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RESEARCH ARTICLE

What do women get from a successful revolution?

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Abstract
Our study investigates the impact of successful violent and non-violent revolutions on post-revolutionary institutions concerning women. Leveraging the Nonviolent and Violent Campaigns and Outcomes data on successful revolutions and the Varieties of Democracy dataset for gender-specific metrics, we employ fixed-effect difference-in-differences and Callaway Sant'Anna. Our results show positive effects from both treatments. Non-violent revolutions with regime change intentions have a more consistent positive impact on women's empowerment indices than violent revolutions, while revolutions without regime change intentions show mixed or limited effects across both violent and non-violent cases.

Keywords: post-revolutionary institutions; revolution; women

JEL Classification: D73; D74; K42; O17; P16

Introduction

Revolutions represent profound shocks to the established order, often fundamentally altering the institutional landscape that governs social interactions (Hodgson, 2006). A critical, yet relatively underexplored, dimension of this transformation concerns the institutions shaping gender relations and women's empowerment. From an economic perspective, institutions act as the rules of the game, defining the constraints and incentives that guide individual choices and collective action. Gender institutions, specifically, influence the costs and benefits associated with women's participation in political, economic, and social life. While existing research examines how factors like cultural norms (Uberti and Douarin, 2023), democratic structures (Welzel *et al.*, 2002), media freedom (Cooray *et al.*, 2014), or historical trajectories (Goldin, 2023) impact gender outcomes within relatively stable contexts, revolutions introduce radical uncertainty and institutional fluidity. This raises the central question guiding our research: how do revolutions, by reshaping the institutional environment, alter the choices, actions, and participation of women and other social groups, thereby influencing post-revolutionary gender dynamics?

The upheaval of revolution can dramatically shift the calculus for individuals and groups. It may lower the costs of challenging existing gender hierarchies or increase the perceived benefits of female political mobilization. Conversely, it might also accentuate limitations or introduce new barriers. Social groups, including women's movements, respond strategically to these changing incentives (Asal *et al.*, 2013; Darden *et al.*, 2019; Naunov, 2024; Pressman *et al.*, 2022). Their actions during these critical junctures – whether participating in protests, forming coalitions, or engaging with emerging power structures – can play a catalytic role in shaping the new institutional arrangements concerning gender.

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The aggregate outcomes we observe, such as changes in women's political representation (Mirziyoyeva and Salahodjaev, 2022; Stegmaier *et al.*, 2014; Teele, 2023; Shea and Christian, 2017; Berlemann and Christmann, 2019; Lalanne and Seabright, 2022) or broader empowerment indices, are thus the result of these micro-level choices and strategic interactions filtered through the evolving institutional framework. Context-specific factors undoubtedly mediate these experiences, as highlighted by various case studies (Alexander and Apell, 2016; El-Mallakh *et al.*, 2018; Gerber and Mayorova, 2006).

Despite this rich body of related research, a significant gap exists in empirically analyzing how the method of successful revolution – specifically, violent versus non-violent pathways – systematically affects gender-related institutions and outcomes over time through these mechanisms of altered choice and action. Understanding this relationship is crucial for shaping effective policies, forecasting social transformations, and promoting gender equality worldwide. Our study directly addresses this gap by examining the differential impact of successful violent and non-violent revolutions on women's empowerment using comprehensive panel data from 1950 to 2019. We specifically ask: how do successful revolutions impact women's empowerment? Do violent and non-violent revolutions, by implication, differently alter the landscape of choice and action for women, leading to distinct effects on gender-related institutions? How do these effects evolve in the post-revolutionary period?

Our study contributes to the existing literature by providing a systematic, quantitative analysis of the causal impact of different revolutionary pathways on multiple indicators of women's empowerment. We differentiate explicitly between violent and non-violent revolutions and employ advanced causal inference methods, including the Callaway and Sant'Anna (2021) difference-in-differences approach, suitable for settings with staggered treatment adoption. By addressing our research questions, we aim to enhance the understanding of the complex relationship between the nature of revolutionary change and the evolution of gender institutions, offering insights relevant to both institutional economics and policy debates on gender equality.

Our empirical analysis reveals significant findings regarding these differential impacts. The most robust results indicate that successful non-violent revolutions, particularly those with explicit regime change intentions, consistently yield positive and statistically significant improvements across multiple dimensions of women's empowerment. These effects are particularly pronounced for indices measuring political empowerment, civil liberties, and civil society participation, suggesting that non-violent processes may be more effective at expanding the space for women's agency and collective action. In contrast, violent revolutions demonstrate more ambiguous and less statistically robust effects after controlling for regime change intention. Without this control, we see positive effects for both types of revolutions. Event study analyses further substantiate these findings, showing improvements in most outcomes. These results, robust across multiple specifications, suggest that revolutions, though chaotic and costly, may help women. Our findings are crucial for implementing the UN's Sustainable Development Goals for two reasons. First, the small list of comparison countries highlights that the majority of the world, and especially the developing world, has recently experienced a non-violent or violent revolution in the recent past. Second, there is an explicit goal to achieve gender equality and empower all women and girls. While we have seen large gains on this metric in the last 100 years, countries lacking liberal institutions often have few mechanisms for improving these institutions.

We proceed as follows. First, we present several theories outlining potential mechanisms through which revolutionary methods may interact with institutions and institutional change, affecting individual and group incentives related to gender. Then, we outline our data and empirical methodology and explain our results in detail thereafter. Finally, we conclude and discuss implications.

Theory

The literature explores at least eight theories on how revolutionary methods may interact with institutions and drive institutional change: critical mass theory, resource mobilization, network externalities, social capital theories, capabilities approach, state feminism theory, incrementalism in political reforms, institutional isomorphism, and Gendered Innovations and policy design. The first five theories explain

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why revolutions may benefit women. The final three raise a higher degree of scepticism towards the direct benefits of revolutions, suggesting null or adverse effects. The manifestations of these theories are not mutually exclusive. Given these conflicting ideas in the literature, an empirical test of the results of violent and non-violent revolutions solves an outstanding puzzle.

Critical mass theory offers a crucial mechanism for understanding why revolutions might advance women's empowerment. The core idea posits that once women's participation or representation in a movement or political sphere crosses a certain threshold, it triggers significant qualitative shifts in political dynamics, culture, and policy outcomes (Alexander, 2012; Chenoweth and Marks, 2022; Murdie and Peksen, 2014; Teele, 2020). One key mechanism operates through symbolic representation: increased visibility of women in influential roles can challenge traditional gender norms and enhance perceptions of women's governing capabilities, potentially creating a virtuous cycle that encourages further female participation (Alexander, 2012). Furthermore, achieving a critical mass can alter the strategic calculations of political actors, making women's interests and mobilization potential a factor that cannot be ignored, particularly during moments of political rupture such as revolutions, where new rules are being forged (Teele, 2020; Chenoweth and Marks, 2022). However, the application of this threshold concept within revolutionary contexts is complicated by intersectional dynamics. The simple presence of numbers does not guarantee influence, as institutional barriers or backlash against women's gains may arise, particularly in contexts with entrenched patriarchal norms or specific party structures (Bhalotra *et al.*, 2018). Additionally, how women's mobilization is perceived, and thus its effectiveness, can be significantly mediated by other identity factors, such as ethnicity, potentially dampening the anticipated positive effects of reaching a numerical threshold (Manekin and Mitts, 2021). While the broader link between democratic transitions (often following revolutions) and gains in gender equality finds empirical support (Andersen, 2023), understanding the specific role of critical mass requires acknowledging these complex, context-dependent mechanisms and obstacles.

