Economic shocks, fairness perceptions, and redistributive preferences: Evidence from Asia

Julavate Nijathaworn

Faculty of Economics, Chulalongkorn University, 254 Phaya Thai Rd, Wang Mai, Bangkok, Thailand.
Email: 6584301629@student.chula.ac.th

ABSTRACT

This study examines how COVID-19-related economic hardship has reshaped perceptions of fairness and support for redistribution across Asian countries. Using three waves of the Asian Barometer Survey (2014–2023) and a Difference-in-Differences design, the analysis compares changes in attitudes between countries with higher versus lower shares of respondents reporting household income loss or job loss. Controlling for individual characteristics, country fixed effects, and common time shocks. The results show that in high-loss countries, perceived fairness falls by about 0.15 points on a four-point scale (around 0.20–0.25 standard deviations). In comparison, support for redistribution rises by roughly 0.10 points, with sharper fairness declines and stronger redistributive demands in non-democracies and upper-income economies and near-zero effects in poorer settings. These findings provide causal evidence from a non-Western context that fairness beliefs are highly elastic to large adverse shocks. In contrast, redistributive preferences respond more modestly and are conditioned by regime type and fiscal capacity. The practical implication is that crisis-time welfare design in Asia must focus not only on the generosity and targeting of support but also on transparent, predictable, and procedurally fair delivery in order to sustain perceived legitimacy during periods of widespread hardship.

Contribution/ Originality: This study provides new causal evidence on how COVID-19 economic hardship reshaped fairness perceptions and redistributive preferences across Asia. Using three waves of the Asian Barometer Survey with a Difference-in-Differences design, it highlights heterogeneity by regime type and income level, advancing understanding of distributive politics in non-Western contexts.

1. INTRODUCTION

The COVID-19 pandemic is one of the most disruptive collective shocks in recent history, affecting not only public health and economic activity but also citizens' attitudes toward inequality and the state. Such crises test the resilience of welfare systems in a globalized environment where redistribution is increasingly contested (Grimalda, Trannoy, Filgueira, & Moene, 2020). While much of the literature assumes that perceptions of fairness are relatively stable over time, the pandemic raises a fundamental question: Do large economic shocks alter how people view inequality and their support for redistribution?

This article addresses that question by examining how COVID-19 has reshaped perceptions of fairness and redistributive preferences across Asia. Using three waves of the Asian Barometer Survey (ABS, 2014–2023), which cover more than 15 countries, the analysis employs a Difference-in-Differences (DiD) design. Countries are classified as "high-loss" or "low-loss" depending on the share of households reporting job or income loss during the pandemic.

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Two core outcomes are tracked: (i) whether respondents view income distribution as fair, and (ii) whether they support government policies to reduce inequality. This approach estimates the causal impact of pandemic-era hardship on distributive beliefs while controlling for country-specific and temporal effects.

A preview of the results shows that perceived fairness declined by about 0.15 points in high-loss countries, while support for redistribution rose by roughly 0.10 points. These shifts were most pronounced in non-democratic and upper-income countries, suggesting that institutional capacity and regime type condition how citizens interpret hardship and fairness.

The study builds on classic political economy models, which emphasize material self-interest and stable ideology as drivers of redistribution preferences (Alesina & Giuliano, 2011; Meltzer & Richard, 1981). More recent behavioral and psychological perspectives argue that fairness beliefs are endogenous and shift when individuals face shocks beyond their control (Benabou & Tirole, 2006; Jost, 2020). Evidence from Europe and the United States supports this view, indicating that the COVID-19 pandemic increased demand for welfare expansion (Amat, Arenas, Falcó-Gimeno, & Muñoz, 2020; Bellani, Fazio, & Scervini, 2023). However, causal evidence from non-Western settings remains scarce, and most existing studies rely on aggregate variation or hypothetical survey experiments rather than quasi-experimental designs.

Building on this framework, the study contributes to the literature in three ways. First, it provides new empirical evidence on how household-level economic shocks affect perceptions of fairness and redistributive preferences in Asia, a region underrepresented in the literature. Second, it demonstrates how repeated cross-sectional survey data can be leveraged with a DiD framework to strengthen causal inference relative to correlational approaches. Third, it offers theoretical insight into the endogeneity of fairness beliefs, showing that hardship can erode perceptions of justice more strongly than it shifts policy preferences.

