The Global Health Toll of the Global Gag Rule

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4 June, 2025
BSE Summer Forum

Sonia Bhalotra acknowledges financial support for this research from European Research Council Advanced Grant Evidence-VAW 885698.

Introduction

Trump signs order to reinstate 'global gag rule' on abortion aid

Federal rule also known as 'Mexico City policy' halts US funds to overseas groups that provide abortion services

Carter Sherman

Sat 25 Jan 2025 01.44 GMT

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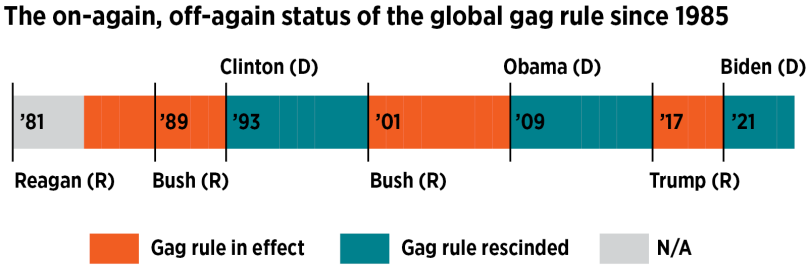
Source: The Guardian

The History of the Global Gag Rule (GGR)



- Introduced by Reagan in 1984 as a Presidential policy (Mexico City policy)
- It is a pro-life policy. Any overseas NGO providing services or information pertinent to abortion is "punished" by having all US aid to it removed
- It has been switched off by every Democrat, and switched on by every Republican - causing electoral swings in U.S. aid for reproductive health
- Trump reinstated and expanded the scope of the policy in Jan. 2017, and again in 2025

GGR Disrupts Global Reproductive Healthcare

- GGR-related cuts in US aid have had a significant impact on health service resources in developing countries (Iverson, 2017) while several case studies establish that the GGR has led to staff retrenchment, clinic downsizing or closure, and contraceptive shortages (USAID, 2001)
- GGR has failed in its stated purpose because closure of clinics providing abortion services has resulted in reduced access to contraception, an increase in (often unwanted) pregnancies and thus an increase in the demand for abortion (van der Meulen Rodgers, 2018; Brooks et al., 2019; Jones, 2015; Miller and Valente, 2016)
- Unsafe abortion is estimated to account for between 4.7% and 13.2% of maternal deaths (Mavodza et al., 2019; Ceschia and Horton, 2016)

→ What are the impacts of the GGR on maternal mortality?

This Paper

- We investigate the effects of GGR on reproductive health in aid-receiving countries, with a focus on maternal mortality
  - We look at the policy switches occurring with **Obama-Trump** (2009-2020) and **Clinton-Bush** (1993-2008)
- We exploit both cross-country and within-country variations of exposure to GGR, in a triple-difference framework
- Our findings suggest that GGR is associated with higher maternal mortality, with larger effects under Trump
  - We show evidence that the effects are likely driven by disruptions in contraceptive access and an increase in unsafe abortions

Literature & Contribution

- Previous work on impacts of the GGR on global health outcomes
  - case studies or correlational evidence (van der Meulen Rodgers, 2018; Iversen, 2017)
  - identified under the assumption that impacts of the change of Presidential regime are not confounded by country-year shocks (Brooks, Bendavid, and Miller, 2019; van der Meulen Rodgers, 2018; Bendavid, Avila, and Miller, 2011; Bhalotra, Clarke, Mühlrad, et al., 2021)

  $\rightarrow$ We leverage fine-grained within-country variation conditional on country-year fixed effects to address this

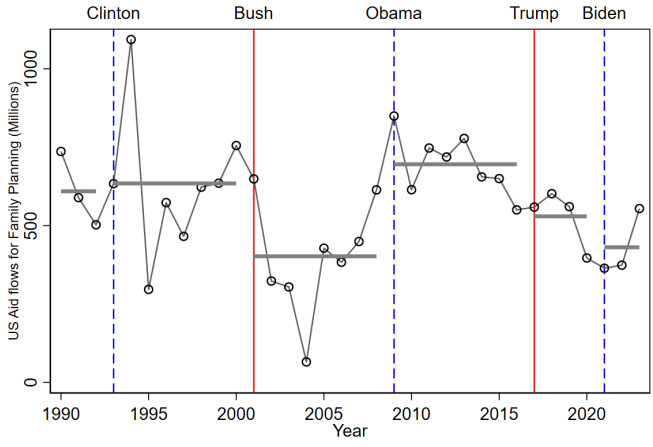
- There is a broader literature on abortion and maternal mortality, that is not focused on the GGR policy (Jayachandran and Lleras-Muney, 2009; Bhalotra, Clarke, Gomes, et al., 2022; Farin, Hoehn-Velasco, and Pesko, 2024; Londoño-Vélez and Saravia, 2025)

