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WOMEN'S EMPOWERMENT AND FOREIGN AID EFFECTIVENESS

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ABSTRACT

The longstanding debate on whether foreign aid promotes development suggests that aid's efficacy depends on conditions in recipient states. Advocates of gender equality argue that empowering women is desirable not only in its own right but also as a means to other sought-after outcomes. We bring together these issues and argue that women's empowerment in aid-receiving countries should enhance the effect of foreign aid on child development outcomes. We find support for this argument in analyses of up to 107 developing countries from 1986-2010. Our results indicate that aid is associated with greater reductions in infant mortality where women are more empowered. Furthermore, we find that among the different dimensions of empowerment—political, economic and social—political participation has the strongest and most consistent mediating effect on foreign aid. Our work has implications for research on aid effectiveness, the consequences of gender equality, and the politics of presence.

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1. Introduction

The longstanding debate on whether foreign aid promotes development suggests that aid's efficacy depends on conditions in recipient states. Research on foreign aid effectiveness has so far focused on economic or political conditions (Bearce 2013, Burnside and Dollar 2000, Dietrich 2011, Girod 2015, Kosack 2003, Wright 2008, 2010). In the wake of the #MeToo movement, calls for gender equality have been making front page news around the world (Powell 2017). Advocates have long been arguing that empowering women is desirable not only in its own right but also as a means to other sought-after outcomes (Nussbaum 1999, World Bank Group 2012). We bring together the issues of foreign aid effectiveness and gender equality in a way not previously considered. We argue that women's empowerment in aid-receiving countries enhances the effect of foreign aid.¹

We focus in particular on the relationship of aid, women's empowerment and child development outcomes. Theoretically, we have good reason to believe that aid will be more effective at promoting children's welfare in countries with greater gender equality. Research shows that women often prioritize issues related to children (e.g., Morrison et al. 2007, Schwindt-Bayer 2010). Child welfare tends to be higher where women are provided with the rights, resources and opportunity to participate in social, economic and political arenas (e.g., Duflo 2012, Kabeer and Natali 2013). Thus, we expect where women have effective control over aid resources, they will help ensure the resources are employed in ways that benefit children.

We focus on aid's impact on child welfare for the following reasons. Child development outcomes have been a major priority of the international community at least since the adoption of the Millennium Development Goals. Children continue to be a priority among the Sustainable Development Goals adopted in 2015. Furthermore, a substantial body of research shows that investing in children sets in motion a virtuous cycle of changes leading to more productive adults and higher average incomes (e.g., Barro 1996; Belli and Appaix 2003). If foreign aid's goal is to promote self-sustaining development, then investment in children's welfare is a very good bet.

To our knowledge, we present the first cross-national study to consider whether women's empowerment mediates the effectiveness of aid. In particular, we analyze data on up to 107 developing countries from 1986-2010. We employ a recently compiled dataset, which provides measures of

¹ Recent work investigates whether foreign aid reduces gender gaps or rewards gender equality (Bush 2011, Dreher, Gehring, and Klasen, 2015) and how women in donor countries influence foreign aid policy (e.g., Breuning 2001, Fuchs and Richert 2017, Hicks, et.al. 2016), but not whether gender equality in recipient countries enhances aid's effects.

different dimensions of women’s empowerment (Sundstrom et.al. 2015). Consistent with our argument, we find that foreign aid is associated with larger reductions in infant mortality in countries with higher levels of women’s empowerment. Furthermore, our results suggest that among the different dimensions of empowerment—political, economic and social—political participation has the strongest and most consistent mediating effect on foreign aid. These results are robust to estimations considering potential endogeneity between aid, women’s empowerment and infant mortality.

Our work has implications for three distinct areas of scholarship. The first is the literature on aid effectiveness. We show that gender equality in aid-receiving countries has a multiplier effect, enhancing the impact of aid on development outcomes. While advocates have long been concerned with aid’s efficacy, the issue has become more critical during this period when donor governments, not least of which is the United States, are considering scaling back on their international obligations (Fisher 2017). Second, we contribute to the literature on gender equality. Our work supports the growing evidence that empowering women where they have not yet achieved parity produces desirable outcomes. Our results thus bolster the instrumental case for gender equality, providing another reason to direct resources toward empowering women. Third, we contribute to the literature on the politics of “presence” (Phillips 1995). We show that having more women in political office increases the efficacy of aid. Our work thus provides evidence that descriptive representation matters. Assuming women in aid-recipient countries care about children’s welfare, our results suggest that descriptive representation promotes substantive representation.

2. Women’s Empowerment and Development

Gender equality first emerged as a priority of the international community in 1975, when the United Nations (UN) held a World Conference recognizing legal rights for women. UN member states renewed their commitment to eliminating gender gaps with the adoption of the Millennium Development Goals in 2000 and the Sustainable Development Goals in 2015.² Advocates have advanced gender equality on both intrinsic and instrumental grounds. Equal opportunity for men and women to live the lives of their choosing is widely viewed as an essential human right (e.g., Nussbaum 1999). Hence, the concept is embodied in several international treaties and national constitutions. Empowering women where gender gaps exist is also considered an effective means to achieve other

² See: <http://www.un.org/sustainabledevelopment/sustainable-development-goals/>

development goals. A World Bank report contends that a level playing field in education, economic opportunities, and the ability to shape policies is “smart economics” (World Bank Group 2012, p.3).

2.1 Definition and Conceptualization of Empowerment

Women’s empowerment is here defined as the degree to which women are able to act as agents of change in their own lives “relative to other people or groups ...whose interests differ from theirs...” (Mason 2005, p. 90). This definition captures the notion of agency, as well as the relative nature of the concept. Women’s empowerment is often linked with gender equality because in most societies, women are disadvantaged in many aspects (Atinc et al. 2005).

Empowerment is a multidimensional concept. Adapting Malhotra and Schuler’s framework (2005, p.83), we focus on economic, social and political empowerment.

Economic and social empowerment denotes the extent of women’s effective control over assets, income, and decision-making at home, and in the workplace, as well as the extent of women’s freedoms of speech, association and movement.

Political empowerment refers to the extent of women’s knowledge of and participation in the political system as well as their representation in government.

Recognizing the multidimensional nature of the concept is important because women may have the ability to make meaningful choices in some spheres of life but not in others (e.g., Malhotra and Mather 1997). It is not uncommon for women to have economic control over income and assets but to be politically marginalized (Mason 2005). Moreover, type of empowerment, as well as extent of empowerment, may have distinct implications for different development outcomes. With this in mind, we provide a review of the literature on empowerment and child development outcomes by type of dimension.

2.2 Empirical Studies on Empowerment and Child Development Outcomes

Economic and social empowerment. Of the different types of empowerment and their effects on development, social and economic empowerment have been most extensively studied. On balance this research points to a positive relationship between women’s control over assets, income,

and household decisions, on one hand, and better health and educational attainment for children on the other.³ Thomas (1990) shows, for example, that in Brazil, increasing women's income results in larger improvements in health outcomes for children relative to increasing men's income. Similarly, in Bangladesh, compared to male borrowing, female borrowing from microcredit programs has a larger positive impact on children's school enrollment (Pitt and Khandker 1998) and nutritional status (Pitt et al. 2003). These improvements can be attributed to changes in the composition of household spending. Enhancing women's control over household resources increases expenditures on food, education, health and nutrition (e.g., Duflo and Udry 2004, Hoddinott and Haddad 1995).

