

## ORIGINAL ARTICLE

# The causal effect of economic sanctions on political stability: A two-stage difference-in-differences analysis

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TX 79409, USA.Email: [dongan.tan@ttu.edu](mailto:dongan.tan@ttu.edu)**Abstract**

This study employs the two-stage difference-in-differences (2sDiD) estimator to investigate the causal effect of economic sanctions on political stability. It contributes to existing research by (1) re-evaluating sanctions' impacts on political stability using newly introduced causal inference methods, and (2) distinguishing the effects of sanctions across various political regimes and economic globalisation levels. The article argues that economic sanctions create economic hardships for the target population, leading to public frustration toward their governments, which stimulates political mobilisation and thereby decreases the country's political stability. However, sanctions hurt democracies more than autocracies because autocratic regimes can suppress public dissent through repression and citizens face higher costs for opposition. Moreover, economic globalisation offers targets alternatives to sanctioned products and services, potentially weakening sanctions thus damaging political stability more in low-globalised than in high-globalised countries. Empirical findings from 9230 country-year observations between 1949 and 2022 largely align with the theoretical predictions, showing that economic sanctions undermine the target's political stability, with these destabilising effects contingent upon its political regime and economic globalisation levels.

**KEYWORDS**

economic sanctions, political mass mobilisation, political stability, two-stage difference-in-differences

## INTRODUCTION

Throughout history, nations have employed sanctions as a tool of coercion, with early accounts dating back to Pericles's Megarian decree in 432 BC. The use of economic sanctions has significantly increased since the end of the Cold War (Drury, 2000; Lopez & Cortright, 2018). While the effectiveness of economic sanctions remains a subject of debate (Askari et al., 2003; Biersteker et al., 2016; Early & Spice, 2015; Hufbauer et al., 2007; Jeong & Peksen, 2019; Lektzian & Patterson, 2015; Lektzian & Souva, 2007; Morgan et al., 2014; Pape, 1997;

Peksen, 2019; Pond, 2017; Whang, 2010), scholars generally agree that the success of sanctions hinges on inflicting sufficient political costs on the target regime (Bapat et al., 2013; Drury, 1998; Lektzian & Souva, 2007).<sup>1</sup> The higher the costs borne by the target, the more likely the sanction will yield the desired outcomes (Drury, 1998). Consequently, scholars have extensively examined the political consequences of economic sanctions (Allen, 2008; Carneiro & Apolinário, 2016;

<sup>1</sup>Throughout the article, "target(s)" refers to sanctioned countries, while "sender(s)" refers to sanctioning countries.

Escribà-Folch & Wright, 2010; Grauvogel et al., 2017; Lektzian & Regan, 2016; Liou et al., 2021; Lv & Xu, 2017; Marinov, 2005; Peksen & Drury, 2009; Wood, 2008).

While many scholars have focused on investigating whether economic sanctions impose political costs on the target, there has been a notable gap in understanding why, how and through what processes sanctions lead to political costs. While some studies have found associations between economic sanctions and anti-government activities (e.g., Allen, 2008) as well as leadership change (e.g., Marinov, 2005) in the target, there is limited evidence demonstrating a causal effect of sanctions on the political behaviour of the target public. Furthermore, most of these studies heavily lean on the HSE dataset (Hufbauer et al., 1990), which primarily covers sanctions cases up to 1999. This temporal constraint raises concerns about the generalisation of their findings to the post-1999 period, considering significant global geopolitical changes following events like the dissolution of the Soviet Union and Yugoslavia, as well as increased economic globalisation. This study aims to advance current research by: (1) re-evaluating the impact of economic sanctions on political stability using the newly introduced two-stage difference-in-difference (2sDiD) causal inference techniques, which provides more compelling evidence, particularly when the adoption of treatments is staggered, and (2) differentiating the effects of sanctions across various political regimes and economic globalisation levels.

The main argument is that economic sanctions lead to economic hardships for the target population, resulting in growing public frustration toward their governments. This frustration acts as a catalyst, encouraging the population to engage in political mobilisation activities, demanding political and economic reforms, thus undermining the country's political stability. The destabilising effect of sanctions, however, hinges on the political regime and economic globalisation level of the target. Sanctions have more detrimental effects on the political stability of democracies than autocracies because citizens in autocracies face higher costs for protesting and demonstrating, as leaders can use repression to stifle public expression. Moreover, as economic globalisation may weaken the power of sanctions by providing targets with more alternatives to sanctioned goods or services, economic sanctions have a greater negative impact on political stability in less globalised targets than in highly globalised ones. Using the 2sDiD estimator, the empirical evidence largely aligns with the theoretical predictions for 9230 country-year observations between 1949 and 2022, and the parallel trend assumption is valid in the placebo testing. The results on globalisation, however, vary across sanctions datasets, which may be attributed to differences in dataset composition and time coverage.

This study utilises the 2sDiD method to provide robust evidence of the causal impact of economic sanctions on political stability, making a significant contribution to the literature. It emphasises the heterogeneity of sanctions' effects across various groups and periods. Moreover, the research identifies two critical factors, political regime and economic globalisation, that conditionally influence sanction's effects on political stability. The article concludes with a crucial implication for the literature on the effectiveness of economic sanctions, namely that economic sanctions could boost their effectiveness by imposing political costs on their targets and jeopardising their political stability.

## Economic Sanctions and Political Stability

Scholars have devoted extensive research to exploring the potential political consequences of economic sanctions on target countries, with a particular emphasis on their impact on political repression, political violence and leadership survival.<sup>2</sup> These studies reveal the profound political ramifications of economic sanctions. While certain sanctions are intentionally crafted to impose political costs on targets, others may inadvertently lead to unforeseen political effects.

A significant body of research suggests that economic sanctions can lead to political repression in targeted governments (Adam & Tsarsitalidou, 2019; Carneiro & Apolinário, 2016; Liou et al., 2021; Peksen, 2009; Peksen & Drury, 2009; Wood, 2008). Sanctions may pose a threat to target regimes by potentially strengthening the relative power of opposition groups, contributing to social upheaval and dissent, and fostering defections from the regime's coalition of supporters (Wood, 2008). From the institutional constraints viewpoint, economic sanctions limit the target leader's budget and restrict the flow of resources to supporters, increasing the likelihood of defection from the incumbent's winning coalition to a challenger. On the other hand, the public choice perspective suggests that sanctions may embolden political opposition groups and generate public dissent. Consequently, the perception of threat induced by sanctions may incentivise the target's leader to escalate their level of repression in an attempt to stabilise the regime, safeguard core supporters, minimise the threat posed by potential challengers and suppress popular dissent. Moreover, some scholars investigate the comparative effectiveness of

<sup>2</sup>Peksen (2021) provides a detailed summary of key findings in the sanctions and political instability literature in the book *Research Handbook on Economic Sanctions*.

targeted sanctions and conventional sanctions in promoting human rights. Targeted sanctions employ measures such as asset freezes, travel restrictions and denial of luxury goods sales, to exert direct pressure on the target elites to elicit acquiescence while minimising the adverse impact on average citizens (Peksen, 2021). However, research findings indicate that targeted sanctions are also linked to increased political repression and humanitarian issues in the target countries (Biersteker et al., 2016; Carneiro & Apolinário, 2016; Early & Peksen, 2019; Gordon, 2011; Rosenberg et al., 2016).

Another strand of the literature suggests that economic sanctions may instigate internal conflicts in the target, including protests, anti-government demonstrations, terrorism and civil wars. Empirical evidence indicates that threats and imposition of sanctions are positively associated with increased anti-government protests in the target (Allen, 2008; Grauvogel et al., 2017). Economic sanctions can alter the behaviour of targeted governments when domestic actors, burdened by the economic hardship of sanctions, engage in anti-government behaviour (Allen, 2008). The threats of sanctions, especially multilateral ones, can encourage political protests in the target through their signalling effect of external support to opposition groups, fostering collective action against governments (Grauvogel et al., 2017). Under certain circumstances, threats could be more destabilising than imposed sanctions (Marinov, 2005). The impact of economic sanctions on civil wars in the target varies and has yielded controversial results in empirical studies. Some scholars found that threats and impositions of economic sanctions are likely to increase ethnic violence (Lv & Xu, 2017) and escalate the level of violence during civil wars (Hultman & Peksen, 2017) due to the proportional and unequal suffering from sanction costs (Peksen, 2014). While others found that imposed sanctions are likely to reduce the length of civil wars (Escribà-Folch, 2010; Lektzian & Regan, 2016), especially military-specific sanctions, which may reduce both the intensity and violence of civil conflicts (Brzoska, 2008; Hultman & Peksen, 2017; Strandow, 2006). Additionally, economic sanctions may lead to an increase in terror attacks on both domestic and foreign entities and individuals (Choi & Luo, 2013; Heffington, 2017; McLean et al., 2018).

A limited body of literature investigates the impact of economic sanctions on the survival of target government leaders in office (Escribà-Folch & Wright, 2010; Marinov, 2005). Marinov (2005) presents empirical evidence suggesting that the presence of sanctions against a government leader in a given year significantly increases the likelihood of that leader losing power in the following year. Focusing on authoritarian targets, Escribà-Folch

and Wright (2010) delve into the nuances of how sanctions affect different types of authoritarian regimes. They find that personalist regimes and monarchies are more susceptible to the loss of external revenue, which supports their patronage systems. Consequently, leaders in these regimes are more likely to be destabilised by sanctions compared with leaders in other types of regimes. In contrast, when dominant single-party and military regimes encounter sanctions, they respond differently. Rather than being destabilised, these regimes tend to adopt strategic financial measures, such as increasing tax revenues and reallocating expenditures. The objective is to enhance their levels of cooperation and repression, thereby maintaining control in the face of sanctions.

The political consequences of economic sanctions can vary significantly based on the regime types of the target (Jones, 2015). In democratic targets, the domestic public has the ability to impose political costs on leaders facing sanctions. However, in autocratic targets, leaders may actually benefit from sanctions, as the lack of domestic accountability allows them to exploit the economic constraints caused by sanctions and extract greater rents while controlling the trade of scarce goods (Allen, 2008). The nature of the sanctions also plays a role in determining their political impact on different types of regimes. Comprehensive sanctions that impact voters are more likely to generate political costs for democratic regimes, while targeted sanctions focusing on specific elites are more costly for authoritarian regimes that rely on narrower support bases (Brooks, 2002). Even among authoritarian regimes, there are variations in the political impact of sanctions. Theocratic regimes, for example, tend to benefit themselves by using religious rhetoric in response to sanctions (Naghavi & Pignataro, 2015). Personalist regimes, on the other hand, are less likely to comply with demands for liberalisation compared with more factionalist military states (Walldorf, 2014). Consequently, personalist regimes are at a higher risk of destabilisation from sanctions than military or single-party regimes. However, factors such as economic power and access to oil resources may mitigate such risks (Escribà-Folch, 2010). Moreover, the budget constraints faced by different regimes influence their responses to sanctions. Personalist regimes with severe budget constraints are more likely to resort to repression. Among less budgetary-constrained regimes, single-party rulers tend to subsidise their own supporters, while militarist regimes increase military spending as a means to offset the impact of a weakened economy (Escribà-Folch, 2012; McDonald III & Reitano, 2016). These dynamics illustrate the complex and varied political consequences of economic sanctions on different types of regimes.