Complementing the idea of critical mass, resource mobilization theory (RMT) provides another lens, focusing on how the availability and strategic use of organizational resources shape the capacity of women's movements to exert influence during and after revolutions (Berry and Chenoweth, 2018; Chenoweth, 2021; Lee and Murdie, 2020). This perspective highlights that success is not merely about numbers, but about the ability to marshal essential resources – such as established networks, funding, leadership skills, communication channels, and formal organizations – to coordinate collective action, sustain participation, and effectively frame demands (Berry and Chenoweth, 2018; Chenoweth, 2021). For women activists, especially within the fluid and often contested space of a revolution, securing and deploying these resources is critical for ensuring their voices are heard and their specific concerns are integrated into the post-revolutionary agenda, potentially overcoming historical marginalization (Nikolayenko, 2020). The way resources are mobilized often connects to the chosen strategy; for instance, non-violent uprisings, which generally correlate with more positive democratic outcomes post-transition (Celestino and Gleditsch, 2013; Ammons and Shakya, 2025), typically rely heavily on broad organizational capacity for mass coordination and disciplined action (Chenoweth, 2021). However, the effectiveness of resource mobilization for women's empowerment is significantly mediated by the broader context. Prevailing regime types fundamentally shape the political opportunity structure, either constraining or enabling women's groups to organize and access resources (Lee and Murdie, 2020; Weldon *et al.*, 2023). Furthermore, the presence of extremist ideologies, particularly those explicitly promoting male supremacy or opposing gender equality, can create a hostile environment that actively undermines women's mobilization efforts and targets their organizational capacities (Roose and Cook, 2022). Even major societal disruptions, like war or revolution, while potentially shifting traditional gender roles and women's participation in public life (Acemoglu *et al.*, 2004; Nikolayenko, 2020), do not automatically translate into empowerment, as the ability to leverage these changes depends heavily on organized efforts within these complex and often adverse political and ideological landscapes (Weldon *et al.*, 2023). However, these negative effects of violent revolutions could be overcome through the use of selective incentives (Tullock, 1971).

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Beyond sheer numbers (critical mass) and organizational capacity (resource mobilization), the theories of network externalities and social capital illuminate another crucial mechanism: how the very act of participating in a revolution builds interpersonal connections and collective trust that can empower women post-conflict (Goldstone, 2023; Schaftenaar, 2017; Steflja and Darden, 2020). Engaging in shared struggle, whether through organizing, protesting, or other forms of collective action, fosters dense social networks characterized by reciprocity, shared identity, and mutual support. This accumulated social capital becomes a durable resource (Schaftenaar, 2017). The network externality effect suggests that as these networks grow during mobilization, their value increases for participants, facilitating information flow, coordinated action, and resilience. Crucially, these networks forged in the heat of revolution often persist, providing women with established channels for political advocacy, mutual aid, and pathways into leadership roles within new institutions or civil society organizations after the conflict subsides (Goldstone, 2023). The nature of the revolutionary tactics employed can influence the characteristics of the networks built; specifically, non-violent strategies, often necessitating broader coalitions and mass participation due to lower barriers to entry (Schaftenaar 2017; Gleditsch *et al.*, 2021), may cultivate more extensive and potentially more inclusive social capital among women compared to more exclusive violent movements. The internal cohesion and organization fostered within these networks can also be strategically advantageous, particularly in navigating complex political environments (Belgioioso *et al.*, 2019). Consequently, widespread participation by women in revolutionary movements, particularly those employing non-violent methods that facilitate broad network formation, is theorized to create a stronger foundation of social capital, contributing significantly to their collective influence and empowerment in the post-revolutionary era. However, careful historical analysis shows that women play a role in most wars and are often prosecuted as war criminals (Steflja and Darden, 2020).

State feminism theory offers a distinctive analytical framework for examining post-revolutionary institutional configurations and their impacts on women's empowerment indices. Conceptualizing the state as a potential vehicle for feminist agenda-setting, state feminism theory posits that formal institutional mechanisms – specifically women's policy agencies – mediate between women's movements and governmental structures to facilitate gender-equitable policy outcomes (Lovenduski, 2005; Kantola and Squires, 2012). This theoretical approach is particularly salient in post-revolutionary contexts, where institutional ruptures potentially reconfigure state-society relations and create critical junctures for embedding gender equality mechanisms within nascent governance structures (Zheng, 2005; Hatem, 1992). The differential efficacy of violent versus non-violent revolutions in promoting women's empowerment can be partially explicated through variations in post-revolutionary state feminist arrangements – where non-violent movements typically generate more robust civil society networks that maintain pressure on state institutions, creating accountability mechanisms that prevent the instrumentalization of women's policy agencies for non-feminist political objectives (Franceschet, 2003; Zhou, 2023). Methodologically, this perspective complements our analytical framework by highlighting how revolutionary tactics influence not merely immediate policy outcomes but the structural configuration of state-movement relations, suggesting that non-violent revolutions with explicit regime change intentions may facilitate more effective state feminist institutional arrangements by simultaneously democratizing political structures while preserving autonomous civil society capacity necessary for sustained policy advocacy (Bustelo, 2016; Celis and Meier, 2007).

The capability approach, pioneered by Sen and extended by Nussbaum, provides a compelling theoretical framework for analyzing the differential effects of revolutionary movements on women's empowerment (Anand *et al.*, 2023; Yılmaz, 2016; Nussbaum, 2013). Unlike utilitarian or resource-based models, this approach emphasizes individual freedom to achieve valued functionings – states of being and doing that constitute well-being – and distinguishes between formal institutional changes (capabilities as freedoms) and their practical realization (achieved functionings) (Truong, 2006; Nussbaum, 2006). The capability approach conceptualizes women's empowerment as inherently multidimensional rather than unidimensional, aligning with our empirical strategy of assessing various empowerment indices and recognizing that revolutionary movements may differentially impact

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political participation, civil liberties, and civil society engagement (Bartiaux *et al.*, 2018; Tiwari and Shukla, 2023). Furthermore, capability theory's emphasis on public reasoning and democratic participation provides a theoretical basis for understanding why revolutions with explicit regime change objectives – which typically involve more comprehensive deliberative processes – demonstrate stronger positive associations with women's empowerment indices (Dalziel *et al.*, 2018), while its recognition of adaptive preferences – where oppressed groups may internalize unjust conditions – helps explain why substantive institutional transformations often require the consciousness-raising facilitated more effectively through mobilization strategies (Walsh, 2008; Chhachhi, 2011). However, this theory is challenged by recent empirical research, which shows that both non-violent and violent revolutions decrease life expectancy and GDP, and have minimal effects on education (Mahmood *et al.*, 2025).