Background: US Aid for Reproductive Health

- The USA contributes the largest share of foreign aid for reproductive health of any country, but their contribution is nevertheless a small fraction of US national income
- Disproportionate global influence (Guttmacher Institute, 2024)
  - The U.S. is the biggest funder of international family planning, accounting for around **40%** of total bilateral disbursements in 2023
  - This funding, when uninterrupted, serves **47.6 million** women with modern contraceptive care
- Foreign aid in domestic budgetary (OECD, 2024)
  - In 2023, the U.S. spends **0.23%** of its Gross National Income (GNI) on development aid, among which less than **1%** is earmarked as family planning
  - This is far below what the majority of OECD countries spend (and far below the **0.7%** UN target)

US Reproductive Health Aid Fluctuates with GGR - “First Stage”

Figure: GGR and US Family Planning Aid



Data Source: Development Assistance for Health Database (DAH)

Data Sources

- **Demographic and Health Survey (DHS)**
  - GPS module for geolocation
  - Clinic availability: proxied by contraceptive access detail
  - Sibling module for maternal mortality at the sub-national level (Richterman et al., 2023)
  - Monthly calendar data on conceptions and pregnancy terminations
- Institute for Health Metrics and Evaluation's **Development Assistance for Health Database (DAH)**
  - Reproductive and maternal health aid by year, donor, and recipient country

→ final sample of 22 countries covering women giving births 1993-2020 summary statistics

Methods – Measuring Exposure

- We create 50km×50km grids for DHS sample countries, denoted grids j within countries c. Individuals surveyed within grid j denoted N_{jc}
  - Define clinic coverage as the proportion of individuals reporting access to clinics:

$$Clinic_{jct} \equiv \frac{\sum_{i}^{N_{jct}} \mathbb{1}\{i \text{ Reports Contraceptives from Clinic}\}}{N_{jct}}$$

example: Nigeria

- We define a country-level exposure to GGR based on *observed US aid declines* for reproductive health between presidential transitions ΔAid_{ct}
- For simplicity, consider discretised values of each of the above measures:
  - High exposure country: $High_{c}^{Country} = \mathbb{1}\{\Delta Aid_{c,t_0} \geq \overline{\Delta Aid}_{c,t_0}\}$
  - High exposure grid: $High_{jc}^{Grid} = \mathbb{1}\{Clinic_{jc,t_0} \geq \overline{Clinic}_{jc,t_0}\}$

A Triple-Differences (DDD) Strategy

Now, consider a DDD specification by time and high-exposure countries and grids:

$$\begin{aligned} Y_{jct} &= \tau(GGR_t \times High^{Country} \times High^{Grid}) \\ &\quad +\beta_1(High^{Country} \times GGR_t) + \beta_2(High^{Grid} \times GGR_t) \\ &\quad +\beta_3(High^{Country} \times High^{Grid}) + \mu_{ct} + \lambda_j + \varepsilon_{jct} \end{aligned} \tag{1}$$

- GGR_t captures periods in which the GGR is switched on (Trump or Bush)
- μ_{ct} and λ_j are country-year and grid fixed effects respectively
- τ is the effect of interest: How do outcomes vary when a Democratic regime switches to a Republican regime in *grids* with high exposure to the GGR (more clinics at baseline) in *countries* with high exposure to the GGR (higher observed US aid decline), compared to grids with high exposure in countries with low exposure?
- Standard errors clustered at the grid level

Identification Assumptions

- We do *not* require that areas with high and low clinic coverage within a country would have counterfactual parallel trends

  $\rightarrow$ This allows for *catch-up* in clinic availability

- We also do *not* require that countries which are highly exposed to the GGR would have counterfactual parallel trends to less exposed countries

