating a single globalization coefficient, yet multidimensional globalization, development heterogeneity, institutional conditioning, cross-sectional dependence and stronger causal identification remain only partially integrated within a common global framework. The resulting gap concerns not merely whether globalization changes inequality, but which dimensions of globalization generate distributional gains or losses, where those effects are concentrated, and whether they remain robust when heterogeneous country responses and identification challenges are explicitly addressed.

Our study therefore responds to the existing gap in literature through a global empirical framework that distinguishes aggregate, trade and financial globalization while evaluating heterogeneity across development and income regimes and examining institutional quality as a conditioning mechanism. Our analysis combines conventional panel estimates with approaches that accommodate persistent inequality, common cross-country influences and heterogeneous responses, while complementary identification and reform-based exercises provide stronger tests of whether the principal relationships withstand potential endogeneity. This framework shifts the empirical emphasis from searching for a universal globalization effect towards identifying when, where and through which dimensions international integration alters the distribution of income.

3 Methodology and Empirical Strategy

3.1 Data Commentary and Variable Construction

The study employs an unbalanced annual country panel covering 1990–2023, constructed from the Standardized World Income Inequality Database (SWIID 9.92), KOF Globalization Index 2025, World Inequality Database (WID), World Development Indicators (WDI), Worldwide Governance Indicators (WGI) and historical World Bank classifications. The panel contains 8,466 country-year observations across 249 geographical entities, while the effective estimation sample varies with data availability and estimator requirements. Missing observations are neither interpolated nor imputed; instead, each specification uses model-specific complete cases, thereby avoiding artificially generated variation in either inequality or globalization measures (Solt 2020; Gygli et al. 2019).

Disposable-income inequality from SWIID is the principal dependent variable, with market-income Gini retained as a secondary measure. SWIID offers broad cross-country comparability through systematic standardisation of heterogeneous inequality observations, making it particularly suitable for long-horizon macro-panel analysis (Solt 2020; Jenkins 2015). To determine whether movements in the aggregate Gini correspond to identifiable changes within the income distribution, WID Top-10 and Bottom-50 income shares are used as complementary outcomes, consistent with the distributional-national-accounts literature that emphasises direct examination of income shares alongside summary inequality indices (Piketty et al. 2018; Chancel and Piketty 2021).

Globalization is measured using the KOF Globalization Index, which distinguishes economic, financial, trade, social and political integration as well as de facto and de jure dimensions. This decomposition is important because realised international flows and the institutional conditions enabling those flows need not exert equivalent distributional effects, while existing evidence shows that estimated inequality consequences vary materially across dimensions of globalization and econometric specifications (Gygli et al. 2019; Heimberger 2020). Aggregate KOF globalization is therefore treated as the benchmark measure, while economic, financial, trade, de facto, de jure, social and political globalization are examined separately.

The preferred macro-panel conditioning set comprises log real GDP per capita at purchasing-power parity, the age-dependency ratio and log population. These controls are retained consistently across the principal DCCEP, CS-ARDL and WID specifications to avoid attributing estimator differences to changes in the conditioning set. Secondary-school enrolment is examined separately as a human-capital robustness control because its inclusion substantially reduces sample coverage, while WGI measures are used to evaluate institutional sensitivity rather than being incorporated mechanically into the headline specification (Heimberger 2020; Erauskin and Turnovsky 2022). Table 1 defines the principal variables while Table 2 reports the descriptive statistics for the core estimation sample.

Table 1
Variable Definitions

Variable	Measurement	Source	Role
Disposable-income Gini	Inequality after taxes and transfers	SWIID 9.92	Main outcome
Market-income Gini	Inequality before fiscal redistribution	SWIID 9.92	Secondary outcome
Top-10 income share	Income share of highest 10%	WID	Distributional outcome
Bottom-50 income share	Income share of lowest 50%	WID	Distributional outcome
Aggregate globalization	Composite globalization index	KOF 2025	Benchmark exposure
Economic globalization	Trade and financial integration	KOF 2025	Main exposure
Financial globalization	International financial integration	KOF 2025	Main exposure
Trade globalization	International trade integration	KOF 2025	Supplementary exposure
De facto globalization	Realised international flows	KOF 2025	Supplementary exposure
De jure globalization	Policies and institutions facilitating integration	KOF 2025	Main exposure
Social globalization	Interpersonal, informational and cultural integration	KOF 2025	Supplementary exposure
Political globalization	International political integration	KOF 2025	Supplementary exposure
Log GDP per capita	Log real GDP per capita, PPP	WDI	Core control
Age dependency	Dependants relative to working-age population	WDI	Core control
Log population	Natural logarithm of population	WDI	Core control
Secondary enrolment	Gross secondary-school enrolment	WDI	Robustness control
Institutional capacity	Composite governance measure	WGI	Robustness measure
EMA	Predetermined export exposure to foreign MFN tariff reductions	CEPII TradeProd	External-policy exposure
ICS	Predetermined import exposure to foreign supply growth	CEPII TradeProd	External-supply exposure
ITA legal exposure	Predetermined 1996 exposure to covered ITA products	BACI/WTO	Quasi-experimental treatment
Source: Authors Computation (2026)			

3.2 Model Specifications

The empirical analysis begins with static and dynamic two-way fixed-effects specifications that control for time-invariant country characteristics and common year shocks. Inequality is persistent, while internationally integrated economies are jointly exposed to financial, technological, policy and geopolitical disturbances, creating scope for residual cross-sectional dependence and heterogeneous responses to latent common factors (Sarafidis and Wansbeek 2012; Pesaran 2015). The dynamic benchmark is specified in Eq. (1), where $INEQ$ denotes disposable-income inequality, $GLOB$ represents the relevant globalization measure and X contains log GDP per capita, age dependency and log population. Static and dynamic TWFE models with Driscoll–Kraay inference are retained as transparent benchmarks, with Table 3 subsequently comparing them with the preferred common-factor estimator (Driscoll and Kraay 1998; Hoechle 2007).

$$INEQ_{it} = \alpha_i + \lambda_t + \rho INEQ_{i,t-1} + \beta GLOB_{it} + \gamma' \mathbf{X}_{it} + \epsilon_{it}$$

1

Cross-sectional dependence is addressed through the Common Correlated Effects framework, which augments country equations with cross-sectional averages that proxy otherwise unobserved common factors. Dynamic extensions accommodate lagged dependent variables, persistent common shocks and weakly exogenous regressors without requiring identical factor loadings across countries, making the approach particularly appropriate for internationally interconnected macro-panels (Pesaran 2006; Chudik and Pesaran 2015). The preferred dynamic pooled Common Correlated Effects specification therefore employs AR(1) inequality dynamics together with current and three lags of the relevant cross-sectional averages, as shown in Eq. (2).

$$INEQ_{it} = \alpha_i + \rho INEQ_{i,t-1} + \beta GLOB_{it} + \gamma' \mathbf{X}_{it} + \sum_{l=0}^3 \delta_{il} \bar{\mathbf{Z}}_{t-l} + u_{it}$$

2

The common-factor projections and intercepts are country-specific, while the structural coefficients are pooled. Lagged cross-sectional averages are retained because contemporaneous averages may inadequately span the latent factor space once lagged outcomes and weakly exogenous regressors enter a dynamic model (Pesaran 2006; Chudik and Pesaran 2015). The corresponding pooled long-run effect is defined in Eq. (3), while Table 4 reports the short- and long-run DCCEP estimates together with their economic magnitudes.

$$\theta^P = \frac{\beta}{1 - \rho}$$

3

A pooled coefficient need not constitute a representative country-level response where labour-market institutions, fiscal capacity, productive structures and financial development differ substantially across economies. Formal heterogeneity is therefore examined using a CS-ARDL(1,1) mean-group specification that permits country-specific structural coefficients while retaining common-factor augmentation, thereby supporting long-run inference in heterogeneous panels characterised by cross-sectional dependence (Chudik and Pesaran 2015; Chudik et al. 2016). The country-specific long-run effect is defined in Eq. (4).

$$\theta_i = \frac{\beta_{i0} + \beta_{i1}}{1 - \phi_i}$$

4

Eligible country equations require at least 20 complete level observations and eight residual degrees of freedom, while the stability audit additionally requires the absolute value of the autoregressive parameter to remain below unity. Table 5 compares the pooled DCCEP results with the CS-ARDL mean-group estimates and stable country-specific long-run distributions. The distributional analysis subsequently re-estimates the preferred DCCEP framework using WID Top-10 and Bottom-50 income shares while retaining the same structural controls and common-factor treatment, allowing movements in the aggregate Gini to be compared with changes at identifiable parts of the income distribution (Piketty et al. 2018; Chancel and Piketty 2021). These estimates are reported in Table 6.

3.3 Robustness, Identification and Causal Validation

The robustness strategy examines distinct threats to inference through cross-sectionally augmented stationarity tests, richer AR(2) inequality dynamics, alternative periods and samples, institutional controls, human-capital controls, nonlinear specifications and temporal placebo tests. Cross-sectionally augmented procedures are appropriate where common factors can invalidate first-generation panel stationarity tests, while sample-matched robustness exercises distinguish genuine control-variable sensitivity from changes generated by altered sample composition (Pesaran 2007; Baltagi et al. 2007). The corresponding diagnostics and sensitivity exercises are reported in Online Resource 1 (Tables A1–A7).

