Gendered aid and women legal empowerment

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Abstract

This study advances our understanding of the role of international cooperation in improving women's economic rights in non-OECD countries. We empirically assess whether aid given for gender equality objectives is associated with women's legal empowerment in recipient countries. Based on the recently compiled Women, Business and Law (WBL) database of legislative rules and regulations affecting gender equality, we show that gender-marked aid transfers are followed by legal reforms for gender equality in the sample of over 100 recipient countries from 1990 to 2019. We use a two-way panel fixed effects estimation strategy augmented with a recipient-specific temporal unobserved heterogeneity term and, alternatively, an instrumental variable approach to identify the effects of gender-marked aid on women's legal empowerment. Our findings show that women's legal empowerment improves, not only with funding that is targeted specifically at promoting women's rights, but also when gender equality is mainstreamed in projects and programs targeted at all sectors of the economy. This study also has implications for the broader literature on globalization and women's economic rights.

Keywords: foreign aid, gender, development, cross-country panel, legal rights

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Introduction

Gender equality first emerged as a priority of the international community during the United Nations World Conference on Women in 1975, which was followed by the Beijing Declaration and Platform of Action in 1995. Since then UN member states have reaffirmed their commitment to eliminating gender gaps with the adoption of the Millennium Development Goals in 2000, and the Sustainable Development Goals in 2015. Empowering women where gender gaps exist is considered an effective means of achieving other development goals (e.g. Klasen, 2020, Kabeer and Natali 2013, Duflo, 2012, World Bank 2011, Sen, 1989). Accordingly, many bilateral and multilateral donors have been funding projects targeted specifically at empowering women as well as incorporating the objective of gender equality in other aid projects and programs—a strategy often referred to as gender mainstreaming (UN, 2002).

Does gender-focused aid promote gender equality? The bulk of research on the relationship between foreign aid and gender performance focuses on whether the latter influences donors' allocation of aid. These studies investigate whether donors provide aid to help reduce gender gaps or to reward developing countries for promoting gender equality (e.g., Dreher, Gehring and Klasen 2015, Hicks and Maldonado 2020, Okundaye and Breuning 2021). In line with the idea that donors reward countries that reduce gender gaps with more foreign aid, other studies argue that aid-dependent countries adopt quotas to promote women's representation in legislatures as a means to ensure continuing aid flows (Bush 2011, Edgell 2017). In general, previous research does not consider whether funding aid interventions with a gender focus advances the legal status of women and girls.[3]

We investigate this very question of whether development aid marked for gender equality is related to the betterment of the legislative environment for women's economic rights and opportunities in the recipient countries. We estimate this relationship based on the recently compiled rich data on gender equality laws for over 190 countries since the 1970s stemming from Women Business and Law (WBL) database, developed and made publicly available by the World Bank, and gender-marked aid data provided in the OECD Aid Statistics database covering the period from 1990 to 2019 for a sample over 100 countries.

As the main estimation strategy, we employ a two-way panel fixed effects method augmented with recipient-specific temporal unobserved heterogeneity term(s) and a set of control variables. Our findings show that the share of gender aid in overall aid received by a

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[3] With the exception of Edgell (2017), whose work is noted below and Beath, Christia and Enikopolov (2013) who provide evidence from a field experiment in Afghanistan on positive effect of aid on women empowerment.

country is positively associated with women's legal empowerment. The estimated parameter on the lagged share of aid from the most preferred specification shows that on average, for a gender-focused aid to generate a one point increase in the WBL score (0-100) within a country, it should see an increase by 20 percentage points. Given that the average share of gender-focused assistance received by a country is 13 percent, 1-point increase in the WBL score would require an increase to 32 percent, on average. Several countries have received such large amounts of gender-focus aid.. We additionally employ an instrumental variable approach using an interaction term between donor share of women in the government positions and probability of receiving gender focused aid as the instrument. The findings from the IV estimation are consistent with the main findings of our study.

Overall, the results of this study suggest that an increased share of gender-focused aid in the overall aid disbursements is followed by improvements in women's economic rights, not only when funding is targeted specifically at promoting women's rights, but also when gender equality is mainstreamed in projects and programs undertaken for other purposes. We find weak evidence that countries that reduce legal discrimination against women receive more gender-focused aid pledges contemporaneously.

Majority of studies that examine whether gender-focused aid is effective in reducing gender inequality consist of specific project evaluations by donor agencies. Syntheses of these evaluations indicate that the results of projects are mixed.[4] Macro-level studies are few and concentrate on political empowerment. Edgell (2017) examines the impact of gender-focused aid commitments on the adoption of gender quotas. Baliamoune-Lutz (2016) examines the impact of aid on the share of women in legislative office as well as gender quotas, however, her sample is restricted to countries in the Middle East and North Africa.

We build on this research in three ways. First, we focus on women's legal empowerment in the economic sphere, in large part because women's economic inclusion is crucial to increasing productivity and development, the explicitly stated goal of donors' official development assistance (OECD 2010; 2014). Second, we consider the effect not only of aid provided for projects whose principal goal is gender equality but include the broader class of aid projects in which gender equality has been mainstreamed. We argue that including a gender perspective in projects targeted toward different sectors of the economy can have a wider impact on women's rights. Finally, we perform a more comprehensive analysis than previous studies in an attempt to establish that financing projects with a gender perspective indeed works to improve women's economic rights and legal empowerment.

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[4] See, for example, the studies discussed in various synthesis reports (Domingo et al. 2012, Garcia, Skinner and Pennarz 2017, Risby and Keller 2012)

Our work builds on the literature on the sectoral analysis of aid effectiveness, which has focused mainly on aid for education, health and trade (Dreher, Nunnenkamp, Thiele 2008; Mishra and Newhouse 2009; d'Aiglepierre and Wagner 2013; Jones and Tarp, 2016; Temple and Van de Sijpe 2017; Doucouliagos, Hennessy, Mallick 2021). Our results show that providing aid for gender equality is effective at least in promoting women's legal rights. Also, noteworthy, we show that although the strategy of gender mainstreaming has been much criticized since its inception (Caglar 2013, Rao and Kelleher 2005), foreign aid projects in which gender equality has been mainstreamed do appear to be associated with positive changes for women in the legal landscape. Taken together with results from other studies on sectoral aid, our work suggests that targeting aid for specific purposes can be effective. Sectoral analysis can help reconcile the mixed results found in studies that focus on aggregate aid and development.[5]

This study also contributes to the broader literature on the determinants of women's economic rights, which has tended to focus on domestic forces, such as technological, cultural and other changes associated with development, or international forces, such as transnational advocacy and globalization of trade and investment. This literature has so far ignored the impact of foreign aid. Given the increasing amount of aid targeted toward gender equality and women's empowerment, we suggest that studies on women's economic rights would benefit from consideration of foreign aid as well.