Better child development outcomes can also be linked to more extensive women's economic rights and social freedoms. Women's security of land and property rights have been associated with fewer malnourished children in Nepal (Allendorf 2007), lower incidence of child illness and higher school enrollment in Vietnam (Menon et al. 2014), and lower infant and child mortality across countries (Burroway 2015). Women who are able to travel without the permission of male household members are better able to participate in the labor market, control household resources, and seek advice from family, friends, and professionals on decisions regarding child welfare (e.g., Grabowski and Self 2013, Merchant and Udipi 1997). Participation in voluntary community organizations helps mothers acquire information about formal health and education services that helps them raise healthier children (Story 2014).

Political Empowerment. Research on women's political empowerment and development outcomes is less extensive than work on economic and social empowerment, however, extant studies on women's political participation have theoretical implications for development.⁴ This work focuses on the presence of women in positions of power, their priorities, their legislative behavior, and policy outcomes.

Most research on descriptive representation of women in politics is centered on advanced industrial democracies. In general, this work confirms the existence of gender differences in priorities and legislative behavior. Studies show that female lawmakers in US state legislatures place greater priority on promoting the interests of women and children compared to their male counterparts (Thomas 1991, Caiazza 2004). Female members of the Swedish parliament are more likely than male par-

³ For reviews of the literature, see Morrison et al. (2007) and Duflo (2012).

⁴ See reviews by Paxton, Kunovich and Hugh (2007) and Wangnerud (2009).

liamentarians to raise social welfare, family, or health care policies during election campaigns (Wangnerud 2000). In a cross-country study, Kittilson (2008) finds that women's share of parliamentary seats is positively associated with the adoption and scope of maternity and childcare leave policies.

Gender differences in legislative priorities and behavior are also apparent in developing countries. Female legislators in Argentina, Colombia, and Costa Rica prioritize bills related to women, children and the family (Jones 1997, Schwindt-Bayer 2006). Female lawmakers in Honduras are more likely to initiate bills on women's issues (Taylor-Robinson and Heath 2003). In Rwanda, education for girls and government support for women entrepreneurs increased with the rise of women in politics (Powley 2006, Devlin and Elgie 2008).

Evidence on the relationship of women's descriptive representation and policy outcomes in developing countries is still limited and mixed, however, we have reason to believe that empowering women politically may improve outcomes related to women and children. While some research finds no gender effect on policy outcomes (Franceschet and Piscopo 2008, Devlin and Elgie 2008, Gajwani and Zhang 2008), a randomized policy experiment in two Indian states shows that where the position of village council head is reserved for women, investment in projects relevant to women's needs is higher (Chattopadhyay and Duflo 2004). Moreover, a cross-country study shows that public health spending is increasing in the share of women in government cabinets (Mavisakalyan 2014).

In sum, research on women's empowerment and development indicates that women have preferences that are distinct from that of men, and these preferences often center on children's welfare. Furthermore, research suggests that when women secure resources, rights, and political power, children's welfare improves. What does this imply for the impact of foreign aid?

3. Women's Empowerment and Foreign Aid Effectiveness

Like assets and income, foreign aid is a resource that can be used to further goals. While donor governments have been shown to have several motives when providing aid to less developed countries (e.g., Alesina and Dollar 2000), the ostensible purpose of development assistance is to improve the quality of life in recipient countries through various programs and projects. While foreign aid is sometimes channeled through non-governmental organizations, the bulk of aid continues to be transferred from donor to recipient governments (OECD 2013). The latter are then responsible for

implementing aid programs and projects that are ultimately expected to provide benefits to individuals within aid-receiving countries.

Since empowerment is multidimensional, it can affect the use of aid at different points in the chain of aid delivery. The recipient government would be one such point. If women occupy a significant number of positions of power in government, we would expect them to influence how aid resources are employed through at least two mechanisms.

First, female executive and legislative officials could ensure that aid resources targeted toward their priority programs and projects supplement, rather than displace, their own government's resources. While the fungibility of aid is still being debated in academic circles (e.g., Van de Sijpe 2013, Dieleman, Graves and Hanlon 2013), to the extent that aid is fungible, women in positions of power could prevent aid resources from being used indirectly for purposes not aligned with their priorities.

Second, some studies on gender and corruption suggest that women are less likely to engage in and/or condone corrupt behavior (e.g., Swamy et al. 2001). Others show that the relationship between gender and corruption depends on context (Alatas, et.al. 2009, Esarey and Schwindt-Bayer 2017). If women are indeed less likely to engage in or condone corruption, we would expect female politicians and bureaucrats to be less likely to embezzle aid resources. We would also expect them to monitor how aid resources directed at their priority programs and projects are disbursed, ensuring that such resources are not expropriated by other government officials in charge of implementing aid programs and projects.

In sum, the impact of aid on projects and programs favored by women should be greater where there are more women in positions of power. Since previous work suggests that women in office are likely to prioritize bills related to children's welfare (Schwindt-Bayer 2006, Devlin and Elgie 2008), and some studies suggest that women are less likely to engage in corrupt behavior (Swamy et al. 2001), we derive the following hypothesis:

Hypothesis 1: All things equal, the impact of foreign aid on children's welfare is increasing in the share of women in government.

Another point in the chain of delivery where women's empowerment might affect the use of aid would be at the level of the intended beneficiaries. Women in recipient countries can benefit from aid programs in various ways. Some programs invest directly in women. From 2013-2016, USAID

projects focused specifically on women included business training in 20 countries, financing for small and medium enterprises in 15 countries, and support for financial and business services in 11 countries (Young and Bertone 2016). Other bilateral donors have similarly been allocating aid to promote women’s empowerment (OECD 2016).

Since 1995, donors have also been “mainstreaming” or integrating gender perspectives into programs whose main themes are associated not only with women. For example, agricultural projects targeted at all farmers might include special components that recruit and train women, and/or feasibility studies on marketing products produced by women (OECD-DAC 1999).

Finally, women can benefit from programs that are not necessarily gender sensitive. Donors have been funding information communication technology initiatives aimed at revolutionizing services in developing countries. Owning a mobile phone enables one to open a phone-based bank account, control one’s finances, schedule clinic appointments, or register children for school (Klapper 2016). Women who own mobile phones benefit from these initiatives, although it is notable that women in low- and middle-income countries are on average 10% less likely than men to own a mobile phone (Rowntree 2018).

In short, women in aid-recipient countries are beneficiaries of aid programs and projects, sometimes as the intended targets, other times as part of programs with broader foci. As the research on women and development suggests when women are provided with access to resources *and* their economic rights and social freedoms are protected, they tend to spend resources on the health and nutrition of their children. We expect them to do the same with the resources and opportunities from aid programs. Thus, we hypothesize that:

Hypothesis 2: All things equal, the impact of foreign aid on children’s welfare is increasing in the extent of women’s legal rights and their effective control over resources.

4. Analysis

4.1. Data and Methodology

We test our theory on foreign aid, women’s empowerment and children’s welfare with data on up to 107 developing countries from 1986-2010—all countries and years for which data are available.⁵

⁵ The study’s temporal scope is limited mainly by availability of a critical control variable: public spending on health.

Advanced industrial economies are not included because they are major aid donors, and have never been eligible for official development assistance. For our dependent variable, we rely on the commonly used indicator of children's welfare, *infant mortality*, which measures the number of infants that die before one year of age in a given year for every 1000 births.⁶ The data which are measured for each country i in a given year t , are from the World Bank's World Development Indicators. Summary statistics on this and all other variables used in the subsequent analyses are presented in Appendix 1.