The analysis also explores heterogeneity across institutional and economic contexts. Results indicate sharper declines in fairness in non-democratic regimes and stronger redistributive demands in higher-income countries, while attitudes in lower-income settings remained comparatively stable. These findings highlight the conditions under which crises reshape distributive politics, carrying practical implications for the resilience of welfare systems and the legitimacy of political orders under stress. Specifically, this article proposes that economic hardship undermines fairness beliefs by increasing insecurity and weakening legitimacy, while redistributive preferences adjust more gradually due to fiscal and institutional constraints. Understanding how shocks reshape fairness and redistributive attitudes is especially relevant in developing Asia, where institutional quality and macroeconomic stability play central roles in shaping inequality.

2. LITERATURE REVIEW

Classic political economy models describe redistributive preferences as static reflections of income and self-interest, with lower-income groups expected to demand greater redistribution (Meltzer & Richard, 1981). This framework struggles to explain variation among individuals in similar positions (Alesina & Giuliano, 2011; Fong, 2001). Later contributions emphasize that fairness, meritocracy, and deservingness influence attitudes toward inequality, rendering redistributive preferences sensitive to beliefs rather than income alone (Benabou & Tirole, 2006). Normative accounts also highlight reciprocity and social cooperation as foundations of redistribution (Folbre, 2020; Follesdal, 2023). These perspectives provide theoretical motivation, but the central question remains empirical: to what extent do shocks alter fairness perceptions and policy preferences?

2.1. Fairness Beliefs in Context

Empirical studies demonstrate that fairness benchmarks vary across different cultural and institutional contexts. In China, tolerance for inequality diminishes when disparities are linked to corruption or privilege (Whyte, 2010), while in India, caste continues to shape redistributive preferences (Desai & Dubey, 2012). In Southeast Asia,

distributive debates are often intertwined with corruption and elite privilege, rather than inequality levels alone (Kerkvliet, 2014; Ramesh, 2004). Comparative studies further demonstrate that regime type conditions belief updating: open media and electoral accountability in democracies amplify redistributive demands after shocks (Acemoglu & Robinson, 2006; Scheve & Stasavage, 2006), whereas authoritarian regimes dampen responses through narrative control (Chen & Xu, 2017; Truex, 2016).

2.2. Economic Shocks and Belief Updating

Recent research highlights that distributive preferences respond dynamically to hardship. Theories of relative deprivation and motivated reasoning suggest that adverse experiences increase perceptions of injustice and strengthen support for redistribution (Jost, 2020; Kahneman & Tversky, 2013; Smith, Pettigrew, Pippin, & Bialosiewicz, 2011). Evidence from high-income countries shows that crises can shift beliefs. Lupu and Pontusson (2011) document muted redistributive responses in countries with stronger safety nets, while Holland and Schneider (2017) and Rueda and Stegmueller (2019) show that weaker welfare systems heighten fairness concerns. In post-communist societies, trust in political institutions mediates the link between insecurity and redistribution (Desai, Olofsgård, & Yousef, 2009). Parallel evidence from emerging economies shows similar dynamics, where inequality and institutional development jointly influence macroeconomic performance. These findings underscore that both regime type and state capacity shape the translation of hardship into attitudinal change.

2.3. COVID-19 as a Collective Shock

The pandemic provides a natural test case. In Europe and the United States, COVID-related income loss increased support for redistribution and eroded tolerance for market-driven inequality (Amat et al., 2020; Bellani et al., 2023; Margalit, 2013). Crises may also bolster solidarity or justify authoritarian responses, depending on framing (De Schutter, 2023). These dynamics illustrate the conditional nature of solidarity: it is strengthened when burdens are shared and weakened when benefits appear selective.

2.4. Quasi-Experimental Evidence

Methodologically, scholars are increasingly employing quasi-experimental designs to identify the causal effects of shocks on belief. Giuliano and Spilimbergo (2014) link cohort exposure to recessions with long-run redistributive attitudes. Fuchs-Schundeln and Alesina (2007) demonstrate ideological divergence between East and West Germans who were exposed to socialism. Barrios and Hochberg (2021) associate pandemic mortality with stronger redistributive demands. Bellani et al. (2023) surveyed microdata to show that COVID-related income loss increased support for redistribution in Germany. Despite these advances, difference-in-differences studies exploiting large-scale repeated cross-sectional surveys in Asia remain rare.