In summary, economic sanctions have been found to lead to political repression in targeted governments and

may trigger internal conflicts, such as protests and civil wars. However, they could also be effective in halting ongoing civil wars, particularly when accompanied by foreign military interventions. Moreover, the presence of sanctions against government leaders increases the likelihood of those leaders losing power, especially in democratic regimes and personalist autocracies. The diversity of findings across studies is not a sign of inconsistency, but rather an expected outcome. Economic sanctions operate within a complex web of political, economic and cultural factors, which naturally leads to heterogeneity in their impact. Additionally, variations in research methodologies and data samples analysed contribute to differences in research outcomes. This study aims to contribute to the existing research by (1) re-examining the effect of economic sanctions on political stability using newly introduced causal inference methods, and (2) distinguishing the effects of sanctions across different political regimes—autocracies and democracies—and economic globalisation levels.

## THEORY

This article presents a causal mechanism through which economic sanctions influence the political stability of targets and examines key factors that determine whether economic sanctions contribute to or alleviate political stability in these targets. Sanctions are defined as binding restrictive measures imposed by individual nations, country groups or international organisations to address various violations of international norms, with the goal of influencing the behaviour or actions of the target country (Felbermayr et al., 2020). Among the different types of sanctions, economic sanctions stand out as the most significant, as they involve curbing economic interactions with the target through restrictions on international trade. In this study, economic sanctions include both trade and financial sanctions. Trade sanctions are designed to curtail trade interactions with the target entity, encompassing restrictions on both imports and exports. Financial sanctions, on the other hand, seek to inhibit financial transactions associated with the target economy, typically involving the freezing of financial assets and investments. It is crucial to examine both trade and financial sanctions as economic sanctions to enhance our understanding of the broader effects of economic coercion.

Political stability is a much more complex concept than economic sanctions, encompassing diverse definitions and measurement strategies. In the existing literature, political stability has been assessed through various indicators, including measures of political repression,

protests, terror activities, civil wars and leadership survival. For this research, political stability is defined as the level of citizen engagement in events of political mass mobilisation, which includes activities such as demonstrations, strikes, protests, riots and sit-ins. These actions signal public discontent or support, affect policy decisions and influence regime legitimacy. A country is considered politically unstable when numerous instances of political mass mobilisation occur. Measuring mass mobilisation provides direct observations of citizen behaviour, making it both theoretically relevant and empirically valid for studying political stability in target states.

As depicted in Figure 1, the main argument is that economic sanctions impose economic costs or hardships on the target population, leading to growing public frustration and grievance toward their governments. This mounting frustration serves as a political stimulus, encouraging the population to engage in the events of political mobilisation, demanding political and economic reforms, thus decreasing the country's political stability. Economic sanctions, imposed by external actors, aim to pressure the target to alter its policies by creating economic hardships. These hardships include trade restrictions, reduced investments, inflation, shortages of essential goods and increased unemployment. Economic sanctions are intentionally designed to restrict the international trade and financial transactions of the target, leading to reduced trade and financial flows between the sender and the target (Besedeš et al., 2017), limited access to international financing (Pak & Kretzschmar, 2016) and detachment of domestic stock markets from global ones (Castagneto-Gissey & Nivorozhkin, 2016). These financial constraints increase the risk of financial instability, currency crises and bank failures in the target (Hatipoglu & Peksen, 2016), as they

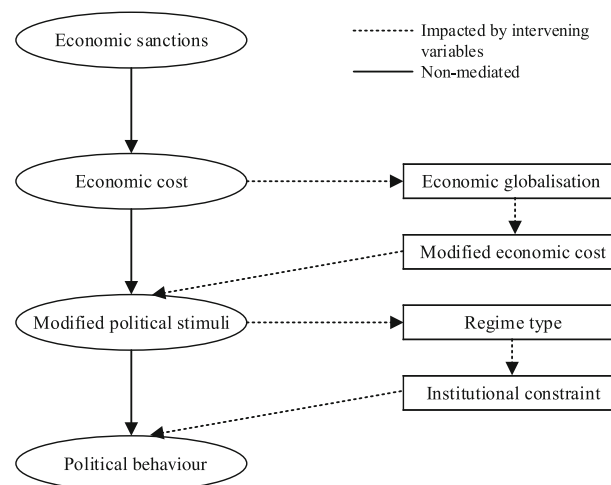


FIGURE 1 Economic sanctions and political behaviour of the target population.



create opportunities for speculative attacks driven by sanctions-related political risks (Peksen & Son, 2015). Furthermore, sanctions not only directly affect the targeted sectors but also have indirect repercussions on non-sanctioned sectors, leading to reduced demand for intermediary products, decreased incomes and employment (Khan, 1988). Even after adapting to sanctions, the target population often faces additional logistical costs and experiences slower long-term development (van Bergeijk, 1995). They may resort to seeking lower-quality products from third parties (Amuzegar, 1997) and selling goods or services at lower prices (Haidar, 2017). Moreover, the effects of sanctions may persist even after their removal, as the target countries continue to suffer from the sunk costs of disrupted trade relationships (Evenett, 2002; Pond, 2017).

Economic hardships resulting from sanctions increase public discontent and grievances toward the government (Peksen & Drury, 2010). As economic conditions worsen compared with neighbouring countries or past experiences, the population experiences a growing sense of relative deprivation (Gurr, 1970). These hardships heighten grievances, especially if the regime is perceived as responsible or unable to mitigate their impact (Wood, 2008). Continuous economic pressure intensifies public frustration and anger, with the economic suffering seen as unjust, fuelling a desire for change. This heightened discontent resulted in increased participation in protests and demonstrations, demanding political and economic reforms (Allen, 2008). Existing opposition groups and civil society organisations leverage these grievances to mobilise support and organise collective actions (Marinov, 2005). Empirical studies have shown that low-income growth positively correlates with political instability (Annett, 2001; Blomberg & Hess, 2002; Booth, 1991; Cuzán et al., 1988). It is plausible that economic hardships can also limit political mobilisation due to resource constraints, as extreme economic deprivation reduces the ability and willingness to engage in collective action (Bosi et al., 2016; Tilly et al., 2019). However, collective frustration and innovative strategies employed by opposition groups can overcome these limitations. Despite initial resource constraints, widespread economic suffering fosters a collective sense of grievance and injustice, acting as a powerful motivator for collective action. Moreover, groups often develop innovative strategies to overcome resource limitations, such as leveraging community networks, using social media and seeking external support to sustain movements (McCarthy & Zald, 1977). Organising symbolic protests and low-cost actions (e.g., sit-ins, strikes) can also be effective. Political opportunities, such as cracks in the regime's control or international attention, further facilitate mobilisation despite resource scarcity (Tarrow, 1998). For example, economic sanctions

have led to severe economic hardships for Iran; however, protests persist due to collective frustration and the strategic use of digital platforms. Likewise, in Venezuela, despite facing economic collapse, opposition groups have orchestrated large-scale protests by capitalising on shared grievances and employing innovative mobilisation strategies. This leads to the first hypothesis:

**Hypothesis 1.** Economic sanctions decrease the political stability of target countries.

However, the pivotal factor determining the destabilising effect of sanctions on the target regime is the sanction-induced economic cost. If the targets can offset these economic costs, the suffering of the population may decrease, potentially reducing the likelihood of political instability. Some research suggests that economic globalisation may weaken the power of economic sanctions (Davis & Engerman, 2003; Elliott, 1998; Hove & Chingono, 2013), thus mitigating the economic hardships faced by the public. Economic globalisation refers to the interconnectedness of economies through international trade and can assist the target in avoiding the costs of sanctions in three ways. First, the global business structure fosters illegal operations and black markets, providing avenues to bypass sanctions. Second, as the target becomes more economically globalised, financial and production flows increase between the target market and the international market, leading to a reduction in sanctions costs due to plentiful alternatives for sanctioned goods or services (De Leon, 2011). For example, the US economic sanctions against China in the 1990s achieved considerable success, but in the 2010s, the sanctions rarely achieved their goals as China's economy became more globally integrated from the 1990s to the 2010s.<sup>3</sup> With China's economy being increasingly interconnected with other nations, the impact of the sanctions was largely undermined by multinational capital and frequent international transactions. Third, economic globalisation enhances the target's trade diversity, bolstering the domestic economy's resilience to external shocks. Diversified product portfolios and trading relationships are associated with reduced vulnerability to sanctions (McLean & Whang, 2010). Such diversification enables the target to engage with 'intermediary' trade partners, allowing trade to persist even in the face of direct trade sanctions. For instance, when Russia faced trade sanctions, it could not directly export its products to certain countries. However, it could still access global markets by

<sup>3</sup>The sanctions information comes from the Global Sanctions Data Base. China's KOF Economic Globalization Index (Gygli et al., 2019) increased from 26 in 1990 to 46 in 2020.

routing its products through friendly nations like Uzbekistan, which would then facilitate sales to the rest of the world. Consequently, it is expected that the more economically globalised the targets, the less their political stability worsens, leading to the second hypothesis:

**Hypothesis 2.** Economic sanctions exert more detrimental effects on the political stability of targets with low economic globalisation compared with those with high economic globalisation.

The effect of economic sanctions on political stability is also contingent upon the political context of the target (Baldwin, 1985; Jentleson, 2000). Public frustration may lead to increased political mobilisation, but the response of the public to economic sanctions is shaped by the institutional constraints within the target. In autocratic regimes, where the government may resort to repression to suppress public expression, the public's likelihood of engaging in anti-government activities under sanctions pressure is reduced. This is due to the high costs associated with political violence in autocratic regimes, as citizens may face severe repercussions for dissent. Additionally, citizens in autocracies are already discouraged from participating in anti-government activities due to the risk of reprisals and the formidable nature of political violence in such regimes (Allen, 2008). In contrast, democratic targets, where leaders are held accountable through regular elections and democratic principles discourage the use of violence against the public, are more likely to experience a response to political mobilisation in the face of economic sanctions. Democratic governments are less inclined to impose repressive measures to quell public dissent, as doing so could lead to backlash and damage their legitimacy. As a result, citizens in democratic targets may view economic sanctions as a signal of external support for their grievances, which may embolden them to engage in protests and demonstrations (Baldwin, 1985; Jentleson, 2000). This leads to the third hypothesis:

**Hypothesis 3.** Economic sanctions exert more detrimental effects on the political stability of democratic targets compared with autocratic targets.