  $\rightarrow$ This allows for country-year level confounders

- Rather, we require that any differential trends between high and low-clinic areas in the post-GGR period in countries less affected by the GGR are informative for the trends we would have observed in highly affected countries in the absence of GGR

First Stage: GGR and Clinic Availability

We indeed see both evidence of "catch-up" and reduced clinic access post-GGR:

	(1)	(2)	(3)	(4)
Estimation Sample	Stacked	Clinton-Bush	Obama-Trump	Interaction
$High^{Country}$				
GGR × $High^{Country}$				
$High^{Grid}$				
GGR × $High^{Grid}$	-0.311***	-0.176***	-0.392***	-0.176***
	(0.027)	(0.029)	(0.039)	(0.029)
$High^{Country}$ × $High^{Grid}$				
GGR × $High^{Country}$ × $High^{Grid}$	-0.220***	-0.103**	-0.418***	-0.103**
	(0.041)	(0.046)	(0.059)	(0.046)
GGR × $High^{Country}$ × $High^{Grid}$ × Trump				-0.316***
				(0.075)
Country-Year FE	Yes	Yes	Yes	Yes
Grid FE	Yes	Yes	Yes	Yes
F-Stat	227.7	48.6	215.2	132.1
R^2	0.68	0.73	0.67	0.70
Mean Dep. Var.	-0.118	-0.197	-0.081	-0.118
SD Dep. Var.	0.374	0.381	0.365	0.374
Observations	4,469	1,795	2,674	4,469
Num. of Clusters	1,696	833	1,248	1,696

Notes: Standard errors in parenthesis are clustered at the grid level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Event-Study with Triple-Differences

For MMR, we observe extended timespan (cohorts) and can test for pre-trends and investigate dynamic effects:

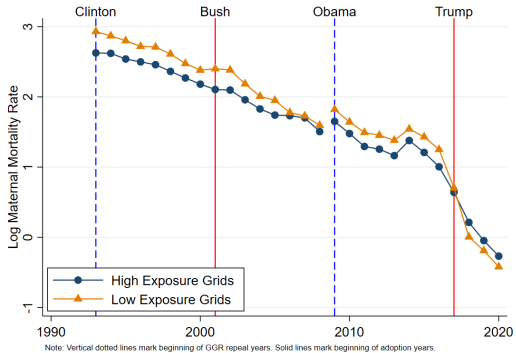
$$Y_{jct} = \sum_{k=-K}^{L} \tau_k \left(High^{Country} \times High^{Grid} \times \mathbf{I}(T_{ct} = k) \right) + \mu_{ct} + \lambda_j + \varepsilon_{jct} \tag{2}$$

- $T_{ct} = t - \text{Year}_c^{GGR}$ is the event-time, where Year_c^{GGR} is the presidential regime transition year (2001 for Bush and 2017 for Trump) and t is the year of giving birth
- $\mathbf{I}(T_{ct} = k)$ equals 1 if observation is k periods from treatment ($k = -1$ as reference)
- τ_k estimates dynamic effects k periods from treatment
- We adopt the Poisson pseudo maximum likelihood estimator as MMR is skewed towards zero (Hollingsworth et al., 2024; Farin, Hoehn-Velasco, and Pesko, 2024)

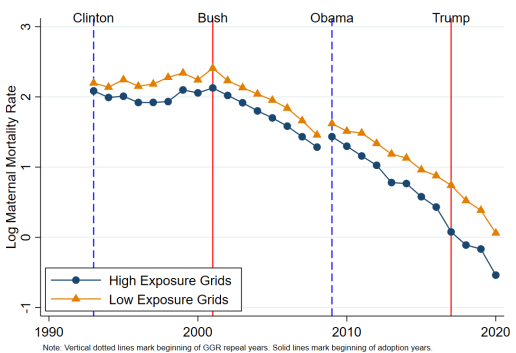
Descriptives: MMR Trends by GGR Exposure