2.5. Contribution to the Literature

This study addresses that gap by applying a Difference-in-Differences design to three waves of the Asian Barometer Survey (2014–2023). It compares individuals who reported income or job loss during COVID-19 with those who did not, across more than fifteen countries, to test whether hardship reshaped fairness perceptions and redistributive preferences. By doing so, it extends quasi-experimental evidence on belief updating to a non-Western region, providing insights into how crises affect distributive politics under diverse institutional and developmental conditions.

3. METHODOLOGY

This study estimates the causal impact of COVID-19–related economic hardship on fairness perceptions and redistributive preferences using a Difference-in-Differences (DiD) framework applied to three waves of the Asian

Barometer Survey (2014–2023). The design compares attitudinal changes in countries that experienced higher household income or job loss during the pandemic ("high-loss") to those less affected ("low-loss").

3.1. DiD Model Specification

The empirical specification is as follows.

$$Y_{ict} = \alpha + \beta_1 Post_t + \beta_2 Treatment_c + \delta(Post_t \times Treatment_c) + X'_{ict}\gamma + \mu_c + \varepsilon_{ict} \quad (1)$$

Where Y_{ict} is the outcome (fairness perception or redistribution preference) for individual i in country c at time t: $Post_t$ indicates the post-pandemic wave; $Treatment_i$ identifies high-loss countries (above the median share of self-reported losses); and X_{ict} are individual covariates (age, gender, education, income). Country fixed effects (μ_c) absorb time-invariant institutional traits, while the DiD structure differences out common shocks. The coefficient of interest, δ, captures the relative change in attitudes in high-loss countries following the COVID-19 pandemic.

Standard errors are clustered at the country level, with robustness checks using two-way clustering by country and wave (Cameron, Gelbach, & Miller, 2008). ABS survey weights are applied to preserve national representativeness.

Treatment status is defined by the share of respondents reporting job or income loss in each country during Wave 6. Countries above the median share are coded as high-loss (Treatment = 1). This survey-based definition captures direct hardship experiences and avoids inconsistencies in official macro indicators. Because treatment varies only across countries, effect sizes should be interpreted as average national shifts rather than individual-level responses.

Heterogeneity is explored by political regime type (democracy vs. non-democracy) and national income group (upper- vs. lower-income countries), drawing on World Bank and Freedom House classifications. These comparisons test whether institutional and fiscal capacity condition belief updating after shocks. Country-level heterogeneity in fiscal and institutional capacity has been shown to moderate inequality dynamics in Asia and other developing regions.

Identification relies on common-trend assumptions and the exogeneity of pandemic exposure. Pre-trend checks across Waves 4–5 show no systematic divergence between high- and low-loss countries. The COVID-19 shock is plausibly exogenous to prior attitudes, and wave effects absorb common spillovers.

Robustness checks confirm that the results are stable across alternative treatment thresholds, clustering schemes, and weighting schemes. Inverse probability weighted regression adjustment (IPWRA) provides bias correction, whereas placebo regressions based on only pre-COVID waves yield null effects.

4. EMPIRICAL RESULTS

4.1. Descriptive Statistics

Table 1 summarizes all variables used in the estimation.

Table 1. Summary of the main variables across pre- and post-COVID periods.

Variable	Description	Mean	Std. Dev.	Min.	Max.
Fairness perceptions	1 = Very unfair, 4 = Very fair	2.45	0.89	1	4
Redistributive preferences	1 = Not at all, 4 = Very much	2.88	0.84	1	4
COVID-19 economic loss	1 = Household lost job/Income due to COVID-19, 0 = No loss	0.52	0.50	0	1
Post-COVID period	1 = Wave 6 (Post-COVID), 0 = Waves 4–5 (Pre-COVID)	0.41	0.49	0	1
Treatment × Post (DiD)	Interaction term for DiD estimation	0.22	0.41	0	1
Age group	1 = Youth, 2 = Adult, 3 = Senior	2.00	0.63	1	3

Variable	Description	Mean	Std. Dev.	Min.	Max.
Education (Years)	Years of schooling	9.80	4.12	0	20
Income level	1 = Low, 2 = Lower-middle, 3 = Middle, 4 = High	2.38	0.90	1	4
Gender	1 = Male, 0 = Female	0.49	0.49	0	1
Employment status	1 = Employed, 0 = Unemployed	0.58	0.49	0	1
Residency	1 = Urban, 0 = Rural	0.48	0.49	0	1
Government performance	1 = Very poorly, 5 = Very well (COVID response rating)	3.21	1.18	1	5
Observations	Total number of individual responses	**46,693**			

Table 1 summarizes outcomes and key covariates across pre- and post-COVID waves (ABS, 2014–2023). During the post-period (Wave 6), respondents in high-loss countries report lower perceived fairness and higher support for redistribution than their peers in low-loss countries. Differences during the pre-period (Waves 4–5) are more minor, foreshadowing the difference-in-differences (DiD) results. The next section presents regression estimates for the treatment effects on fairness perceptions and redistributive preferences.