## RESEARCH DESIGN

### Sample

The data on economic sanctions is derived from the Global Sanctions Data Base (GSDB) (Felbermayr et al., 2020;

Kirilakha et al., 2021; Syropoulos et al., 2023). The selection of GSDB aligns with the research objectives due to its distinct advantages in temporal coverage and diversity of sanctions types. While prior studies, such as Allen (2008) and Marinov (2005), have shown links between economic sanctions and anti-government activities and leadership change in targets, these findings are based on datasets primarily limited to pre-1999, which may not be fully applicable in the modern era marked by significant political and economic shifts. In contrast, GSDB spans from 1949 to 2022, enabling a comprehensive investigation of the impact of sanctions on political stability in contemporary contexts. Commonly used datasets like HSE and TIES only cover sanctions cases up to 2006, while EUSANCT, which extends from 1989 to 2015, mainly focuses on 325 cases imposed by the US, EU and UN. GSDB stands out with its extensive dataset, encompassing 1325 sanctions cases imposed by a variety of states and organisations, significantly enhancing the comprehensiveness of our analysis. Notably, a robustness check of the findings is conducted using the EUSANCT dataset.

While the GSDB identifies multiple categories of sanctions, this study specifically focuses on economic sanctions where trade or financial sanctions were imposed. To assess the treatment effect of sanctions on political stability, the GSDB dataset was supplemented with cases of nonsanctioned countries with status quo outcomes to act as control groups. Following the merge with the dependent variable dataset from 1900 to 2023, the final sample comprises 9230 observations from 1949 to 2022, with 7031 observations representing nonsanctioned (control) groups and 2199 observations representing sanctioned (treatment) groups. The unit of analysis is country-year.

### Dependent variable

Political stability is measured by the political *mass mobilisation* of countries, using the mass mobilisation indicator from the Varieties of Democracy (V-Dem) dataset (Coppedge et al., 2024). Participants were asked, 'In this year, how frequent and large have events of mass mobilisation been?' This inquiry gauges the involvement of citizens in collective actions such as demonstrations, strikes and sit-ins, typically organised by non-state actors. Responses were provided on a five-point scale: 0—virtually no events, 1—several small-scale events, 2—many small-scale events, 3—several large-scale and small-scale events and 4—many large-scale and small-scale events. These ordinal responses were transformed into interval data using a Bayesian item response theory measurement model. Ultimately, the variable mass

mobilisation in the sample is represented as a continuous variable, normally distributed from  $-3.565$  to  $4.002$ , with higher values indicating more frequent and larger instances of mass mobilisation, reflecting a more unstable political condition.

## Treatment variable

The treatment variable is *sanctions imposition*, which is binary and coded as 1 if a country is subjected to trade or financial sanctions in a given year, and 0 otherwise. The GSDB defines trade sanctions as measures that restrict economic interactions with a target by limiting international trade, including export and import sanctions, and defines financial sanctions as the halting of the exchange of financial assets and investments. This variable captures the presence of economic sanctions, for instance, if a country experienced sanctions in 1990 and they were lifted in 1995, the treatment variable will have a value of 1 for each year between 1990 and 1995.

I also generated 10 lag variables and 10 lead variables of treatment, with reference to the first year of sanctions imposition. Lag 1 represents 1 year after the first year of sanctions imposition, while lag 10 represents 10 years after the first year of sanctions imposition. Conversely, lead 1 indicates 1 year before the first year of sanctions imposition, and lead 10 indicates 10 years before the first year of sanctions imposition. These lag variables allow the examination of the dynamic trend in the average treatment effect each year since the first year of sanctions imposition. Additionally, the effect of leads on political stability, known as ‘pretrends’, examines the average deviation in outcomes for treated units 10 periods away from the first year of sanctions imposition, relative to their values in the reference period.

## Two-stage difference-in-differences (2sDiD) estimator

To assess the causal effect of sanctions imposition on political stability, this study uses the difference-in-differences (DiD) method, which is a widely used and established quasi-experimental research design. The DiD approach measures the difference between the average change in the outcome before and after treatment (difference one) in a treatment group compared with a control group (difference two):  $(\bar{y}_{Treat}^{Post} - \bar{y}_{Treat}^{Pre}) - (\bar{y}_{Control}^{Post} - \bar{y}_{Control}^{Pre})$  (Goodman-Bacon, 2021). Thus, the DiD method provides the average treatment effect on the treated units, commonly referred to as ATT. In this article, the ATT

represents the difference between the mean political mass mobilisation before and after the imposition of economic sanctions in sanctioned and nonsanctioned countries.

Recent research has highlighted the challenges of estimating DiD models when the treatment is implemented at different times for different units (Borusyak et al., 2024; Callaway & Sant’Anna, 2021; de Chaisemartin & D’Haultfoeuille, 2020; Gardner, 2022; Goodman-Bacon, 2021; Sun & Abraham, 2021). The traditional DiD method lacks an easily interpretable estimation of the typical treatment effect in cases where the adoption of treatment is staggered, leading to varying ATT across groups and over time (Gardner, 2022). This limitation arises from the assumption in the traditional DiD approach that the ATT is the same across treatment groups and duration. However, treatment effects are not always constant; they may vary based on group status and treatment duration. In this study, the effect of sanctions imposition may differ across target countries due to their distinct economic and political conditions. Additionally, the impact of sanctions may evolve, potentially increasing as they remain in place for longer durations. As a result, the traditional DiD method may not fully capture the nuanced and dynamic treatment effects in this context.

To address the challenge of heterogeneity in treatment effects across groups and time, this study adopts the 2sDiD estimator introduced by Gardner (2022). The 2sDiD estimator enables a more nuanced and comprehensive analysis of the treatment effects of economic sanctions on mass mobilisation, accounting for variations across target countries and over time. In the 2sDiD framework, the ATT is identified by comparing the mean outcomes of treated and untreated groups, after removing group and period effects. In the first stage, as shown in Equation (1), mass mobilisation is regressed on country and year using only untreated (unsanctioned/not-yet-sanctioned) observations, producing the estimated country and year effects,  $\hat{\lambda}_g$  and  $\hat{\gamma}_t$ :

First stage:

$$\text{Mass mobilization}_{igt} = \lambda_g + \gamma_t + \epsilon_{igt}, \quad (1)$$

where  $i$  denotes countries,  $t$  denotes years, and  $g$  denotes group membership. The group  $g \in \{0, 1, \dots, G\}$  is defined as all units that start treatment at year  $t$ : group 0 is unsanctioned in all years, group 1 is sanctioned in year 1, groups 1 and 2 are sanctioned in year 2, and so on.

In the second stage, the mass mobilisation is adjusted by subtracting the estimated country and year effects  $\hat{\lambda}_g$  and  $\hat{\gamma}_t$  calculated in the first stage, resulting in the adjusted mass mobilization defined in Equation (2).

Finally, the adjusted mass mobilisation is regressed on sanctions imposition in the full sample to estimate the overall ATT ( $\beta$ ) in Equation (3).

Second stage:

$$\text{Adjusted mass mobilization}_{igt} = \text{Mass mobilization}_{igt} - \hat{\lambda}_g - \hat{\gamma}_t \quad (2)$$

$$\begin{aligned} \text{Adjusted mass mobilization}_{igt} \\ = \alpha + \beta \text{Sanctions imposition}_{gt} + \psi_{igt} \end{aligned} \quad (3)$$

where  $\hat{\lambda}_g$  and  $\hat{\gamma}_t$  are estimated country and year effects calculated in Equation (1).  $\text{Sanctions imposition}_{gt}$  is a dummy variable for whether members of group  $g$  are subject to economic sanctions in year  $t$ .  $\beta$  denotes the overall group  $\times$  period ATT.

## Moderators

There are two moderators based on Hypotheses 2 and 3: *economic globalisation* and the *polity* of the target. Economic globalisation data is obtained from the KOF Globalisation Index (Gygli et al., 2019), which provides a comprehensive measurement of globalisation, considering economic, social, and political aspects. The KOF Economic Globalisation Index includes both de jure (policy-based) and de facto (actual flow-based) indicators, resulting in a 100-point scale calculated from 15 indicators, such as trade partner diversity, foreign direct investment, international debt, international income payments, and capital account openness.<sup>4</sup> To examine the impact of economic globalisation on the treatment effect of sanctions, a dummy variable, *low-globalised*, was created. This variable is coded as 1 for countries with an economic globalisation index equal to or below the mean value of 45.76, and 0 for countries above this mean. The other moderator is the polity of the target, measured by the Polity2 score (Marshall & Gurr, 2020), which ranges from  $-10$  to  $+10$  on a 21-point scale. Conventional standards categorise democracies as having a polity score between  $+6$  and  $+10$ . Accordingly, a dummy variable, *democracy*, was created, which is coded as 1 for countries with a polity score of 6 or above, and 0 otherwise. To test the interaction effect in the 2sDiD model, country and year fixed effects, as well as interactions between those fixed effects and democracy (or low-globalised) were included in the first stage. In the second stage, the sanction variable and its interaction with democracy (or low-globalised) were included.

## Control variables

Other variables that may influence the relationship between sanctions and political stability are also considered. Economic performance is widely acknowledged as crucial for political stability. Low-income levels can reduce the opportunity cost for the public to engage in protests or uprisings (Collier & Hoeffler, 2004), providing individuals with incentives to disengage from productive activities and participate in political demonstrations (Grossman, 1991). Additionally, poor economic conditions can increase feelings of deprivation, leading to perceptions of government incompetence and fuelling political instability (Auvinen & Nafziger, 1999; Ellingsen, 2000; Posner, 2007). To measure the economic performance of countries, the *GDP* (logged value) variable from the World Bank is utilised.<sup>5</sup>

Ethnic fractionalisation is another important factor impacting political stability, as documented in numerous empirical studies (Collier & Hoeffler, 2004; Ellingsen, 2000). Discrimination against ethnic minorities can lead to political instability if these marginalised groups rebel against the system. Higher levels of ethnic fragmentation in a country are associated with a greater likelihood of minority discrimination, posing a threat to political stability. To capture this aspect, the *ethnic fractionalisation* index (Drazanova, 2020) is included, representing the probability that two randomly drawn individuals from a country belong to different ethnic groups, ranging theoretically from 0 (when all individuals belong to the same group) to 1 (when each individual belongs to a distinct group).

The presence of security threats is a significant determinant of political stability, serving as a fundamental benchmark for assessing stability levels. Countries facing security challenges, whether internal or external, are prone to experience heightened political instability. To account for this, two variables are included: *intrastate conflicts* and *interstate conflicts*. They are coded as 1 if a country is involved in an internal or external-state conflict in a given year, and 0 otherwise. Data on conflicts are sourced from the Militarised Interstate Disputes (MID) dataset (Maoz et al., 2019) and the Intra-State Wars Dataset (Dixon & Sarkees, 2015) from the Correlates of War (COW). Additionally, the variable *national capability* (logged value) is considered to represent a country's ability to address security threats. It is derived from the Composite Index of National Capability (CINC) in the National Material Capabilities (NMC) Data (Singer et al., 1972) of the COW. The CINC combines various indicators of national material capacities, including

<sup>4</sup>See Table A1 in Appendix A for more information on the measurement strategies for KOF Economic Globalization Index.