Incrementalism theory suggests that institutional change often proceeds through gradual adjustments rather than radical transformations, potentially enhancing institutional quality or stability over time (Congleton and Yoo, 2018; Hodgson, 2019). However, applying this framework to revolutionary contexts requires significant nuance. While major historical reforms like franchise extensions or expansions of property rights might appear as deviations from pure incrementalism, they were frequently precipitated by acute pressures, such as the threat of revolution compelling strategic concessions from elites (Acemoglu and Robinson, 2000; Aidt and Jensen, 2014; Aidt and Franck, 2015), or by political actors capitalizing on competitive opportunities (Teele, 2018; Lemke, 2016). These instances suggest that substantial changes can be integrated into existing systems via processes managed incrementally by those in power. Furthermore, the inherent difficulties in achieving desired revolutionary outcomes, as highlighted by Tullock (1971) and Ammons and Shakya (2024), may mean that incremental adjustments often become the default pathway in post-upheaval scenarios due to the challenges of consolidating radical change. Critically, the nature of the preceding revolution appears to mediate these institutional possibilities. Non-violent campaigns, which correlate strongly with positive institutional outcomes such as democratization and improved human rights protections (Ammons, 2024; Novak, 2021), may establish more stable conditions conducive to constructive, albeit potentially gradual, reforms concerning civil liberties and, by extension, women's rights. In contrast, the institutional disruption following violent conflict might impede such progress. A comprehensive analysis must also differentiate the applicability of incrementalism across reform types; while it may explain changes in formal laws, altering deeply embedded social norms related to gender likely involves different dynamics and faces distinct structural obstacles resistant to simple, gradual legislative adjustments.

Institutional isomorphism theories suggest post-revolutionary states may adopt gender equality norms, often driven by the pursuit of domestic and international legitimacy (Dequech, 2013); however, this adoption can be strategic, constituting autocratic genderwashing where reforms serve primarily political or symbolic goals rather than substantive change (Bjarneg˚ard and Zetterberg, 2022; Tripp, 2024). While conducive cultural values and non-violent movements can facilitate the diffusion of such norms (Donni *et al.*, 2021; Gleditsch and Rivera, 2017), their successful integration and substantive impact are fundamentally constrained by compatibility with existing local institutions and path dependencies (Zweynert and Goldschmidt, 2006). Deeply embedded social norms, often shaped by long-term geographical and cultural factors (Voigt, 2023, 2024), along with institutional inertia anchored in persistent mental models (Rosenbaum, 2021; Dequech, 2013), create significant structural impediments. These factors limit the transformative potential of even formal changes like constitutional guarantees (Austen and Mavisakalyan, 2016) and help explain why revolutionary moments may not automatically translate into deep-seated shifts in gender equality, highlighting the importance of considering these institutional blockages rather than prematurely dismissing theories based solely on observed outcomes.

Theoretical frameworks such as Public Choice suggest that the adoption and efficacy of gender-sensitive policies in post-revolutionary contexts are deeply intertwined with elite strategic calculations concerning political stability and the potential costs of redistribution (Acemoglu and Robinson, 2001).

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While institutional reforms, including franchise extension or modifications to electoral systems, can demonstrably expand women's formal rights and increase their descriptive representation (Aidt *et al.*, 2006; Profeta and Woodhouse, 2022), the translation of these gains into substantive empowerment is frequently mediated by complex intervening factors. These mediating factors include potential intra-legislative dynamics, such as strategic specialization among representatives, which may dilute the focus on women's issues even as female representation grows (Höhmann, 2020), as well as broader structural obstacles embedded within the post-revolutionary political settlement that may hinder progressive reforms (Acemoglu and Robinson, 2001). Consequently, assessing the effectiveness of specific policies or the broader applicability of theories like Gendered Innovations requires a nuanced approach. This approach must carefully distinguish between advancements in formal institutional rules or representation and shifts in substantive policy outcomes or deeply ingrained norms, recognizing that progress towards gender equality may be incremental and highly uneven across different dimensions (Aidt *et al.*, 2006).

Data and methods

Chenoweth and Shay (2020) catalogue non-violent and violent campaigns from 1900 to 2019. Their data include maximalist citizen campaigns against the state, meaning that the campaign's goal was regime change, territorial independence, or independence from a colonial power. The data examine social movements with over 1000 citizens.

A violent campaign employs armed forces to overcome the regime's security forces, defeat the state militarily, and recruit participants to engage in combat. In contrast, non-violent campaigns mobilize activists for peaceful dissent, rule-breaking, delegitimizing authorities, and avoiding violence when facing repression. A campaign with sporadic violence accompanying widespread non-violent resistance is still primarily non-violent, whereas groups explicitly created to use violence denote a violent campaign.

The women political empowerment index, which ranges on a scale of 0 to 1, encapsulates increasing capacity for women, leading to greater choice, agency, and participation in societal decision-making, which is developed by equally weighting three different indices: fundamental civil liberties, women's open discussion of political issues and participation in civil society organizations, and the descriptive representation of women in formal political positions. All these indicators are gathered from the Varieties of Democracy (V-Dem) database (Coppedge and Gerring, 2022).

The theoretical foundation for these variables draws on both liberal feminist tradition and broader concepts of power (Sundström *et al.*, 2017). Unlike other datasets that rely on small expert groups, V-Dem utilizes over 2,600 local and cross-national experts (35% of whom are women) who provide specialized judgments. These expert ratings are aggregated through a Bayesian item response theory model that accounts for potential errors and subjective scaling differences. The index shows strong empirical validity, with factor loadings indicating robust associations between individual indicators and their respective dimensions. Cross-country comparisons reveal significant variation in women's political empowerment, with meaningful changes in both absolute scores and relative rankings observable over time. The index deliberately excludes certain variables like women's suffrage that became normative mid-century and would unfairly penalize older countries compared to newly sovereign nations.

Baseline model

We begin a baseline analysis by regressing women's empowerment on the revolution in equation 1.

$$Women\ empowerment_{ct} = \alpha + \beta\ Revolution_{ct} + \epsilon_{ct} \tag{1}$$

c t represent indices for country and time, respectively. The dependent variable is $Womenempowerment_{ct}$ captures the various women's empowerment metrics. We implement a

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distinct regression for each of the indicators of women's empowerment.

$$\begin{aligned} \textit{Women empowerment}_{ct} \in (&\textit{Women political empowerment index}_{ct}, \\ &\textit{Women civil liberties index}_{ct}, \\ &\textit{Women civil society participation index}_{ct}, \\ &\textit{Women political partcipation index}_{ct}) \end{aligned}$$

We define *Revolution* as a binary indicator, 1 for post-successful one-time revolution and zero otherwise. However, we define the treatment indicator by categorizing countries into two groups. The first comprises a comparison group, $treat = 0$, countries that have not reported any instances of violent or nonviolent revolutions or conflicts. The second consists of treatment group $treat = 1$, countries that have experienced 'only one' successful revolution. We distinguish two types within the treatment group based on the nature of the revolution, whether violent or nonviolent. Countries are listed into these groups at the beginning of the appendix[1].

In equation 1, the parameterα represents the average women empowerment index value when countries have not experienced any revolution, whileβ signifies the extent to which the average women empowerment index during the post-successful revolution compares to the average when countries have not experienced any revolution.

$$\begin{aligned} \alpha &= E[\textit{Women empowerment}_{ct} | \textit{Revolution}_{ct} = 0] \\ \beta &= E[\textit{Women empowerment}_{ct} | \textit{Revolution}_{ct} = 1] - \alpha \end{aligned}$$

Two-way fixed effects model

Equation 2 shows a regression model with a two-way fixed effects model.

$$\textit{Women empowerment}_{ct} = \delta \textit{Revolution}_{ct} + \mu_c + \nu_t + \varepsilon_{ct} \tag{2}$$

The termsμ_c ν_t denote the countries and periods, respectively. Country-fixed effects eliminate variations in the women's empowerment indicator correlated with factors persistently fixed at the country level throughout the sample period. These factors encompass unmeasured socio-economic, cultural, political, and demographic influences. On the other hand, year-fixed effects account for temporal variations that uniformly affect all countries for a specific year, such as common shocks like overall economic conditions or temporal changes in the business cycle, particular to a given year. The coefficient δshows the treatment effect of one successful revolution on the women's empowerment indicator.