Perspectives on Women's Legal Rights

Attention to women's legal rights has been increasing since the adoption of the United Nations Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) in 1979. A growing number of studies have been highlighting the benefits to societies as a whole from the promotion of women's rights (e.g., World Bank 2011, Doepke, Tertilt and Voena 2012). Thus, it comes as no surprise that the international community has developed two successive action plans that list gender equality among its goals, the Millennium Development Goals adopted in 2000 and the Sustainable Development Goals espoused in 2015. Yet, while some countries have made great strides in promoting women's rights, others continue to lag.

What explains variation in women's rights across countries and over time? Current theories attribute the nature of women's rights to domestic or international factors. Among domestic factors, one condition often invoked is culture. As Norris and Inglehart (2004) argue,

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[5] See, for example, reviews of the literature on the effects of aggregate development aid on growth (Doucouliagos and Paldam 2009, Mekasha and Tarp 2013).

for example, different religious traditions display certain ideas about gender, and these long-standing traditions have an enduring impact on contemporary values of men and women, which are then institutionalized in policy and laws. This explanation generally depicts culture as inhibiting improvements in women's rights. It leaves open the question of why ideas about gender roles change, and how women have gained significant legal rights in many societies.

Doepke, Tertilt and Voena (2012) suggest that cultural change is underpinned by economic change. They advance a theory, claiming that technological change can alter men's attitudes towards women such that the former, who initially have all legal power, agree to endow the latter with economic rights. The theory assumes that men's utility is in part derived from the number and well-being of their descendants. The theory implies that if the technological change increases the return to education, a man would care greatly not only about the education of sons, but also the education of daughters, who would then have higher bargaining power vis-à-vis their husbands, and ensure higher investment in education for the man's grandchildren, both male and female. With higher education, in addition to more decision-making power in the household, women would have opportunities to enter the labor market, where they would be exposed to new ideas and have greater prospects for political mobilization and further advancement of their rights (Banaszak and Leighley 1991, Cherif 2010). In this way, technological change that increases the demand for human capital promotes women's rights.

In addition to the above domestic conditions, scholars have also attributed changes in women's rights around the world to the diffusion of international norms through transnational advocacy groups, international law, and international institutions. As Keck and Sikkink (1998) argue, international and transnational actors act as norm entrepreneurs, lobbying states to adopt norms and conventions following their preferences. The driving forces behind this argument are ideas and persuasion. New gender norms must resonate with key audiences, who can persuade a sufficient number of actors such that a tipping point is reached, and the new norms are eventually institutionalized and internalized by the majority (Finnemore and Sikkink 1998). In terms of women's rights, the United Nations and various women's INGOs could be viewed as norm entrepreneurs, and the ratification of the CEDAW Convention as the cascading of gender equality norms around the world, leading to the institutionalization of women's rights within countries.

Finally, globalization in trade and foreign direct investment are international forces that have also been invoked as affecting women's rights, although there has been debate over the direction of this effect. As Neumayer and De Soysa (2011) point out, globalization critics see trade and foreign direct investment (FDI) links as leading to lower labor standards due to the profit motives of mobile global capital. It is assumed that lower standards would make

countries more attractive to trade partners and multinational corporations. Enhancing women's economic and social rights would exacerbate this "race to the bottom" effect by adding to production costs, and providing incentives for developing countries to avoid reforms. Advocates of globalization, on the other hand, argue that trade openness and FDI would promote women's rights. They would provide women with increased opportunities for employment, and government incentives to invest in education which could decrease gender gaps in education, and ultimately, increase women's bargaining power and rights (Neumayer and De Soysa 2011, Ouedraogo and Marlet 2018).

Without directly disputing the above theories on women's rights, following Hyland et al. (2020), we argue that the push to promote gender equality and reduce discrimination against women also stems from bilateral and multilateral organizations. Previous studies suggest that donors can incentivize governments to adopt legislation promoting women's rights through the promise of future aid flows (Bush 2011, Edgell 2017, Donno, Fox and Kaasik 2022). Scholars who espouse this view argue that women's rights are now considered part and parcel of a set of norms associated with democracy, a broader goal that many donors prioritize; however, improvement in one dimension within this bundle of norms is not necessarily linked to progress in others. For some leaders, promoting women's rights may be politically less costly than other democratic reforms. The bundling of women's rights with other reforms may thus provide political incumbents with a less costly means of signaling adherence to the liberal norms of donors. Consequently, leaders who depend on foreign aid for their political survival may be willing to supply policies protecting women's rights, expecting to be rewarded with continued aid flows, even as they avoid more politically difficult reforms.

The above perspective assumes that governments will be motivated to promote women's rights, whether or not financial assistance is directly targeted toward improving the status of women. We contend, however, that the promise of overall aid *per se* is not sufficient to advance women's legal status. Rather, the aid provided must include interventions that promote gender equality, and the greater the share of aid for projects linked to gender equality, the more likely recipient governments are to adopt legal protections for women. How might this *gender-focused aid* advance the legal status of women? We outline three possibilities below.

First, gender-focused interventions can help governments already motivated to promote gender equality accomplish this goal. There are many reasons governments may want to empower women. Leaders may have internalized the gender norms advocated by international and transnational actors. They may believe gender equality is a means to other goals, such as economic development or better governance. They may even be motivated by necessity and increased labor demand, as occurred in Rwanda where there was a shortage of

males following the 1994 genocide.[6] In Kazakhstan, the European Bank for Reconstruction and Development (EBRD) in partnership with the national government and public infrastructure sector, helped to reform the legislation, which was preventing women from becoming bus drivers. In Kenya, a USAID project on sustainable water and sanitation called for program activities to be implemented in a way that leveraged women's leadership in water supply management (USAID 2015). That is, the demand for gender-equal reforms may come both from national governments and from the bilateral or multilateral aid organizations. In both cases, the recipient governments may lack the resources and knowledge to achieve this goal and gender-focused aid can be instrumental in such a case.

Under these circumstances, donors can reinforce governments' desire to advance women's rights.[7] They can provide technical and financial assistance to help governments design effective gender-responsive policies and programs. Through their targeted interventions, they can help strengthen developing country governments' capacity to design and implement further reforms. For example, in 2013, USAID supported a project that provided the Egyptian government with assistance in drafting legal protections against sexual harassment. The project also facilitated coordination between the country's Ministry of Justice, National Council of Women, and other stakeholders as they developed Egypt's first National Strategy on Combating Violence against Women.[8]

Second, donors can promote women's rights in the near term by providing aid to strengthen women's organizations currently advocating for these rights. Financial and technical assistance can help these organizations scale-up their capacity to raise funds, organize, and mobilize supporters. Aid can also facilitate the creation of networks between organizations within and across countries in order to amplify their voices. With donors' support, women's organizations may be able to generate sufficient pressure to bring about improvements in women's legal status. For example, Norway's support to women's organizations in Mozambique is reported to have enabled the latter to influence political debates on the country's Family Law and Law against Domestic Violence (Jones et al. 2015).[9] Similarly, with financial assistance from Canada, domestic and regional women's rights organizations in Tanzania helped revise the country's Political Parties Act to include provisions increasing

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[6] De Walque, D., & Verwimp, P. (2010). The demographic and socio-economic distribution of excess mortality during the 1994 genocide in Rwanda. *Journal of African Economies*, *19*(2), 141-162.