Rates per 1,000 reproductive-aged women

Figure: GGR and Log MMR



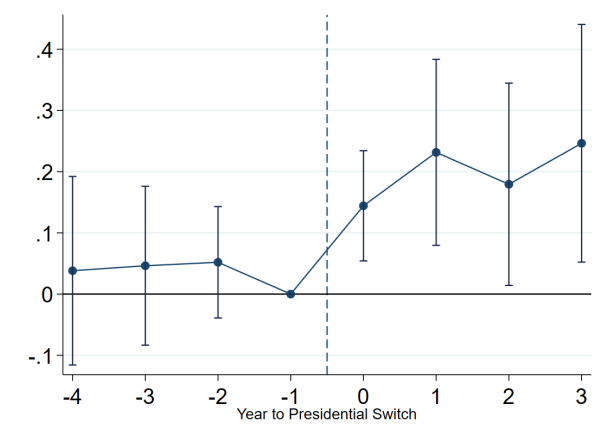
(a) High Exposure Countries



(b) Low Exposure Countries

GGR and MMR

Maternal Mortality per 1,000 reproductive-age women



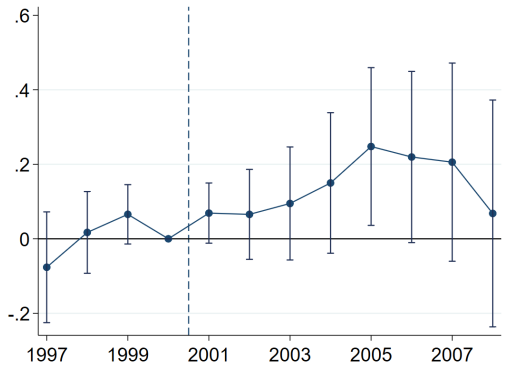
Pooled Sample

balanced panel | cont. aid decline | cont. clinic access | alter. clinic measure

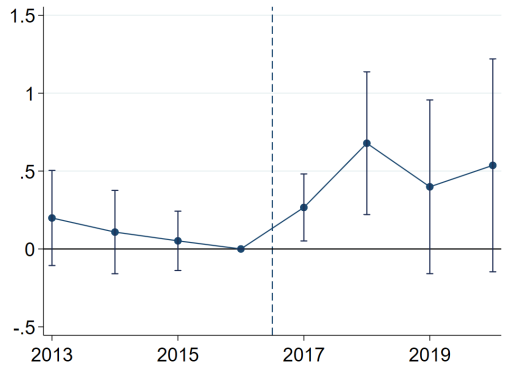
GGR and MMR: By Presidential Transition

Maternal Mortality per 1,000 reproductive-age women

Figure: GGR and MMR



(a) Clinton-Bush

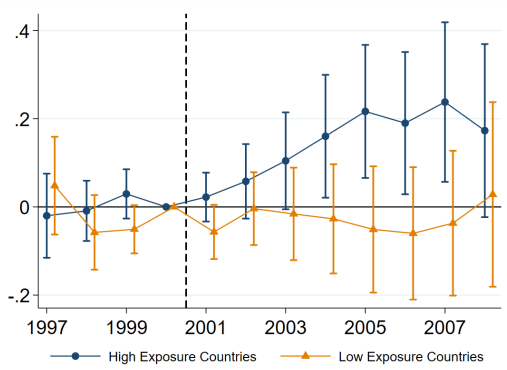


(b) Obama-Trump

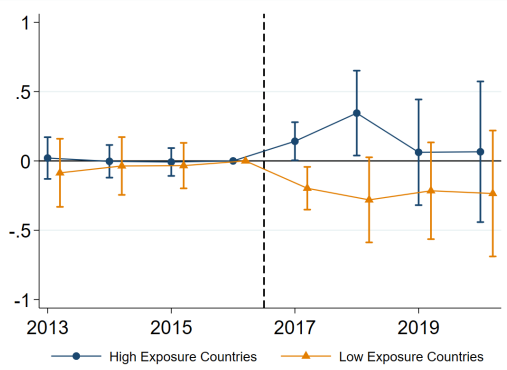
GGR and MMR

Double Differences by Country-Level Exposure

Figure: GGR and MMR



(a) Clinton-Bush



(b) Obama-Trump

GGR and MMR

Magnitude of Effects

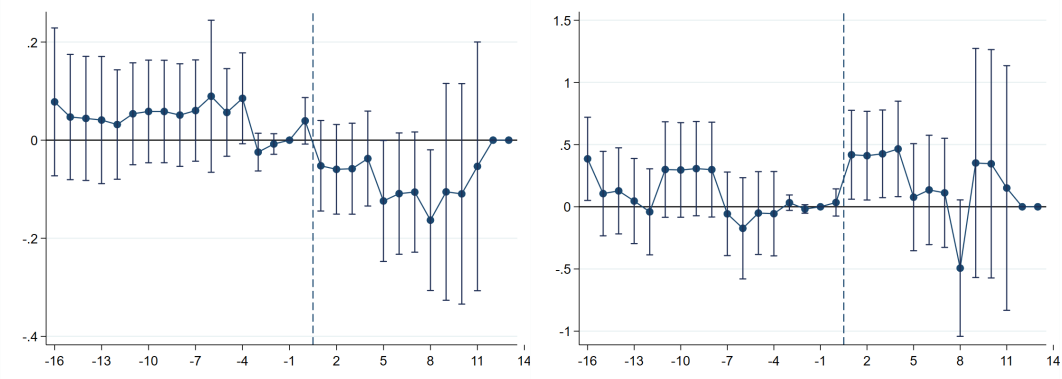
	(1)	(2)	(3)	(4)
Estimation Sample	Stacked	Clinton-Bush	Obama-Trump	Interaction
$High^{Country}$				
GGR × $High^{Country}$				
$High^{Grid}$				
GGR × $High^{Grid}$	-0.052	-0.017	-0.157	-0.017
	(0.051)	(0.053)	(0.123)	(0.053)
$High^{Country}$ × $High^{Grid}$				-0.067
				(0.363)
GGR × $High^{Country}$ × $High^{Grid}$	0.182**	0.133*	0.340**	0.133*
	(0.075)	(0.080)	(0.167)	(0.081)
GGR × $High^{Country}$ × $High^{Grid}$ × Trump				0.202
				(0.193)
Country-Year FE	Yes	Yes	Yes	Yes
Grid FE	Yes	Yes	Yes	Yes
$exp(\tau) - 1$	20.0%	14.2%	40.5%	
Mean Dep. Var.	6.042	10.759	3.821	5.731