Country-specific trends

The treatment effect given asδ in equation 2 could be due to the persistent trends in the women's empowerment indicator and might not be solely due to the treatment assignment definitions of$\textit{Revolution}_{ct}$ or revolution indicator.

$$\textit{Women empowerment}_{ct} = \theta\, \textit{Revolution}_{ct} + \gamma_c t + \mu_c + \nu_t + \varepsilon_{ct} \tag{3}$$

To address this, in equation 3, we introduce varying slopes or linear time trend fixed effect, represented as $\gamma_c t$, to flexibly control for heterogeneous effects across different countries, enabling us to incorporate women's empowerment trends for each country. The treatment effect θ shows the treatment effect of one successful revolution on the women's empowerment indicator after accounting for the country and year-fixed effect, along with linear time trend fixed effect. If the linear time trend fixed effect is not relevant, then $\delta \approx \theta$.

[1]Appendix is available online: https://papers.ssrn.com/sol3/papers.cfm?abstract_id = 5395191.

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Event study

We examine the dynamics of the treatment effects using the event study framework.

$$Women\ empowerment_{ct} = \sum_{l=-K}^{-2} \lambda_l Revolution_{gt}^{l} + \sum_{l=0}^{L} \tau_l Revolution_{gt}^{l} + \mu_c + \nu_t + \varepsilon_{it} \quad (4)$$

$Revolution_{gt}^{l}$ is a binary indicator equal to 1 if the observation's period relative to group$g$'s first treatment period matches$l$, and zero otherwise (and 0 for never-treated groups). The parameters of interest, λ_l τ_l, capture changes in women's empowerment. Negative l values refer to pre-revolution periods, and under the parallel trends assumption (treated and comparison units follow similar paths pre-treatment), λ estimates should be statistically zero. Values of$l$are zero or positive, referring to post-successful revolutions; the estimates of τ_l capture the effect of the successful revolutions at l periods after implementation.

Within this event study framework, we implement the novel estimator developed by Callaway and Sant'Anna (2021), which advances methodological precision in causal inference by explicitly accounting for treatment effect heterogeneity and dynamic impacts – key considerations that can confound standard two-way fixed effects specifications. Their identification strategy centres on the group-time average treatment effect, denoted as $ATT(g,t)$, which captures the treatment effect for group g at time t, where groups are characterized by their initial treatment timing. Formally, $ATT(g,t)$ measures the differential outcome between the pre-revolution baseline and current period for group g, incorporating a counterfactual adjustment derived from the outcome trajectory of a designated comparison group. Under the dual identifying assumptions of no anticipatory treatment behaviour and parallel trends in potential outcomes, $ATT(g,t)$ provides a consistent estimation of the causal impact of successful revolution for group g at time period t. This methodological approach enables robust causal interpretation while avoiding the well-documented pitfalls associated with conventional two-way fixed effects estimation in settings with staggered treatment adoption.

Results

Descriptive results

Figure 1 shows consistent improvements in all indexes over time. However, we find that the baseline values in 1950, when our data begins, are always lowest for countries with violent revolutions and highest for the comparison group, with countries experiencing non-violent revolutions somewhere in between. Figure 1 highlights the importance of controlling for year and country because significant heterogeneity exists on these margins within our data. This heterogeneity is not surprising because governments with the fewest civil and political rights are the most likely to evoke strong negative responses from their populations. In liberal democracies, all citizens have a voice, and this provides a release valve that often prevents dramatic regime change episodes from occurring.

Table 1 presents summary statistics for various indices related to women's rights and participation across three scenarios: countries that experienced one successful violent revolution, those that underwent one successful non-violent revolution, and a comparison group. The data span from 1950 to 2022 and include measures for women's civil liberties, civil society participation, political empowerment, and political participation.

The statistics reveal notable differences between the scenarios. Countries with successful non-violent revolutions generally show higher values across all indices than those with violent revolutions, particularly in median and mean scores. For instance, the median women's civil liberties index is 0.66 for non-violent revolution countries, compared to 0.44 for violent revolution countries. The comparison group, which likely represents countries without recent revolutions, tends to have the highest scores overall, suggesting that stability or the absence of revolutionary change might be associated with greater advances in women's rights and participation.

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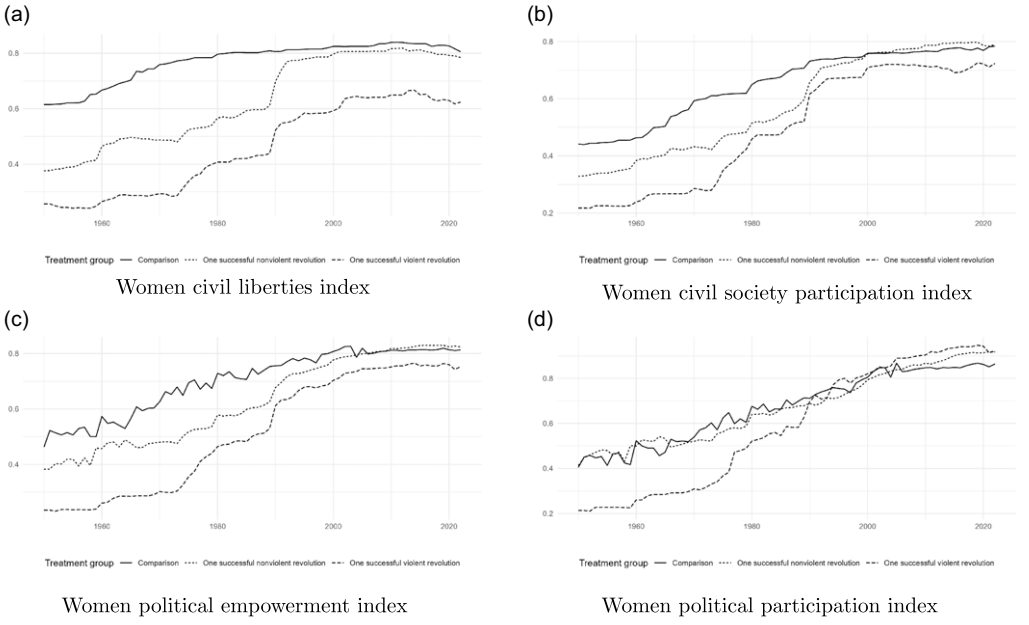


Figure 1. Average trend of various women's empowerment indicators.