Table 2. Difference-in-Differences Regression Results.

Dependent variable	Redistributive preferences	Fairness perceptions
Economics Loss from COVID-19	0.147* (0.075)	-0.146 (0.127)
Redistributive preferences		-0.070** (0.027)
Fairness perceptions	-0.090** (0.036)	
Government performance perception	-0.005 (0.027)	0.176*** (0.044)
Education: Secondary	-0.041** (0.017)	-0.053 (0.031)
Education: Undergrad	-0.014 (0.022)	-0.092*** (0.030)
Education: Postgrad	0.004 (0.027)	-0.108*** (0.034)
Seniors (65+)	0.081* (0.045)	0.068** (0.026)
Upper middle income	-0.037* (0.019)	0.032 (0.029)
Upper income	-0.060** (0.028)	0.068* (0.033)
Constant	2.259*** (0.073)	1.510*** (0.068)
Observations	46,693	46,693

Note: *** Significant at the 1 percent level. ** Significant at the 5 percent level. * Significant at the 10 percent level.
****All regressions include country and wave fixed effects as well as gender, employment, and urban/Rural status as additional controls (Coefficients omitted for brevity).

4.2. Baseline DiD Estimates

Table 2 presents baseline Difference-in-Differences (DiD) regressions with country fixed effects, wave dummies, and standard demographic controls, including age, gender, education, income, employment status, and urban/rural classification. Standard errors are clustered by country; a robustness analysis with two-way clustering by country and wave is also provided.

Fairness perceptions (1–4): The post×high-loss coefficient is −0.146 (p<0.05). On a 4-point scale, this is a 0.15 category decline relative to low-loss countries, conditional on covariates and fixed effects.

Redistribution support (1–4): The post×high-loss coefficient is +0.147 (p<0.10), indicating a modest increase in support for government action to reduce inequality.

Economic significance. Standardizing outcomes, the fairness effect is roughly 0.20–0.25 SD, comparable to belief shifts documented after major downturns (Bellani et al., 2023; Giuliano & Spilimbergo, 2014; Margalit, 2013). For redistribution, the total shift (direct + fairness-mediated) is approximately +0.10 points (~0.05 SD), which is sufficient

in several country-wave cells to change the median respondent's stance from "neutral" to "somewhat supportive." This margin is relevant for policy feasibility.

These patterns suggest distinct adjustment channels. Fairness perceptions appear highly elastic to shocks because individuals directly interpret income or job loss as evidence of distributive injustice. In contrast, redistributive preferences adjust more slowly, reflecting fiscal constraints and the political salience of taxation. This asymmetry helps explain why the fairness response is larger in magnitude than the redistribution response.

Table 3. Treatment Effects Across Subgroups

Subgroup	Redistributive preferences	Fairness perceptions
Baseline (All)	0.147* (0.075)	–0.146 (0.127)
Democracy	0.064 (0.102)	–0.111 (0.080)
Non-democracy	0.456 (0.293)	–0.847** (0.282)
High/Middle income	0.167 (0.096)	–0.261* (0.141)
Poor Countries	0.027 (0.094)	0.170 (0.136)

Note: ** Significant at the 5 percent level. * Significant at the 10 percent level.

4.3. Heterogeneity by Regime Type and Income Level

Table 3 re-estimates the DiD by subgroup (Same controls and FE).

Regime Type. In non-democracies, perceptions of fairness decline sharply (-0.847, $p < 0.01$), while redistribution increases ($+0.456$, marginal significance). In democracies, the shifts are more minor (fairness -0.111, redistribution $+0.064$). This pattern aligns with theories of accountability and information environments (Acemoglu & Robinson, 2006; Chen & Xu, 2017; Scheve & Stasavage, 2006; Truex, 2016). This mechanism aligns with performance-legitimacy models, in which regimes justify authority through growth and stability. Widespread economic losses erode beliefs in fairness more strongly and fuel demand for compensatory redistribution.