<sup>5</sup>This study uses the country's GDP rather than the GDP per capita because the total population is already accounted for in another control variable, national capability.



**TABLE 1** Summary statistics.

Variable	Mean	SD	Minimum	Maximum
Sanctions imposition	0.22	0.41	0	1
Mass mobilisation	−0.20	1.32	−3.57	3.69
Polity	0.99	7.31	−10	10
Interstate conflicts	0.35	0.48	0	1
Intrastate conflicts	0.07	0.26	0	1
Ethnic fractionalisation	0.44	0.28	0	0.89
Economic globalisation	45.76	16.65	10.77	94.47
Ln(GDP)	8.89	1.83	4.68	14.43
Ln(National capability)	−6.37	1.60	−10.71	−1.48

*Note:* Descriptive statistics are computed for the regression sample used in Models 2, 4, and 6 of Table 2. This sample comprises 4,610 observations across 119 countries.

military personnel, military expenditures, iron and steel production, primary energy consumption, total population, and urban population, into a single value. Ranging from 0 to 1, a higher CINC value signifies a stronger national capability. Table 1 provides a descriptive overview of all the variables. To assess potential multicollinearity, I examined the correlations between the covariates and found no significant issues (see Tables C1–C3).

## RESULTS

Table 2 presents the regression results for Hypothesis 1, examining the impact of sanctions on the target's political stability. The evidence strongly supports Hypothesis 1. Models 1 and 2 use the two-way fixed-effects (TWFE) estimator, showing that sanctions have significant positive effects on mass mobilisation in the target. Specifically, Model 2 indicates that sanctions increase political mass mobilisation by 0.2, with this effect being statistically significant at the 1% level. Because of concerns about the validity of TWFE when treatment adoption is staggered and treatment effects vary among groups and periods, we proceed to explore Models 3, 4, 5, and 6. These models utilise the 2sDiD estimator, which allows for heterogeneous treatment effects across different groups and periods. The ATT remains positive and statistically significant at the 1% level in all models. Model 4 suggests that sanctions are predicted to increase the target's mass mobilisation by 0.24, which is 18% of the

standard deviation (1.32). In Models 3 and 4, the first stage—country and year fixed effects—is estimated using the sample of unsanctioned observations. However, since sanctions imposition is staggered, a previously sanctioned country may become unsanctioned again if the sanctions are lifted. The sanctions effect may persist after they are removed, and using these observations in the first stage may bias estimates of the first-stage parameters. To avoid such bias, Models 5 and 6 use observations from periods before countries have ever been sanctioned, shortly not-yet-sanctioned, in the first stage. The ATT remains positive and significant, though it leads to a smaller effect size. Model 6 suggests that sanctions increase mass mobilisation by 0.13, which is 10% of the standard deviation. In conclusion, the results provide robust evidence that economic sanctions significantly increase the political mass mobilisation of the target, thereby decreasing its political stability, regardless of model specifications.

Hypotheses 2 and 3 posit that the effects of sanctions on political stability are conditional on the target's political regime and economic globalisation level. Table 3 presents the regression results for these conditional effects, with Models 1 and 3 using unsanctioned observations in the first stage and Models 2 and 4 using not-yet-sanctioned observations. The coefficient for 'sanction  $\times$  democracy' is 0.23 in Model 1 and 0.21 in Model 2, statistically significant at the 1% and 5% levels, respectively. These positive and significant coefficients indicate that sanctions have a stronger positive effect on mass mobilisation in democracies compared with autocracies, with a marginal effect of 0.21 units higher in democracies, corresponding to 16% of the standard deviation, indicating a substantial effect. Consistent with Hypothesis 3, the results show that economic sanctions increase mass mobilisation more in democracies, thereby exerting more detrimental effects on the political stability of democratic targets compared with autocratic targets.

Conversely, the coefficient for 'sanction  $\times$  low-globalised' is  $-0.23$  in Model 3 and  $-0.24$  in Model 4, both statistically significant at the 1% level. These negative and significant coefficients suggest that sanctions have a weaker effect on mass mobilisation in less globalised countries, with a marginal effect of 0.24 units lower, equivalent to 18% of the standard deviation, indicating a substantial effect size. Contrary to Hypothesis 2, the result indicates that sanctions increase political mass mobilisation more in high-globalised targets, which challenges the prevailing theory that economic globalisation mitigates the impact of sanctions (Early, 2015; Haass, 1998). One potential explanation for this unexpected finding lies in the nuanced dynamics of globalised economies. Highly globalised countries, while theoretically better positioned to circumvent economic hardships

TABLE 2 Effects of economic sanctions on political mass mobilisation.

	<i>Dependent variable: Mass mobilisation</i>					
	TWFE		2sDiD (unsanctioned)		2sDiD (not-yet-sanctioned)	
	(1)	(2)	(3)	(4)	(5)	(6)
Sanctions imposition	0.18** (0.071)	0.20*** (0.073)	0.26*** (0.025)	0.24*** (0.044)	0.19*** (0.030)	0.13*** (0.042)
Polity		0.04*** (0.009)		0.02*** (0.002)		0.04*** (0.003)
Economic globalisation		−0.01** (0.006)		−0.01*** (0.001)		−0.02*** (0.002)
Ln(GDP)		0.19 (0.157)		−0.04 (0.026)		−0.02 (0.037)
Interstate conflicts		−0.02 (0.045)		0.05 (0.032)		0.05 (0.042)
Intrastate conflicts		0.57*** (0.153)		0.28*** (0.048)		0.24*** (0.053)
Ln(National capability)		0.08 (0.134)		0.01 (0.026)		−0.03 (0.036)
Ethnic fractionalisation		−0.27 (0.929)		0.11** (0.050)		0.26*** (0.062)
Constant	−0.68*** (0.091)	−0.73 (1.687)	−0.01 (0.010)	0.54 (0.380)	−0.12*** (0.011)	0.29 (0.499)
Observations	9082	4610	9082	4610	9082	4610
R-squared	0.13	0.16	0.02	0.06	0.01	0.09
Number of states	135	119	135	119	135	119
Control units	6891	3606	6891	3606	6891	3606
Treated units	2191	1004	2191	1004	2191	1004

Note: Models 3 and 4 use the unsanctioned observations in the first stage, while Models 5 and 6 use the not-yet-sanctioned observations. The year and country variables in TWFE models are omitted for ease of presentation. Bootstrap standard errors in parentheses. Countries sanctioned in the first year of the dataset are excluded to avoid spurious results, removing 1 case, but the findings remain similar. \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%. Abbreviations: 2sDiD, two-stage difference-in-differences; TWFE, two-way fixed-effects.

through diverse international connections, also have populations that are more integrated into and dependent on the global economy. When sanctions disrupt these global connections, the resulting economic dislocation can provoke significant public unrest. The populations in these countries may have higher expectations for economic stability and prosperity, making them more sensitive to disruptions. Additionally, globalised economies often have more robust civil societies and more effective means of mobilising against perceived injustices, including economic sanctions. This result suggests that, contrary to some scholarly assumptions, globalisation does not necessarily shield a population from the disruptive effects of sanctions but can instead heighten the political consequences by amplifying public dissatisfaction and

capacity for mobilisation. This finding implies that current literature may need to reassess the interplay between economic globalisation and the political efficacy of sanctions, recognising that the impact of globalisation on sanction resilience is more complex and potentially counterintuitive than previously thought. In summary, sanctions lead to a notable increase in political mass mobilisation in democracies compared with autocracies, while the mobilising effect of sanctions is significantly weaker in low-globalised countries than in high-globalised ones.

Figures 2 and 3 present the marginal effects of sanctions on mass mobilisation, conditional on political regime and economic globalisation, with vertical lines representing 95% confidence intervals. Figure 2 compares

TABLE 3 Conditional effects of economic sanctions on political mass mobilisation.

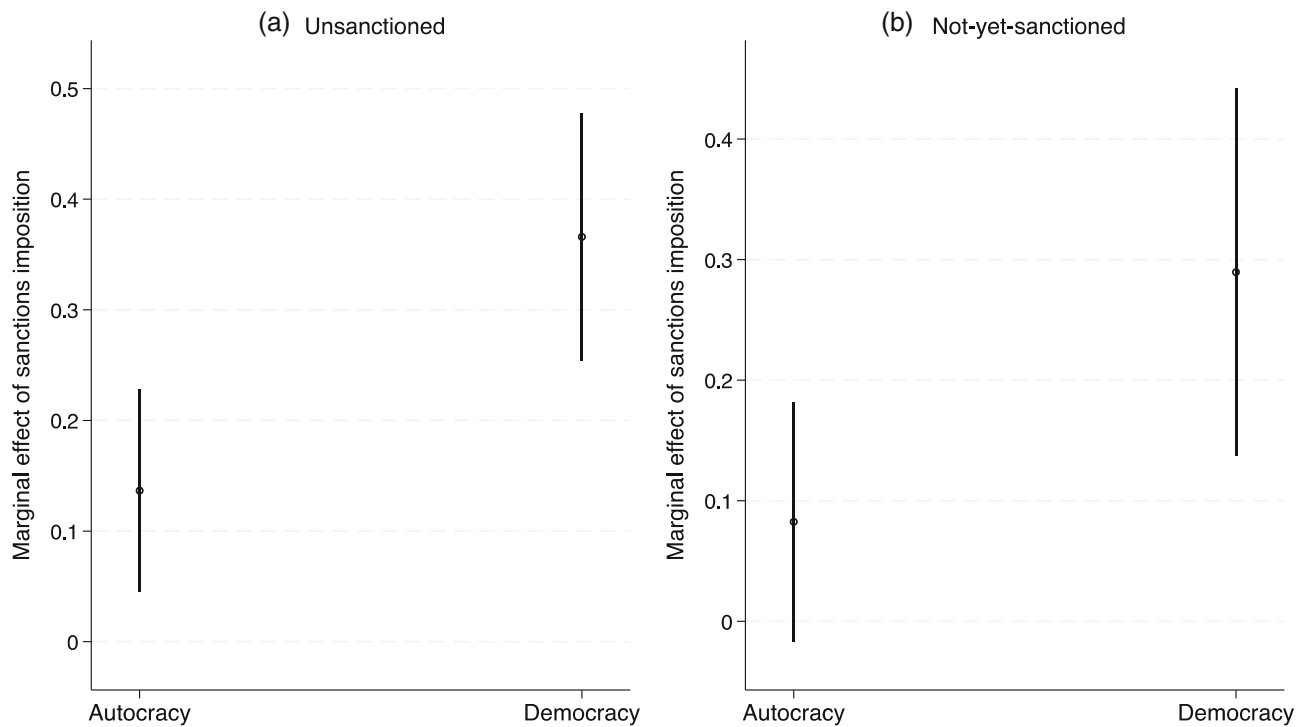
	<i>Dependent variable: Mass mobilisation</i>			
	<b>Political regime</b>		<b>Economic globalisation</b>	
	<b>(1) Unsanctioned</b>	<b>(2) Not-yet-sanctioned</b>	<b>(3) Unsanctioned</b>	<b>(4) Not-yet-sanctioned</b>
Sanction	0.14*** (0.045)	0.08 (0.054)	0.31*** (0.052)	0.29*** (0.062)
Democracy	0.02 (0.028)	0.02 (0.039)		
Sanction × democracy	0.23*** (0.086)	0.21** (0.085)		
Low-globalised			−0.005 (0.028)	0.27*** (0.040)
Sanction × low-globalised			−0.23*** (0.062)	−0.24*** (0.082)
Polity			0.01*** (0.002)	0.01*** (0.003)
Economic globalisation	−0.002* (0.001)	−0.02*** (0.002)		
Ln(GDP)	0.03 (0.023)	0.12*** (0.038)	−0.04** (0.021)	−0.03 (0.029)
Interstate conflicts	0.04 (0.032)	0.04 (0.040)	0.01 (0.024)	0.02 (0.037)
Intrastate conflicts	0.24*** (0.064)	0.23*** (0.071)	0.15*** (0.053)	0.24*** (0.063)
Ln(National capability)	−0.06** (0.023)	−0.15*** (0.041)	0.04* (0.022)	0.02 (0.032)
Ethnic fractionalisation	−0.03 (0.047)	0.13** (0.052)	0.07 (0.046)	0.58*** (0.072)
Constant	−0.56* (0.322)	−1.65*** (0.559)	0.54* (0.327)	−0.33 (0.470)
Observations	4610	4610	4610	4610
R-squared	0.03	0.06	0.03	0.06