Our first independent variable of interest, *AidPC*, is the net inflow (i.e., disbursements) of official development assistance (ODA) for country i in a given year t from the members of the OECD's Development Assistance Committee (DAC).⁷ Values are in constant 2014 dollars to adjust for inflation. ODA is scaled by population for meaningful comparison across countries and over time, and because our dependent variable is expressed in population terms. The measure is logged because it is heavily skewed to the right. We employ total aid rather than aid targeted toward the health sector because budget support not targeted by donors for specific sectors may still be used to promote health outcomes. If this is so, analysis of the impact of aid targeted toward specific sectors would underestimate the effect of aid.

Since the vast majority of aid continues to be disbursed through aid-recipient public sectors, the value of aid disbursed is a reasonable proxy when testing H1 on the effect of aid conditional on the share of women in government. However, we recognize this is a relatively noisy indicator with which to test H2 on aid's effect conditional on the empowerment of aid beneficiaries. The indicator does not directly measure the value of resources that reaches intended beneficiaries. One alternative might be to employ the value of aid that can be attributed to promoting gender equality. However, as mentioned above, women can benefit from programs not specifically targeted at them. Some programs may be more gender sensitive than others, and this could vary across countries and over time. Moreover, although the major bilateral donors started using a marker to track aid focused on gender equality in 1991, they have screened only a proportion of their commitments. While this screening has increased over time, as recently as 2011, only 80% of donors' commitments had been screened (Grown et.al. 2016, p.313). Thus, women across countries and over time may receive vary-

⁶ We observe similar results for under-5 mortality. Due to space constraints, we present these in appendices 8-10. We report results for infant mortality because previous work on foreign aid has tended to focus more on infant rather than child mortality. See, for example, Ziesemer's (2016) review of the literature.

⁷ The data are available from the OECD DAC database at: <http://www.oecd.org/development/developmentassistancecommitteeedac.htm>

ing amounts of benefits from programs or projects with the same dollar value. In our analyses below, we attempt to control for this potential variation by employing unit- and year-fixed effects.

Our second independent variable of interest is *Women's Empowerment*. Various indices of women's empowerment are available, including the UNDP's Gender Empowerment Measure (GEM), the OECD's Social Institutions and Gender Index (SIGI), and the World Economic Forum's Global Gender Gap Index (GGGI). In general, the range of years for which these measures are available are limited.⁸ Thus, we employ recently aggregated measures of women's empowerment from the Varieties of Democracy (V-Dem) project. The V-Dem project, which involved over 2500 local and cross-national experts, provides data for up to 130 developing countries from 1900-2014, greatly enhancing the opportunity for spatial and temporal comparisons (Sundstrom et al. 2015).

The V-Dem index of women's empowerment is based on nine items used to create three dimensions, which the creators of the V-Dem index refer to as empowerment with respect to *political participation, civil liberties, and civil society participation*. The three indices capture different forms of women's rights and freedoms. They measure de jure as well as de facto empowerment. Items associated with each index were aggregated and standardized by Sundstrom et al (2015), the scholars behind the measures.

We test our first hypothesis (H1) with the *political participation index*, which is composed of two items. The first is an objective indicator: the percentage of the legislature's lower chamber that is female. In our sample, this indicator ranges from 0 to 56. The second item is based on expert assessments of women's participation in government. The indicator is coded from 0 to 4, with zero denoting that men have close to a monopoly on political power and four denoting that men and women have nearly equal political power.

To test our second hypothesis (H2), we employ the other two dimensions. The *civil liberties index* is based on four items: women's freedom of domestic movement and freedom from forced labor, women's access to justice, and women's right to private property. The first three conditions are coded from 0 to 4, with 0 representing the least favorable position for women and four representing the most favorable position. The last condition is coded 0 to 5, with zero denoting that women have no property rights and five denoting that women have nearly total access to property rights. Since at least three of the four conditions in this index are associated with economic rights, we

⁸ GEM, available from 1995-2009, was replaced due to criticism regarding limits to its ability to reflect critical gender disparities. The SIGI was first collected in 2009. The GGGI has been available only since 2006 (UNDP 2015).

consider this index a proxy for *economic empowerment*.⁹

The *civil society participation index* is based on three subjective indicators on the extent of women’s freedom of speech and association. The first item is scored 0 to 4, with zero denoting harsh punishment for expression, and four representing full freedom of speech at home and in public. The second item is similarly scored 0-4, with zero denoting exclusion from participation, and four representing no constraints on women joining or forming civil society organizations. The third item asks experts for their estimate on the percentage of journalists in the country who are female. This index captures some aspects of *social empowerment*.

Table 1 presents summary statistics for our main variables of interest: infant mortality, foreign aid, and women’s empowerment indicators. The table presents between- and within- unit variation in our estimation sample. While variance is greater across countries, as shown in Table 1, substantial within-country variation in infant mortality remains to be explained.

TABLE 1, (BETWEEN AND WITHIN COUNTRY VARIATION FOR KEY VARIABLES)

Variable		SD	Min	Max
Infant Mortality	overall	34.92	4.8	167.5
	between	31.90	5.56	142.20
	within	11.94	2.52	98.12
Log (Aid Per Capita)	overall	1.30	0	6.41
	between	1.20	0	5.62
	within	0.59	-0.21	6.08
Women’s Political Participation	overall	0.22	0.06	1.00
	between	0.20	0.08	0.95
	within	0.12	0.07	0.97
Women’s Economic Empowerment	overall	0.22	0.01	0.96
	between	0.21	0.07	0.96
	within	0.07	0.03	0.93
Women’s Social Empowerment	overall	0.20	0.08	0.95
	between	0.20	0.08	0.94

⁹ Dropping the “access to justice” component of the index does not change our results.

Correlations for our variables of interest are reported in Table 2.¹⁰ Infant mortality is weakly correlated with aid and women’s empowerment, and the signs of these correlations differ. Infant mortality is positively associated with aid and negatively associated with the women’s empowerment indices. The correlations between aid and women’s empowerment are close to zero, despite the fact that empowerment has become a stated objective of aid. Finally, as expected, the different dimensions of empowerment are positively correlated with each other, although women’s descriptive representation in government has the lowest association with the other dimensions.

TABLE 2, (CORRELATION MATRIX FOR KEY VARIABLES)

	IMR	AidPC	W Pol Part	W Econ Emp	W Soc Emp
IMR	1				
AidPC	0.270	1			
W Pol Part	-0.225	-0.071	1		
W Econ Emp	-0.359	0.080	0.358	1	
W Social Emp	-0.374	-0.044	0.491	0.734	1

To estimate the impact of aid as women’s empowerment increases, we multiply *AidPC* with each of the V-Dem indices separately and include the resultant interaction terms in our models. The coefficient on these interaction terms together with the coefficient on *AidPC* provides the marginal effect of aid at different levels of empowerment. Bearing in mind that lower mortality indicates better welfare for children, we expect the coefficient on this interaction term to be *negative* indicating that the mortality-reducing impact of aid becomes greater as women’s empowerment increases.

We include controls that previous research suggests influences welfare indicators. We control for average income (*Real Per Capita GDP, logged*) as we expect income to be negatively associated with infant mortality (Gomanee et al. 2005). In countries with higher average incomes, individuals will be more likely to have access to health care that should reduce infant mortality. We control for

¹⁰ Correlations for all variables are reported in Appendix 2.

population density because there are economies of scale when providing health care.¹¹ We expect this variable to be negatively correlated with infant mortality. Data for these variables are from the World Bank's World Development Indicators.

We also control for level of *democracy* since previous work shows that democracies tend to provide more health care than autocracies, and this has implications for child outcomes (Lake and Baum 2001).¹² Furthermore, some readers may be concerned that women are better represented and women's rights better protected where political competition is more open. Our measure of democracy is the *Polity score* from the Polity IV project.¹³ We expect this variable to be negatively correlated with infant mortality.