[7] This argument is similar to that of Ariotti, Dietrich and Wright (2021) who point out that incumbents have incentives to adopt judicial reforms, which donors can reinforce with the provision of aid.

[8] https://www.usaid.gov/egypt/documents/fact-sheet-safe-cities-free-violence-against-women-and-girls

[9] Jones et al. (2015). Evaluation of Norway's support to women's rights and gender equality in development cooperation. Norwegian Agency for Development Cooperation.

meaningful representation of women.[10] Consistent with this argument, Baliamoune-Lutz (2016) find that in the Middle East, aid directed at women's organizations is positively associated with the proportion of seats held by women in national legislatures.

Finally, donors can use aid provided for other purposes prioritized by developing country governments to generate bottom-up pressure that can bring about changes in women's rights in the longer-run. More specifically, they can condition their aid on the inclusion of components promoting gender equality—a strategy referred to as gender mainstreaming. While some governments may prefer not to transform gender relations, if they perceive that the benefits of aid to other sectors outweigh the costs of empowering women, they have an incentive to accept aid that integrates these gender components. For example, a USAID financed project to promote sustainable cocoa production in Vietnam includes training on how gender dynamics affects productivity and economic growth as well as quotas for women to participate in training as farmers and facilitators.[11] While much of this assistance is not explicitly targeted at legal reforms, like aid to women's organizations, it can create conditions that make it difficult for governments to ignore demands for women's rights.

In particular, gender-marked aid projects typically provide women with the education, skills and/or capital that enable them to work in the formal sector or start small business enterprises. Having independent sources of income increases the status of women within their households as well as their communities. Improved economic standing inspires higher levels of confidence and increases women's willingness to defend their interests (Chafetz 1990;[12] Cherif 2010). For example, a program financed by Australia and the UK provided Bangladeshi women with capital to invest as they saw fit. The women subsequently reported attending more community meetings than those who were not part of the program. Of those that attended meetings, 94%, 92% and 95% reported raising an issue or concern, actively participating in discussions, and casting a vote towards the decision being made, respectively.[13] These results are consistent with research that demonstrates that education and labor force participation are associated with greater political activity, which can be directed toward advancing women's rights (e.g., Brady, Verba and Schlozman 1995; Glaeser, Ponzetto and Shleifer 2007; Inglehart and Norris 2003).[14]

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[10] https://w05.international.gc.ca/projectbrowser-banqueprojets/project-projet/details/D004861001?lang=eng
[11] https://www.usaid.gov/sites/default/files/documents/1861/USAID_Vietnam_Gender_Analysis_Final_Report_Nov_2012.pdf
[12] Chafetz, J. S. Gender equity: An integrated theory of stability and change 1990 Newbury Park.
[13] http://www.ichoc.com/01uom/docs/07/notes2.pdf
[14] Glaeser, E. L., Ponzetto, G. A., & Shleifer, A. (2007). Why does democracy need education?. *Journal of economic growth*, *12*(2), 77-99.

Gender-marked development assistance also often provides women with opportunities to connect with other women where they can discuss shared interests. The USAID project in Vietnam cited earlier helped build "a network of female leaders in the cocoa sector through regional and national meetings"(Ray-Ross 2012: 34). [15] The opportunity to connect with others while at work or in other social contexts increases women's prospects for political coordination and the promotion of their rights through legislation (Bishin and Cherif 2017; Mutz and Mondak 2006).[16] Recent work documents that domestic women's movements are critical to the adoption of policies to combat violence against women (Weldon 2002, Htun and Weldon 2012) as well as quotas promoting women's participation in politics (Kang and Tripp 2018).

Finally, gender-marked interventions also often include components that raise awareness about the intrinsic as well as instrumental value of equal rights for women. They highlight how empowering women benefits households and communities as a whole by increasing productivity and reducing poverty. They reduce stereotyping of women's abilities and transform preferences, not only of women, but also among men. Women enrolled in the Bangladesh project cited earlier[17] reported experiencing increased respect from their husbands and communities as a consequence of their ability to earn independent incomes. Similarly, political elites may eventually recognize the strategic advantages of promoting women's rights as women's socioeconomic status and capacity to mobilize collectively increases (Bishin and Cherif 2017; Caul 2001; Htun and Jones 2002).

Based on the discussion above, we derive the following hypothesis: Women's legal economic status is an increasing function of the share of aid for projects with gender equality as an objective.

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[15] https://www.usaid.gov/sites/default/files/documents/1861/USAID_Vietnam_Gender_Analysis_Final_Report_Nov_2012.pdf

[16] Bishin, B. G., & Cherif, F. M. (2017). Women, Property Rights, and Islam. *Comparative Politics*, *49*(4), 501-520. Mutz, D. C., & Mondak, J. J. (2006). The workplace as a context for cross-cutting political discourse. *The Journal of Politics*, *68*(1), 140-155.

[17] http://www.ichoc.com/01uom/docs/07/notes2.pdf

Data and descriptive statistics

We use a newly constructed Women's Business and Law (WBL) database by Hyland et al. (2020) to measure women's legal empowerment over time across countries. The WBL database is built on legal information (e.g. Legal Acts, Codes) in each country thanks to a collaborative effort of legal experts at the Bank and the local experts, such as lawyers, judges, civil society representatives, and public officials. The database tracks the legal rights of women and men along eight dimensions of women empowerment such as *workplace, mobility, pay, marriage, parenthood, entrepreneurship, assets,* and *pensions*. It is a cumulative indicator based on these eight dimensions (aggregated over 35 legislative issues) and ranges from 0 to 100, where 100 means legal equality between men and women. An increase in the WBL index indicates a legal change for achieving gender equality along the eight dimensions of 32 legislative issues of empowerment. It is an objective measure well suited for cross-country comparison of women's legal economic rights across time and space (Hyland et al. 2020).[18] Our sample of countries includes over 100 ODA recipient countries observed over 30 years, it excludes small island countries.

Women's legal empowerment has been on an upward trend since the 1990s, and this progress has been faster in some regions than in others in the last decades (see Figure 1). For example, Sub-Saharan African (SSF) countries made more reforms in the last decades than East Asian countries (EAS) and caught up with that region in terms of women's rights. Figure A3 in the Appendix, also shows that this region has been getting the largest share of gender-focused aid. South Asian (SAS) and Middle Eastern (MEA) countries have been reforming as well but women's legal empowerment in these regions is still the lowest relative to the rest. Among the aid recipient countries, those in Latin America (LCN) and Eastern Europe, and Central Asia (ECS) have the highest scores in the last 30 years. While the average WBL score in the sample of countries is around 60, which is equivalent to women having only 60 percent of the economic rights men have in the aid-recipient countries, for countries in Latin America and Eastern and Central Europe, in three decades the average WBL score increased from below 60 early 1990s to above 80.