Table 1. Summary statistics, pooled data (1950–2022)

Variables	Min	Q1	Mean	Median	Q3	Max	SD
One successful violent revolution							
Women civil liberties index	0.00	0.20	0.45	0.40	0.74	0.96	0.45
Women civil society participation index	0.04	0.24	0.49	0.56	0.71	0.92	0.49
Women political empowerment index	0.04	0.27	0.51	0.54	0.73	0.95	0.51
Women political participation index	0.06	0.27	0.59	0.59	0.92	1.00	0.59
One successful non-violent revolution							
Women civil liberties index	0.01	0.49	0.63	0.68	0.85	0.98	0.63
Women's civil society participation index	0.02	0.44	0.58	0.62	0.79	0.94	0.58
Women political empowerment index	0.05	0.49	0.63	0.65	0.80	0.96	0.63
Women political participation index	0.07	0.48	0.67	0.74	0.90	1.00	0.67
Comparison							
Women civil liberties index	0.06	0.69	0.77	0.84	0.93	0.98	0.77
Women civil society participation index	0.03	0.52	0.65	0.72	0.84	0.94	0.65
Women political empowerment index	0.04	0.58	0.70	0.76	0.87	0.96	0.70
Women political participation index	0.05	0.42	0.67	0.76	0.94	1.00	0.67

The systematic differences in baseline characteristics revealed by the summary statistics, particularly the stark disparities in distributional parameters across treatment categories, provide a compelling justification for our empirical strategy. The introduction of country-specific linear time trends ($\gamma_c t$) directly accommodates differential evolutionary paths in women's empowerment metrics, while the implementation of Callaway and Sant'Anna's (2021) $ATT(g,t)$ estimator addresses the complex

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Table 2. Impact of successful revolution on women political empowerment index

Dependent Variable:	Women political empowerment index					
Model:	(1)	(2)	(3)	(4)	(5)	(6)
Variables						
Violent	0.015	0.184***	0.114**			
	(0.049)	(0.054)	(0.051)			
Non-violent				0.152***	0.111***	0.093***
				(0.035)	(0.028)	(0.030)
Fixed-effects						
Country		Yes	Yes		Yes	Yes
Year		Yes	Yes		Yes	Yes
Varying Slopes						
Year (Country)			Yes			Yes
Fit statistics						
Observations	2,190	2,190	2,190	3,285	3,285	3,285
R^2	0.001	0.843	0.896	0.094	0.825	0.875
Within R^2		0.145	0.037		0.097	0.051

Clustered (Country) standard-errors in parentheses.
Signif. Codes: ***: 0.01, **: 0.05, *: 0.1.

treatment dynamics suggested by the data. This methodological approach is particularly crucial given the substantial pre-treatment differences between groups, illustrated by the systematically lower baseline values for both violent (mean = 0.45) and nonviolent (mean = 0.63) revolution countries compared to the comparison group (mean = 0.77) in civil liberties. The event study specification, coupled with the $ATT(g,t)$ estimator, provides the necessary flexibility to account for treatment effect heterogeneity while maintaining identification under weaker assumptions than conventional two-way fixed effects models, especially given the evident selection into treatment status implied by the systematic differences in pre-treatment characteristics.

Regression analysis

First, we analyse the impact of one-time successful violent and non-violent revolutions on women's political empowerment. The structure of Table 2, featuring six models, is consistent across Tables 2, 3, 4, and 5. Columns (1) and (4) use pooled regressions. Columns (2) and (5) employ two-way fixed effects or generalized difference-in-differences models, incorporating country-fixed effects to address socio-economic, cultural, political, and demographic influences specific to each country and year-fixed effects for uniform heterogeneity within each year. Columns (3) and (6), in addition to country and year-fixed effects, include varying slopes by year and country to capture trends unique to each country due to unobservable heterogeneities.

In Table 2, Columns (1) and (2) show that countries after experiencing violent revolutions have no statistically significant changes in the women's political empowerment index. In the fixed effects model in Column (2), an insignificant increase of 0.015 is shown. However, this positive effect (0.114) becomes significant when country-specific trends are introduced in Column (3). When we use controls in the appendix, we find similar results.

Columns (4)–(6) indicate that countries after non-violent revolutions typically increase the women's political empowerment index by approximately 0.093 to 0.152 units. This effect holds in our

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Table 3. Impact of successful revolution on women civil liberties index

Dependent Variable:	Women civil liberties index					
Model:	(1)	(2)	(3)	(4)	(5)	(6)
Variables						
Violent	−0.117	0.151**	0.024			
	(0.081)	(0.071)	(0.072)			
Non-violent				0.129**	0.181***	0.134***
				(0.049)	(0.049)	(0.046)
Fixed-effects						
Country		Yes	Yes		Yes	Yes
Year		Yes	Yes		Yes	Yes
Varying Slopes						
Year (Country)			Yes			Yes
Fit statistics						
Observations	2,190	2,190	2,190	3,285	3,285	3,285
R^2	0.031	0.875	0.944	0.050	0.799	0.906
Within R^2		0.097	0.002		0.155	0.098

Clustered (Country) standard-errors in parentheses.
Signif. Codes: ***: 0.01, **: 0.05, *: 0.1.

Table 4. Impact of successful revolution on women's civil society participation index

Dependent Variable:	Women civil society participation index					
Model:	(1)	(2)	(3)	(4)	(5)	(6)
Violent	0.041	0.169***	0.159***			
	(0.050)	(0.056)	(0.047)			
Non-violent				0.181***	0.134***	0.124***
				(0.036)	(0.032)	(0.036)
Fixed-effects						
Country		Yes	Yes		Yes	Yes
Year		Yes	Yes		Yes	Yes
Varying Slopes						
Year (Country)			Yes			Yes
Fit statistics						
Observations	2,190	2,190	2,190	3,285	3,285	3,285
R^2	0.005	0.860	0.943	0.110	0.865	0.920
Within R^2		0.137	0.119		0.143	0.109

Clustered (Country) standard-errors in parentheses.
Signif. Codes: ***: 0.01, **: 0.05, *: 0.1.

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Table 5. Impact of successful revolution on women political participation index

Dependent Variable:	Women political participation index					
Model:	(1)	(2)	(3)	(4)	(5)	(6)
Variables						
Violent	0.139**	0.250***	0.179***			
	(0.056)	(0.054)	(0.065)			
Non-violent				0.174***	0.020	0.017
				(0.041)	(0.044)	(0.041)
Fixed-effects						
Country		Yes	Yes		Yes	Yes
Year		Yes	Yes		Yes	Yes
Varying Slopes						
Year (Country)			Yes			Yes
Fit statistics						
Observations	2,190	2,190	2,190	3,285	3,285	3,285
R^2	0.039	0.830	0.874	0.080	0.762	0.857
Within R^2		0.163	0.051		0.002	0.001

Clustered (Country) standard-errors in parentheses.
Signif. Codes: ***: 0.01, **: 0.05, *: 0.1.

most advanced model, showing a 0.093 increase in female political empowerment after a successful non-violent revolution. We find similar results in the appendix when controlling for education, GDP per capita, and life expectancy.

Table 3. Coefficients outlined in Columns (1) and (3) show no statistically significant on civil liberties for countries after experiencing violent revolutions, with coefficients in Column (2) being the only exception for violent revolutions. The pooled regression in Column (1) shows a non-significant negative effect of -0.117, while the fixed effects model in Column (2) shows a significant positive effect of 0.151. However, this effect becomes non-significant when country-specific trends are introduced in Column (3). We find similar patterns when we use controls.

According to estimates outlined in Columns (4)–(6) indicate that countries after non-violent revolutions consistently show a statistically significant increase in the women's civil liberties index, ranging from 0.129 to 0.181 units. Similar patterns are shown when we use controls in the appendix.