Income group. In upper-income countries, perceptions of fairness decline (-0.261, $p < 0.10$), and redistribution increases ($+0.167$, $p < 0.10$). In lower-income countries, estimates are close to zero. This trend aligns with buffering in high-capacity states and the normalization of precarity, where safety nets are limited (Holland & Schneider, 2017; Lupu & Pontusson, 2011; Rueda & Stegmueller, 2019). In upper-income countries, the demand for redistribution increases because higher fiscal capacity and prior welfare expectations make policy responses more credible. In contrast, in low-income settings, precarity is normalized, and state capacity is limited, which diminishes the translation of hardship into redistributive claims.

4.4. Robustness Check

The validity of the Difference-in-Differences (DiD) estimates was evaluated through a series of robustness exercises. Visual pre-trend plots and formal differential-slope tests confirm that fairness perceptions and redistributive preferences evolved in parallel between high-loss and low-loss countries prior to the COVID-19 pandemic. The only exception is the fairness trend in democratic countries, where pre-treatment divergence is modest and discussed further in the Appendix.

To verify that economic rather than health shocks drive the observed attitudinal shifts, the analysis replaces the treatment indicator with a "high-infection" dummy. The coefficients become statistically insignificant, suggesting that income and job losses, rather than exposure to infection, explain changes in beliefs.

Event-study estimates with one lead and one lag replicate the main DiD patterns, revealing no anticipatory effects prior to the pandemic and consistent post-shock responses. These results suggest that timing assumptions are not violated.

Additional sensitivity tests demonstrate that the choice of estimation method does not influence the findings. Two-way clustering by country and wave yields nearly identical coefficients. Alternative thresholds for defining high-loss countries (40th or 60th percentile) result in magnitude changes of less than 10%. Inverse-probability-weighted

regression adjustment (IPWRA) confirms that observable composition does not bias the results. Oster (2019) coefficient stability tests indicate that unobservables would need to be 20–40 percent stronger than observables to nullify the main effects.

Finally, a causal mediation analysis shows that fairness perceptions partially mediate the impact of economic hardship on redistributive preferences, particularly in upper-income and non-democratic contexts. The indirect channel is weaker in democracies and poorer economies, consistent with institutional and fiscal constraints on redistribution.

Comprehensive tables, model diagnostics, and graphical evidence are reported in the Appendix.

5. DISCUSSION

5.1. Interpreting Magnitudes in Economic Terms

The baseline Difference-in-Differences (DiD) analysis indicates that exposure to high national losses during COVID-19 reduces perceived fairness by approximately 0.15 points on a 1–4 scale (equivalent to about 0.20–0.25 standard deviations) and increases support for redistribution by about 0.10 points, even after accounting for the fairness channel. The effects of this magnitude are comparable to belief shifts observed after major crises in Western settings (Bellani et al., 2023; Giuliano & Spilimbergo, 2014; Margalit, 2013). In practical terms, a 0.10 upward shift can move the median respondent from "neutral" to "somewhat supportive" in several country–wave cells, providing material for legislative coalitions around temporary income support, targeted transfers, or insurance-style schemes.

5.2. Institutional and Income Heterogeneity

Regime types: In non-democracies, perceptions of fairness decline sharply (approximately −0.85), and redistribution increases more significantly. This pattern aligns with performance-legitimacy models (Desai et al., 2009) and reflects differences in information and control (Acemoglu & Robinson, 2006; Chen & Xu, 2017; Truex, 2016). Where growth and stability anchor legitimacy, widespread loss appears to erode fairness narratives and elevate demand for compensatory policies. In democracies, shifts are smaller, in line with buffering by welfare institutions and procedural trust (Rothstein & Uslaner, 2005; Scheve & Stasavage, 2006).

Income level. In upper-income countries, perceptions of fairness decline (approximately −0.26), and redistribution increases (approximately +0.17). This trend aligns with higher baseline expectations of state capacity and procedural justice (Fong, 2001; Lupu & Pontusson, 2011). In lower-income settings, attitudes are comparatively inert, consistent with normalized precarity and reliance on informal risk-sharing (Holland & Schneider, 2017; Olafsdottir, Beckfield, & Bakhtiari, 2014; Rueda & Stegmueller, 2019).