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[18] WBL does not cover reproductive rights nor affirmative actions or quotas as it only focuses on negative discrimination and rewards countries whose laws treat men and women equally. It records changes in laws based on legal acts and codes, which implies that it does not provide any information on the implementation of these laws. Clearly, de-jure empowerment does not imply one-to-one de-facto empowerment as in practice local traditions and cultural norms may overrule legal rights. Yet, studies show that changes in legal environment can also lead to changes in norms and values on the ground (see Lazarev, 2019 and literature discussion therein).

Figure 1 – Trend in Women's Business and Law Index, regional averages, 1990-2019
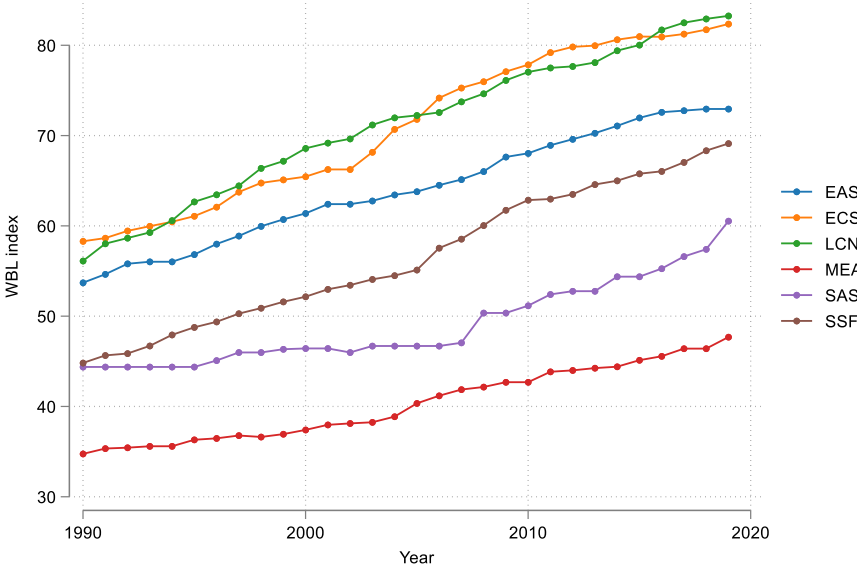
We use OECD aid statistics to calculate the share and volume of gender-focused aid disbursements. The Creditor Reporting System, which is part of the OECD aid database, provides a gender marker for bilateral and multilateral official development assistance (ODA) at the *purpose*, sector, donor, recipient, and year level. The gender marker records whether aid commitments and disbursements for each purpose (i.e., project/program) have gender equality as either principal (coded as 2) or significant (coded as 1) objective. Aid activities found not to target gender equality at all are assigned a "not targeted (coded as 0). Thus, donors have been providing aid not only for projects whose principal objective is gender equality but they have also incorporated gendered perspectives or "mainstreamed" gender equality in the aid projects undertaken for other purposes.[19]

As Figure 2 shows, since 1990s, the share of gender-focused aid including both types of projects has increased from less than 10 percent before 1999 to more than 25% in 2019. Similarly, in the last 15 years, the gender-focused aid disbursements quadrupled from 5 billion (constant) USD in 2005 to 20 billion (constant) USD in 2019 (see appendix Figure A1). Additionally, Figure 3 below and Figure A2 in the Appendix show a positive relationship between (share of) gender-focused aid disbursements and WBL score.

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[19] The OECD database notes that "donors that mainstream gender equality—and thus integrate it into their projects across a range of sectors—are more likely to allocate the marker score 'significant' to their aid activities." https://stats.oecd.org/Index.aspx?DataSetCode=DV_DCD_GENDER

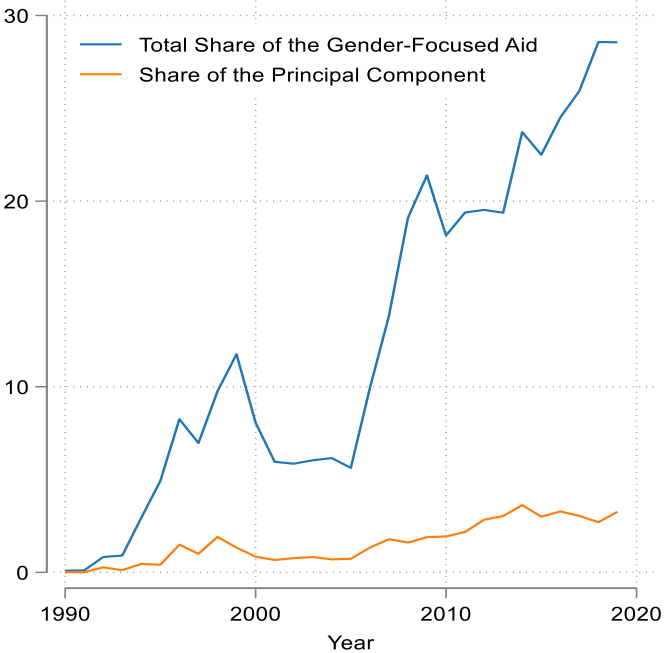Figure 2 – Share of gender-focused aid disbursements, 1990-2019.
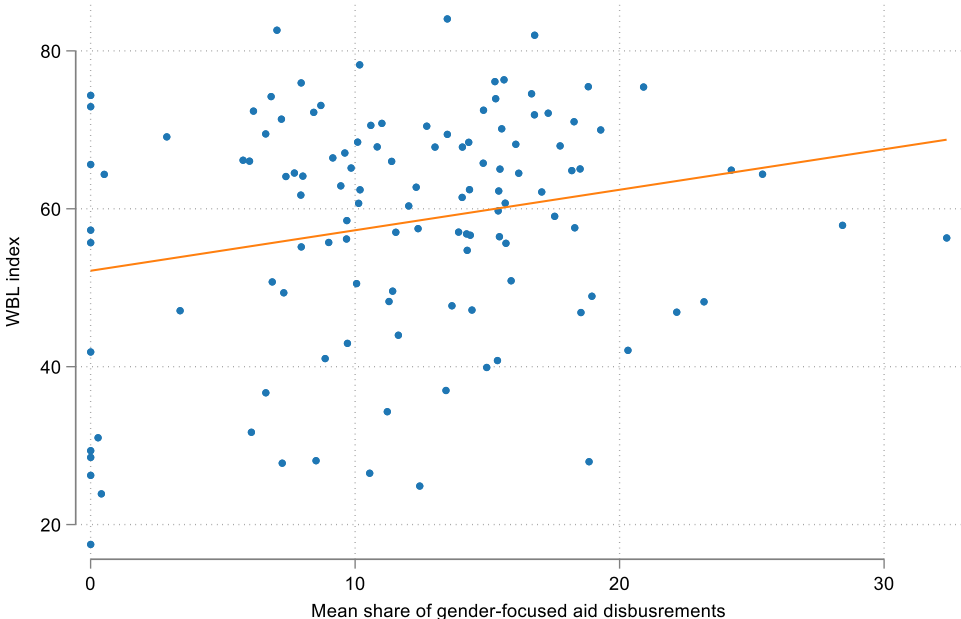
Figure 3 – Cross-country correlation between WBL and share of gender-focused aid disbursements.