The identification analysis subsequently exploits predetermined exposure to foreign trade-policy and supply shocks rather than interpreting changes in observed globalization indices as exogenously assigned. Export-market-access exposure combines fixed 1988–1990 bilateral export shares with subsequent foreign destination-sector MFN tariff reductions, as defined in Eq. (5).

$$EM A_{it} = \sum_{j,s} w_{ijs,0}^X \left(-\Delta \text{Tariff}_{jst}^{MFN} \right)$$

5

Import-competition exposure similarly combines predetermined import shares with leave-home-out foreign origin-sector supply growth, as shown in Eq. (6).

$$ICS_{it} = \sum_{j,s} w_{ijs,0}^M g_{js,t}^{(-i)}$$

6

Predetermined shares limit contemporaneous adjustment of exposure, although credible shift-share inference additionally depends on the identifying and dependence properties of the primitive shocks. The analysis therefore employs shock-level inference, balance diagnostics, exposure-concentration tests and leave-one-destination-out analysis consistent with the modern shift-share literature (Adão et al. 2019; Goldsmith-Pinkham et al. 2020; Borusyak et al. 2022). The headline external-shock specifications use country and year fixed effects without contemporaneous macroeconomic controls that could themselves respond to the shocks, while one-year-lagged values of the core controls enter sensitivity models.

The strongest quasi-experimental exercise exploits predetermined export exposure to the WTO Information Technology Agreement. Exposure is fixed using 1996 BACI HS96 exports to 95 fully covered non-ex ITA product lines across 33 original standard-staging destination markets, while original ITA implementation economies are excluded as home countries. Country-specific predetermined legal exposure is defined in Eq. (7).

$$E_i^{ITA} = \frac{\sum_{j \in J^{ITA}} \sum_{p \in P^{ITA}} Exports_{ijp,1996}}{TotalExports_{i,1996}}$$

7

Treatment intensity is generated by interacting predetermined exposure with the legally mandated implementation schedule, as defined in Equations (8) and (9).

$$ITA_{it} = E_i^{ITA} S_t$$

8

$$S_t = \begin{cases} 0, & t \leq 1996 \\ 0.25, & t = 1997 \\ 0.50, & t = 1998 \\ 0.75, & t = 1999 \\ 1, & 2000 \leq t \leq 2005 \end{cases}$$

9

The headline continuous-exposure difference-in-differences model is specified in Eq. (10), with country-clustered standard errors.

$$Y_{it} = \alpha_i + \lambda_t + \beta^{ITA} \left(E_i^{ITA} S_t \right) + \epsilon_{it}$$

10

The accompanying dynamic event-study model interacts predetermined exposure with calendar-year indicators and uses 1996 as the omitted reference year, as shown in Eq. (11).

$$Y_{it} = \alpha_i + \lambda_t + \sum_{\tau \neq 1996} \beta_{\tau} \left[E_i^{ITA} 1(t = \tau) \right] + \epsilon_{it}$$

11

A joint test of the 1991–1995 exposure interactions are required before post-treatment coefficients receive a causal interpretation, while region-by-year fixed effects, country-specific trends, baseline-balance tests, leave-one-destination-out estimates and region-stratified permutation inference provide additional design diagnostics. These procedures accord with contemporary difference-in-differences research, which emphasises credible treatment construction, pre-treatment behaviour and design-consistent inference rather than statistical significance alone (Callaway and Sant’Anna 2021; Sun and Abraham 2021; Roth et al. 2023). Detailed ITA evidence appears in Online Resource 1 (Table A8) and is synthesised with the remaining identification exercises in Table 7.

The empirical evidence is evaluated according to identification strength rather than coefficient significance. DCCEP provides the principal evidence on pooled conditional globalization–inequality relationships after accommodating persistence and common global factors, while CS-ARDL evaluates whether those relationships represent statistically common long-run country responses and the WID specifications examine their distributional composition. External trade-policy exercises address narrower causal mechanisms, with the exact-product ITA

design receiving greater evidential weight when its identifying diagnostics are satisfied than unrestricted shift-share, Deep-RTA or weak-IV specifications whose exogeneity, pre-trend or relevance conditions are weaker (Adão et al. 2019; Borusyak et al. 2022; Roth et al. 2023). This hierarchy allows pooled associations, heterogeneous country responses and externally identified policy shocks to address distinct empirical questions rather than being interpreted as interchangeable estimates of a single causal parameter.

4 Empirical Results and Discussion

4.1 Descriptive Evidence and Estimator Selection

Table 2 reveals substantial variation in both income inequality and globalization across the estimation sample, providing the empirical breadth required to examine their relationship across economies with markedly different structural characteristics. Disposable-income inequality averages 38.65 Gini points but ranges from 19.20 to 65.90, while the aggregate KOF Globalization Index varies from 22.62 to 89.19 around a mean of 57.39. Considerable dispersion in GDP per capita, demographic dependency and population size further confirms that the panel encompasses countries at different stages of development and demographic transition. This heterogeneity is analytically important, since countries embedded in the same global economy may respond differently to common financial cycles, technological change, commodity-price movements and shifts in international trade. The baseline specifications therefore condition on log GDP per capita, the age-dependency ratio and log population, while the estimator strategy additionally accommodates inequality persistence and cross-country dependence.

Table 2
Core Estimation-sample Descriptive Statistics

Variable	N	Mean	Std. Dev.	Min	Median	Max
Disposable-income Gini	4,832	38.650	8.348	19.200	38.300	65.900
Aggregate KOF globalization	4,832	57.391	15.653	22.619	56.251	89.194
Log GDP per capita (PPP)	4,832	9.357	1.158	6.333	9.421	11.912
Age-dependency ratio	4,832	63.039	18.571	17.303	56.640	118.451
Log population	4,832	15.955	1.872	9.778	16.030	21.078
Source: Authors Computation (2026)						

Table 3 demonstrates why these econometric features materially affect inference as under static TWFE-DK, economic and financial globalization are positively associated with inequality, with coefficients of 0.0286 and 0.0376 respectively, whereas introducing inequality dynamics reverses both signs and the preferred DCCEP specification strengthens the negative relationships to -0.0103 and -0.0082 . De jure globalization similarly moves from an insignificant static coefficient to a significant and substantially larger negative DCCEP estimate of -0.0204 . Aggregate globalization behaves differently: its significant negative relationship under the simpler estimators falls to -0.0033 and becomes statistically insignificant once common factors are absorbed. Estimator choice therefore affects not merely coefficient precision but, for some dimensions, the inferred direction and existence of the relationship itself.

This sensitivity is consistent with an econometric literature showing that cross-sectional dependence and latent common factors can substantially distort inference in macro-panels when they are inadequately modelled, while

dynamic CCE approaches provide a more appropriate framework where countries respond jointly to unobserved global processes (Juodis and Reese 2026; De Vos and Stauskas 2024; Stauskas and De Vos 2025; Margaritella and Westerlund 2023). Importantly, this literature does not imply that adopting CCE methods automatically validates a specification, making residual diagnostics central to estimator selection. The preferred models satisfy this requirement; residual cross-sectional-dependence tests fail to reject independence for aggregate, economic, financial and de jure globalization, while the strongly significant lagged-Gini coefficients confirm substantial inequality persistence. The preference for DCCEP therefore rests on its closer correspondence to the structure of the data rather than on its production of more favourable coefficients.

The estimator progression consequently reframes our empirical question. Once persistence and common global influences are incorporated, aggregate globalization no longer exhibits a robust pooled relationship, whereas selected dimensions of integration continue to do so. The analysis therefore turns to whether these dimensional relationships survive in the long run, whether they characterise individual countries, where within the income distribution they operate, and whether externally identified liberalisation shocks reproduce the same pattern.

Table 3
Globalization and disposable-income inequality (Estimator Comparison)

Globalization measure	Static TWFE-DK	Dynamic TWFE-DK	DCCEP p = 3 (AR1)	DCCEP long-run	N	Countries	Residual CD p
Overall globalization	-0.0301**	-0.0161***	-0.0033	-0.0108	3,742	128	0.748
	(0.0150)	(0.0036)	(0.0064)	(0.0202)			
Economic globalization	0.0286***	-0.0070***	-0.0103***	-0.0434**	3,742	128	0.979
	(0.0049)	(0.0023)	(0.0035)	(0.0175)			
Financial globalization	0.0376***	-0.0041**	-0.0082***	-0.0353***	3,742	128	0.270
	(0.0039)	(0.0018)	(0.0024)	(0.0113)			
De jure globalization	-0.0184	-0.0100***	-0.0204***	-0.0629***	3,773	129	0.465
	(0.0148)	(0.0022)	(0.0060)	(0.0227)			
Source: Authors Computation (2026)							
Notes: Dependent variable is SWIID disposable-income Gini. All preferred panel models include the same three time-varying controls: log GDP per capita (PPP), age dependency ratio, and log population. Their coefficients are included in estimation but suppressed from the journal table to keep the focus on the globalization parameters. Static and dynamic TWFE specifications include country and year fixed effects with Driscoll–Kraay standard errors. DCCEP uses unit-specific projections on current and three lags of cross-sectional averages and pooled structural slopes. Standard errors are in parentheses. * p < 0.10, ** p < 0.05, *** p < 0.01.							