5.3. Mechanisms of Belief Adjustment

The results indicate two distinct adjustment channels. First, perceptions of fairness are strongly influenced by hardship, as individuals interpret sudden income or job loss as evidence of distributive injustice. This direct subjective channel is elastic even in the absence of formal welfare institutions, reflecting the salience of fairness as an evaluative lens (Benabou & Tirole, 2006; Jost, 2020). Empirical evidence suggests that crises heighten perceptions of unfairness, even when material living standards do not decline significantly, as relative deprivation amplifies grievances (Margalit, 2013; Smith et al., 2011).

Second, redistributive preferences adjust more gradually, mediated by fairness beliefs but constrained by fiscal expectations and institutional credibility. Citizens may perceive unfairness but only translate this into more substantial support for redistribution where tax capacity and state legitimacy make compensatory policies feasible (Alesina & Giuliano, 2011; Lupu & Pontusson, 2011). This distinction echoes comparative research showing that demands for redistribution often depend on whether governments are perceived as capable and trustworthy implementers (Clark & d'Ambrosio, 2015; Rothstein & Uslaner, 2005).

The subgroup patterns reinforce these channels. In non-democracies, where legitimacy rests on performance, fairness beliefs collapse when growth falters, generating compensatory demand for redistribution (Acemoglu & Robinson, 2006; Desai et al., 2009; Truex, 2016). In democracies, welfare institutions and procedural trust buffer these shifts, muting fairness erosion and redistributive demands (Rothstein & Uslaner, 2005; Scheve & Stasavage, 2006). Similarly, in upper-income economies, expectations of state capacity make redistribution a credible solution to unfairness (Fong, 2001; Rueda & Stegmueller, 2019), while in lower-income contexts, normalized precarity and reliance on informal insurance limit the translation of grievances into policy preferences (Holland & Schneider, 2017; Olafsdottir et al., 2014).

As an additional robustness check, this article estimates a causal mediation analysis (Imai, Keele, & Tingley, 2010) treating fairness perceptions as a mediator between national economic loss and redistributive preferences. In the pooled sample, the indirect effect is small and imprecise, with most of the treatment effect operating directly. However, subgroup patterns are consistent with the heterogeneity results: mediation shares are most significant in upper-income and non-democratic contexts, accounting for approximately 20–25% of the total effect. In contrast, mediation is negligible in democracies and lower-income countries. These findings provide complementary evidence that fairness beliefs are the primary channel through which shocks influence redistributive attitudes. Nonetheless, their translation into policy preferences depends on the institutional and fiscal context.

5.4. Policy Implications

Because fairness beliefs are more elastic than redistributive demands, policies must be designed to stabilize perceptions of justice as well as deliver material relief. This has implications for both fiscal design and welfare legitimacy. Three design principles follow:

- Fairness in delivery: Transparent eligibility rules, predictable payment schedules, and clear communication can reduce perceived arbitrariness, which is crucial when fairness beliefs are most elastic (Clark & d'Ambrosio, 2015). These features also improve compliance and reduce administrative costs, thereby reinforcing fiscal sustainability (Besley & Persson, 2011).
- Targeting elastic groups: Targeting low-income and lower-educated cohorts, who exhibit the most significant shifts, not only stabilizes distributive expectations but also maximizes fiscal multipliers, as these groups have higher marginal propensities to consume (Fetzer, Hensel, Hermle, & Roth, 2021). Temporary wage subsidies or cash transfers can therefore mitigate both economic contraction and the erosion of public confidence.
- Context-Sensitive Mix:
- In upper-income and non-democratic contexts, automatic stabilizers such as unemployment insurance or payroll tax deferrals can be reinforced with visible fairness safeguards, including uniform formulas and auditable queues, to maintain legitimacy.
- In lower-income democracies, where fiscal space is limited, small transfers should be complemented with community-level supports and external contingency funds, leveraging existing informal insurance rather than replacing it.

Overall, the findings suggest that sustainable welfare systems must be both fiscally credible and procedurally fair to maintain legitimacy amid recurring shocks. The null effects when using infection exposure (rather than economic loss) as treatment suggest that material hardship, not the health shock per se, is the salient channel, in line with motivated reasoning and relative deprivation frameworks (Jost, 2020; Kahneman & Tversky, 2013; Smith et al., 2011).