Finally, we control for *public spending on health* because it is likely to be associated with health outcomes (Ghobarah, et.al. 2004), although the nature of this relationship is still under debate (Rajkumar et.al.2008). Note that aid can be allocated on-budget as well as off-budget. While a large share of aid for health is provided as technical cooperation, which is off-budget and should therefore have a direct effect on health outcomes, by including government spending in our model, we are controlling for one mechanism through which aid can affect infant mortality. Thus, we may be underestimating the impact of aid. Like our aid variables, the data on public health spending are adjusted for inflation, expressed in per capita terms, and logged to reduce right skewness.¹⁴

4.2. Initial Analysis

We start by performing OLS regressions with robust standard errors clustered by country. We include country-fixed effects to control for unmeasured heterogeneity across countries, and year-fixed effects to capture global time-varying changes not accounted for in the model. All independent variables are lagged one year to ensure their realization before the dependent variable.¹⁵ In subsequent analysis, we perform tests to account for the possible endogeneity of foreign aid, women's empowerment, and infant mortality.

¹¹ We use population density rather than percent urban because data on urbanization are not necessarily comparable across countries. Metadata from the World Development Indicators (WDI) states that "Countries differ in the way they classify population as 'urban' or 'rural'."

¹² But see Ross (2006) who shows that democracy has little effect on infant mortality.

¹³ The data are available at: <http://www.systemicpeace.org/polityproject.html>.

¹⁴ The data were compiled by IMF researchers (Clements, Gupta and Nozaki 2013) and are available at <http://www.imf.org/external/pubs/ft/sdn/2011/data/sdn1115.xls>.

¹⁵ Some readers may be concerned that aid transferred from donors to recipients in a given year may take more than one year to reach beneficiaries and for its impact to be realized. For robustness, we perform models with two-year lags of the aid and women's empowerment indices, and results are essentially unchanged (See Appendix 3).

The specification for the fixed effects model is as follows:

$$Y_{it} = \beta_1 AidPC_{it-1} + \beta_2 WEmp_{it-1} + \beta_3 AidPC_{it-1} * WEmp_{it-1} + \beta_4 Z_{it-1} + \beta_5 \tau_t + \alpha_i + \epsilon_{it}$$

Where i denotes the recipient country, t the year, $AidPC$ and $WEmp$ represent our variables of interest aid per capita and women's empowerment, Z represents a vector of control variables, τ_t denotes year-fixed effects, α_i denotes the intercept for each country, and ϵ_{it} is the error term.

Table 3 presents results for our hypotheses on the impact of aid conditional on the different dimensions of women's empowerment. Model 1 presents results excluding the empowerment measures as a baseline for reference. Model 2 employs the index based on women's political participation and provides a test of H1. Models 3 and 4 test H2, employing the indices based on women's economic and social empowerment.

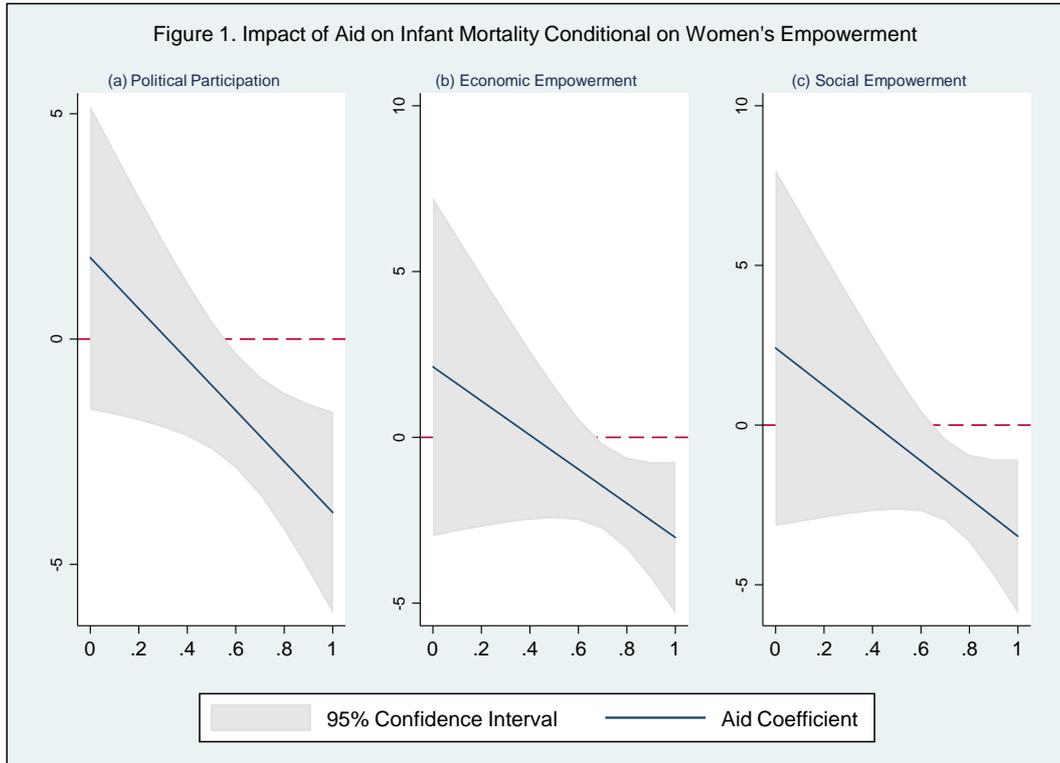
TABLE 3, (FOREIGN AID, WOMEN'S EMPOWERMENT AND INFANT MORTALITY)
(OLS REGRESSIONS WITH COUNTRY AND YEAR FIXED EFFECTS)

	(1)	(2)	(3)	(4)
AidPC	-1.27	1.81	2.13	2.41
	(0.87)	(1.72)	(2.60)	(2.84)
AidPC*Political Participation		-5.65**		
		(2.53)		
AidPC*Economic Empowerment			-5.15	
			(3.48)	
AidPC*Social Empowerment				-5.89
				(3.82)
Women's Political Participation		18.94**		
		(8.94)		
Women's Economic Empowerment			7.93	
			(14.38)	
Women's Social Empowerment				13.26
				(18.97)
Democracy	-0.31	-0.34*	-0.22	-0.24
	(0.20)	(0.19)	(0.18)	(0.19)
GDP Per Capita	-8.18*	-8.81*	-7.60*	-8.15*
	(4.63)	(4.48)	(4.53)	(4.43)

Population Density	-0.60*** (0.12)	-0.64*** (0.11)	-0.59*** (0.12)	-0.60*** (0.12)
Public Health Expenditure Per Capita	-3.94** (1.71)	-4.25** (1.71)	-4.16** (1.69)	-3.76** (1.68)
Constant	360.99*** (72.17)	368.98*** (68.33)	347.60*** (71.77)	349.65*** (73.44)
Observations	1,816	1,740	1,816	1,816
Countries	107	107	107	107
R-squared	0.72	0.74	0.72	0.72

*All models include country- and year-fixed effects. Clustered robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$*

As shown in Table 3, aid has no consistent unconditional effect on infant mortality. The coefficient on *AidPC* in Model 1 is negative but statistically insignificant. Moreover, Models 2-4 suggest that aid's effects on infant mortality are contingent on women's empowerment. The coefficients on *AidPC* are positive but also statistically insignificant in the three models indicating that aid has no consistent effect on infant mortality when empowerment is equal to zero. The interaction terms *AidPC*WEmp* are negative suggesting that aid is associated with lower infant mortality rates as women's empowerment increases. The interaction term is significant at the 95% level only for the political participation index (Model 2). However, calculating the marginal effects of foreign aid as women's empowerment increases for each dimension shows that at higher levels of empowerment, aid's effect on infant mortality is negative and significantly different from zero. Figure 1 plots these marginal effects.