4.2 Main Globalization–Inequality Results

The preferred estimates in Table 4 reveal a clear distinction between aggregate globalization and its constituent dimensions. Aggregate KOF globalization is statistically insignificant in both the short and implied long run, whereas economic, financial and de jure globalization are negatively associated with disposable-income inequality. A ten-point increase in economic globalization corresponds to approximately 0.10 fewer Gini points in the short run and

0.43 fewer points in the implied long run, while the corresponding reductions for financial globalization are approximately 0.08 and 0.35 Gini points. De jure globalization produces the largest pooled relationship, with an equivalent increase associated with approximately 0.20 fewer Gini points initially and 0.63 fewer points in the long run. These long-run magnitudes partly reflect the persistence of inequality, with autoregressive coefficients between approximately 0.68 and 0.77, and should therefore be interpreted as cumulative pooled relationships rather than immediate distributive changes.

The coexistence of an aggregate null with significant dimensional coefficients contributes directly to the continuing debate over whether globalization systematically widens or narrows inequality. One strand of recent evidence finds either weak, country-specific or inequality-reducing relationships once heterogeneity and policy context are recognised (Rajaguru et al. 2023; Tabash et al. 2024; Beck et al. 2024; Gnangnon 2025). A contrasting literature associates deeper international integration with greater income or wage dispersion where adjustment costs fall disproportionately on particular workers, returns accrue more strongly to capital and higher-skilled groups, or domestic redistribution is insufficient to offset market-income effects (Choga et al. 2024; Vuković and Damijan 2025; Pandian 2024; Anwar and Sun 2025). Our evidence suggests that part of this disagreement may arise from treating globalization as a single exposure, but once common factors and inequality persistence are accommodated, the composite index becomes uninformative while specific dimensions retain distinct relationships. Differences across studies in country composition, inequality measures, integration channels and econometric treatment can therefore generate contrasting findings without requiring a universally positive or negative globalization effect.

Financial globalization illustrates this conditionality particularly clearly. Although, the pooled coefficient is negative, recent evidence shows that international financial integration can either widen or narrow inequality depending on the composition of capital flows, domestic financial development and the institutional environment through which external finance is transmitted (Ioannou and Wójcik 2023; Kumar and Simran 2025; Opperman and Tita 2025; Yun 2025). Financial integration may reinforce concentration where access to international capital disproportionately benefits already advantaged households and firms, yet its distributional effect can weaken or reverse where financial development broadens access to investment opportunities or where different forms of external finance generate offsetting effects. The coefficient identified in our result implies a negative pooled conditional relationship rather than evidence that financial globalization is inherently equalising.

De jure globalization provides the strongest negative pooled result and reinforces the distinction between policy-enabled integration and realised cross-border flows. The revised KOF framework separates institutional and policy conditions from the cross-border activities through which integration is realised, and empirical studies show that this de jure–de facto distinction can materially change estimated distributional relationships (Gygli et al. 2019; Pleninger et al. 2022; Tamasauskienė and Žičkienė 2021). Existing evidence, however, does not support a uniformly equalising interpretation of policy-enabled globalization, as de facto economic globalization appears more influential for income-share movements in broad cross-country evidence, de jure globalization is largely insignificant across inequality quantiles in post-Soviet economies, de jure trade and financial globalization can increase inequality in EU countries, and recent income-share evidence suggests that policy-based integration may affect middle-income groups differently from realised integration (Pleninger et al. 2022; Tamasauskienė and Žičkienė 2021; Badur et al. 2023; Bergh et al. 2026). Against this mixed evidence, our negative de jure coefficient reflects a pooled conditional association indicating that policy-enabled integration is more strongly related to lower disposable-income inequality in the present global sample than aggregate or realised-flow measures, rather than as evidence that liberalising rules mechanically reduce inequality across countries.

Political globalization provides a complementary result because its pooled association runs in the opposite direction. The short-run coefficient of 0.0054 and implied long-run coefficient of 0.0203 indicate that deeper political integration is associated with modestly higher disposable-income inequality after accounting for domestic controls, inequality persistence and common global factors. The wider literature provides no uniform benchmark, with political globalization producing insignificant, positive and negative inequality effects across different national and cross-country settings, while evidence distinguishing de jure from de facto political integration further suggests that these forms need not operate in the same direction (Bergh and Nilsson 2010; Osinubi and Olomola 2020; Tamasauskienė and Žičkienė 2021; Behera and Pozhamkandath Karthiayani 2022; Lerskullawat and Puttitanun 2025). This variation is consistent with political globalization operating through participation in international organisations, treaty commitments, diplomatic networks and policy diffusion, whose distributional consequences depend on how international commitments interact with domestic institutions and redistributive systems. Our positive coefficient therefore identifies political integration as a distinct distributional channel whose pooled association differs from the negative relationships observed for economic, financial and de jure globalization, without implying that participation in international political networks causally widens inequality.

The distinction between magnitude and universality is especially important here as a coefficient can be highly stable in a pooled model and still fail to describe the long-run experience of a representative country when structural responses differ systematically across national contexts. The fact that de jure globalization produces the strongest pooled estimate therefore creates, rather than answers, the central heterogeneity question; whether the apparent equalising relationship is shared across countries or whether pooling is summarising a distribution of national effects whose signs and magnitudes differ substantially.

Table 4
Pooled DCCEP estimates across globalization dimensions

Panel A. Preferred pooled effects and economic magnitudes								
Measure	Short-run effect	Long-run effect	10-point SR effect (Gini points)	10-point LR effect (Gini points)	Lagged Gini (φ)	N	Countries	Residual CD p
Overall globalization	-0.0033 (0.0064)	-0.0108 (0.0202)	-0.033	-0.108	0.6971***	3,742	128	0.748
Economic globalization	-0.0103*** (0.0035)	-0.0434** (0.0175)	-0.103	-0.434	0.7620***	3,742	128	0.979
Financial globalization	-0.0082*** (0.0024)	-0.0353*** (0.0113)	-0.082	-0.353	0.7687***	3,742	128	0.270
De jure globalization	-0.0204*** (0.0060)	-0.0629*** (0.0227)	-0.204	-0.629	0.6762***	3,773	129	0.465
De facto globalization	-0.0101** (0.0043)	-0.0426** (0.0184)	-0.101	-0.426	0.7630***	3,742	128	0.023
Trade globalization	0.0017 (0.0021)	0.0053 (0.0062)	0.017	0.053	0.6821***	3,715	127	0.172
Social globalization	-0.0094 (0.0071)	-0.0223 (0.0163)	-0.094	-0.223	0.5783***	3,773	129	0.012
Political globalization	0.0054*** (0.0018)	0.0203** (0.0079)	0.054	0.203	0.7316***	3,773	129	0.166
Source: Author's Computation (2026)								
Notes: Preferred estimator is dynamic pooled Common Correlated Effects (DCCEP) with $p = 3$ cross-sectional-average lags and AR(1) inequality dynamics. All models include log GDP per capita (PPP), age dependency ratio and log population as structural controls; their coefficients are suppressed from the main table. Long-run effect = short-run coefficient/ $(1 - \varphi)$, with long-run uncertainty reported using the nonlinear delta-method calculation retained in the Stage-2 output. The 10-point columns translate the KOF-index coefficients into Gini-point changes. The $p = 3$ sample is smaller than the descriptive-statistics sample because lagged inequality and current plus lagged cross-sectional averages require additional complete observations. The pooled coefficients are not interpreted as homogeneous country effects; Table 5 governs the heterogeneity interpretation. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.								

Panel A. Preferred pooled effects and economic magnitudes	
Panel B. Preferred model specification	
Model feature	Preferred specification
Core controls	Yes — log GDP per capita (PPP), age dependency, log population
Inequality dynamics	AR(1)
Cross-sectional-average lags	3
Unit-specific intercepts	Yes
Separate year fixed effects	No — common global factors proxied by CCE averages
Structural slopes	Pooled
Source: Author's Computation (2026)	
Notes: Preferred estimator is dynamic pooled Common Correlated Effects (DCCEP) with $p = 3$ cross-sectional-average lags and AR(1) inequality dynamics. All models include log GDP per capita (PPP), age dependency ratio and log population as structural controls; their coefficients are suppressed from the main table. Long-run effect = short-run coefficient/ $(1 - \phi)$, with long-run uncertainty reported using the nonlinear delta-method calculation retained in the Stage-2 output. The 10-point columns translate the KOF-index coefficients into Gini-point changes. The $p = 3$ sample is smaller than the descriptive-statistics sample because lagged inequality and current plus lagged cross-sectional averages require additional complete observations. The pooled coefficients are not interpreted as homogeneous country effects; Table 5 governs the heterogeneity interpretation. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.	

4.3 Heterogeneity and Distributional Evidence

Table 5 shows that none of the headline pooled relationships constitutes a statistically common long-run country effect once coefficients are allowed to vary through the CS-ARDL mean-group framework. Among stable countries, approximately 61 per cent of economic-globalization slopes and 68 per cent of financial-globalization slopes are negative, yet their interquartile ranges cross zero and their mean long-run effects remain statistically insignificant. Aggregate globalization is almost evenly divided between positive and negative country coefficients, with a median close to zero.

The contrast is particularly striking for de jure globalization as its pooled long-run coefficient is negative and significant at 1% level, yet the stable-country mean becomes positive but insignificant, the median is effectively zero, and exactly half of the country-specific coefficients are negative. The interquartile range extends from approximately -0.091 to $+0.113$, revealing substantively different national responses rather than a simple loss of precision around a common coefficient. Since our CS-ARDL models also clear the residual cross-sectional-dependence diagnostic, the dispersion cannot readily be attributed to unresolved common shocks. The strongest pooled relationship in our paper therefore provides the clearest evidence against interpreting pooled significance as a universal globalization effect.