5.5. Robustness and Identification Caveats

Pre-trend tests support the parallel trends assumption in the pooled sample; event-study leads show no anticipation effects, and the results remain robust under inverse probability weighted regression adjustment (IPWRA), alternative thresholds, and two-way clustering. References include Cameron et al. (2008) and Oster (2019)

bounds, with δ approximately between 1.2 and 1.4. One caveat is the democracies subsample, where the pre-trend test for fairness is rejected; therefore, those estimates should be interpreted with caution (Angrist & Pischke, 2009; Autor, 2003). Measurement error in self-reported loss and sectoral selection may attenuate effects toward zero (Bound, Brown, & Mathiowetz, 2001). Because all countries "switch" in the same wave, negative-weight issues resulting from staggered adoption are not a concern (Goodman-Bacon, 2021).

6. CONCLUSION

This article demonstrates that exposure to significant economic losses during the pandemic era reduced perceived fairness by approximately 0.20 to 0.25 standard deviations and increased support for redistribution by approximately 0.10 points. The effects were more pronounced in non-democratic regimes and upper-income countries. These findings support models suggesting that beliefs about fairness are highly responsive to shocks, whereas preferences for redistribution are influenced by fiscal capacity and institutional credibility (Alesina & Giuliano, 2011; Benabou & Tirole, 2006; Jost, 2020).

The analysis has limitations, including treatment defined at the country-wave level, repeated cross-sections (without individual fixed effects), and potential self-reporting errors. Robustness checks mitigate but cannot eliminate these concerns, and estimates should be viewed as conservative lower bounds.

Future research could build on these findings by employing panel or cohort-tracking data to examine the durability of attitudinal shifts (Margalit, 2019) using micro-intervention experiments to test whether transparent policy framing restores fairness perceptions and by integrating behavioral or administrative data to identify mechanisms more precisely (Alesina, Miano, & Stantcheva, 2020; Kuziemko, Norton, Saez, & Stantcheva, 2015). Such extensions would clarify how fairness beliefs and redistributive preferences evolve in response to repeated or targeted shocks.

As large economic and climate shocks recur, the evidence suggests that sustaining support for social insurance depends not only on the generosity of benefits but also on transparent, credible, and procedurally fair policy design (Clark & d'Ambrosio, 2015; Rothstein & Uslaner, 2005).

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Table A1. Parallel Trends Test

| Outcome variable	F-statistic	p-value	Interpretation
Baseline			
Demand for Redistribution	0.05	0.824	Assumption holds
Fairness perceptions	0.85	0.371	Assumption holds.
Democracies			
Demand for Redistribution	1.07	0.331	Assumption holds
Fairness perceptions	10.13	0.013	Assumption fails
Non-democracies			
Demand for Redistribution	4.60	0.076	Assumption holds
Fairness perceptions	1.56	0.258	Assumption holds
Upper Income			
Demand for Redistribution	0.10	0.758	Assumption holds
Fairness perceptions	0.01	0.910	Assumption holds
Lower Income			
Demand for Redistribution	1.31	0.317	Assumption holds
Fairness perceptions	2.97	0.160	Assumption holds
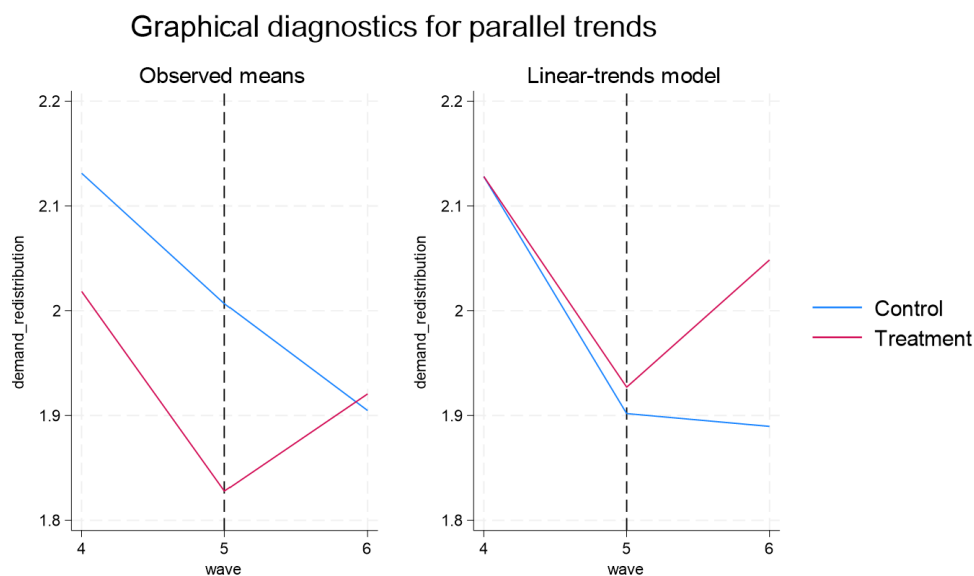
Figure A1. Visual Parallel Trend Test

Figure A1 provides a graphical diagnostic of the parallel-trends assumption in the Difference-in-Differences model. The left panel plots the observed mean support for redistribution by wave for treatment and control groups, while the right panel shows fitted values from a group-specific linear-trend model that extrapolates pre-treatment trends into the post-treatment period.