In our main analysis, we focus on the share of gender-focused aid disbursements in the total official development assistance (ODA) received by each country annually but we also show results for the level of gender-focused aid. We calculate gender-focused (gender-marked) aid based on the share of aid that is marked as having either a principal or significant gender component in the Creditor Reporting System of OECD/DAC Aid Statistics. (OECD DAC CRS, 2020).

Table 1 presents the summary statistics of the variables used in our analysis with a sample size of 1516 observations based on unbalanced panel data. The average WBL score in the sample is 61.9, a minimum of 23.8 and a maximum of 95, implying a great heterogeneity between the countries. The average share of gender-focused aid (both primary and significant components) in the total aid disbursements is 13.8 percent, ranging from 0 to 66 percent. In our analysis, we control for factors that may influence both shares of gender-marked aid received by countries and improvements in the legal environment for gender equality. One such factor that is the share of women in parliament in aid recipient countries. We use data on the share of seats held by women in the national parliaments provided by the database of the Inter-Parliamentary Union and the World Bank. It is important to control for this variable, as a higher share of women in parliament can lead to changes in laws that benefit women's economic opportunities (Kittilson, 2008, Gehring et al. 2015). In our sample, the average share of women in parliament is 15.2 percent. As a reference, in donor countries that are members of the Development Assistance Committee (DAC), the average share of women in parliament is somewhat higher, ranging between 20 to 40 percent (not included in the table).

Table 1. Summary statistics

	mean	sd	min	max
WBL score	61.9	16.2	23.8	95.0
Share of gender-focused aid	13.8	11.7	0.0	66.0
Share of women in parliament	15.2	10.9	0.0	61.3
Trade/GDP ratio	72.3	38.6	0.0	348.0
Total fertility rate	3.5	1.6	1.2	7.8
FDI/GDP (net inflow)	3.4	5.1	-11.2	122.5
FLFP, Total	53.1	18.7	6.3	90.9
FLFP, 15-24 ages	38.9	17.2	4.8	82.8
Number of major constitutional changes	0.1	0.2	0.0	3.0
Gender parity index in enrollment	0.9	0.1	0.4	1.2
Domestic conflict index (Weighted)	0.0	0.1	0.0	1.6
Battle-related deaths (0/1)	0.2	0.4	0.0	1.0
GDP p.c. (ln)	7.8	1.0	5.3	10.4
Observations	1516			

Previous research shows that globalization, such as trade and FDI may also influence women's economic rights, therefore we include these control variables in our analysis. The share of trade volume (imports and exports) over GDP is 76 percent for the average country in our sample, implying a relatively open economy. The share of FDI inflows over GDP for an average country in our sample is about four percent, which is not high but not unusual as most of the foreign direct investments take place between richer economies. The country's income level may determine both women's legal rights and share of gender-focused aid, therefore we also control for (natural log of) GDP per capita in our sample. The average country in our sample has a GDP per capita of 2054 in constant USD. Data on trade, FDI inflows, and GDP per capita are from the World Bank Development Indicators database.

Earlier studies have shown that a decrease in married women's labor force participation and an increase in unmarried women's labor supply can promote women's economic participation and bring legal changes (Goldin and Olivietti, 2013). To control for differences in the structure and dynamics of supply and demand for women's labor force, we include measures of female labor force participation of all women, labor force participation of younger women in the 15-24 age group as well as total fertility rates in the analysis. The descriptive statistics show that, on average, about 53 percent of all women in our sample participate in the labor market, and about 39 percent of women aged 15-24 are in the labor force, implying that most of the total female labor force participation is generated by the young adult females (likely unmarried), which may be correlated with more gender equal economic rights, giving opportunities to young women to work outside the home. The average fertility rate in the sample is 3.5, implying an average a woman in our sample of countries has more than 3 children during her reproductive lifetime. We sourced all the three variables from the World Bank Development Indicators. Besides the female labor force and fertility rates, we also control for the gender gap in primary and secondary school enrollment, using the Gender Parity Index from the UNESCO Institute for Statistics.[20] We control for the GPI as this measure is likely to capture underlying country-specific factors related to the values and attitudes towards equal treatment of girls and boys early on. The average country in our sample has moderate gender gaps in school enrollment as the sample average is 0.9, yet there is quite some heterogeneity in the sample ranging from large gaps, hurting girls (0.4) and boys (1.2).

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[20] The GPI is the ratio of female to male gross enrollment for primary and secondary enrollment. The GPI values range from 0 to 1, where 1 indicates perfect parity and values less than 1 indicate disparity between females and males in gross enrollment rates for secondary and primary schooling.

Furthermore, countries that experience internal or external conflict events may suffer more from gender inequality and lack behind in women's economic rights (Hudson et al, 2012, Mavisakalyan and Minasyan, forthcoming). Therefore, we use a weighted domestic conflict score from the Cross-National Time-Series database (Banks et al. 2021), which is an aggregated measure of internal conflict based on the annual number of domestic incidents in each country in terms of *assassinations, general strikes, guerrilla warfare, government crises, purges, anti-government demonstrations, riots,* and *revolutions*. In addition to the domestic conflict measure, we also include a variable to measure external conflicts based on the data on battle-related deaths provided by the Uppsala Conflict Data Program. Based on this data we generate a binary variable, which equals one for countries with positive number of battled-related deaths and zero otherwise in each year. The average country in our sample is peaceful when it comes to domestic conflicts, however, some countries have a relatively high score. Also, around 20 percent of countries in the sample have experienced a positive number of battle-related deaths in the last 30 years.

Last but not least, a country that experiences system-wise change in the norms, such as the level of separation between religion and state, may be more likely to alter gender-specific laws. Therefore, using data from the Cross-National Times Series database, we control for the number of major constitutional changes in the country to control for these country-specific institutional changes. The average country in our sample has made a negligible number of major constitutional changes (0.1) only a handful of countries made more than one constitutional change during the whole period of the study.[21]

Estimation strategy

Panel fixed effects with (non-)linear time trends

Gender-focused aid is not exogenous as countries that are doing worse on gender-specific issues such as women's rights may receive more aid from donors to improve these dimensions (need-based). It is also likely that countries with stronger women's rights may receive more education and health aid that are likely to promote gender equality (merit-based). Such concerns over reverse causality as well as unobserved heterogeneity complicate the identification of the effect of gender-marked aid on women's legal empowerment. In the

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[21] Some of the control variables we use in our analysis may be "bad controls", i.e., potential outcomes of gender-focused aid, i.e., post-treatment outcomes. Moreover, there is a concern that our results may be conditional on the set of these controls. We address these concerns in the results section.