Note: Models 1 and 3 use the unsanctioned observations in the first stage, while Models 2 and 4 use the not-yet-sanctioned observations. Bootstrap standard errors in parentheses. \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%.

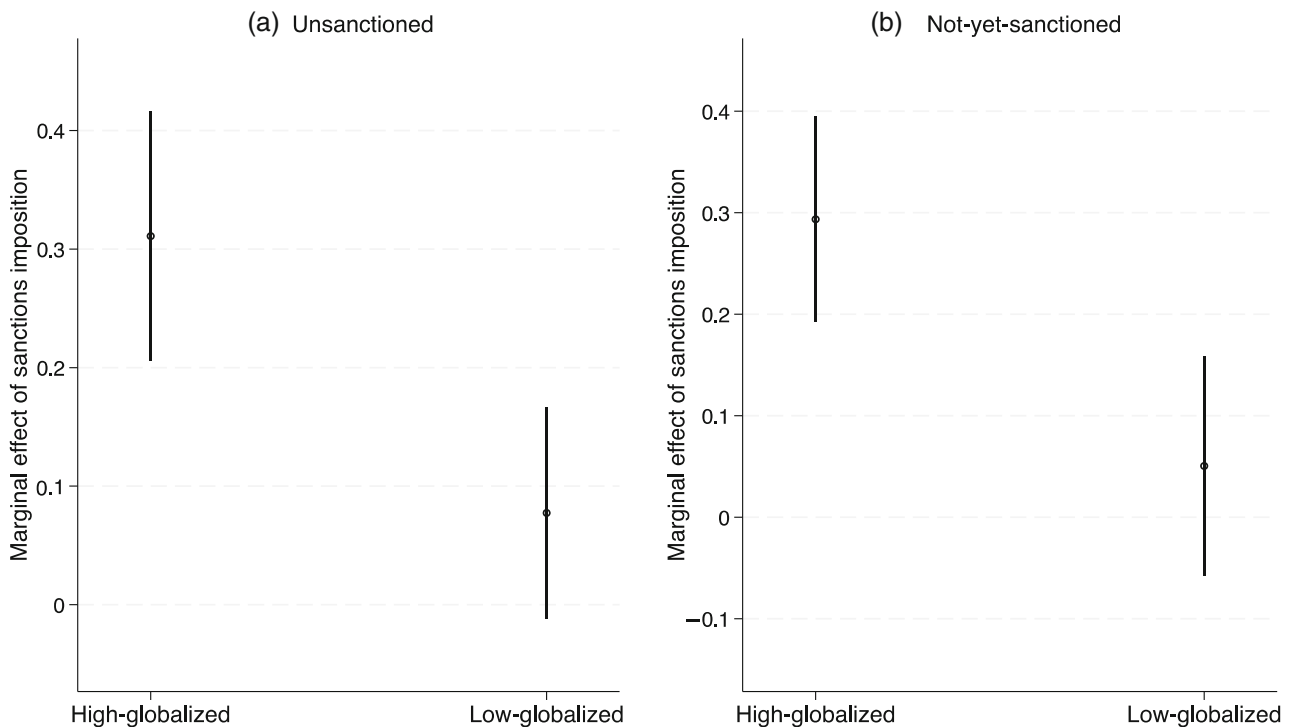
the marginal effects of sanctions in democracies and autocracies. In Panel a, using unsanctioned observations in the first stage, the effect is statistically significant in both regimes but much stronger in democracies (confidence interval: 0.25–0.48) than in autocracies (confidence interval: 0.05–0.23). The difference in marginal effects of sanctions between democracies and autocracies is both statistically and substantially significant. In Panel b, using not-yet-sanctioned observations, the effect is significant only in democracies. Figure 3 examines the marginal effects in high-globalised versus low-globalised

countries. Sanctions are statistically significant only in highly globalised countries, with substantial effects in both Panel a (confidence interval: 0.21–0.42) and Panel b (confidence interval: 0.19–0.39).

The DiD method relies on the parallel trend assumption, which implies that the gap between the treated and control groups is solely influenced by the treatment, while all other time-varying factors affect both groups in a similar manner. The validity of the parallel trend assumption was assessed through a placebo test based on the evaluation design proposed by Gertler et al. (2016).



**FIGURE 2** Marginal effect of economic sanctions conditional on political regime. The dependent variable is political mass mobilisation. Vertical lines represent the 95% confidence intervals generated by bootstrap standard errors. The sample consists of 1927 observations for democracies and 2683 observations for autocracies.



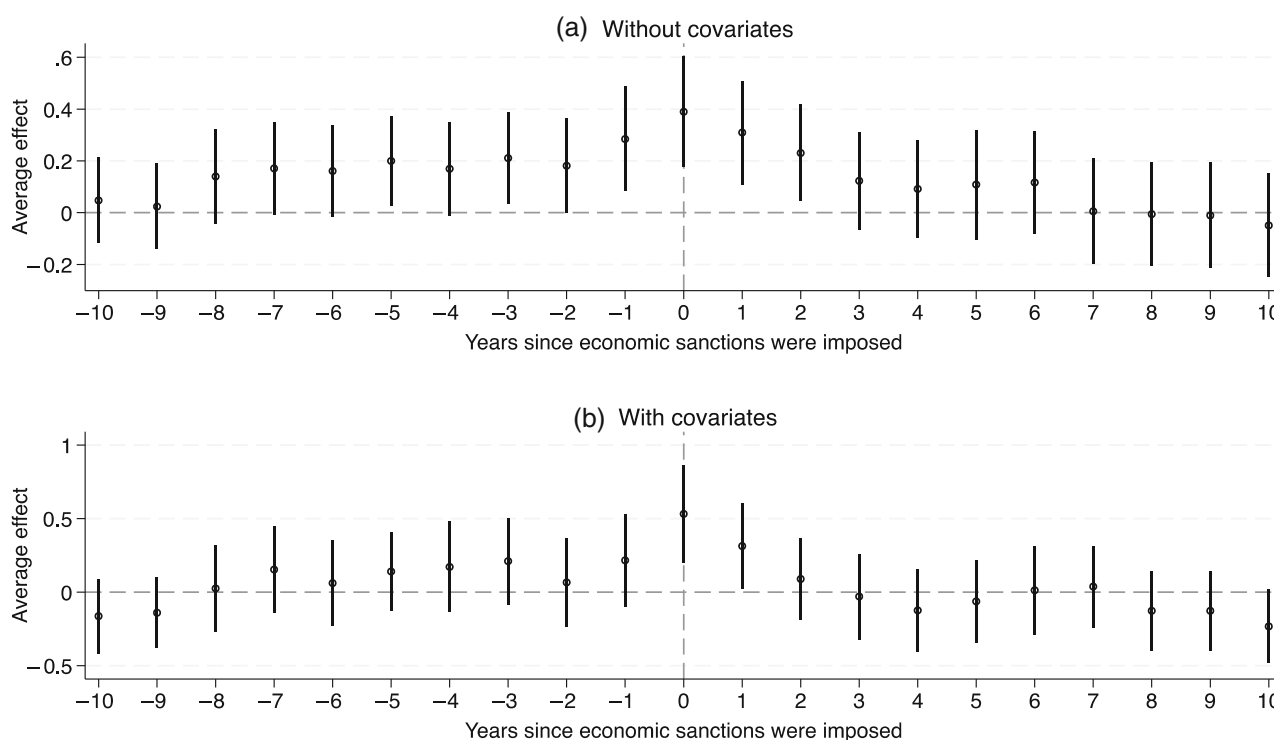
**FIGURE 3** Marginal effect of economic sanctions conditional on economic globalisation. The dependent variable is political mass mobilisation. Vertical lines represent the 95% confidence intervals generated by bootstrap standard errors. The sample consists of 2519 observations for low-globalised and 2091 observations for high-globalised countries.



Specifically, an additional 2sDiD estimation of the ATT was performed over 10 periods before and after the first year of sanctions imposition, using political mass mobilisation as the dependent variable and 10 lags and 10 leads as independent variables. If the parallel trend assumption is valid, then pre-treatment (leads) coefficients should not be significant whereas post-treatment (lags) coefficients should be significant. The results in Figure 4 support the validity of the parallel trend assumption. In Panel a, without covariates, some lead coefficients are statistically distinguishable from zero. However, in Panel b, after including covariates, these coefficients become statistically indistinguishable from zero. This indicates that the covariates significantly influence political mass mobilisation, thereby preventing bias in estimating the sanctions' effect and maintaining the parallel trend assumption. Moreover, no significant trend in political mass mobilisation is observed before the imposition of sanctions. In Panel a, at the point of sanctions imposition (year '0'), sanctions are associated with 0.4 additional instances of mass mobilisation in the target. This effect decreases to 0.3 1 year later, 0.2 2 years later, and becomes insignificant 3 years later. A similar pattern is observed in Panel b. In the first year, sanctions correlate with 0.5 additional instances of mass mobilisation, decreasing to 0.3 1 year later, and becoming insignificant

2 years later. These findings imply that the impact of sanctions on political stability is most severe in the first year, gradually diminishing and becoming insignificant in the long term. Similarly, the parallel trends assumption was tested separately for democracies, autocracies, low-globalised and high-globalised countries. The results, shown in Appendix B, reveal that the assumption is not violated in any group, as all lead coefficients are insignificant, and no discernible trends appear in the pre-sanction periods (Figures B1–B3).