Columns (1)–(3) in Table 4 explore the relationship between experiencing a violent revolution and the women's civil society participation index. Column (1) shows that countries experiencing violent revolution had an average of 0.041 unit change on the women's civil society participation index. Still, the effect was not statistically significant, with a positive effect becoming statistically significant in the fixed effects model in Column (2). In Column (3), there is a statistically significant increase of 0.159.

For non-violent revolutions, Columns (4)–(6) indicate a consistent and statistically significant positive effect, ranging from 0.124 to 0.181 units. This is roughly one-fifth of a standard deviation increase for our generalized difference-in-differences models. The effects of violent and non-violent revolutions on civil society participation are similar when controlling for education, GDP per capita, and life expectancy.

In Table 5, Columns (1)–(3) show positive results for countries after experiencing violent revolutions. The pooled regression in Column (1) shows a significant positive effect (0.139), while the fixed effects model in Column (2) shows a significant positive effect of 0.250. This effect remains when country-specific trends are introduced in Column (3) with an effect of 0.179. Column (4) indicates a

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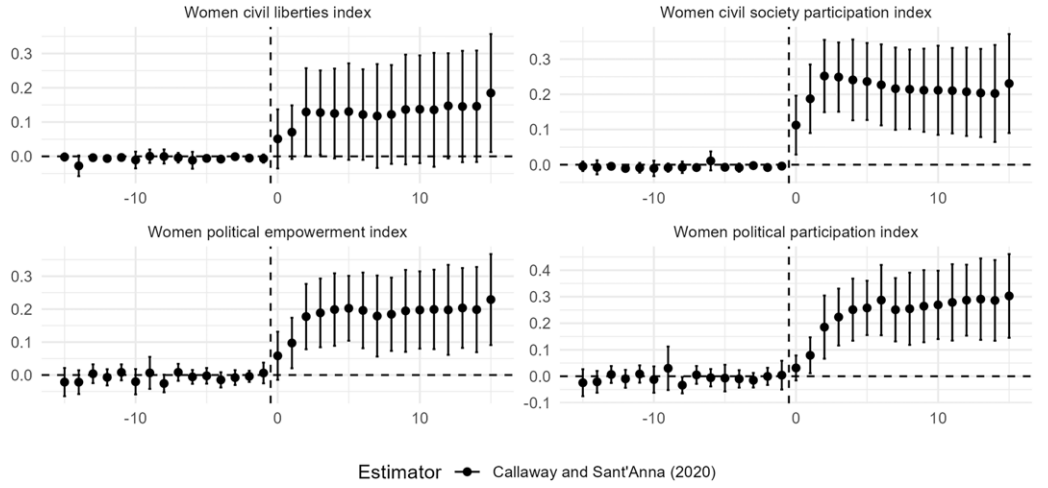


Figure 2. Event study: impact of one successful violent revolution on women's empowerment.

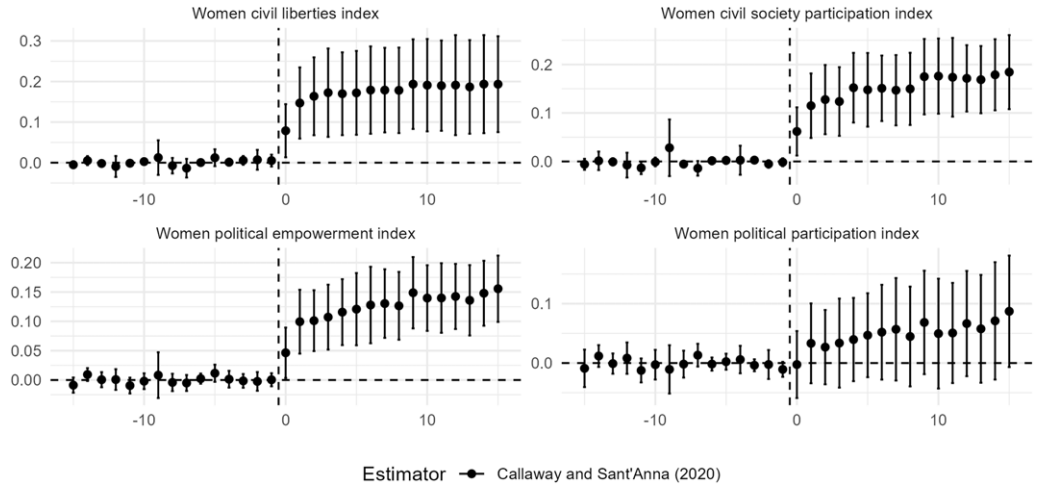


Figure 3. Event study: impact of one successful non-violent revolution on women's empowerment.

statistically significant positive effect of 0.174 in the pooled regression for non-violent revolutions. However, this effect disappears in the fixed effects models (Columns 5 and 6), with coefficients close to zero and not statistically significant. We find similar effects of violent and non-violent revolutions when controlling for education, GDP per capita, and life expectancy.

Event studies

Figures 2 and 3 show the event study results for both violent and non-violent revolutions, respectively. Post-treatment, we report an immediate increase in all four variables for both types of revolutions. However, this increase is larger and more sustained for violent revolutions. Furthermore, the confidence intervals are usually above 0 for both types of revolutions, with the exception of the women's civil liberties index for violent revolutions and the women's political participation index for non-violent revolutions.

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Robustness

Does regime change intention matter?

We analyse the impact of successful violent revolutions on various women's empowerment indices, distinguishing between revolutions with regime change intentions and those without. The revolutions dataset we use as our main source (Chenoweth and Shay, 2020) compiles extensive examples of both violent and non-violent resistance movements that aimed to achieve various goals: driving out foreign occupying forces, overthrowing existing governments (such as dictatorships or military regimes), pursuing independence or territorial separation, and pursuing other significant societal transformations (such as movements against apartheid). In our subsequent analysis, we contrast movements that sought to overthrow governments with those that had different objectives. Table 6 presents the results across eight models, with Columns (1)–(4) focusing on revolutions with regime change intentions and Columns (5)–(8) on those without. All models employ two-way fixed effects (country and year) and include varying slopes to capture trends unique to each country due to unobservable heterogeneities.

For violent revolutions with regime change intentions, we observe insignificant positive effects on women's civil society participation index (0.114) and women's political participation index (-0.021). The effects on women's political empowerment index (0.220) and women's civil liberties index (0.149) are statistically significant. Violent revolutions without regime change intentions show no statistically significant effects across any women's empowerment indices.

We analyse the impact of successful non-violent revolutions on various women's empowerment indices, distinguishing between revolutions with regime change intentions and those without. Table 7 presents the results across eight models, with Columns (1)-(4) focusing on revolutions with regime change intentions and Columns (5)–(8) on those without. All models employ two-way fixed effects (country and year) and include varying slopes by year and country to capture trends unique to each country due to unobservable heterogeneities.

For non-violent revolutions with regime change intentions, we observe significant positive effects on women's political empowerment index (0.104, $p < 0.01$), women's civil liberties index (0.133, $p < 0.05$), and women's civil society participation index (0.131, $p < 0.01$). The effect on women's political participation index is positive but not statistically significant. In contrast, nonviolent revolutions without regime change intentions show no statistically significant positive impact across most women's empowerment indices. Notably, there is a significant negative effect on the women's political participation index (-0.109, $p < 0.01$) for revolutions without regime change intentions.