This result accords with a substantial recent literature showing that the distributional consequences of globalization vary with development level, openness, institutional quality and the position within the income distribution at which effects are measured (Villanthenkodath et al. 2024; Nam et al. 2024; Uche et al. 2024; Khan et al. 2026). Our analysis, however, identifies an important unresolved boundary within that argument. When country slopes are formally related to income classification, region, transition status and institutional capacity, none provides a statistically persuasive explanation for the observed dispersion after multiple-testing adjustment. Heterogeneity is

therefore evident, but it cannot be reduced to a simple high-income versus low-income, regional or institutional-quality narrative. The remaining variation is more likely to reflect finer-grained differences in industrial composition, labour-market institutions, redistributive systems, human capital, financial structure and the channels through which international integration occurs.

Our result in Table 6 extends the analysis from the aggregate Gini to the location of distributive changes within the income distribution. A ten-point increase in aggregate globalization is associated with an approximately 0.50 percentage-point reduction in the Top 10 per cent income share and a 0.18 percentage-point increase in the Bottom 50 per cent share in the short run. De jure globalization produces the same directional pattern, reducing the top share by approximately 0.39 percentage points while increasing the bottom share by approximately 0.15 percentage points. Economic and financial globalization also reduce the Top 10 per cent share, but their Bottom 50 per cent coefficients is small and insignificant. The Gini-reducing relationships therefore appear to operate through different distributive channels where economic and financial integration are more closely associated with reduced upper-tail concentration, whereas aggregate and de jure globalization combine top-share compression with detectable gains for the lower half.

These results contribute to an unresolved debate over who gains from international integration as evidence that globalization and market-oriented reforms disproportionately benefit higher-income groups emphasises stronger income growth at the top, rising upper-income shares and profit channels favouring asset owners (Lang and Tavares 2024; Pleninger et al. 2022; Wiese et al. 2024; Nigai 2025). An alternative strand finds that liberalisation can improve outcomes for poorer or middle-income groups, although the magnitude and direction vary across stages of development and forms of integration (Bergh et al. 2026; Dorn et al. 2022; Kandogan and Johnson 2024; Badur et al. 2023). Hence, our results align more closely with the second interpretation for aggregate and de jure globalization, but they also sharpen the debate by showing that a falling Gini does not necessarily imply equivalent gains at the bottom. Economic and financial globalization reduce estimated upper-tail concentration without producing a statistically detectable increase in the Bottom 50 per cent share, which may partly explain why studies relying on different distributional indicators reach apparently conflicting conclusions.

The evidential strength of the two tails nevertheless differs; the bottom 50 per cent specifications generally perform better on residual-dependence diagnostics, whereas several Top 10 per cent models, particularly those for economic, financial and de jure globalization, retain significant or borderline cross-sectional dependence. Therefore, our upper-tail estimates can be treated as supportive rather than equally definitive evidence, while the cleaner lower-tail results provide stronger support for gains to the Bottom 50 per cent under aggregate and, more cautiously, de jure globalization. To this end, our paper examines whether these long-run macro-panel patterns survive identification based on externally determined policy variation.

Table 5
Pooled globalization estimates versus heterogeneous long-run country evidence

Pooled globalization estimates versus heterogeneous long-run country evidence						
Panel A. Pooled DCCEP and CS-ARDL mean-group evidence						
Measure	SR Pooled DCCEP p = 3	LR Pooled DCCEP	CS-ARDL(1,1)-MG countries		Mean long-run θ	Residual CD p
Overall globalization	-0.0033	-0.0108	62		-0.0908	0.158
Economic globalization	-0.0103***	-0.0434**	60		-0.0664	0.182
Financial globalization	-0.0082***	-0.0353***	62		-0.0110	0.727
De jure globalization	-0.0204***	-0.0629***	64		+ 0.0179	0.543
Panel B. Stable-country long-run slope distribution						
Measure	Stable countries (ϕ <1)	Stable mean θ	P25	Median	P75	Share negative
Overall globalization	57	-0.0476	-0.1351	-0.0044	0.1371	50.9%
Economic globalization	56	-0.0615	-0.1412	-0.0231	0.0624	60.7%
Financial globalization	57	-0.0426	-0.1274	-0.0226	0.0461	68.4%
De jure globalization	58	+ 0.0272	-0.0905	0.0011	0.1125	50.0%
Source: Author's Computation (2026)						
Notes: The pooled columns reproduce the preferred DCCEP $p = 3$ results. Heterogeneous long-run evidence comes from the fully archived CS-ARDL(1,1) mean-group specification with three lags of cross-sectional averages. Country equations require at least 20 complete level observations and at least 8 residual degrees of freedom; the stable-country audit additionally requires $ \phi <1$. The parent CS-ARDL(1,1) models clear residual cross-sectional dependence for all four headline measures (Residual CD $p > 0.05$). Stable-country mean-group p -values are calculated from the cross-country dispersion of the archived stable long-run coefficients. The interquartile ranges span zero for every measure, and none of the heterogeneous mean long-run effects is statistically significant.						

Table 6
Alternative distributional outcomes: WID Top 10% and Bottom 50% income shares

Panel A. Preferred DCCEP effects							
Measure	Top 10% short-run	Top 10% long-run	Bottom 50% short-run	Bottom 50% long-run	N (Top)	N (Bottom)	Countries
Overall globalization	-0.0005***	-0.0008***	0.0002**	0.0003**	5,681	5,681	184
	(0.0002)	(0.0003)	(0.0001)	(0.0002)			
Economic globalization	-0.0002***	-0.0004***	0.00002	0.00003	5,650	5,650	183
	(0.000062)	(0.0001)	(0.0001)	(0.0001)			
Financial globalization	-0.0002***	-0.0003***	0.00003	0.0001	5,650	5,650	183
	(0.0001)	(0.0001)	(0.0001)	(0.0001)			
De jure globalization	-0.0004***	-0.000638***	0.0002*	0.0002*	5,738	5,738	186
	(0.0002)	(0.0002)	(0.0001)	(0.0001)			
Panel B. Residual-dependence diagnostics and 10-point KOF magnitudes							
Measure	Residual CD p (Top 10%)	Residual CD p (Bottom 50%)	10-point KOF effect Top 10% (pp)	10-point KOF effect Bottom 50% (pp)			
Overall globalization	0.062	0.585	-0.501	+ 0.177			
Economic globalization	0.006	0.539	-0.218	+ 0.018			
Financial globalization	0.049	0.700	-0.197	+ 0.034			
De jure globalization	0.000	0.050	-0.386	+ 0.145			
Source: Author's Computation (2026)							
Notes: All WID DCCEP $p = 3$ models include log GDP per capita (PPP), age dependency ratio and log population; control coefficients are suppressed. WID income shares are proportions. The 10-point interpretation converts the short-run coefficient into percentage points using coefficient $\times 10 \times 100$.							

4.4 Causal Validation and Robustness

Table 7 evaluates the causal-validation exercises according to identification credibility rather than statistical significance, and this hierarchy substantially limits the causal interpretation of the pooled results. The Deep-RTA event study generates a negative post-entry coefficient, but its joint pre-treatment test rejects parallel trends, preventing a credible causal interpretation. The external-policy instrument based on predetermined trade weights and partner de jure globalization encounters a different weakness; the first-stage F-statistic of 6.60 is insufficiently

strong and weak-instrument-robust inference does not reject zero. Neither design therefore provides convincing external confirmation of the pooled relationship.

The realised-tariff shift-share design illustrates why a significant coefficient cannot substitute for credible identifying variation. Predetermined trade exposure interacted with foreign MFN tariff reductions produces a large negative Gini estimate that remains significant under shock-level inference. Once destination-by-year effects absorb broader foreign reform episodes and identification is restricted to within-destination-year sectoral tariff variation, however, the coefficient falls markedly, becomes statistically insignificant and is accompanied by a weaker first stage. The unrestricted result is therefore deliberately down-weighted, since its apparent strength is not sustained when the identifying variation is more tightly isolated.

This evidential ordering is consistent with contemporary causal-inference research emphasising treatment timing, credible pre-trends and robustness to departures from identifying assumptions rather than post-treatment significance alone (Callaway and Sant'Anna 2021; Sun and Abraham 2021; Roth et al. 2023; Rambachan and Roth 2023). In our estimation setting, an external treatment date cannot compensate for failed pre-trends, while a significant shift-share estimate cannot be treated as causal when stronger restrictions materially weaken the identifying variation. These failures therefore add information by establishing the limits of what the weaker external-policy designs can support.

The exact-product WTO Information Technology Agreement design provides an important causal test and produces a notably more restrained conclusion. Predetermined 1996 exposure to exact ITA products, interacted with the legally mandated 1997–2000 tariff phase-in, generates a headline inequality effect of approximately -0.041 standard deviations with a p-value of 0.702. The joint pre-treatment test does not reject parallel trends, and region-stratified permutation inference likewise provides no evidence of a systematic treatment effect. Our result remain insignificant with region-by-year fixed effects, country-specific trends and an extended post-treatment horizon, while alternative outcomes covering market-income inequality, the Top 10 per cent share and the Bottom 50 per cent share produce the same broad conclusion.