As shown in Figure 1, the impact of aid at lower levels of women's empowerment is statistically insignificant, however, once past a threshold of empowerment ranging from .6 for political participation and .7 for economic and social empowerment, the effect of aid on infant mortality becomes negative and significant. This represents 50% of the sample in the model using political participation, and 45% and 39% of the sample in the models on economic and social empowerment, respectively. Our initial results thus support both of our hypotheses.

4.3. Accounting for Endogeneity

Endogeneity is often a concern in studies of aid's effects. One typical concern is *reverse causality*. Infant mortality is an objective of aid policies, and donors may be allocating aid based on this condition in recipient countries. Note that if donors are allocating aid based on need, the unconditional relationship of aid and infant mortality would be positive—higher infant mortality would induce higher aid flows. This is not what we observe. However, it is also possible that donors are allocating aid where the potential for success in terms of both infant mortality and women's empowerment is higher. Thus, some *omitted variable* may be driving the results that we observe. Another concern is the potential for *selection bias*. Some recipient governments may recognize that women's empow-

erment increases aid flows as well as improving outcomes. They may thus promote women's empowerment; donors may reward them for doing so; and we would observe more aid, empowerment, and better outcomes in those countries. These issues make causal identification difficult.

A common strategy for addressing concerns regarding endogeneity is instrumental variables analysis. This strategy involves finding instruments that are correlated with the potentially endogenous regressors, but have no independent effect on the dependent variable. Thus, to perform this analysis, we need instruments for foreign aid, women's empowerment and their interactions.

For foreign aid, we employ an instrument similar to that of Dreher and Langlotz. (2015), who analyze the relationship of aid and economic growth. The instrument is an interaction of donor governments' fractionalization and the probability that a country receives aid in a given year. As Dreher and Langlotz (2015) note, fractionalization in donor countries has been shown to increase government budgets (e.g., Bawn and Rosenbluth 2006), larger overall budgets are associated with larger aid budgets, and larger aid budgets lead on average to higher aid disbursements across countries (Dreher and Fuchs 2011). The strength of this instrument is that it is plausibly excludable: donor government fractionalization is likely to affect infant mortality only through its effect on aid disbursement.

To create the instrument, we started with data on aid by donor-recipient dyad and year. We recorded when a country received aid from a DAC donor and the donor government's fractionalization score for that year.¹⁶ We collapsed the data into recipient-year format, summing over the indicator variable for aid receipt and taking the mean of donor fractionalization scores for each recipient-year. From the frequency of aid receipt by year, we created a variable measuring the probability that country received aid from any DAC donor in each year and multiplied this by the mean of donors' fractionalization scores for that recipient-year. Since we need instruments for aid and its interaction with women's empowerment, we include this instrument and its interaction with the different dimensions of empowerment in the first-stage of the 2SLS models below.¹⁷ Moreover, to ensure we have a sufficiently powerful instrument set, we augment these instruments with lags of the original

¹⁶ Data on government fractionalization are from the Database of Political Indicators (DPI). The indicator measures the probability that two randomly chosen legislators from the parties that form the government represent different parties. For more on this indicator, see Cruz, Keefer and Scartascini (2016).

¹⁷ Instruments were lagged by one year relative to the endogenous regressors.

aid variable and its interaction.¹⁸

Because it was extremely difficult to find an appropriate external instrument for women's empowerment, and using weak instruments may be more misleading than OLS regressions, we employ two strategies for dealing with the potential endogeneity of women's empowerment. First, we employ lags of the empowerment indices as instruments.¹⁹ Second, we replace the time-varying measures of empowerment with an arguably exogenous measure--the value of women's empowerment before 1975, the year when the United Nations held its first conference recognizing the legal rights of women, and drawing the attention of donors to the importance of women's empowerment. Specifically, we use the average value of the women's empowerment indices from 1970-1974. In doing this, we expect to capture the level of women's empowerment in recipient countries before the concept became a clear objective of donors. While these proxies may increase measurement error since they do not account for changes over time, they reduce the probability that results are due to developing country governments' choosing to increase women's empowerment because they recognize it will result in more aid from donors as well as reduce infant mortality. To estimate the impact of aid conditional on women's empowerment from 1970-1974, we interact these empowerment measures with our time-varying foreign aid measure. We continue to instrument for aid as above, and instrument for the interactions by multiplying the aid instrument with these proxies for women's empowerment.

Table 4 presents results instrumenting for both foreign aid and women's empowerment, with each model using a different indicator of empowerment. The top half of the table presents 2nd-stage results. The bottom half reports diagnostic test results for the instruments. First-stage results are presented in Appendix 5. The tests in the bottom half of Table 4 suggest that we can reject the null hypothesis that our instruments are uncorrelated with the endogenous regressors. The Kleibergen-Paap rk LM statistics associated with the underidentification tests are highly significant in all three models. Moreover, Angrist-Pischke F-tests of excluded instruments reported with the first-stage regressions in Appendix 5 are substantially higher than the rule of thumb of 10 suggested by Staiger and Stock (1994). These statistics suggest that our instruments are relevant. Moreover, assuming that at least one of the excluded instruments is properly excluded, the overidentification test suggests that the instruments are uncorrelated with the error term. Taken together, these tests show

¹⁸ Some readers may be concerned that using lags as instruments violates the exclusion restriction. Results without lagged aid variables are similar, however, diagnostic tests indicate the instrument set is much weaker (see Appendix 4).

¹⁹ We use 2nd lags. Adding further lags does not affect results.

reasonable support for the appropriateness of the instruments.

TABLE 4. (2SLS REGRESSIONS
INSTRUMENTING FOR BOTH FOREIGN AID AND WOMEN'S EMPOWERMENT)

	(1)	(2)	(3)
AidPC	1.74 (2.42)	1.98 (3.54)	2.32 (3.97)
AidPC*Women's Political Participation	-7.87** (3.52)		
AidPC*Women's Economic Empowerment		-6.80 (4.54)	
AidPC*Women's Social Empowerment			-7.68 (5.07)
Women's Political Participation	26.75** (11.66)		
Women's Economic Empowerment		14.01 (16.71)	
Women's Social Empowerment			20.89 (23.23)
Democracy	-0.29 (0.19)	-0.18 (0.18)	-0.20 (0.19)
GDP Per Capita	-8.31* (4.40)	-7.41* (4.42)	-7.98* (4.33)
Population Density	-0.65*** (0.11)	-0.61*** (0.12)	-0.62*** (0.13)
Public Health Expenditure Per Capita	-4.59*** (1.69)	-4.29*** (1.66)	-3.86** (1.64)
Observations	1,713	1,816	1,816
Number of countries	106	107	107
R-squared	0.74	0.72	0.72
Underidentification test			
Kleibergen–Paap rk LM statistic (p-value)	31.85 (.000)	32.02 (.000)	31.25 (.000)
Weak identification test			
Kleibergen–Paap Wald rk F statistic	82.10	69.12	85.91

Stock-Yogo weak ID test critical values (range)	(4.30-9.53)	(4.30-9.53)	(4.30-9.53)
Overidentification test			
Hansen J statistic (p-value)	0.91 (.635)	0.16 (.922)	0.15 (.925)

*All models include country- and year-fixed effects. Clustered robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$*

Focusing on results for our key variables, the 2SLS regressions provide similar, indeed slightly stronger, results than those of the OLS regressions. *AidPC* has no consistent effect on infant mortality when women’s empowerment is equal to zero. The interactions have slightly larger negative coefficients than the OLS regressions, indicating that the mediating effect of women’s empowerment is slightly larger in the 2SLS regressions. Moreover, as before, the interaction of aid and women’s political participation is significant at the 95% level, while those of the other dimensions are not, suggesting that the conditioning effect of political participation is stronger and more consistent than those of the other dimensions.²⁰

Next, we turn to results from the models employing women’s empowerment scores averaged over 1970-74 as proxies for the time-varying empowerment indices. These results are presented in Table 5. Since we continue to instrument for aid, the bottom half of the table presents diagnostic tests for the instruments, and these tests suggest that the instruments are reasonably strong. First-stage regressions are reported in Appendix 7.