following, we use different estimation strategies that mitigate these identification issues, such as two-way panel fixed effects model augmented with recipient-specific (non-) linear time trend and an instrumental variable approach. The two-way panel fixed effects model with a recipient-specific linear time trend is formally expressed as follows:

$$WBL_{i,t} = \beta ShareGenderAid_{i,t-2} + X'_{i,t}\gamma + \alpha_i + \delta_t + T * a_i + \varepsilon_{i,t} \qquad (1)$$

Where WBL is the dependent variable, which is the recipient country's score on Women Business and Law (WBL) index, the measure of economic gender equality against the law. The WBL score ranges from 0 to 100 for country i in year t. $ShareGenderAid$ denotes the share of gender-marked aid disbursements in the overall aid received by country i in year $t-2$. We lag gender aid by two years to allow enough time between aid disbursements and changes in legislation and laws, in line with the idea of Granger-causality where a change in the outcome variable follows the change in the explanatory variable. X' is a vector of control variables that vary per year and country. α_i denotes country-specific fixed effects and δ_t denotes time fixed effects. $T * a_i$ denotes the country-specific linear trend and $\varepsilon_{i,t}$ denotes error term clustered at the country level.

The regression analysis based on the country-fixed effects alleviates endogeneity bias from unobserved country-specific time-invariant factors that do not change or change very slowly over time, such as factors related to traditions, customs, religion, history, and geography. It allows for estimating within-country changes in gender-egalitarian laws that deviate from the country's mean value. The inclusion of year fixed effects eliminates the unobserved confounders driven by shocks common for all countries in the sample. For example, some of the international treaties that call for more global action for gender equality may have led to an increase in gender-focused aid but also encouraged countries to reform some gender-specific laws.

Besides the common shocks and the country-specific time-invariant factors, the relationship between gender-marked aid on women's legal empowerment may be confounded by country-specific time-varying factors. For example, previous studies suggest that improvements in women's rights can be associated with demographic changes in the female workforce (Goldin 2013, 1988), the level of development, and human capital (Doepke and Tertlit, 2019; Geddes and Lueck, 2002; Doepke, Tertlit, Voena 2012). Therefore, the model controls for the most plausible drivers of women's empowerment, such as women's share in the parliament, trade to GDP ratio, fertility rate, female labor force participation of different age groups, gender parity in school enrollment, number of major constitutional changes, internal conflict measure,

battle-related deaths and GDP per capita. These recipient-specific and time-varying variables arguably capture factors that may influence both women's legal empowerment and gender aid.

In addition to the full set of fixed effects and time-varying control variables, we include a recipient-specific linear time trend (interaction between indicator variable for countries and year as a continuous variable) in the main panel FE analysis. Additionally, we replace the linear trend with a non-linear country-specific trend, which is an interaction term between a country's initial shares of aid and year dummies. The recipient-specific linear time trend captures the differential paths of countries regarding women's legal empowerment. In other words, it controls for the recipient-specific unobserved linear changes over time. Second, the interaction term between initial shares of gender-focused aid and year dummies control for unobserved overtime non-linear time effects (shocks) in countries with different levels of initial shares of gender aid. Thus, this term at least partially controls for recipient-specific non-linear unobserved changes over time. Altogether, we argue that these techniques help to eliminate the endogeneity bias stemming from recipient-specific unobserved heterogeneity to the extent possible.

Instrumental variable approach

The majority of the literature investigating the effects of aid on various outcomes uses an instrumental variable strategy to mitigate the endogeneity issues. Yet, many of the (aid) instruments have come under increased scrutiny due to the concerns over the instrument validity: they either do not satisfy the exclusion restriction criterion or are too weak - most test statistics hover around the rule of thumb criteria of 10 (Bazzi and Clemens, 2013, Christian and Barret 2017, Andrews et al, 2019; Broxterman and Larson, 2020).

Recent studies in the aid effectiveness literature use an IV strategy inspired by the Bartik shift-share instrumentation technique. In the aid literature, this type of instrument is an interaction term between an exogenous shock to the donor aid budget and the probability of receiving aid at the recipient level (plausibly endogenous part). This IV technique was first introduced in the aid effectiveness literature by Nunn and Qian (2014) to study the impact of US food aid on conflict. Dreher and Langlotz (2020) used a similar technique to study aid effectiveness by expanding the instrument to all donors. However, recent studies argue that Bartik shift-share type of IV technique may not fulfill the exclusion restriction, as the arguably exogenous part of the IV, which varies only at the donor level in the case of aid studies, may coincide with other unobserved (non-)linear time trends leading to spurious correlations (Christian and Barret 2017; Goldsmith Pinkham et al. 2020; Borusyak et al. 2022). In our IV approach, we address this critique by carrying out tests for detecting spurious correlations over time.

The instrument we use is an interaction term between the probability of receiving gender-focused aid from the donor countries and the share of women as core members of the donor's government (cabinet ministers, prime ministers, presidents, vice presidents, vice prime ministers). The data is from the WhoGov database developed by Nyrup and Bramwell (2020).

This is a conceptually relevant instrument as the higher share of women in the core executive positions in donor governments likely implies higher gender equality in donor countries at the top level. Therefore, the foreign (development) policy set by the relatively more gender-equal donor governments is likely to value and promote gender equality in aid-recipient countries by increasing the share of gender-focused aid disbursements. Besides, the individual women in the core government positions in the donor countries may also influence the course of foreign development policy and the prioritization of gender−equality and gender mainstreaming in the aid projects.

We instrument the natural log of total bilateral gender-focused aid from donors that report to the Development Assistance Committee (DAC), this means that the IV strategy excludes multilateral aid. The construction of the instrument follows that of in Dreher and Langlotz (2020) and Ariotti et al. (2021). It is sum of the product of the interaction terms between the probability of receiving gender-marked aid from the donor (j) and the share of women in the donor government core positions ($FemDonGov_{j,t}$) in a year (t-2). The probability of receiving aid ($PrGAid_{i,j}$) equals the share of years that country (i) received gender-marked aid from the donor (j) from 1990-2019.

$$FemDonGPr_{i,t-2} = \sum_j FemDonGov_{j,t-2} * PrGAid_{i,j} \qquad (2)$$

The first component, the probability of receiving gender aid, is a time-invariant recipient-specific variable that captures the need for gender-focused aid, and the second component, is the share of women in donor government core positions. The resulting term at the recipient (i) levels is the instrument we use for gender-marked aid, $FemDonGPr_{i,t-2}$.