This credible null is compatible with causal evidence showing that tariff liberalisation does not generate a uniform distributional response. Recent studies find that import losses can be offset by export opportunities and worker reallocation, that liberalisation may compress skill premia, and that poverty or inequality effects vary substantially across regions according to industrial structure, infrastructure and the capacity to exploit new market access (Kovak and Morrow 2023; Sudsawasd and Hayakawa 2024; Ngo and Lee 2025; Zi 2025). Our ITA result therefore does not invalidate the pooled DCCEP relationship; it establishes a narrower boundary around it. Our macro-panel estimates capture long-run associations arising from multidimensional integration, whereas the ITA design isolates one predetermined tariff shock over a shorter adjustment horizon. The absence of a detectable ITA effect consequently argues against treating discrete tariff liberalisation as the mechanism sufficient to explain the broader pooled relationship.

The remaining robustness exercises strengthen the pooled evidence without removing this causal limitation. Our richer AR(2) inequality dynamics leave the economic, financial and de jure coefficients negative, while de jure globalization remains particularly stable across leave-one-region-out exercises, exclusion of the five largest-population economies, alternative historical periods and first-difference DCCEP estimation. Residual CIPS tests additionally support stationary residual relationships for the principal specifications, reducing concern that the long-run estimates merely reflect common trends.

Temporal falsification provides further support for the dimensional results as future values of economic, financial and de jure globalization do not jointly predict current inequality, whereas the aggregate index does not perform equally well under the same test. De jure globalization consequently emerges as the strongest pooled relationship not simply because its coefficient is largest, but because it remains comparatively stable across estimator progression, better dynamics, sample exclusions and temporal falsification. This evidence reduces concerns about reverse temporal ordering but does not eliminate all sources of endogeneity, so the interpretation remains associational rather than causal.

The targeted education robustness test reaches a similar conclusion regarding omitted-variable concerns. Adding secondary-school enrolment to exactly matched samples change the economic, financial and de jure coefficients by less than 0.2 per cent, leaves their signs and significance unchanged, and produces an insignificant education coefficient in each model. The considerable reduction in usable observations when education is imposed across the panel nevertheless justifies retaining it as a robustness control rather than a compulsory baseline variable, since its inclusion changes the estimation population substantially more than it changes the coefficients of interest.

The empirical evidence consequently supports a deliberately differentiated conclusion. Economic, financial and particularly de jure globalization display persistent negative pooled associations with disposable-income inequality after common factors and inequality dynamics are accommodated, whereas aggregate globalization does not retain a comparable relationship. Distributional estimates suggest that these associations operate partly through reduced upper-tail concentration and, for aggregate and de jure globalization, through gains in the Bottom 50 per cent income share. Country-specific estimates nevertheless demonstrate that these relationships are not statistically common across economies, while broad income, regional and institutional classifications fail to explain the resulting heterogeneity.

The causal evidence imposes a further boundary on interpretation as weaker external-policy designs does not withstand their identifying diagnostics, the initially strong realised-tariff result disappears under more demanding shock-exogeneity restrictions, and the cleanest quasi-experimental design finds no detectable short- or medium-run inequality effect from the ITA tariff liberalisation. The resulting evidence is therefore internally coherent as multidimensional globalization is associated with long-run distributional change in the pooled macro-panel, the magnitude and direction of that relationship vary substantially across countries, and a discrete tariff-market-access shock alone is insufficient to reproduce it. Our contribution is consequently not a universal claim that globalization either raises or lowers inequality, but a more precise distinction between which dimensions of globalization matter, how their distributional incidence differs, how strongly those relationships vary across countries, and whether long-run pooled associations survive more demanding causal identification.

Table 7
Causal-identification and falsification evidence

Design	Treatment / shock	Main Gini estimate	p-value	Key identification diagnostic	Diagnostic result
Published Deep RTA event study	Externally dated Deep-RTA entry into force	-0.2364 average post (0–5)	0.164	Joint pretrend	p = 0.0073 (fails)
External-policy IV	Baseline trade weights × partner de jure globalization	0.0807 at 75% coverage	0.232	First stage / weak-IV robustness	F = 6.60; AR/reduced-form p = 0.143
Realised tariff EMA – BHJ	Predetermined trade shares × foreign MFN tariff cuts	-29.2459	< 0.001	BHJ destination-clustered shock inference	Significant; shock-level F ≈ 10.72
Conditional BHJ EMA	Within destination-year sectoral tariff variation	-16.8620	0.488	Destination×year FE; stronger shock-exogeneity restriction	First-stage F = 6.44
Exact-product ITA quasi-experiment	1996 exact ITA-product exposure × legal 1997–2000 phase-in	-0.0410 SD	0.702	Pretrend + balance + permutation	Pretrend p = 0.585; permutation p = 0.813

Source: Author's Computation (2026)

Notes: the hierarchy is determined by identification quality, not by p-values. The exact ITA design receives the strongest causal credibility even though its estimate is null; the statistically significant realised-tariff EMA estimate is downgraded because stronger shock-exogeneity restrictions remove the effect. the long-run macro-panel models in Tables 2–6 include log GDP per capita (PPP), age dependency and log population. The causal-validation designs do not automatically add contemporaneous macro controls to the headline specification, because variables such as GDP can be affected by the trade-policy shock. Instead, they rely on predetermined exposure, fixed effects, pre-trend/balance diagnostics and design-specific robustness checks; lagged or additional controls are used only as sensitivities where appropriate.

5 Conclusion and Policy Implications

This study revisits the globalization–inequality relationship by moving beyond the search for a single average effect and distinguishing among dimensions of international integration, their distributional incidence, country-specific responses and alternative causal designs. Our preferred dynamic common-correlated-effects estimates show no robust relationship between aggregate globalization and disposable-income inequality, while economic, financial and especially de jure globalization exhibit persistent negative pooled associations. De jure globalization produces the strongest and most stable relationship, suggesting that the policy and institutional arrangements enabling international integration may matter more consistently for long-run distributional outcomes than an undifferentiated measure of international interconnectedness. These estimates nevertheless represent pooled relationships rather than universal causal effects.

The distributional evidence clarifies what these inequality relationships imply for different income groups. Aggregate and de jure globalization are associated with lower Top 10 per cent income shares and higher Bottom 50 per cent shares, whereas economic and financial globalization are more clearly related to reduced upper-tail concentration than to statistically detectable gains for the lower half. A declining Gini coefficient therefore does not identify a single distributive mechanism because inequality can fall through gains at the bottom, compression at the top, or both. This distinction is central to identifying the winners and losers of globalization and cautions against evaluating distributional outcomes through aggregate inequality measures alone.

Our country-specific estimates impose a stronger qualification, and the significant pooled relationships for economic, financial and de jure globalization do not translate into statistically common long-run country effects, while broad differences in income level, region, transition status and institutional capacity fail to explain the resulting slope dispersion convincingly. Our paper therefore does not establish that globalization reduces inequality everywhere; instead, it shows that pooled international relationships can coexist with substantially different national experiences. This helps reconcile part of the conflicting empirical literature and directs attention towards more granular conditioning factors, including industrial structure, labour-market institutions, fiscal redistribution, human capital, financial architecture and domestic adjustment capacity.

Our causal evidence reinforces the restrained interpretation; external-policy designs based on Deep-RTA entry, partner-policy instruments and realised tariff exposure do not provide sufficiently robust confirmation once their identifying assumptions are examined closely, while the exact-product ITA design, the strongest quasi-experimental exercise, produces clean pre-treatment diagnostics but no detectable short- or medium-run effect on inequality or the alternative distributional outcomes. The ITA null does not imply that broader globalization is distributionally irrelevant; rather, it shows that a discrete tariff-market-access shock is insufficient by itself to reproduce the longer-run pooled relationships associated with multidimensional integration. The distinction between gradual international integration and an individual liberalisation episode is therefore essential to our paper's interpretation.

Our findings carry an important policy implication, noting that globalization should neither be promoted nor resisted on the assumption that its distributional effects are uniform across countries or forms of integration. Governments should evaluate major integration reforms using distribution-sensitive indicators that extend beyond the national Gini to include income shares, wage progression, employment transitions, sectoral exposure and regional adjustment. Trade shocks can generate winners and losers among households occupying similar initial positions in the income distribution, while worker mobility, labour-market power and adjustment frictions can materially shape who ultimately benefits from liberalisation (Borusyak and Jaravel 2024; Kondo, Li and Qian 2024; Martinez and Mello 2024; Zi 2025). Hence, monitoring these channels alongside aggregate outcomes would allow policy responses to target concentrated adjustment costs without obscuring wider gains.

Our evidence further suggests that the appropriate policy response lies less in choosing mechanically between openness and protection than in strengthening the domestic institutions through which international integration is transmitted. Labour mobility, skills and retraining, social protection, competitive labour markets, effective tax-transfer systems and access to finance can influence whether the gains from integration are widely shared or concentrated among specific workers, firms and regions (Afonso et al. 2023; Rochat 2023; Gravina and Foster-McGregor 2024). The prominence of de jure globalization reinforces this point by indicating that the rules and institutional conditions surrounding integration deserve as much policy attention as the resulting volume of trade or capital flows. The evidence does not support indiscriminate liberalisation, particularly in financial markets, but it does suggest that the distributional consequences of openness depend materially on the domestic architecture within which it occurs.