**TABLE 5, (2SLS REGRESSIONS
USING 1970-74 WOMEN’S EMPOWERMENT MEASURES AND INSTRUMENTING FOR FOREIGN AID)**

	(1)	(2)	(3)
AidPC	1.62 (3.08)	-1.74 (3.49)	1.20 (4.62)
Women’s Political Participation	-9.86* (5.34)		
Women’s Economic Empowerment		-0.91 (4.95)	
Women’s Social Empowerment			-8.31

²⁰ Marginal effects analogous to those from our OLS regressions are essentially the same. Due to space constraints, we present these in appendix 6.

			(8.66)
Democracy	-0.28 (0.22)	-0.27 (0.20)	-0.24 (0.20)
GDP Per Capita	-9.71* (5.56)	-7.74 (5.35)	-7.76 (5.10)
Population Density	-0.80*** (0.14)	-0.67*** (0.15)	-0.66*** (0.15)
Public Health Expenditure Per Capita	-5.23** (2.05)	-4.52** (1.83)	-4.48** (1.76)
Observations	1,445	1,644	1,644
Number of countries	106	107	107
R-squared	0.72	0.72	0.72
Underidentification test			
Kleibergen–Paap rk LM statistic (p-value)	25.81 (.000)	16.69 (.000)	18.37 (.000)
Weak identification test			
Kleibergen–Paap Wald rk F statistic	58.41 (6.28-16.87)	45.95 (6.28-16.87)	28.51 (6.28-16.87)
Stock-Yogo weak ID test critical values (range)			
Overidentification test			
Hansen J statistic (p-value)	0.09 (.955)	0.37 (.831)	0.82 (.663)

*All models include country- and year-fixed effects. Clustered robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$*

The results using the proxies for women’s empowerment depict a similar picture. Except for Model 2, which uses the economic empowerment index, the coefficients on *AidPC* and the interaction terms are similar in magnitude across the models in Table 5, and across the different estimation methods employed in this paper. Moreover, although the variance around the coefficient on the interaction of aid and political participation is slightly larger than the corresponding variance in previous estimations, possibly due to larger measurement error, the coefficient is significant at the 90% level, and largest among the three models. This suggests once again that women’s political participation has the strongest moderating effect on aid.

In sum, while supportive of both hypotheses, our analyses provide stronger support for H1 which states that all things equal, the impact of foreign aid on children’s welfare will be more favorable with greater descriptive representation of women in government.

5. Conclusion

In the current political climate, with foreign aid budgets around the world likely to be cut, identifying conditions that ensure more is done with less could be critical to the lives of millions of people in developing countries. In this paper, we examine whether women's empowerment is one such condition. We argue that where women are empowered, they will use their rights, resources, and voice to help ensure that foreign aid is dedicated to projects that align with their priorities. Since previous work suggests that children's health ranks highly among issues of concern to women in developing countries (e.g., Morrison et al 2007, Schwindt-Bayer 2010), we argue that the impact of aid on child health outcomes will be more favorable where women are empowered.

We show that foreign aid is associated with greater reductions in infant mortality where women are more empowered, and this effect is strongest and most consistent when women are empowered politically. Our results thus suggest that aid can be made more effective by encouraging women in aid-recipient countries to enter public office. Our work also supports the case for using aid to increase women's political participation in aid-recipient countries.

While we found the mediating effects of economic and social empowerment to be weaker than that of political participation, more research on these aspects of empowerment is needed. We are more confident in the validity of the political participation index that we used in our analysis than the proxies for economic and social empowerment. Measuring the latter is not as straightforward because the concepts can encompass so many different empirical manifestations. Moreover, it is extremely difficult to measure the amount of benefits that non-elite women receive from various aid programs. Two countries with the same level of women's rights may receive the same dollar amount in aid, however, aid programs in those countries may differ in the degree to which they provide women with benefits, and this variation may influence outcomes. Estimating the impact of aid conditional on non-elite women's empowerment may require more nuanced micro-level analysis.

Finally, research on women in government suggests that in addition to child health care, women prioritize issues such as education, the environment, and social welfare policies. This suggests that aid to countries with more women in political office may be more effective at promoting other SDG goals, including reducing poverty and inequality, ensuring quality education for all, and pro-

tecting the environment, to name a few. Future research on these issues could prove instructive.

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APPENDIX

APPENDIX 1, (SUMMARY STATISTICS)

	count	mean	sd	min	max
Infant Mortality	1740	53.27	33.82	4.80	167.50
Log(ODA per capita)	1740	2.97	1.28	0	6.41
Women's Political Participation	1725	0.59	0.22	0.06	1.00
Women's Economic Empowerment	1740	0.64	0.21	0.01	0.96
Women's Social Empowerment	1740	0.64	0.20	0.08	0.95
Democracy	1739	2.34	6.09	-10	10
Log(Per capita GDP)	1740	7.42	1.09	4.87	11.12
Log(Population Density)	1740	379.56	132.58	32.07	706.03
Log(Per Capita Public Spending on Health)	1629	4.56	0.35	2.86	5.75

APPENDIX 2, (CORRELATION MATRIX)

	IMR	W.P.P	W.E.E	W.S.E.	ODA	Democ	GDP	Pop Den
Women's Political Participation	-0.22							
Women's Economic Empowerment	-0.37	0.35						
Women's Social Empowerment	-0.38	0.49	0.73					
Log(ODA/pop)	0.28	-0.08	0.07	-0.05				
Democracy	-0.34	0.33	0.55	0.51	-0.03			
Log(GDP/pop)	-0.74	0.12	0.32	0.32	-0.37	0.31		
Log(Population Density)	-0.15	0.13	0.03	0.02	-0.22	0.11	-0.12	
Log(Public Spending on Health/pop)	-0.26	0.21	0.05	0.12	-0.08	0.14	0.18	0.03

APPENDIX 3, (OLS REGRESSIONS WITH 2-YEAR LAGGED AID AND WOMEN'S EMPOWERMENT)

VARIABLES	(1)	(2)	(3)	(4)
	IMR	IMR	IMR	IMR
L2.AidPC	-1.43	1.53	1.26	1.62
	(0.86)	(1.81)	(2.53)	(2.90)
L2.AidPC*Political Participation		-5.51**		
		(2.70)		
L2.AidPC*Economic Empowerment			-4.12	
			(3.43)	
L2.AidPC*Social Empowerment				-4.96
				(3.92)
L2.Women's Political Participation		18.67*		
		(9.44)		
L2.Women's Economic Empowerment			6.38	
			(14.53)	
L2.Women's Social Empowerment				11.87
				(19.47)
Democracy	-0.30	-0.30*	-0.24	-0.25
	(0.19)	(0.18)	(0.18)	(0.18)
GDP Per Capita	-7.93*	-7.97*	-7.36	-7.83*
	(4.61)	(4.50)	(4.50)	(4.43)
Population Density	-0.61***	-0.63***	-0.59***	-0.59***
	(0.12)	(0.11)	(0.12)	(0.12)
Public Health Expenditure Per Capita	-4.04**	-4.59***	-4.18**	-3.88**
	(1.71)	(1.70)	(1.67)	(1.67)
Constant	360.74***	364.10***	346.25***	347.67***
	(71.37)	(67.87)	(71.05)	(73.09)
Observations	1,816	1,730	1,816	1,816
Countries	107	107	107	107
R-squared	0.72	0.74	0.72	0.72