We estimate the first-stage equation at the recipient and year level as follows:

$$ln(GenderAid_{i,t-2}) = \alpha FemDonGPr_{i,t-2} + X'_{i,t}\gamma + \alpha_i + \delta_t + \varepsilon_{i,t} \qquad (3)$$

The second stage estimation equation can be formulated as follows:

$$WBL_{i,t} = ln(GenderAid_{i,t-2}) + X'_{i,t}\gamma + \alpha_i + \delta_t + \varepsilon_{i,t} \qquad (4)$$

Before employing this instrument we check for spurious correlations as discussed above. In particular, we investigate coincidental trends differentiated by regular and irregular aid recipients for the WBL and share of women in core government positions in the donor countries (see Figures A7 to A14 in the appendix). Given that both gender-focused aid and the exogenous part of our instrument increase linearly over time, we additionally detrend the instrument following Christian and Barret (2017) and Dreher et al. (2021), and inspect further for coincidental trends for regular and irregular aid recipients. Based on temporal and cross-country panel data inspections for regular and irregular aid recipients we do not find evidence for spurious correlations. We present the results from the two identification strategies in the below.

Results

Panel fixed effects with (non-) linear time trends

Column 1 of Table 2 shows the regression results for the OLS estimation without the baseline controls and fixed effects. Column 2 includes the control variables but not the country and year fixed effects. The results from these two specifications show a positive and statistically significant relationship between the share of gender-focused aid received by countries and women's legal rights, measured by the WBL indicator. The results also indicate that the recipient's share of women in parliament and total female labor force participation is positively associated with women's legal economic empowerment, while there is a weak negative association between the labor supply of young women and women's legal economic rights. This is in line with the previous studies, predicting improved economic rights for women with a higher labor supply of young (unmarried) women. Additionally, the severity of the conflict (battle-related deaths) and higher fertility rates have a negative association with women's legal empowerment, which is in line with the results from the previous research. In column 3, once we include country and year fixed effects, we observe that these terms capture most of the variation in the control variables, and the estimated coefficient size on the lagged share of gender aid shrinks by large, remaining statistically significant at the one percent level. The inclusion of the two-way fixed effects also shows that the number of constitutional changes within countries is negatively associated with women's legal empowerment, while trade openness and the share of women in parliament remain positively associated with the Women's Business and the Law indicator within countries. In column 4, we add a recipient-specific linear time trend as shown in equation (1), which constitutes our main specification.

De-trending of the outcome variable (WBL) results in a lower estimated coefficient for lagged gender aid, which remains statistically significant at the five percent level. Here the identification of the effect of gender aid on women's legal empowerment comes from the deviations from the WBL trend within countries over time. The size of the estimated coefficient on the lagged share of gender aid implies that a 10 percentage point increase in the average share of gender-focused aid in a country can lead to a 0.5 point increase in the WBL score. To put this in a perspective, the rate of annual change in the WBL score in the sample is 1.4 points, implying that in the short-run a 10 percentage point increase in the share of gender-focused aid projects can accelerate the legal empowerment of women in the aid-recipient countries by a third.

In Appendix Table A1, we replicate the analysis in Table 2 using the natural log of gender-focused aid rather than the proportion of gender-focused aid in the total aid. Albeit our main focus is on how much gender is prioritized in the aid projects, hence looking at the shares, it is also important to learn whether and how much the amount of gender-focused aid disbursements are related to women's economic empowerment. We observe a similar change in estimates as we the baseline controls and fixed effects with a linear trend to the regression models from column 1 to column 4. The result in column 4, with a full set of controls, two-way fixed effects, and a recipient-specific linear time trend, shows that a 1 percent increase in the gender-focused aid is associated with 0.07 points increase in the WBL score, statistically significant at the five percent level.[22] This result is comparable to the estimated results from the models in Table 2, using the share of gender-focused aid.

We further test the sensitivity of the main result from Table 2, column 4, to the inclusion of each control variable. We present the results in Table A2 in the Appendix, which shows that the inclusion/exclusion of control variables one by one does not invalidate the main finding from the panel FE analysis. Furthermore, in our main specification, we use the second lag of the gender-focused aid disbursements, in Figure A6 in the appendix, we show that the first and the third lag (t-3, t-1) are positive and statistically significant (95% confidence interval). Additionally, the estimated coefficients of the lags and leads in Figure A6 show that contemporaneous and lead values for the share of gender-focused aid disbursements (t, t+1, t+2, t+3) do not exhibit a statistically significant relationship (95%) with WBL score.

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[22] The results are similar if we additionally control for the natural logarithm of total aid disbursements.

Table 2. Gender-marked aid and women's legal empowerment.

	(1) WBL	(2) WBL	(3) WBL	(4) WBL
Share of gender aid (t-2)	0.438***	0.185***	0.0798***	0.0554**
	(0.0749)	(0.0677)	(0.0233)	(0.0226)
Share of women in parliament		0.285***	0.171***	0.0845
		(0.0903)	(0.0582)	(0.0568)
Trade/GDP ratio		-0.0328	0.0447**	-0.00864
		(0.0278)	(0.0183)	(0.0163)
Total fertility rate		-3.823***	-0.762	0.474
		(1.310)	(1.309)	(2.074)
FDI/GDP (inflow)		0.188*	0.0782	0.0516
		(0.103)	(0.0740)	(0.0388)
FLFP, Total		0.552***	0.179	0.00101
		(0.109)	(0.154)	(0.208)
FLFP, 15-24 ages		-0.235*	-0.180	-0.0364
		(0.133)	(0.120)	(0.150)
Major constitutional changes (#)		-2.116	-1.874***	-1.368**
		(1.656)	(0.664)	(0.549)
Gender parity index (enrollment)		-3.324	-6.392	-10.93
		(9.746)	(9.496)	(11.48)
Internal conflict index		7.510*	2.138	2.329*
		(3.920)	(1.514)	(1.391)
Battle-related deaths		-2.666	0.0842	0.262
		(2.004)	(0.647)	(0.453)
GDP p.c. (ln)		1.094	2.775	-0.842
		(1.720)	(2.333)	(3.239)
Country FE	-	-	✓	✓
Year FE	-	-	✓	✓
Recipient trend	-	-	-	✓
Number of countries	102	102	102	102
Number of years	28	28	28	28
Observations	1516	1516	1516	1516
Adj. R-squared	0.0928	0.491	0.611	0.808
Mean Dep. Variable	61.90	61.90	61.90	61.90

Standard errors in parentheses * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

In column 1 of Table 3, we perform a test for the conjecture that recipient countries are more likely to make changes to their laws in anticipation of more aid from the donor countries. Therefore, in column 1, we include the natural log of gender-focused aid commitments, recall that our dependent variable is always based on aid disbursements. By including the variable on commitments of gender aid, we explore whether there is a positive contemporaneous relationship between women's economic rights and donor pledges for more gender-focused aid. The estimated coefficient on the share of contemporaneous aid commitments is rather weak in terms of statistical significance and relatively smaller in the size compared with the lagged aid disbursements. Yet, it is likely that the reward in terms of additional aid

commitments does not take place the same year but over time, and the additional aid may not be specifically targeted for the gender objective. We test for this possibility by including a lead variable for the natural logarithm of total aid commitments (t+1). The estimated coefficient for the natural log of per capita aid commitments in t+1 is negative and not statistically significant at the conventional levels. Thus, if countries are getting rewarded for improving the economic rights of women then the additional aid is more likely to focus on gender than merely increasing the amount of overall aid, signaling a continuous commitment to the gender equality issue on both sides. In column3, we test for unobserved factors. For example, our finding might be driven by overall social sector aid disbursements rather than gender-focused aid, moreover, the coding of gender-focused aid may have some measurement errors. We explore the robustness of our main finding by including a variable on the share of social sector aid in the overall aid, which excludes aid disbursements for gender objectives. The results in column 3 show that the result we find is driven by gender-focused aid and not social sector aid. In column 4, we also show that total aid per capita disbursements have no statistically significant relationship with women's economic rights or WBL score.