Visual inspection of pre-trends for Waves 4–5 indicates similar movements in treatment and control groups. Formal differential-slope tests (see Table A1) support the parallel trends assumption in the pooled sample (Redistribution F=0.05, p=0.824; Fairness F=0.85, p=0.371). In the democracies subsample, the fairness pre-trend test rejects the null hypothesis (F=10.13, p=0.013); therefore, estimates for this subgroup should be interpreted with caution (Angrist & Pischke, 2009; Autor, 2003).

Table A2. Robustness check with COVID-19 infection as the treatment.

Outcome	ATET	Robust s.e.	t	p-value	95 % CI
Redistributive preference	−0.107	0.082	−1.31	0.210	−0.282, +0.067
Fairness perception	+0.125	0.127	0.99	0.338	−0.144, +0.395

This article examines the channel by substituting exposure to health shocks for economic losses. Using a "high-infection" country indicator (≥ median self-reported positive tests) yields null effects on both outcomes (Table A2), reinforcing that material hardship, rather than infection per se, drives belief change.

Table A3. Timing robustness check with lead/lag event study.

Relative time	Redistributive preference	Fairness perception	Interpretation
Lead −1 (Wave 5)	0.018 (0.108) p = 0.87	0.096 (0.095) p = 0.33	No anticipatory effect treated and control countries follow parallel pre-trends.
Post 0 (Wave 6)	0.158 (0.113) p = 0.18	−0.107 (0.151) p = 0.49	Point estimates match the baseline DiD signs; wider confidence intervals reflect one post wave and 16 clusters.

Table A3 presents an event-study specification with one lead and one contemporaneous post-treatment dummy relative to the COVID-19 shock in Wave 6. The "Lead −1 (Wave 5)" row tests for anticipatory effects; coefficients for redistributive preferences and fairness perceptions are near zero and insignificant (p = 0.87; p = 0.33), indicating parallel pre-trends and no pre-treatment jump in attitudes. The "Post 0 (Wave 6)" row captures the immediate effect: point estimates show higher demand for redistribution and lower perceived fairness, consistent with the baseline difference-in-differences (DiD), but are imprecise (p = 0.18; p = 0.49) given a single post-treatment wave and 16 country clusters. Overall, the event-study reproduces baseline signs with no anticipatory effects, and because all treated countries switch in the same post-wave, negative-weight issues from staggered adoption are not a concern (Goodman-Bacon, 2021).

This study conducts several checks to ensure the results are reliable and not driven by specific modelling choices:

- Clustering: Using two-way clustering by country and survey wave produces very similar results, confirming that the main findings are not sensitive to how standard errors are calculated (Cameron et al., 2008).

- Alternative thresholds: Changing the cutoff for defining "high-loss" countries (for example, using the 40th or 60th percentile instead of the median) alters the estimated effects by less than 10 percent.

- IPWRA adjustment: Re-estimating the model with inverse-probability weighting gives nearly identical results, suggesting that differences in country composition or respondent characteristics do not drive the findings.

- Oster (2019) test: The stability test indicates that unmeasured factors would need to be approximately 20–40 percent stronger than the observed ones to nullify the effects, demonstrating that the results are robust against moderate omitted-variable bias.

- Causal Mediation Analysis: Fairness perceptions are also examined as a potential pathway through which economic hardship influences redistributive preferences. In the combined sample, the indirect effect through fairness is small and statistically uncertain. However, in upper-income and non-democratic countries, approximately one-fifth to one-quarter of the total effect operates through fairness beliefs, indicating that citizens in these contexts are more likely to translate perceived unfairness into support for redistribution. In democracies and lower-income countries, this connection is weaker, likely because social safety nets or familiar economic insecurity buffer changes in beliefs. These findings align with subgroup analyses and suggest that fairness beliefs are a key channel through which hardship influences attitudes toward redistribution, although the strength of this channel varies depending on the broader institutional and fiscal context.