*All models include country- and year-fixed effects. Clustered robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.10*

APPENDIX 4, (2SLS REGRESSIONS)
(WITHOUT LAGGED AID VARIABLES AS INSTRUMENTS)

	(1)	(2)	(3)
AidPC	4.13 (4.28)	0.79 (4.49)	3.17 (5.00)
AidPC*Women's Political Participation	-13.17* (7.74)		
AidPC*Women's Civil Liberties		-4.98 (5.62)	
AidPC*Women's Civil Society Participation			-9.48 (6.81)
Women's Political Participation	40.22** (20.25)		
Women's Civil Liberties		10.15 (17.66)	
Women's Civil Society Participation			26.62 (23.95)
Democracy	-0.22 (0.21)	-0.20 (0.21)	-0.18 (0.21)
GDP Per Capita	-8.14* (4.30)	-7.64* (4.59)	-7.87* (4.33)
Population Density	-0.64*** (0.12)	-0.62*** (0.14)	-0.63*** (0.14)
Public Health Expenditure Per Capita	-4.32** (1.69)	-4.25** (1.68)	-3.83** (1.63)
Observations	1,713	1,816	1,816
Number of countries	106	107	107
R-squared	0.72	0.72	0.72
Underidentification test			
Kleibergen–Paap rk LM statistic (p-value)	6.23 (.012)	9.75 (.002)	8.45 (.003)
Weak identification test			
Kleibergen–Paap Wald rk F statistic	4.06	15.77	12.51
Overidentification test			
Hansen J statistic (p-value)	Exactly identified	Exactly identified	Exactly identified

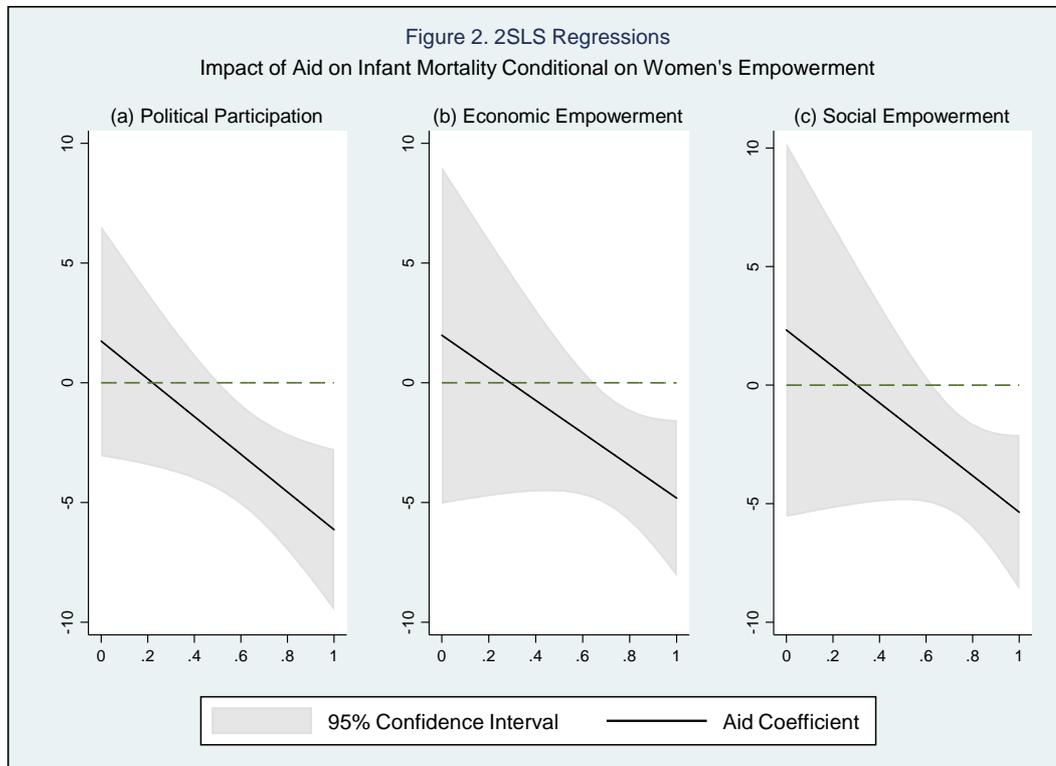
*All models include country- and year-fixed effects. Clustered robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$*

APPENDIX 5, (FIRST-STAGE RESULTS FOR TABLE 4)

	First-Stage Dependent Variables								
	L.AidPC	Political Participation L. AidPC* Pol Part	L. Pol part	L.AidPC	Economic Empowerment L. AidPC* Econ Emp	L. Econ Emp	L.AidPC	Social Empowerment L. AidPC* Soc Emp	L.Soc Emp
EXOGENOUS INSTRUMENTS									
L2.Aid Instrument	1.80 (1.25)	2.24** (1.02)	0.41 (0.25)	2.92* (1.50)	2.44** (0.95)	0.23 (0.23)	1.46 (1.54)	1.19 (1.08)	0.28 (0.25)
L2. Aid Inst*WE index	2.88 (2.12)	-0.14 (1.67)	-0.60* (0.34)	-0.20 (1.82)	-0.64 (1.25)	-0.34 (0.28)	2.34 (1.85)	1.22 (1.46)	-0.39 (0.31)
L2.AidPC	0.64*** (0.07)	-0.02 (0.05)	0.02** (0.01)	0.60*** (0.11)	-0.00 (0.06)	0.02** (0.01)	0.64*** (0.10)	-0.02 (0.06)	0.00 (0.01)
L2.AidPC*WE index	-0.19* (0.11)	0.60*** (0.08)	-0.02* (0.01)	-0.12 (0.13)	0.52*** (0.08)	-0.03** (0.01)	-0.17 (0.12)	0.57*** (0.09)	-0.00 (0.01)
L2.WE index	-0.01 (0.49)	0.45 (0.36)	0.93*** (0.06)	0.90*** (0.33)	1.11*** (0.24)	0.93*** (0.04)	0.46 (0.46)	0.67*** (0.29)	0.88*** (0.05)
OTHER SECOND STAGE REGRESSORS									
L. Democracy	0.02*** (0.00)	0.01*** (0.00)	0.00* (0.00)	0.01*** (0.00)	0.02*** (0.00)	0.00*** (0.00)	0.02*** (0.00)	0.02*** (0.00)	0.00*** (0.00)
L. GDP Per Capita	-0.04 (0.14)	-0.02 (0.10)	0.00 (0.02)	-0.06 (0.13)	-0.03 (0.10)	-0.01 (0.01)	-0.06 (0.13)	-0.07 (0.09)	-0.02** (0.01)
L. Population Density	-0.01** (0.00)	-0.00 (0.00)	0.00 (0.00)	-0.01** (0.00)	-0.00** (0.00)	0.00 (0.00)	-0.01** (0.00)	-0.01** (0.00)	-0.00 (0.00)
L.Public Health Exp/PC	-0.02 (0.05)	0.01 (0.04)	-0.00 (0.01)	0.00 (0.05)	-0.02 (0.04)	-0.01 (0.00)	-0.01 (0.05)	-0.00 (0.03)	-0.00 (0.00)
Test of Excluded Instruments F(p > F)	63.85 .000	30.45 .000	336.26 .000	17.30 .000	24.58 .000	369.09 .000	24.47 .000	27.70 .000	580.03 .000
Observations (Countries)	1713 (106)			1816 (107)			1816 (107)		