Median Dep. Var.	3.644	9.315	2.147	3.332
SD Dep. Var.	6.970	7.359	5.527	6.917
Observations	9,626	5,499	4,127	10,313
Num. of Clusters	977	461	647	977

Notes: Standard errors in parenthesis are clustered at the grid level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Discussion of Mechanisms (Prelim.)

We use DHS birth calendar records to measure contraceptive use and pregnancy terminations:

Figure: DHS Calendar - Quarterly Data



(a) Contraceptive Use

(b) Pregnancy Terminations

Concluding Remarks

- Our findings indicate that the GGR policy is associated with an increase in maternal mortality in areas and countries most vulnerable to US aid cuts
- Our work underlines the significant and systematic loss of life and life quality among women and families around the globe that emerges from the lottery of US elections

Next Steps

- **IV Approach**: Replace observed aid declines with *predicted aid declines* based on past aid flows to isolate policy-driven variation
- **Alternative Mechanism**: Aid compensation vs. coordination from alternative donors (Ferrière, 2024)
- **Local Economic Controls**: Incorporate spatial controls (e.g. local GDP growth in Rossi-Hansberg and Zhang, 2025) to address confounders
- **Cost-Benefit Analysis**: How many lives were lost for every USD in aid cuts?

Thank you!

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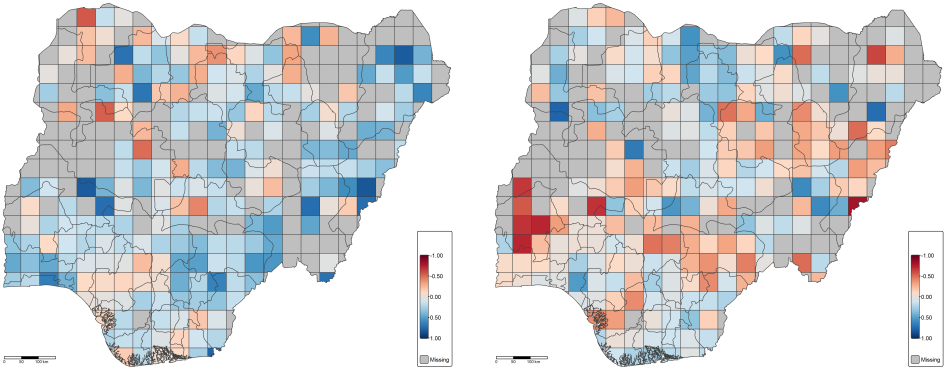
Appendix