Our ITA findings provide a related caution against treating tariff liberalisation as a stand-alone inequality policy. Liberalisation may alter competition, firm behaviour, labour-market power and worker reallocation without producing an immediate national Gini response, particularly where sectoral gains and losses offset one another or adjustment is gradual (Bai, Jin and Lu 2024; Kondo, Li and Qian 2024; Zi 2025). Trade reforms should therefore be evaluated alongside the complementary domestic policies required to facilitate adjustment, while sufficient time should be allowed before drawing conclusions about their longer-run distributional consequences.

Nonetheless, several limitations define the scope of our conclusions. Inequality data remain substantially unbalanced and their availability is systematically related to observable country characteristics, which constrains external validity even though the missingness exercises provide little evidence that incompleteness explains the absence of common country effects. The failure of broad country classifications and institutional indicators to explain the heterogeneous slopes also leave important mechanisms unresolved. Future research should therefore examine more granular measures of labour-market institutions, redistribution, industrial composition, financial inclusion, human capital and global-value-chain exposure, while exploiting additional externally determined liberalisation episodes over longer horizons.

Declarations

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Competing interests

The authors have no relevant financial or non-financial interests to disclose.

Ethics approval

Ethics approval was not required because the study uses secondary country-level data obtained from existing databases and does not involve the recruitment of human participants.

Consent to participate

Not applicable.

Consent for publication

Not applicable.

Data availability

The study uses secondary data from publicly accessible or documented research databases, including the Standardized World Income Inequality Database, KOF Globalisation Index, World Inequality Database, World Development Indicators, Worldwide Governance Indicators, CEPII TradeProd, BACI and World Trade Organization sources. The constructed analytical files, data-management code and analysis code supporting the reported results will be deposited in a publicly accessible research repository in accordance with The Journal of Economic Inequality information deposit policy upon acceptance. Source information is documented in the manuscript and Online Resource 1.

Author contributions

Victor Ishola, Oluwatosin Agboola, Esther Agboola and Emmanuel Agboola contributed to the conceptualisation and development of the study. Emmanuel Agboola led the methodology, data construction, formal empirical analysis and preparation of the manuscript. All authors contributed to interpretation of the findings, critical review and editing of the manuscript, and approved the final version.

References

1. Abu Asab, N.: Asymmetric globalization: How trade, investment, and complexity shape inequality, emissions, and culture. *Social Sci. Humanit. Open*. **12**, 102234 (2025). <https://doi.org/10.1016/j.ssaho.2025.102234>
2. Adão, R., Kolesár, M., Morales, E.: Shift-share designs: Theory and inference. *Q. J. Econ.* **134**(4), 1949–2010 (2019). <https://doi.org/10.1093/qje/qjz02>
3. Afonso, Ó., Sequeira, T.N., Santos, M., Neves, P.C.: Global firms, (de)unionization and wage inequality. *Open. Econ. Rev.* **34**(5), 979–1013 (2023). <https://doi.org/10.1007/s11079-023-09716-7>
4. Amiti, M., Davis, D.R.: Trade, firms, and wages: Theory and evidence. *Rev. Econ. Stud.* **79**(1), 1–36 (2012). <https://doi.org/10.1093/restud/rdr016>
5. Anwar, S., Sun, S.: Outward FDI and income inequality in the home country: The role of wage bargaining. *Int. Rev. Econ. Finance*. **101**, 104166 (2025). <https://doi.org/10.1016/j.iref.2025.104166>
6. Ashenafi, B.B., Dong, Y.: Financial openness, financial sector development, and income inequality: With an extensive set of pull and push factors. *Afr. Dev. Rev.* **35**, 138–151 (2023). <https://doi.org/10.1111/1467-8268.12700>
7. Asteriou, D., Dimelis, S., Moudatsou, A.: Globalization and income inequality: A panel data econometric approach for the EU27 countries. *Econ. Model.* **36**, 592–599 (2014). <https://doi.org/10.1016/j.econmod.2013.09.051>
8. Badur, M.M., Islam, M.M., Sohag, K.: Globalization–income inequality nexus in the post-Soviet countries: Analysis of heterogeneous dataset using the quantiles via moments approach. *Mathematics*. **11**(7), 1586 (2023). <https://doi.org/10.3390/math11071586>
9. Bai, Y., Jin, K., Lu, D.: Misallocation under trade liberalization. *Am. Econ. Rev.* **114**(7), 1949–1985 (2024). <https://doi.org/10.1257/aer.20200596>
10. Balan, F., Torun, M., Kilic, C.: Globalization and income inequality in G7: A bootstrap panel Granger causality analysis. *Int. J. Econ. Finance*. **7**(10), 192–203 (2015). <https://doi.org/10.5539/ijef.v7n10p192>
11. Baltagi, B.H., Bresson, G., Pirotte, A.: Panel unit root tests and spatial dependence. *J. Appl. Econom.* **22**(2), 339–360 (2007). <https://doi.org/10.1002/jae.950>
12. Beck, R., Di Nino, V., Stracca, L.: Globalization and the efficiency-equity trade-off. *J. Int. Money Finance*. **148**, 103157 (2024). <https://doi.org/10.1016/j.jimonfin.2024.103157>
13. Behera, D.K., Pozhamkandath Karthiayani, V.: Do globalization progress and sectoral growth shifts affect income inequality? An exploratory analysis from India. *Reg. Sci. Policy Pract.* **14**(2), 352–375 (2022). <https://doi.org/10.1111/rsp3.12499>
14. Bergh, A., Nilsson, T.: Do liberalization and globalization increase income inequality? *Eur. J. Polit. Econ.* **26**(4), 488–505 (2010). <https://doi.org/10.1016/j.ejpoleco.2010.03.002>
15. Bergh, A., Bjørnskov, C., Callais, J.T.: Economic globalization and income shares. *J. Comp. Econ. Adv.* online publication. (2026). <https://doi.org/10.1016/j.jce.2026.02.002>
16. Bormann, N.-C., Pengl, Y.I., Cederman, L.-E., Weidmann, N.B.: Globalization, institutions, and ethnic inequality. *Int. Org.* **75**(3), 665–697 (2021). <https://doi.org/10.1017/S0020818321000096>
17. Borusyak, K., Jaravel, X.: Are trade wars class wars? The importance of trade-induced horizontal inequality. *J. Int. Econ.* **150**, 103935 (2024). <https://doi.org/10.1016/j.jinteco.2024.103935>
18. Borusyak, K., Hull, P., Jaravel, X.: Quasi-experimental shift-share research designs. *Rev. Econ. Stud.* **89**(1), 181–213 (2022). <https://doi.org/10.1093/restud/rdab030>

19. Brown, N., Westerlund, J.: Testing factors in CCE. *Econ. Lett.* **230**, 111245 (2023).
<https://doi.org/10.1016/j.econlet.2023.111245>
20. Brown, N.L., Schmidt, P., Wooldridge, J.M.: A simple reformulation of the common correlated effects model. *Econom. Rev.* **45**(5), 760–772 (2026). <https://doi.org/10.1080/07474938.2026.2615434>
21. Bumann, S., Lensink, R.: Capital account liberalization and income inequality. *J. Int. Money Finance.* **61**, 143–162 (2016). <https://doi.org/10.1016/j.jimonfin.2015.10.004>
22. Burstein, A., Vogel, J.: International trade, technology, and the skill premium. *J. Polit. Econ.* **125**(5), 1356–1412 (2017). <https://doi.org/10.1086/693373>
23. Çakır, M.S., Ova, A.: Do institutions matter more than globalization for income inequality? A panel data analysis. *Appl. Econ. Lett. Adv.* online publication. (2026). <https://doi.org/10.1080/13504851.2026.2634863>
24. Callaway, B., Sant'Anna, P.H.C.: Difference-in-differences with multiple time periods. *J. Econ.* **225**(2), 200–230 (2021). <https://doi.org/10.1016/j.jeconom.2020.12.001>
25. Cao, S., Zhou, Q.: Common correlated effects estimation for dynamic heterogeneous panels with non-stationary multi-factor error structures. *Econometrics.* **10**(3), 29 (2022). <https://doi.org/10.3390/econometrics10030029>
26. Chancel, L., Piketty, T.: Global income inequality, 1820–2020: The persistence and mutation of extreme inequality. *J. Eur. Econ. Assoc.* **19**(6), 3025–3062 (2021). <https://doi.org/10.1093/jeea/jvab047>
27. Choga, I., Dundu, L., Khobai, H.: Impact of globalization on income inequality in South Africa. *Probl. Perspect. Manage.* **22**(3), 475–490 (2024). [https://doi.org/10.21511/ppm.22\(3\).2024.36](https://doi.org/10.21511/ppm.22(3).2024.36)
28. Chudik, A., Pesaran, M.H.: Common correlated effects estimation of heterogeneous dynamic panel data models with weakly exogenous regressors. *J. Econ.* **188**(2), 393–420 (2015).
<https://doi.org/10.1016/j.jeconom.2015.03.007>
29. Chudik, A., Mohaddes, K., Pesaran, M.H., Raissi, M.: Long-run effects in large heterogeneous panel data models with cross-sectionally correlated errors. *Adv. Econometrics.* **36**, 85–135 (2016). <https://doi.org/10.1108/S0731-905320160000036013>
30. de Haan, J., Sturm, J.-E.: Finance and income inequality: A review and new evidence. *Eur. J. Polit. Econ.* **50**, 171–195 (2017). <https://doi.org/10.1016/j.ejpoleco.2017.04.007>
31. De Vos, I., Stauskas, O.: Cross-section bootstrap for CCE regressions. *J. Econ.* **240**(1), 105648 (2024).
<https://doi.org/10.1016/j.jeconom.2023.105648>
32. Destek, M.A.: Dimensions of globalization and income inequality in transition economies: Taking into account cross-sectional dependence. *East. J. Eur. Stud.* **9**(2), 5–25 (2018)
33. Dorn, F., Fuest, C., Potrafke, N.: Trade openness and income inequality: New empirical evidence. *Econ. Inq.* **60**(1), 202–223 (2022). <https://doi.org/10.1111/ecin.13018>
34. Dreher, A., Gaston, N.: Has globalization increased inequality? *Rev. Int. Econ.* **16**(3), 516–536 (2008).
<https://doi.org/10.1111/j.1467-9396.2008.00743.x>
35. Driscoll, J.C., Kraay, A.C.: Consistent covariance matrix estimation with spatially dependent panel data. *Rev. Econ. Stat.* **80**(4), 549–560 (1998). <https://doi.org/10.1162/003465398557825>
36. Egger, H., Kreickemeier, U.: Firm heterogeneity and the labor market effects of trade liberalization. *Int. Econ. Rev.* **50**(1), 187–216 (2009). <https://doi.org/10.1111/j.1468-2354.2008.00527.x>
37. Erauskin, I., Turnovsky, S.J.: International financial integration and income inequality in a stochastically growing economy. *J. Int. Econ.* **119**, 55–74 (2019). <https://doi.org/10.1016/j.jinteco.2019.04.003>