All models include country- and year-fixed effects. Clustered robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, *

APPENDIX 6, (MARGINAL EFFECTS FOR RESULTS IN TABLE 4)



APPENDIX 7, (FIRST-STAGE RESULTS FOR TABLE 5)

		First-Stage Dependent Variables				
	Political Participation L.AidPC Pol Part	Economic Empowerment L.AidPC Econ Emp	Social Empowerment L.AidPC Soc Emp	L.AidPC* Pol Part	L.AidPC* Econ Emp	L.AidPC* Soc Emp
EXOGENOUS INSTRUMENTS						
L2.Aid Instrument	2.56** (1.23)	0.42 (0.44)	4.10*** (1.17)	1.73*** (0.55)	2.93** (1.39)	0.87** (0.33)
L2. Aid Inst*WE Index	3.47* (2.02)	2.57** (1.10)	-4.78*** (1.65)	-1.82** (0.85)	0.06 (2.14)	0.01 (0.91)
L2.AidPC	0.55*** (0.07)	-0.04 (0.03)	0.57*** (0.08)	-0.03 (0.03)	0.49*** (0.12)	-0.01 (0.04)
L2.AidPC* WE index	-0.11 (0.12)	0.63*** (0.08)	-0.08 (0.12)	0.58*** (0.07)	0.14 (0.24)	0.58*** (0.10)
OTHER SECOND STAGE REGRESSORS						
L. Democracy	0.02*** (0.00)	0.01*** (0.00)	0.02*** (0.00)	0.01*** (0.00)	0.02*** (0.00)	0.01*** (0.00)
L. GDP Per Capita	-0.09 (0.16)	-0.06 (0.07)	-0.05 (0.14)	0.08 (0.08)	-0.05 (0.14)	-0.01 (0.06)
L. Population Density	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	0.00 (0.00)	-0.00* (0.00)	-0.00 (0.00)
L.Public Health Exp/PC	-0.04 (0.06)	-0.01 (0.02)	-0.00 (0.05)	-0.03 (0.03)	-0.02 (0.05)	-0.00 (0.02)
Test of Excluded Instruments F(p > F)	32.91 .000	63.66 .000	38.70 .000	26.75 .000	11.73 .000	10.97 .000
Observations (Countries)	1445 (81)		1644 (94)		1644 (94)	

APPENDIX 8, (FOREIGN AID, WOMEN'S EMPOWERMENT AND CHILD MORTALITY)
(OLS REGRESSIONS WITH COUNTRY AND YEAR FIXED EFFECTS)

Dependent variable:	(1)	(2)	(3)	(4)
	CMR	CMR	CMR	CMR
AidPC	-1.90 (1.65)	3.99 (3.48)	4.09 (5.09)	6.96 (5.69)
AidPC*Political Participation		-11.01** (5.05)		
AidPC*Economic Empowerment			-9.25 (6.73)	
AidPC*Social Empowerment				-14.12* (7.61)
Women's Political Participation		37.30** (17.19)		
Women's Economic Empowerment			17.56 (28.37)	
Women's Social Empowerment				29.60 (36.53)
Democracy	-0.59 (0.36)	-0.59* (0.34)	-0.47 (0.34)	-0.42 (0.35)
GDP Per Capita	-7.78 (8.56)	-10.66 (7.88)	-6.67 (8.46)	-7.86 (8.12)
Population Density	-1.40*** (0.27)	-1.46*** (0.24)	-1.38*** (0.27)	-1.39*** (0.27)
Public Health Expenditure Per Capita	-6.53** (2.67)	-6.83** (2.69)	-6.82** (2.62)	-6.13** (2.61)
Constant	701.03*** (135.30)	724.59*** (126.43)	674.42*** (136.61)	675.77*** (137.22)
Observations	1,816	1,740	1,816	1,816
Countries	107	107	107	107
R-squared	0.69	0.72	0.69	0.70

*All models include country- and year-fixed effects. Clustered robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$*

APPENDIX 9, (2SLS REGRESSIONS OF CHILD MORTALITY ON AID AND EMPOWERMENT)
(INSTRUMENTING FOR BOTH FOREIGN AID AND WOMEN'S EMPOWERMENT)

VARIABLES	(1) CMR	(2) CMR	(3) CMR
AidPC	3.67 (4.70)	3.25 (6.78)	7.12 (7.80)
AidPC*Women's Political Participation	-14.47** (6.70)		
AidPC*Women's Economic Empowerment		-11.37 (8.64)	
AidPC*Women's Social Empowerment			-17.68* (9.94)
Women's Political Participation	51.51** (22.09)		
Women's Economic Empowerment		28.66 (32.83)	
Women's Social Empowerment			44.38 (44.64)
Democracy	-0.47 (0.35)	-0.42 (0.35)	-0.35 (0.35)
GDP Per Capita	-8.56 (7.18)	-6.38 (8.34)	-7.52 (7.90)
Population Density	-1.46*** (0.23)	-1.42*** (0.27)	-1.43*** (0.27)
Public Health Expenditure Per Capita	-7.91*** (2.74)	-6.96*** (2.57)	-6.26** (2.55)
Observations	1,713	1,816	1,816
Countries	106	107	107
R-squared	0.72	0.69	0.69
Underidentification test Kleibergen–Paap rk LM statistic (p-value)	31.85 (.000)	32.02 (.000)	31.25 (.000)
Weak identification test Kleibergen–Paap Wald rk F statistic	82.10 (4.30-9.53)	69.12 (4.30-9.53)	85.91 (4.30-9.53)
Stock-Yogo weak ID test critical values (range)			
Overidentification test Hansen J statistic (p-value)	1.49 (.476)	0.42 (.810)	0.46 (.796)

*All models include country- and year-fixed effects. Clustered robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$*

APPENDIX 10, (2SLS REGRESSIONS OF CHILD MORTALITY ON AID AND EMPOWERMENT)
(USING 1970-74 WOMEN'S EMPOWERMENT MEASURES AND INSTRUMENTING FOR FOREIGN AID)

VARIABLES	(1) CMR	(2) CMR	(3) CMR
AidPC	4.66 (6.27)	-3.32 (6.86)	2.47 (9.16)
AidPC*Women's Political Participation	-20.09* (10.38)		
AidPC*Women's Economic Empowerment		1.03 (9.31)	
AidPC*Women's Social Empowerment			-13.81 (16.47)
Democracy	-0.51 (0.40)	-0.55 (0.38)	-0.48 (0.36)
GDP Per Capita	-8.80 (10.54)	-7.37 (10.34)	-6.80 (9.64)
Population Density	-1.80*** (0.32)	-1.57*** (0.33)	-1.54*** (0.32)
Public Health Expenditure Per Capita	-8.67*** (3.28)	-7.19** (2.93)	-7.23*** (2.78)
Observations	1,445	1,644	1,644
Countries	81	94	94
R-squared	0.69	0.69	0.69
Underidentification test			
Kleibergen–Paap rk LM statistic (p-value)	25.81 (.000)	16.69 (.000)	18.37 (.000)
Weak identification test			
Kleibergen–Paap Wald rk F statistic	58.41	45.95	28.51
Stock-Yogo weak ID test critical values (range)	(4.73-11.04)	(4.73-11.04)	(4.73-11.04)
Overidentification test			
Hansen J statistic (p-value)	0.14 (.935)	0.05 (.974)	0.41 (.815)

*All models include country- and year-fixed effects. Clustered robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$*