Discussion

Our empirical findings offer a rich landscape for evaluating the explanatory power of the theoretical frameworks outlined in Section "Theory". The divergent outcomes following violent versus non-violent revolutions, particularly concerning the intention of regime change, allow for a nuanced assessment of the mechanisms proposed by each theory, viewed through the lens of economic reasoning applied to collective action and institutional change.

Critical mass theory

From an economic perspective, critical mass theory posits that collective action faces a start-up cost or threshold. Initial participation is costly for individuals, but once a critical mass of actors invests in participation, the perceived cost for subsequent individuals may decrease, or the perceived probability of success (and thus expected benefit) may increase, leading to a cascade of further action. Our empirical findings reveal that both non-violent and violent revolutions can successfully surpass this critical mass threshold, though through distinct mechanisms producing differential empowerment outcomes. Non-violent revolutions, characterized by lower individual participation costs and broader

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Table 6. Impact of successful violent revolution's intentions on women's empowerment

	Regime change intention				No regime change intention			
Dependent Variables:	Women political empowerment index	Women civil liberties index	Women civil society participation index	Women political participation index	Women political empowerment index	Women civil liberties index	Women civil society participation index	Women political participation index
Model:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Variables								
Violent	0.114	-0.021	0.220***	0.149*	0.058	0.047	0.072	0.053
	(0.069)	(0.087)	(0.067)	(0.085)	(0.083)	(0.085)	(0.072)	(0.116)
Fixed-effects								
Country	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Varying Slopes								
Year (Country)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fit statistics								
Observations	2,615	2,615	2,615	2,615	2,981	2,981	2,981	2,981
R^2	0.963	0.955	0.949	0.936	0.943	0.938	0.930	0.916
Within R^2	0.050	0.001	0.107	0.035	0.013	0.006	0.014	0.005

Clustered (Country & Year) standard-errors in parentheses.
Signif. Codes: ***: 0.01, **: 0.05, *: 0.1.

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Table 7. Impact of successful non-violent revolution's intentions on women's empowerment

	Regime change intention				No regime change intention			
Dependent Variables:	Women political empowerment index	Women civil liberties index	Women civil society participation index	Women political participation index	Women political empowerment index	Women civil liberties index	Women civil society participation index	Women political participation index
Model:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Non-violent	0.104***	0.133**	0.131***	0.043	0.008	0.048	0.066	−0.109***
	(0.032)	(0.050)	(0.039)	(0.043)	(0.040)	(0.078)	(0.043)	(0.037)
Fixed-effects								
Country	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Varying Slopes								
Year (Country)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fit statistics								
Observations	2,993	2,993	2,993	2,993	1,898	1,898	1,898	1,898
R^2	0.873	0.902	0.921	0.858	0.887	0.960	0.960	0.870
Within R^2	0.058	0.091	0.115	0.006	0.000	0.013	0.028	0.016

Clustered (Country) standard-errors in parentheses.
Signif. Codes: ***: 0.01, **: 0.05, *: 0.1.

accessibility, demonstrate consistent positive effects on civil liberties and civil society participation, suggesting successful mobilization cascades in these domains. However, violent revolutions also achieve critical mass mobilization, evidenced by significant positive effects on political participation (0.139–0.250) and, when pursuing regime change, substantial impacts on political empowerment (0.220) and civil liberties (0.149). Event study analyses further indicate that violent revolutions generate immediate increases across all indices that are notably larger and more sustained than non-violent counterparts. These patterns suggest violent revolutions overcome higher participation costs through alternative mechanisms – potentially involving stronger selective incentives or heightened urgency perceptions that intensify expected benefits. The differential impact patterns indicate domain-specific mobilization dynamics: while non-violent movements excel at broad civil society engagement, violent revolutions demonstrate particular effectiveness in political participation, possibly reflecting more decisive institutional ruptures. The amplifying effect of regime change intentions across both revolutionary types confirms that larger potential payoffs increase mobilization incentives, though critical mass dynamics operate distinctly across empowerment dimensions.

Resource mobilization theory

RMT views social movements as rational enterprises that require the strategic acquisition and deployment of various resources (human, material, social, moral) as inputs into a production function for social change. Movement success depends on the efficient management of these resources by organizers. Our findings strongly support this perspective, particularly regarding the differential efficiency of non-violent versus violent methods in mobilizing relevant resources for women's empowerment. Non-violent revolutions appear significantly more effective at accumulating crucial, often intangible, resources like broad public support (human capital), legitimacy (moral capital), and dense organizational networks (social-organizational capital). These resources are key inputs for producing outcomes like enhanced civil liberties and civil society participation. The mechanism involves rational actors (organizers and participants) investing time and effort to build these resources because they yield high returns in the context of non-violent strategies. Violent revolutions, conversely, prioritize different resource inputs (e.g., weaponry, specialized combat skills), which, while necessary for their chosen strategy, appear to be less productive inputs for generating broad-based improvements in women's empowerment indices. The enhanced effects associated with regime change intentions suggest that movements aiming for larger-scale transformation are capable of, and perhaps incentivized to mobilize, a greater quantity and broader array of resources necessary for impacting multiple dimensions of empowerment.

Network externalities and social capital theories

These theories emphasize that social networks are valuable assets (social capital) embodying trust, norms, and information flows, which reduce the transaction costs of collective action. Participation in networks can generate positive externalities: the value of the network to each individual increases as more individuals connect. Non-violent revolutions, inherently reliant on broad public interaction and coordination, act as powerful engines for social capital formation. The process of organizing and participating in protests, boycotts, and meetings builds dense networks and fosters shared norms and trust among participants, particularly women. This mechanism directly explains the robust positive impact of non-violent revolutions on women's civil society participation, as this index partly measures the density and activity of such networks. The accumulated social capital represents a durable asset that facilitates ongoing collective action and advocacy post-revolution. Violent revolutions, often relying on clandestine cells and potentially fostering distrust, appear less effective at generating this widespread, positive-externality-driven social capital. The less consistent results for formal political participation might indicate that the specific type of social capital built through mass protest (bonding capital within the movement) may not be perfectly substitutable for the bridging capital or different

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network ties required to effectively navigate the transaction costs and power structures of formal politics. Regime change movements likely foster the creation of more encompassing and strategically focused networks, generating social capital geared towards broader institutional influence.

Capabilities approach

Our findings align substantially with core propositions from the capability approach framework regarding the multidimensional nature of empowerment and the distinction between formal rights and substantive freedoms. The consistently positive relationships between non-violent revolutions and women's empowerment indices support capability theory's emphasis on deliberative democratic processes that expand both formal entitlements and practical opportunities. Particularly notable is how non-violent movements with regime change intentions demonstrate stronger effects on civil liberties and civil society participation than on formal political representation – a pattern that reflects capability theory's distinction between institutional arrangements and actual achievement of valued functionings. The negligible or inconsistent impacts of violent revolutions suggest limitations in their capacity to address what capability theorists identify as conversion factors that mediate between formal rights and substantive freedoms. Furthermore, the event study results revealing sustained positive effects from non-violent revolutions align with capability theory's understanding of empowerment as an ongoing process requiring continuous social dialogue rather than a discrete institutional outcome. These patterns collectively indicate that non-violent revolutionary methods may better facilitate the intersubjective deliberation and collective agency formation that capability theorists identify as essential for transforming institutional arrangements into meaningful expansions of substantive freedom.