Appx: Gridding Example – Nigeria back

Figure: Changes in Clinic Access in Nigeria

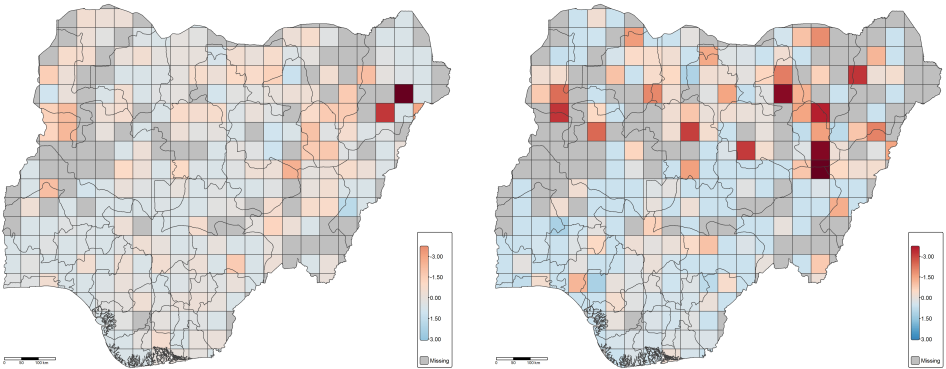


(a) Δ 2013-2009

(b) Δ 2018-2013

Appx: Gridding Example – Nigeria back

Figure: Changes in Maternal Mortality (Std.) in Nigeria



(a) Δ 2013-2009

(b) Δ 2018-2013

Appx: Clinic Access Variable Construction back

Questions from the DHS used to proxy for clinic availability

- Family Planning Access
  - (for women who are not currently using a method of contraception and are at risk of pregnancy) reason not using family planning: knows no source OR lack of access
  - woman-reported known sources of male condoms: public, private, or NGOs
- General Healthcare Access
  - woman-reported barrier to health care: distance to facility OR having to take transport

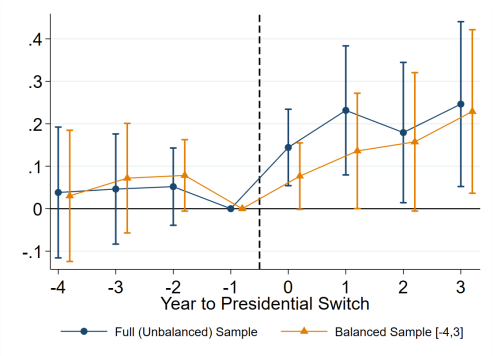
Appx: Summary Statistics back

Variable Name	Mean	SD	Min	Max	Observations	Num. of Countries
US Aid						
ln(population)	15.95	1.02	13.97	18.54	22	22
DAH per capita - Clinton	0.17	0.21	0.00	0.67	22	22
DAH per capita - Bush	0.08	0.06	0.00	0.19	22	22
DAH per capita - Obama	0.22	0.20	0.00	0.60	22	22
DAH per capita - Trump	0.19	0.23	0.00	0.93	22	22
DHS Health Outcomes						
MMR per 1,000 women	4.98	9.02	0.00	147.06	27,289	22
ln(num. of women)	5.11	1.25	0.00	9.62	27,289	22
IMR per 1,000 live births	64.74	87.58	0.00	1000.00	24,945	20
ln(num. of births)	2.82	1.25	0.00	6.81	24,945	20
Sexual abuse	0.08	0.09	0.00	0.80	5,134	21
Emotional abuse	0.19	0.16	0.00	1.00	5,310	22
Physical abuse	0.30	0.18	0.00	1.00	5,117	21
Any IPV	0.24	0.16	0.00	1.00	5,132	21

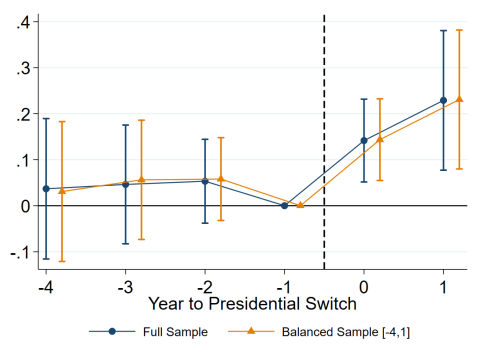
Notes: Country-level means reported for Panel A. Grid-level unweighted means reported for Panel B.