38. Erauskin, I., Turnovsky, S.J.: International financial integration, the level of development, and income inequality: Some empirical evidence. *Int. Rev. Econ. Finance*. **82**, 48–64 (2022). <https://doi.org/10.1016/j.iref.2022.05.013>
39. Feenstra, R.C., Hanson, G.H.: The impact of outsourcing and high-technology capital on wages: Estimates for the United States, 1979–1990. *Q. J. Econ.* **114**(3), 907–940 (1999). <https://doi.org/10.1162/003355399556179>
40. Furceri, D., Loungani, P.: The distributional effects of capital account liberalization. *J. Dev. Econ.* **130**, 127–144 (2018). <https://doi.org/10.1016/j.jdeveco.2017.09.007>
41. Furceri, D., Loungani, P., Ostry, J.D.: The aggregate and distributional effects of financial globalization: Evidence from macro and sectoral data. *J. Money Credit Bank.* **51**(S1), 163–198 (2019). <https://doi.org/10.1111/jmcb.12668>
42. Gnanngnon, S.K.: Effect of the membership in the World Trade Organization on income inequality. *Aust. Econ. Pap.* **64**(3), 380–385 (2025). <https://doi.org/10.1111/1467-8454.12400>
43. Goldberg, P.K., Pavcnik, N.: Distributional effects of globalization in developing countries. *J. Econ. Lit.* **45**(1), 39–82 (2007). <https://doi.org/10.1257/jel.45.1.39>
44. Goldsmith-Pinkham, P., Sorkin, I., Swift, H.: Bartik instruments: What, when, why, and how. *Am. Econ. Rev.* **110**(8), 2586–2624 (2020). <https://doi.org/10.1257/aer.20181047>
45. Gravina, A.F., Foster-McGregor, N.: Unraveling wage inequality: Tangible and intangible assets, globalization and labor market regulations. *Empir. Econ.* **67**, 1375–1420 (2024). <https://doi.org/10.1007/s00181-024-02587-y>
46. Grossman, G.M., Rossi-Hansberg, E.: Trading tasks: A simple theory of offshoring. *Am. Econ. Rev.* **98**(5), 1978–1997 (2008). <https://doi.org/10.1257/aer.98.5.1978>
47. Gygli, S., Haelg, F., Potrafke, N., Sturm, J.-E.: The KOF Globalization Index – revisited. *Rev. Int. Organ.* **14**(3), 543–574 (2019). <https://doi.org/10.1007/s11558-019-09344-2>
48. Harrison, A., McLaren, J., McMillan, M.: Recent perspectives on trade and inequality. *Annual Rev. Econ.* **3**, 261–289 (2011). <https://doi.org/10.1146/annurev.economics.102308.124451>
49. Hartwell, C.A.: Institutions and trade-related inequality. *Int. J. Finance Econ.* **27**(3), 3246–3264 (2022). <https://doi.org/10.1002/ijfe.2319>
50. Heimberger, P.: Does economic globalization affect income inequality? A meta-analysis. *World Econ.* **43**(11), 2960–2982 (2020). <https://doi.org/10.1111/twec.13007>
51. Helpman, E., Itskhoki, O., Redding, S.: Inequality and unemployment in a global economy. *Econometrica*. **78**(4), 1239–1283 (2010). <https://doi.org/10.3982/ECTA8640>
52. Hoechle, D.: Robust standard errors for panel regressions with cross-sectional dependence. *Stata J.* **7**(3), 281–312 (2007). <https://doi.org/10.1177/1536867X0700700301>
53. Huang, K., Yan, W., Sim, N., Guo, Y., Xie, F.: Can trade explain the rising trends in income inequality? Insights from 40 years of empirical studies. *Econ. Model.* **107**, 105725 (2022). <https://doi.org/10.1016/j.econmod.2021.105725>
54. Huynh, C.M.: Foreign direct investment and income inequality: Does institutional quality matter? *J. Int. Trade Economic Dev.* **30**(8), 1231–1243 (2021). <https://doi.org/10.1080/09638199.2021.1942164>
55. Ioannou, S., Wójcik, D.: Income inequality, finance, and space: A cross-country analysis. *Global Perspect.* **4**(1), 89327 (2023). <https://doi.org/10.1525/gp.2023.89327>
56. Jaumotte, F., Lall, S., Papageorgiou, C.: Rising income inequality: Technology, or trade and financial globalization? *IMF Economic Rev.* **61**(2), 271–309 (2013). <https://doi.org/10.1057/imfer.2013.7>

57. Jenkins, S.P.: World income inequality databases: An assessment of WIID and SWIID. *J. Economic Inequal.* **13**(4), 629–671 (2015). <https://doi.org/10.1007/s10888-015-9305-3>
58. Jeon, Y., Kwon, C.-W.: Offshoring, the threat effect, and wage inequality. *Int. J. Economic Theory.* **17**(2), 135–150 (2021). <https://doi.org/10.1111/ijet.12221>
59. Jiang, Z. (Jasmine) (ed.): Multinational firms' sourcing decisions and wage inequality: A dynamic analysis. *Journal of Economic Dynamics and Control* 146, 104554 (2023). <https://doi.org/10.1016/j.jedc.2022.104554>
60. Jiang, Z. (Jasmine) (ed.): Offshoring, firm-level adjustment and labor market outcomes. *Journal of Economic Dynamics and Control* 166, 104905 (2024). <https://doi.org/10.1016/j.jedc.2024.104905>
61. Juodis, A., Reese, S.: Five lessons for applied researchers from twenty years of common correlated effects estimation. *J. Econ.* **253**, 106120 (2026). <https://doi.org/10.1016/j.jeconom.2025.106120>
62. Kandogan, Y., Johnson, S.D.: Political economy and income inequality: How did trade liberalization and changes in political and economic freedom affect the middle classes across the world? *Cogent Social Sci.* **10**(1), 2341702 (2024). <https://doi.org/10.1080/23311886.2024.2341702>
63. Khan, M.U., Shah, B.A., Ullah, U.: The heterogeneous role of globalization on SDG 10: The moderating effect of institutional quality and mediating role of green growth in developing countries. *Sustainable Development advance online publication* (2026). <https://doi.org/10.1002/sd.70916>
64. Koerner, K.: The wage effects of offshoring to the East and West: Evidence from the German labor market. *Rev. World Econ.* **159**(2), 399–435 (2023). <https://doi.org/10.1007/s10290-022-00471-4>
65. Kondo, I.O., Li, Y.A., Qian, W.: Trade liberalization and labor monopsony: Evidence from Chinese firms. *J. Int. Econ.* **152**, 104006 (2024). <https://doi.org/10.1016/j.jinteco.2024.104006>
66. Kovak, B.K., Morrow, P.M.: Distributional impacts of the Canada–US Free Trade Agreement. *AEA Papers and Proceedings* 113, 585–589 (2023). <https://doi.org/10.1257/pandp.20231078>
67. Kumar, V., Simran: How financial development shapes globalization's impact on income inequality in Asia? *Economic Anal. Policy.* **86**, 1083–1098 (2025). <https://doi.org/10.1016/j.eap.2025.04.021>
68. Lang, V., Tavares, M.M.: The global distribution of gains from globalization. *J. Economic Inequal.* **22**, 357–381 (2024). <https://doi.org/10.1007/s10888-023-09593-7>
69. Lee, E.: Trade, inequality, and the endogenous sorting of heterogeneous workers. *J. Int. Econ.* **125**, 103310 (2020). <https://doi.org/10.1016/j.jinteco.2020.103310>
70. Lepelle, R., Edwards, L.: Manufacturing tariff liberalisation and the sectoral reallocation of employment in local labour markets: Evidence from South Africa. *J. Int. Trade Economic Dev.* **33**(6), 1011–1039 (2024). <https://doi.org/10.1080/09638199.2023.2229453>
71. Lerskullawat, A., Puttitanun, T.: Globalization, poverty, and inequality: A case study of Thailand. *SAGE Open.* **15**(3), 1–16 (2025). <https://doi.org/10.1177/21582440251360497>
72. Margaritella, L., Westerlund, J.: Using information criteria to select averages in CCE. *Econometrics J.* **26**(3), 405–421 (2023). <https://doi.org/10.1093/ectj/utad009>
73. Martinez, T.R., Mello, U.: Trade shocks and higher-order earnings risk in local labor markets. *Int. Econ. Rev.* **65**, 1717–1746 (2024). <https://doi.org/10.1111/iere.12703>
74. Meschi, E., Vivarelli, M.: Trade and income inequality in developing countries. *World Dev.* **37**(2), 287–302 (2009). <https://doi.org/10.1016/j.worlddev.2008.06.002>
75. Mishra, S., Tewari, I., Toosi, S.: Economic complexity and the globalization of services. *Struct. Change Econ. Dyn.* **53**, 267–280 (2020)