In conclusion, the regression results provide strong evidence that economic sanctions increase political mass mobilisation in the target, thereby decreasing its political stability. This evidence remains robust across various model specifications. The impact of economic sanctions varies depending on the economic globalisation and political regime of the targets. Specifically, sanctions increase mass mobilisation more in democracies, exerting more detrimental effects on the political stability of democratic targets compared with autocratic ones. Furthermore, sanctions increase mass mobilisation more in highly globalised targets, challenging the prevailing theory that economic globalisation mitigates the impact of sanctions. The placebo test further validates the parallel trend assumption and implies that the impact of sanctions on mass mobilisation is most severe in the first year and gradually diminishes over time.



**FIGURE 4** Trends in political mass mobilisation. The 2sDiD coefficient estimates and their 95% confidence intervals are reported. Panel b includes the covariates in the second stage, while Panel a does not. On the x-axis, '0' indicates the first year of sanctions imposition, '1' indicates 1 year after the first year of sanctions imposition, and '−1' indicates 1 year before the first year of sanctions imposition.

## ROBUSTNESS CHECK

To ensure the robustness of the findings, this study also tested the previous models using the EUSANCT dataset (Weber & Schneider, 2022). EUSANCT records 325 sanctions cases imposed or threatened by the EU, UN and US between 1989 and 2015, consolidating data from HSE, TIES and GIGA. Notably, EUSANCT covers various types of sanctions, but this study focuses solely on economic sanctions, including trade and financial sanctions, excluding other types such as travel bans or arms embargoes from the analysis. The treatment *sanctions imposition* is coded as 1 if a country is subjected to trade or financial sanctions imposed by the EU, UN or US in a given year. In addition to the control variables already integrated into the models, the EUSANCT dataset provides supplementary variables, including democracy sanctions, regime types and instances of coup attempts. These variables are included in the analysis due to their potential impact on a country's political stability. *Democracy sanctions* is a binary variable indicating an ongoing democracy-related sanction in a given country-year. The categorical variable *regime types* classifies different authoritarian regimes as monarchy, military, one-party, multi-party or no-party, as well as democracy. The variable *coup* is binary, coded as 1 in years when a coup attempt occurs in a specific country.

As shown in Table 4, sanctions imposition consistently has a significant positive impact on the political mass mobilisation of the target, regardless of model specifications. In Model 2, using a TWFE model with covariates, sanctions are estimated to increase mass mobilisation by 0.18, which is statistically significant at the 5% level and accounts for 14% of the standard deviation (1.32). Similar results are found using the 2sDiD model with covariates in Models 4 and 6, which incorporate unsanctioned and not-yet-sanctioned observations in the first stage, respectively. In Model 6, sanctions are predicted to increase mass mobilisation by 0.15, statistically significant at the 1% level, accounting for 11% of the standard deviation. These results are consistent with previous findings using the GSDB dataset, strongly supporting Hypothesis 1.

Figures 5 and 6 illustrate the marginal effects of sanctions based on the target's political regimes and economic globalisation levels, using the EUSANCT dataset. Vertical lines represent 95% confidence intervals. Figure 5 shows that the marginal effect of sanctions is statistically significant only in democracies in both Panels a and b. In Panel b, which uses not-yet-sanctioned observations in the first stage, the marginal effect of sanctions in democracies is larger, with a confidence interval from 0.12 to 0.38. In Panel a, which uses unsanctioned observations in the

first stage, the confidence interval ranges from 0.06 to 0.24. This result is consistent with previous findings using the GSDB dataset, supporting Hypothesis 3. Figure 6 reveals that sanctions are statistically significant only in low-globalised countries, with a particularly notable effect in Panel b (confidence interval: 0.15–0.36). This finding is consistent with Hypothesis 2 but contradicts previous results obtained using the GSDB dataset. The discrepancy between the findings from the GSDB and EUSANCT datasets can be attributed to several factors. First, the periods covered by the two datasets differ significantly, which may capture different global economic conditions and geopolitical contexts that influence the effectiveness of sanctions. The GSDB spans a broader historical range, potentially encompassing more varied instances of economic globalisation, while the EUSANCT focuses on the post-Cold War period with potentially different economic dynamics and international relations. Additionally, the EUSANCT might reflect a narrower scope of sanctions, primarily from the EU, UN and US, which could behave differently compared with the broader range of sanctions included in the GSDB. These differences in dataset composition and time coverage can result in contrasting findings regarding the impact of economic globalisation on political mass mobilisation in targets. The variation implies that the relationship between sanctions, economic globalisation and political mobilisation is complex and may be influenced by specific historical and regional contexts.

To verify the robustness of how political stability is measured, alternative measures—terror incidents and the political stability index—were also tested. The variable *terror incidents* count the total number of terrorist attacks in a country in a given year, as obtained from the Global Terrorism Database (GTD) (START, 2021a). The GTD defines a terrorist attack as ‘the threatened or actual use of illegal force and violence by a non-state actor to attain a political, economic, religious or social goal through fear, coercion or intimidation’ (START, 2021b, p. 11) and records corresponding terror incidents from 1970 to 2020. A higher number of terror incidents indicates lower political stability. Another variable, the *political stability index*, is obtained from the Worldwide Governance Indicators (WGI) (Kaufmann et al., 2011) for the period 1996–2022. It is a continuous variable, with higher values indicating greater political stability. The WGI aggregates indicators across six key dimensions of governance using data from over 30 different sources, including surveys, public sector data providers, non-governmental organisations and commercial business information providers. The specific indicator used is ‘Political Stability and Absence of Violence/Terrorism’, which assesses perceptions of the likelihood of political instability and politically motivated violence, including terrorism.

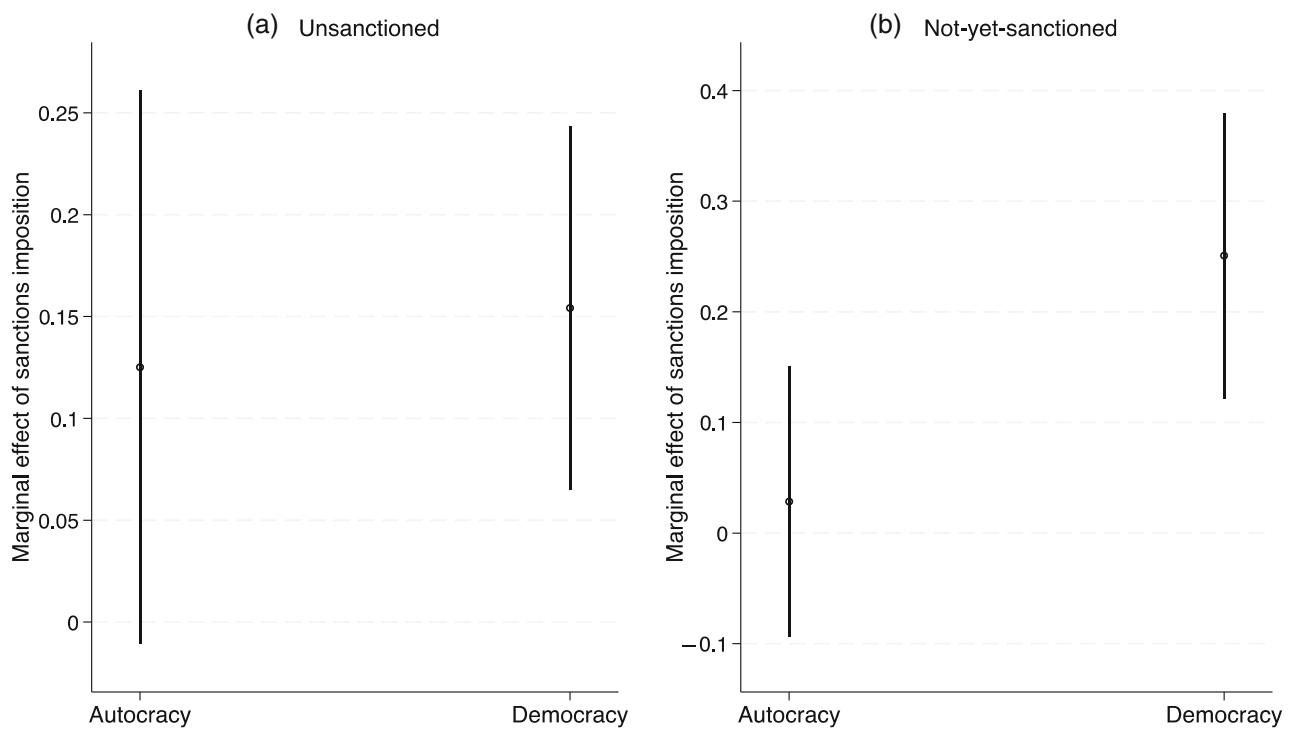
**TABLE 4** Effects of economic sanctions on political mass mobilisation using the EUSANCT dataset.

	<i>Dependent variable: Mass mobilisation</i>					
	TWFE		2sDiD (unsanctioned)		2sDiD (not-yet-sanctioned)	
	(1)	(2)	(3)	(4)	(5)	(6)
Sanctions imposition	0.20** (0.085)	0.18** (0.070)	0.14*** (0.028)	0.14*** (0.039)	0.32*** (0.038)	0.15*** (0.046)
Polity		0.02** (0.010)		0.01** (0.004)		0.02*** (0.004)
Economic globalisation		−0.0003 (0.004)		−0.001 (0.001)		−0.002** (0.001)
Ln(GDP)		0.16 (0.150)		−0.02 (0.016)		0.03 (0.020)
Interstate conflicts		−0.01 (0.035)		−0.04 (0.029)		0.02 (0.041)
Intrastate conflicts		0.31*** (0.114)		0.20*** (0.061)		0.16** (0.065)
Ln(National capability)		0.39** (0.168)		0.005 (0.017)		0.02 (0.022)
Ethnic fractionalisation		1.60 (1.407)		−0.06 (0.049)		0.37*** (0.066)
Democracy sanctions		0.11 (0.077)		−0.01 (0.085)		0.27*** (0.077)
Coup		0.19*** (0.068)		0.20** (0.080)		0.23** (0.092)
Regime types		−0.09*** (0.033)		−0.02 (0.013)		−0.03* (0.017)
Constant	−0.27*** (0.079)	−1.91 (3.860)	−0.001 (0.011)	0.62 (0.461)	−0.06*** (0.013)	−0.62 (0.578)
Observations	4516	3017	4516	3017	4516	3017
R-squared	0.06	0.07	0.01	0.03	0.02	0.07
Number of states	179	146	179	146	179	146
Control units	3628	2447	3628	2447	3628	2447
Treated units	888	570	888	570	888	570