State feminism theory

Our empirical findings offer nuanced support for state feminism theory's core propositions regarding institutional configurations for gender equality. The directionally positive coefficients for non-violent revolutions with regime change intentions across multiple women's empowerment indices align with theoretical expectations regarding women's policy agencies' effectiveness when embedded within democratizing institutional transformations. The pronounced effects on civil society participation metrics particularly corroborate state feminist predictions about the critical importance of preserving autonomous feminist mobilization capacity concurrent with institutional integration. Conversely, the negligible coefficients for violent revolutions when controlling for country-specific trends suggest limitations in establishing effective state-movement linkages through militarized revolutionary pathways. Furthermore, the event-study results demonstrating sustained positive effects from non-violent regime-change revolutions confirm state feminism's theoretical proposition that democratic institutional configurations create more durable channels for feminist policy influence than authoritarian or semi-authoritarian alternatives. One notable theoretical divergence emerges in our weaker findings for formal political participation metrics compared to civil liberties and civil society engagement, suggesting potential tensions between bureaucratic institutionalization of feminist objectives and grassroots political mobilization – a phenomenon previously identified in analyses of co-optation risks within state feminist arrangements.

Incrementalism in political reforms

Incrementalism suggests that institutional change is typically gradual, involving marginal adjustments to the status quo, because rational actors seek to minimize the costs and uncertainties associated with radical shifts, especially given imperfect information and potential conflicts. While this perspective offers a valuable appreciation for institutional stability and path dependence, it struggles to fully account for the magnitude and relative speed of the changes observed following successful non-violent

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revolutions aimed at regime change. Our findings, particularly the significant positive coefficients and the event study results showing notable shifts in civil liberties and civil society participation, suggest that these revolutions can function as critical junctures that disrupt incremental pathways. The mechanisms of mass mobilization and regime collapse appear capable of altering the cost-benefit calculus for actors, making previously radical changes seem feasible or even necessary, thus overcoming the usual constraints favouring incremental adjustments. While incremental processes undoubtedly shape the long-term consolidation (or erosion) of revolutionary gains, the theory seems less suited to explaining the initial, non-incremental shifts in empowerment observed in our most impactful scenarios. It appreciates the costs of change but perhaps underestimates the capacity of successful non-violent mass action to overcome those costs in specific circumstances.

Institutional isomorphism

Institutional isomorphism posits that organizations, including new states, adopt prevailing norms and structures from their environment primarily to gain legitimacy, a crucial resource for survival and accessing other resources. Rational state actors may mimic globally recognized gender equality norms (e.g., formal rights, policies) as a low-cost signal of modernity and conformity to international standards, thereby enhancing their legitimacy. This mechanism could contribute to explaining some of the observed improvements in formal indicators, such as aspects of the civil liberties index, particularly following non-violent revolutions where the new regime seeks international integration. However, the theory's emphasis on convergence through mimicry for legitimacy seems insufficient to explain the strong divergence in outcomes between non-violent and violent revolutions, or the significant effects on civil society participation, which appear driven more by internal mobilization dynamics than external signalling. Furthermore, isomorphism primarily predicts the adoption of formal structures, potentially as window dressing, which may not translate into the substantive empowerment gains reflected in our results, especially those related to active participation. While acknowledging the rational pursuit of legitimacy, our findings suggest that the internal dynamics of resource mobilization and network building within non-violent movements are more powerful explanatory mechanisms for the observed empowerment gains than simply isomorphic pressures.

Public Choice and Gendered Innovations theories

Public Choice theory applies economic assumptions of self-interest to political actors, suggesting policy outcomes result from strategic bargaining among voters, politicians, and bureaucrats seeking to maximize their own utility (e.g., re-election prospects, budget size). Gendered Innovations suggests that incorporating gender analysis can lead to more effective policy design, but its adoption depends on whether key actors perceive it to be in their interest. While these perspectives offer a realistic lens on the political processes that shape policy implementation and potential limitations, they receive the least direct support from our core findings as primary drivers of the observed empowerment shifts. The broad and consistent positive effects across multiple indices following non-violent regime-change revolutions seem less attributable to specific, calculated policy bargains or the deliberate application of innovative gender-sensitive design by self-interested elites. Instead, the results point towards broader, more fundamental shifts in power dynamics, social capital, and societal norms driven by the collective action process itself. While Public Choice principles undoubtedly influence the consolidation or erosion of gains during the post-revolutionary political settlement, and the lack of a Gendered Innovations effect might reflect its non-application rather than its invalidity, these theories appear less central to explaining the initial empowerment generated by the successful revolutionary movements themselves compared to theories focusing on mobilization, networks, and critical mass dynamics.

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Conclusion

This study investigated the impact of successful violent versus non-violent revolutions on women's empowerment, utilizing data from the Nonviolent and Violent Campaigns and Outcomes dataset and the V-Dem project. Employing fixed-effect difference-in-differences and the Callaway Sant'Anna estimator, our analysis provides robust empirical evidence on this understudied relationship.

Our central finding is that the method and intention of revolutionary movements significantly shape their impact on women's post-revolutionary standing, with both violent and non-violent pathways demonstrating efficacy across different empowerment dimensions. Non-violent revolutions, particularly those explicitly aiming for regime change, consistently demonstrate positive and statistically significant associations with civil liberties and civil society participation. However, violent revolutions also exhibit substantial positive effects, particularly excelling in political participation and, when pursuing regime change, generating significant improvements in political empowerment and civil liberties. Event study analyses reveal that violent revolutions produce immediate increases across all indices that are notably larger and more sustained than their non-violent counterparts. These differential patterns suggest domain-specific revolutionary advantages: while non-violent movements effectively mobilize broad civil society engagement, violent revolutions demonstrate particular strength in formal political participation, possibly reflecting more decisive institutional ruptures. Both pathways benefit significantly from explicit regime change intentions, indicating that transformative political goals amplify empowerment outcomes regardless of tactical approach.

These empirical results lend stronger support to theoretical frameworks emphasizing mobilization dynamics, resource accumulation, and network effects (such as RMT, network externalities/social capital theory, critical mass theory, capabilities theory, and state feminist frameworks) than to those focusing solely on incremental adjustments or legitimacy signalling (like incrementalism, Institutional isomorphism, and Public Choice/Gendered Innovations), as elaborated in Section "Discussion".

The findings carry significant policy implications. International and domestic efforts aimed at promoting gender equality in transitional contexts might yield greater impact by focusing on movements with clear objectives of systemic political transformation, given their stronger positive association with women's empowerment. Second, post-revolutionary institution-building should prioritize the establishment and protection of civil liberties and the fostering of an inclusive civil society, areas where revolutions show particular strength in benefiting women. Finally, the sustained nature of the positive effects observed in our event studies underscores the need for long-term engagement and commitment from policymakers and civil society actors to consolidate these gains through enduring institutional reforms.

While this study offers valuable insights, future research could explore the specific transmission channels linking revolutionary tactics to gender outcomes, delve deeper into the persistent barriers hindering women's formal political participation post-revolution, examine the impact of failed revolutions, and conduct more intersectional analyses. Nonetheless, this research contributes to institutional economics and policy debates by demonstrating empirically that the pathway to revolution matters profoundly for women's empowerment, highlighting the comparative advantage of non-violent strategies, especially when coupled with transformative political goals.

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