Appx: GGR and MMR back

Balanced Panel



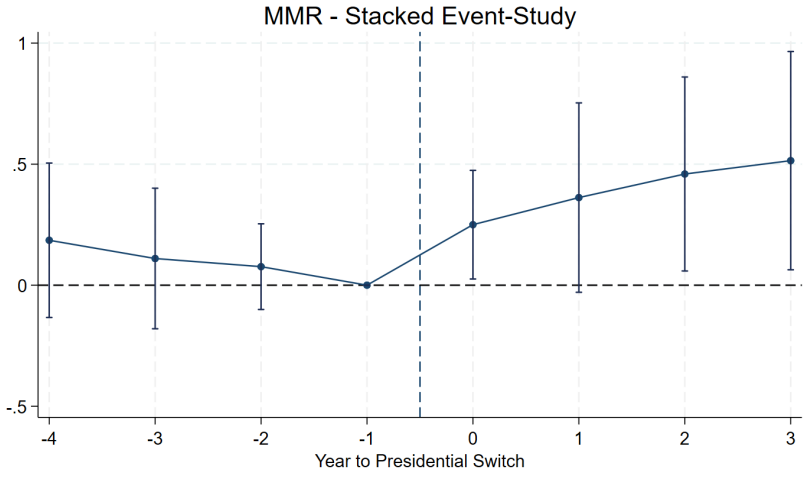
(a) Long Timespan



(b) Short Timespan

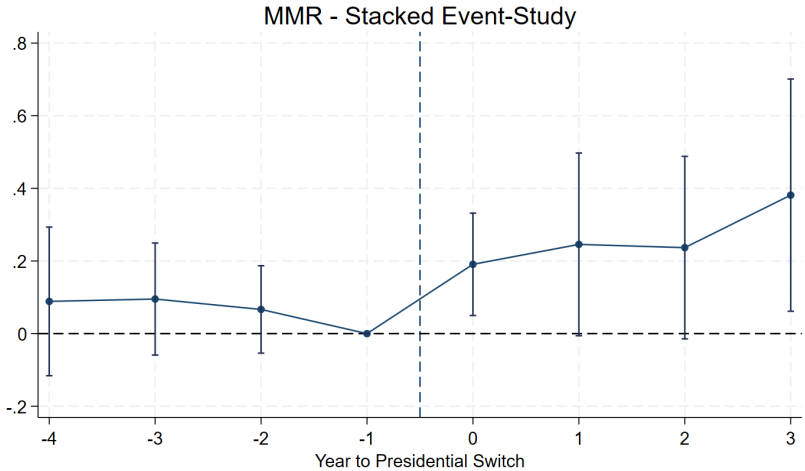
Appx: GGR and MMR back

Continuous Aid Decline × Binary Clinic Access



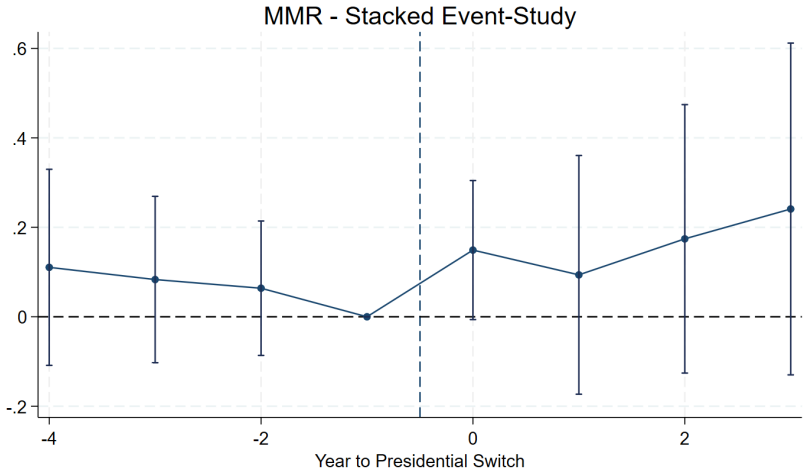
Appx: GGR and MMR back

Continuous Clinic Access × Binary Aid Decline



Appx: GGR and MMR back

Alternative Clinic Measure: Healthcare Access



Appx: Geo-coded US Family Planning Aid Projects

Source: Bomprezzi et al. (2024)