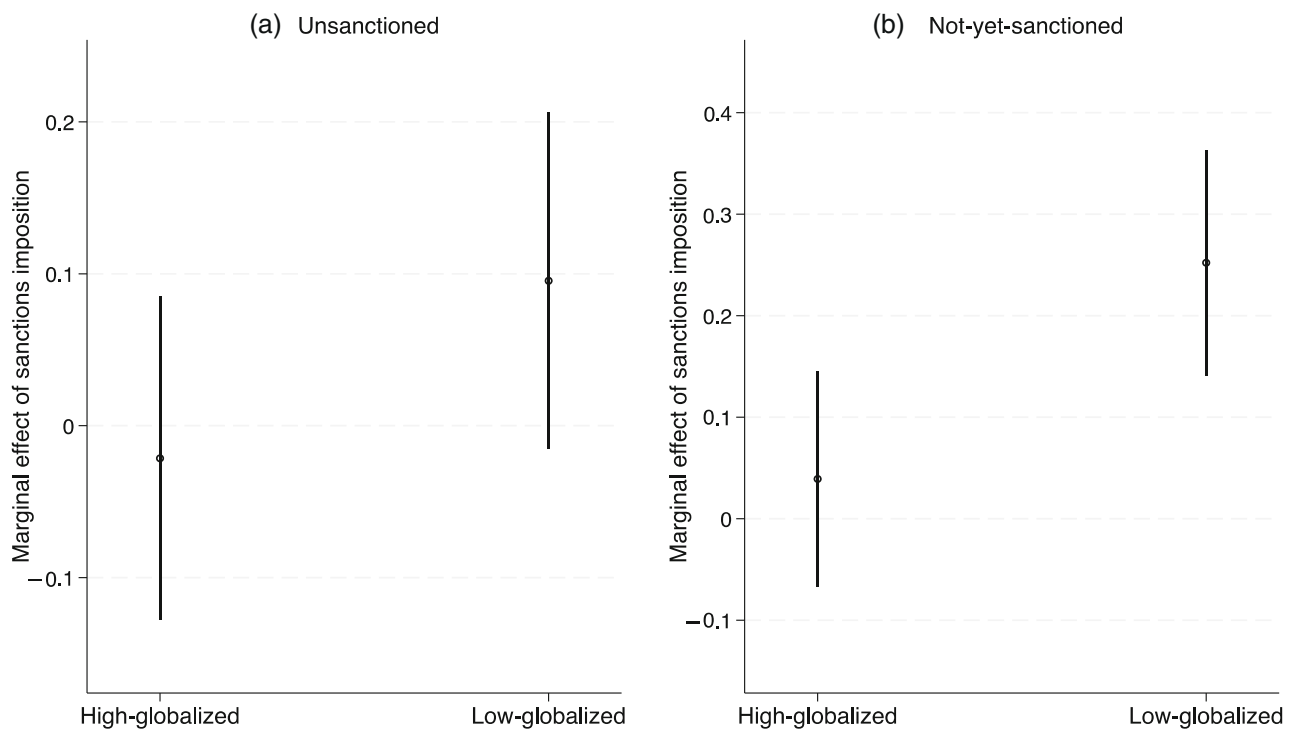
*Note:* Models 3 and 4 use the unsanctioned observations in the first stage, while Models 5 and 6 use the not-yet-sanctioned observations. The year and country variables in TWFE models are omitted for ease of presentation. Bootstrap standard errors in parentheses. Countries sanctioned in the first year of the dataset are excluded to avoid spurious results, removing 16 cases, but the findings remain similar. \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%. Abbreviations: 2sDiD, two-stage difference-in-differences; TWFE, two-way fixed-effects.

Table 5 presents the 2sDiD results with dependent variables terror incidents and political stability index. Consistent with Hypothesis 1, sanctions undermine the target's political stability by increasing its terrorist attacks. In Model 1, sanctions are expected to increase terror incidents in targets by 39.69, statistically significant at the 1% level, accounting for 47% of the standard deviation (85). This effect diminishes to 8.56 when covariates are included in Model 2, statistically significant at the

10% level. In Models 3 and 4, sanctions have significant negative effects on the political stability index of targets, statistically significant at the 1% level in both models. In Model 3, sanctions are expected to decrease the target's political stability by 0.46, a substantial effect accounting for 49% of the standard deviation (0.93). This effect is reduced to 0.38 after including covariates in Model 4. Overall, Hypothesis 1, which posits that economic sanctions decrease the target's political stability, is



**FIGURE 5** Marginal effect of economic sanctions conditional on political regime using the EUSANCT dataset. The dependent variable is political mass mobilisation. Vertical lines represent the 95% confidence intervals generated by bootstrap standard errors. The sample consists of 1608 observations for democracies and 1409 observations for autocracies.



**FIGURE 6** Marginal effect of economic sanctions conditional on economic globalisation using the EUSANCT dataset. The dependent variable is political mass mobilisation. Vertical lines represent the 95% confidence intervals generated by bootstrap standard errors. The sample consists of 1589 observations for low-globalised and 1428 observations for high-globalised countries.



TABLE 5 Effects of economic sanctions on terror incidents and political stability index.

Dependent variable	Terror incidents		Political stability index	
	(1)	(2)	(3)	(4)
Sanctions imposition	39.69*** (4.425)	8.56* (4.988)	−0.46*** (0.029)	−0.38*** (0.039)
Polity		0.68*** (0.188)		−0.003 (0.002)
Economic globalisation		−0.12* (0.066)		0.01*** (0.001)
Ln(GDP)		−1.25 (0.949)		0.02 (0.018)
Interstate conflicts		4.51 (2.996)		−0.18*** (0.028)
Intrastate conflicts		70.86*** (10.322)		−0.61*** (0.071)
Ln(National capability)		1.14 (1.014)		−0.06*** (0.019)
Ethnic fractionalisation		8.17 (5.032)		−0.05 (0.045)
Constant	7.23*** (1.384)	38.41 (27.425)	−0.04*** (0.008)	−1.00* (0.526)
Observations	8370	5210	4062	2092
R-squared	0.01	0.05	0.10	0.25
Number of states	176	147	172	147
Control units	6620	4320	2933	1690
Treated units	1750	890	1129	402

Note: The 2sDiD coefficient estimates using not-yet-sanctioned observations in the first stage are reported. Bootstrap standard errors in parentheses. Countries sanctioned in the first year of the dataset are excluded to avoid spurious results, removing 15 cases from the terror dataset and 37 from the political stability dataset, but the findings remain similar. \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%.

supported despite the different measurement specifications of political stability.

## CONCLUSION

This article employs the 2sDiD estimator to examine the causal effects of economic sanctions on political stability. The central argument posits that economic sanctions impose economic hardships on the target population, leading to growing public frustration toward their governments, which serves as a political stimulus, encouraging the population to engage in political mobilisation actions, thereby decreasing the country's political stability. However, this mechanism is conditional on the political regime and economic globalisation of targets. Economic sanctions have more detrimental effects on the political stability of democracies than autocracies because

autocratic citizens have higher costs for anti-government actions than democratic ones, and leaders can use repression to stifle public expression. Meanwhile, as economic globalisation may weaken the power of sanctions by providing targets with more alternatives to sanctioned goods or services, economic sanctions have a greater negative impact on political stability in less globalised targets than in highly globalised ones. The empirical findings largely align with expectations, demonstrating robustness despite variations in model specification and the measurement of both the treatment and dependent variables. However, the conditional effect of sanctions on economic globalisation yields contradictory results when comparing the GSDB and EUSANCT datasets. This discrepancy may be attributed to differences in dataset composition and time coverage between the GSDB and EUSANCT. These results suggest that the relationship between sanctions, economic globalisation, and political mass mobilisation is

complex and may be influenced by specific historical and regional contexts. The results of the placebo test indicate that the assumption of parallel trend is valid for this study, showing that sanctions increase the target's mass mobilisation most in the early period, gradually diminishing over time.

Future work in this field should delve deeper into the nuanced dynamics of economic sanctions and their political repercussions, exploring potential moderating factors that influence the relationship between sanctions and political stability, with a particular focus on the moderating mechanism of economic globalisation. Additionally, researchers could delve deeper into the dynamics of economic sanctions by exploring their duration and termination effects on the political stability of the target. Key questions to consider include: Does the duration of sanctions affect how they affect a country's stability? What changes occur when sanctions are lifted? How do governments adapt their strategies during prolonged sanctions, and how does that influence stability?

The findings in this article present robust evidence of the causal effect of economic sanctions on the target's political stability, utilising the 2sDiD method, which is a novel contribution to the literature. The study also highlights the heterogeneity of sanctions' effects across different groups and periods. Furthermore, it identifies two important conditional factors, political regime and economic globalisation, that significantly influence the sanctions' effects on political stability. Finally, this research offers a crucial implication for the literature on the effectiveness of economic sanctions, namely that economic sanctions could boost their effectiveness by imposing political costs on their targets and jeopardising their political stability.

## DATA AVAILABILITY STATEMENT

The data that support the findings of this study are openly available in Replication Data for: The causal effect of economic sanction at <https://doi.org/10.7910/DVN/KCSVWH>.

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APPENDIX A

A.1 | STRUCTURE OF THE KOF ECONOMIC GLOBALISATION INDEX

TABLE A1 Structure of the KOF economic globalisation index.

<i>Economic globalisation, de facto</i>	Weights	<i>Economic globalisation, de jure</i>	Weights
<i>Trade globalisation, de facto</i>	50.0	<i>Trade globalisation, de jure</i>	50.0
Trade in goods	38.8	Trade regulations	26.8
Trade in services	44.7	Trade taxes	24.4
Trade partner diversity	16.5	Tariffs	25.6
		Trade agreements	23.2
<i>Financial globalisation, de facto</i>	50.0	<i>Financial globalisation, de jure</i>	50.0
Foreign direct investment	26.7	Investment restrictions	33.3
Portfolio investment	16.5	Capital account openness	38.5
International debt	27.6	International Investment Agreements	28.2
International reserves	2.1		
International income payments	27.1		

Note: Weights in percent for the year 2016. Weights for the individual variables are time variants. Overall indices for each aggregation level are calculated by the average of the respective de facto and de jure indices.