76. Nam, H.-J., Frijns, B., Ryu, D.: Trade openness and income inequality: The moderating role of institutional quality. *Glob. Financ. J.* **60**, 100959 (2024). <https://doi.org/10.1016/j.gfj.2024.100959>
77. Naz, A.: Linkages between different types of globalization and socio-economic variables: Panel data analysis for 129 countries. *J. Economic Struct.* **12**, 7 (2023). <https://doi.org/10.1186/s40008-023-00301-2>
78. Ngo, N.A., Lee, H.: Income inequality, poverty, and trade liberalization: Evidence from the Vietnam–US Bilateral Trade Agreement. *Res. Econ.* **79**(3), 101054 (2025). <https://doi.org/10.1016/j.rie.2025.101054>
79. Nigai, S.: Selection effects, inequality, and aggregate gains from trade. *J. Int. Econ.* **142**, 103752 (2023). <https://doi.org/10.1016/j.jinteco.2023.103752>
80. Nigai, S.: International transmission of inequality through trade. *Am. Economic Journal: Economic Policy.* **17**(3), 311–344 (2025). <https://doi.org/10.1257/pol.20230497>
81. Nigai, S., Yang, D.: Trade and inequality: A sufficient-statistics approach. *J. Political Econ. Macroeconomics.* **2**(3), 508–552 (2024). <https://doi.org/10.1086/731501>
82. Opperman, P., Tita, A.F.: The heterogeneous effects of financial openness on income inequality in sub-Saharan Africa. *South. Afr. J. Economic Manage. Sci.* **28**(1), a6037 (2025). <https://doi.org/10.4102/sajems.v28i1.6037>
83. Osinubi, T.T., Olomola, P.A.: Globalization and income inequality in Mexico, Indonesia, Nigeria, and Turkey: A dynamic GMM approach. *Asian J. Econ. Empir. Res.* **7**(1), 91–104 (2020). <https://doi.org/10.20448/journal.501.2020.71.91.104>
84. Osode, O.E., Iheonu, C.O., Dauda, R.: On the relationship between globalization and income inequality: Does institution matter? *J. Public. Affairs.* **22**(2), e2433 (2022). <https://doi.org/10.1002/pa.2433>
85. Pandian, R.K.: Globalization of production, manufacturing employment, and income inequality in developing nations. *Soc. Sci. Res.* **118**, 102975 (2024). <https://doi.org/10.1016/j.ssresearch.2023.102975>
86. Pesaran, M.H.: Estimation and inference in large heterogeneous panels with a multifactor error structure. *Econometrica.* **74**(4), 967–1012 (2006). <https://doi.org/10.1111/j.1468-0262.2006.00692.x>
87. Pesaran, M.H.: A simple panel unit root test in the presence of cross-section dependence. *J. Appl. Econom.* **22**(2), 265–312 (2007). <https://doi.org/10.1002/jae.951>
88. Pesaran, M.H.: Testing weak cross-sectional dependence in large panels. *Econom. Rev.* **34**(6–10), 1089–1117 (2015). <https://doi.org/10.1080/07474938.2014.956623>
89. Pi, J., Fan, Y.: Financial frictions and wage inequality. *Int. J. Finance Econ.* **27**, 1064–1074 (2022). <https://doi.org/10.1002/ijfe.2200>
90. Pi, J., Zhang, K., Huang, X.: Financial globalization and wage inequality. *Scott. J. Political Econ.* **70**(2), 144–157 (2023). <https://doi.org/10.1111/sjpe.12333>
91. Piketty, T., Saez, E., Zucman, G.: Distributional national accounts: Methods and estimates for the United States. *Q. J. Econ.* **133**(2), 553–609 (2018). <https://doi.org/10.1093/qje/qjx043>
92. Pleninger, R., de Haan, J., Sturm, J.-E.: The ‘forgotten’ middle class: An analysis of the effects of globalization. *World Econ.* **45**(1), 76–110 (2022). <https://doi.org/10.1111/twec.13180>
93. Rajaguru, G., Srivastava, S., Sen, R., Mukhopadhyaya, P.: Does globalization drive long-run inequality within OECD countries? A guide to policy making. *J. Policy Model.* **45**(3), 469–493 (2023). <https://doi.org/10.1016/j.jpolmod.2023.04.004>
94. Rambachan, A., Roth, J.: A more credible approach to parallel trends. *Rev. Econ. Stud.* **90**(5), 2555–2591 (2023). <https://doi.org/10.1093/restud/rdad018>

95. Roberts, A., Tran, T.B.: The globalization of production, national labour regulations and income inequality in the global North and South, 1980–2013. *Glob. Netw.* **23**(4), 687–714 (2023). <https://doi.org/10.1111/glob.12392>
96. Rochat, M.: The determinants of growing economic inequality within advanced democracies. *Int. Rev. Econ.* **70**, 457–475 (2023). <https://doi.org/10.1007/s12232-023-00427-6>
97. Roth, J., Sant'Anna, P.H.C., Bilinski, A., Poe, J.: What's trending in difference-in-differences? A synthesis of the recent econometrics literature. *J. Econ.* **235**(2), 2218–2244 (2023). <https://doi.org/10.1016/j.jeconom.2023.03.008>
98. Sampson, T.: Selection into trade and wage inequality. *Am. Economic Journal: Microeconomics*. **6**(3), 157–202 (2014). <https://doi.org/10.1257/mic.6.3.157>
99. Sarafidis, V., Wansbeek, T.: Cross-sectional dependence in panel data analysis. *Econom. Rev.* **31**(5), 483–531 (2012). <https://doi.org/10.1080/07474938.2011.611458>
100. Solt, F.: Measuring income inequality across countries and over time: The Standardized World Income Inequality Database. *Soc. Sci. Q.* **101**(3), 1183–1199 (2020). <https://doi.org/10.1111/ssqu.12795>
101. Stauskas, O., De Vos, I.: Handling distinct correlated effects with CCE. *Oxf. Bull. Econ. Stat.* **87**(2), 448–475 (2025). <https://doi.org/10.1111/obes.12650>
102. Stolper, W.F., Samuelson, P.A.: Protection and real wages. *Rev. Econ. Stud.* **9**(1), 58–73 (1941). <https://doi.org/10.2307/2967638>
103. Sudsawasd, S., Hayakawa, K.: Heterogeneous impacts of trade liberalization on individual wages: Evidence from Thailand. *Developing Economies*. **62**(1), 68–86 (2024). <https://doi.org/10.1111/deve.12375>
104. Sun, L., Abraham, S.: Estimating dynamic treatment effects in event studies with heterogeneous treatment effects. *J. Econ.* **225**(2), 175–199 (2021). <https://doi.org/10.1016/j.jeconom.2020.09.006>
105. Tabash, M.I., Elsantil, Y., Hamadi, A., Drachal, K.: Globalization and income inequality in developing economies: A comprehensive analysis. *Economies*. **12**(1), 23 (2024). <https://doi.org/10.3390/economies12010023>
106. Tamasauskienė, Z., Žičkienė, S.: An investigation of the nexus between globalisation dimensions and income inequality. *Entrepreneurial Bus. Econ. Rev.* **9**(2), 39–53 (2021). <https://doi.org/10.15678/EBER.2021.090203>
107. Uche, E., Koyama, T.-C.B., Ngepah, N.: Globalization–inequality nexus in the US and UK: A multi-dimensional perspective. *Annals Financial Econ.* **19**(1), 2450001 (2024). <https://doi.org/10.1142/S2010495224500015>
108. Villanthenkodath, M.A., Pal, S., Mahalik, M.K.: Income inequality in globalization context: Evidence from global data. *J. Knowl. Econ.* **15**(1), 3872–3902 (2024). <https://doi.org/10.1007/s13132-023-01342-5>
109. Vuković, D.L., Damijan, J.P.: Drivers of income inequality in OECD countries: Testing the Milanovic's TOP hypothesis. *Struct. Change Econ. Dyn.* **74**, 416–440 (2025). <https://doi.org/10.1016/j.strueco.2025.04.004>
110. Wiese, R., Jalles, J.T., de Haan, J.: Structural reforms and income distribution: New evidence for OECD countries. *Oxf. Econ. Pap.* **76**, 1071–1088 (2024). <https://doi.org/10.1093/oep/gpae002>
111. Yun, J.: The distributional effects of capital inflows. *Open. Econ. Rev.* **36**, 1527–1566 (2025). <https://doi.org/10.1007/s11079-025-09810-y>
112. Zi, Y.: Trade liberalization and the great labor reallocation. *Int. Econ. Rev.* **66**(2), 933–963 (2025). <https://doi.org/10.1111/iere.12751>

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