APPENDIX B

B.1 | PARALLEL TRENDS

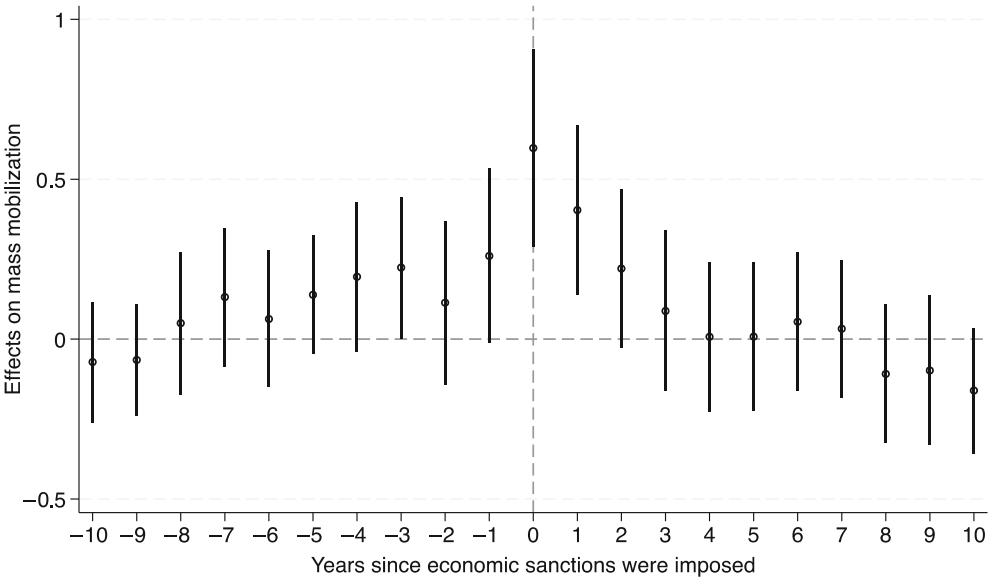
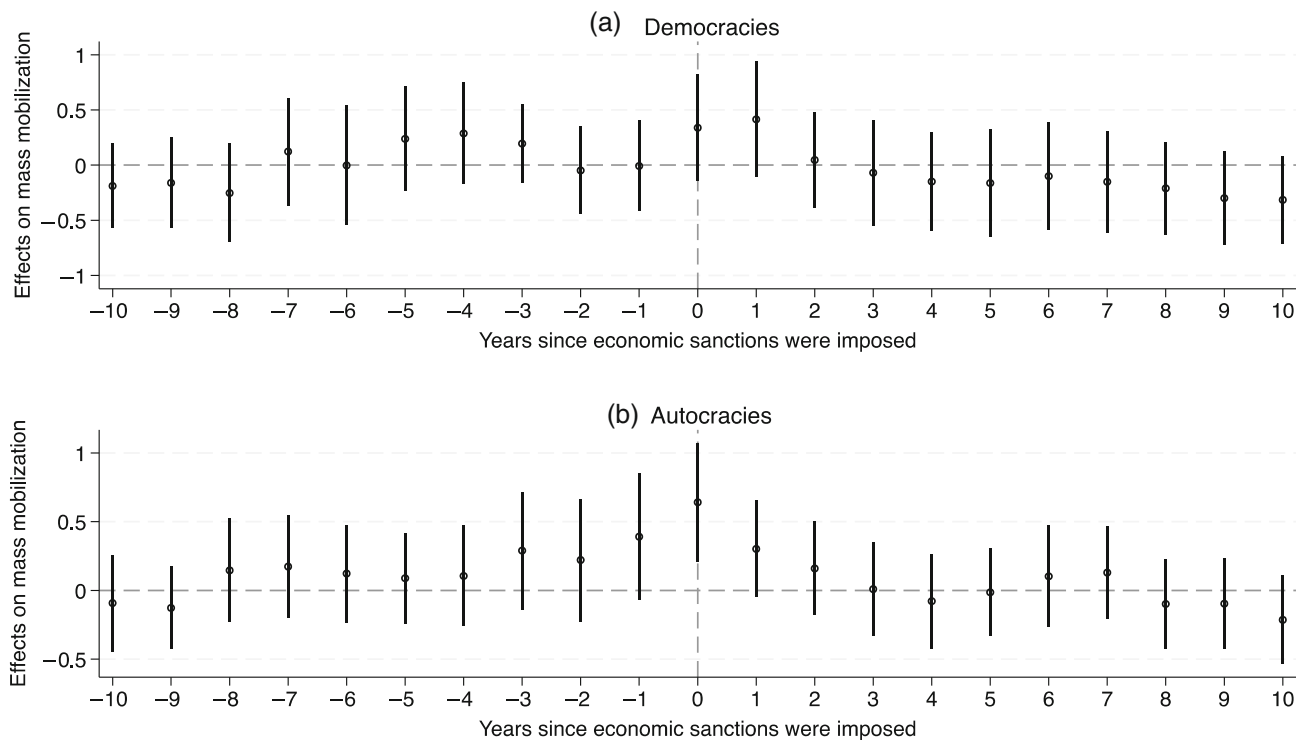
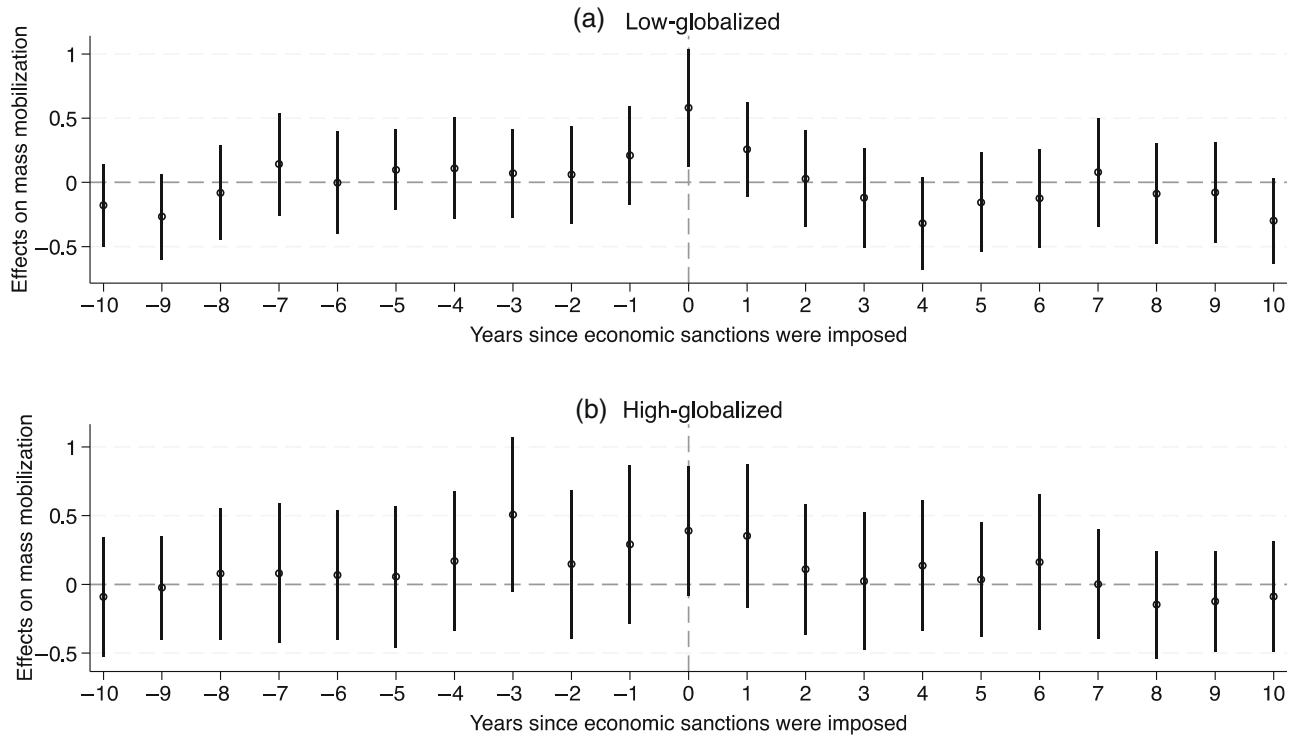


FIGURE B1 Trend of mass mobilisation in TWFE estimator.



**FIGURE B2** Trend of mass mobilisation in 2sDiD estimator (democracies vs. autocracies).



**FIGURE B3** Trend of mass mobilisation in 2sDiD estimator (high-globalised vs. low-globalised).

## APPENDIX C

## C.1 | CORRELATION TABLES

TABLE C1 Correlation table between mass mobilisation and covariates.

	1	2	3	4	5	6	7	8	9
1. Mass mobilisation	—								
2. Sanctions imposition	0.20*	—							
3. Polity	0.19*	−0.07*	—						
4. Economic globalisation	−0.12*	−0.08*	0.45*	—					
5. Ln(GDP)	0.21*	0.12*	0.37*	0.30*	—				
6. Interstate conflicts	0.09*	0.15*	−0.06*	−0.10*	0.24*	—			
7. Intrastate conflicts	0.12*	0.09*	−0.09*	−0.20*	−0.01	0.16*	—		
8. Ln(National capability)	0.19*	0.13*	0.13*	0.01	0.88*	0.36*	0.06*	—	
9. Ethnic fractionalisation	0.15*	0.02*	−0.20*	−0.27*	−0.23*	−0.07*	0.16*	−0.22*	—

Note: \* $p < 0.05$ ; \*\* $p < 0.01$ .

TABLE C2 Correlation table between terror incidents and covariates.

	1	2	3	4	5	6	7	8	9
1. Terror incidents	—								
2. Sanctions imposition	0.14*	—							
3. Polity	0.08*	−0.07*	—						
4. Economic globalisation	−0.06*	−0.11*	0.43*	—					
5. Ln(GDP)	0.13*	0.11*	0.35*	0.34*	—				
6. Interstate conflicts	0.14*	0.26*	−0.05*	−0.07*	0.28*	—			
7. Intrastate conflicts	0.19*	0.15*	−0.10*	−0.19*	−0.02	0.14*	—		
8. Ln(National capability)	0.16*	0.20*	0.07*	0.00	0.87*	0.37*	0.08*	—	
9. Ethnic fractionalisation	0.03*	0.02	−0.21*	−0.23*	−0.30*	−0.05*	0.13*	−0.20*	—

Note: \* $p < 0.05$ ; \*\* $p < 0.01$ .

TABLE C3 Correlation table between political stability index and covariates.

	1	2	3	4	5	6	7	8	9
1. Political stability index	—								
2. Sanctions imposition	−0.37*	—							
3. Polity	0.32*	−0.15*	—						
4. Economic globalisation	0.62*	−0.18*	0.34*	—					
5. Ln(GDP)	0.11*	0.05*	0.22*	0.36*	—				
6. Interstate conflicts	−0.28*	0.23*	−0.08*	−0.07*	0.28*	—			
7. Intrastate conflicts	−0.37*	0.16*	−0.10*	−0.19*	0.00	0.16*	—		
8. Ln(National capability)	−0.21*	0.16*	−0.03	0.03	0.87*	0.40*	0.10*	—	
9. Ethnic fractionalisation	−0.30*	0.10*	−0.19*	−0.33*	−0.28*	−0.07*	0.11*	−0.16*	—

Note: \* $p < 0.05$ ; \*\* $p < 0.01$ .