Table 3 – Tests for reward mechanism, aid pledges, and social sector aid

	(1) WBL	(2) WBL	(3) WBL	(4) WBL
Share of gender aid (t-2)	0.0460^{**}	0.0401^{**}	0.0484^{**}	
	(0.0187)	(0.0186)	(0.0203)	
Share pledged gender aid	0.0233^{*}			
	(0.0135)			
ln total aid pledged per capita (t+1)		-0.0781		
		(0.260)		
Share of social aid (t-2)			-0.00206	
			(0.0149)	
ln total aid per capita disbursed (t-2)				0.184
				(0.182)
Country FE	✓	✓	✓	✓
Year FE	✓	✓	✓	✓
Recipient trend	✓	✓	✓	✓
Baseline controls	✓	✓	✓	✓
Number of countries	101	101	102	102
Number of years	28	27	28	28
Observations	1498	1448	1516	1516
Adj. R-squared	0.802	0.801	0.799	0.798
Mean Dep. Variable	61.89	61.50	61.90	61.90

Standard errors in parentheses $^{*} p < 0.10$, $^{**} p < 0.05$, $^{***} p < 0.01$

In Table 4 we test for alternative explanations. One may argue the regime type (democracy versus autocracy) may influence both share of gender-focused aid as well as women's legal economic rights. In column 1, we include the variable Polity Score, which captures the regime authority spectrum on a 21-point scale ranging from -10 (hereditary monarchy) to +10 (consolidated democracy) sourced from the Polity 5 dataset (Monty and Gurr, 2020). Our main finding remains robust to the inclusion of this variable. Besides the regime type, the government ideology may also matter for both changes in women's economic rights and demand for gender-focused aid. Hence, in column 2, we introduce variables that capture the economic ideology of the recipient government along the left-right spectrum, where the reference category is an 'undefined' ideology, such as authoritarian regimes without clear economic ideology along the conventional lines. While our main finding remains robust to the inclusion of the variables capturing the government ideology of the recipient countries, we detect a negative association between women's economic rights and governments with left-leaning ideology relative to the governments with an 'undefined' ideology, while the conventional conjecture would expect the opposite. In column 5 we test for another explanation, such as non-linear gender- and country specific changes that could attract more gender-focused aid and also improve the WBL score. Towards this end, we include a yearly trend variable that denotes the existence and period of political gender quotas for each recipient country. It turns from 0 to 1 the year quotas come into effect and remains 1 as long as the quota remains valid. Both the variables on government ideology and gender quota are taken from the Database of Political Institutions made available by the World Bank. The inclusion of this gender-specific non-linear trend does not alter our main finding.

Table 4. Regime type, government ideology, and political gender quotas

	(1) WBL	(2) WBL	(3) WBL
Share of gender aid (t-2)	0.0490**	0.0606**	0.0569**
	(0.0228)	(0.0242)	(0.0228)
Polity score	0.0587		
	(0.106)		
Gov ideology: Right		-1.033	
		(0.922)	
Gov ideology: Center		-0.193	
		(0.825)	
Gov ideology: Left		-2.022**	
		(1.015)	
Political Gender Quota			0.859
			(1.089)
Country FE	✓	✓	✓
Year FE	✓	✓	✓
Recipient trend	✓	✓	✓
Baseline Controls	✓	✓	✓
Number of countries	101	101	100
Number of years	27	28	28
Observations	1448	1487	1501
Adj. R-squared	0.808	0.810	0.805
Mean Dep. Variable	61.75	61.74	61.78

Standard errors in parentheses $^* p < 0.10,\ ^{**} p < 0.05,\ ^{***} p < 0.01$

In Table 5, instead of using a recipient-specific linear time trend, we use a recipient-specific non-linear trend conditional on their initial shares of gender-focused aid. This term helps to capture any unobserved heterogeneity related to some countries initially acquiring higher shares of gender aid than others. For example, countries most in need might have received higher initial shares of aid, which may have led them to be on a different path for women's economic rights. We implement this term in the regressions as an interaction between year dummies and the first non-missing value of a share of gender aid for each country. The result shows that lagged share of gender aid remains positively associated with WBL, statistically significant at the one percent level. In column 2, we use the share of gender aid, where the gender component is the principal objective of the given aid fund. Even though this is a small percentage of overall gender-marked aid, its estimated size of the coefficient is larger, implying that aid targeting gender issues specifically can be more effective in impacting changes in such laws.

Table 5. Gender as a principal objective and aid for women's rights

	(1) WBL	(2) WBL	(3) ΔWBL
Share of gender aid (t-2)	0.0869***		
	(0.0249)		
Share of gender aid: principal objective (t-2)		0.148**	
		(0.0683)	
Aid for women's rights (binary) (t-2)			1.109**
			(0.455)
Gender aid w/o women's rights (binary)) (t-2)			0.851*
			(0.470)
Country FE	✓	✓	✓
Year FE	✓	✓	✓
Inishar sharesXyear	✓	✓	✓
Baseline controls	✓	✓	✓
Number of countries	100	100	100
Number of years	28	28	28
Observations	1511	1511	1511
Adj. R-squared	0.614	0.610	0.0467
Mean Dep. Variable	62.01	62.01	0.799

Standard errors in parentheses
$^*p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$

In column 3, we further sharpen the identification of aid focused on women's rights relative to aid that has a gender marker but does not include projects that focus on improving women's rights, i.e. projects with gender mainstreaming. We define a dummy variable equal to 1 when the share of gender aid received is given for women's rights purposes and 0 otherwise.[23] We define a dummy variable without (w/o) women's rights but marked for gender component as 1 and 0 otherwise. The dependent variable in column 3 is the change in the WBL. The results in column 3 show that receiving aid for women's rights specifically is associated with an above-average change in the laws two years after, statistically significant at the 1 percent level. In column 3, the estimated coefficient on the gender-focused aid, excluding that for women's rights, is also positively associated with changes in the WBL albeit with lower magnitude and statistical power. Thus, the results in Table 5 indicate that increases in aid with the main objective of improving gender equality and women's rights in the country is effective in bringing positive changes in the gender-equal laws in recipient countries. The policy implication is that more precise targeting and increases in funds allocated for this purpose can work equally well if not better than general gender mainstreaming in aid projects.

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[23] The Purpose Codes in the CRS OECD DAC database are: 15160, 15170, 15180.

Instrumental variable approach

In Table 6 we present the results from the IV method: the first stage (column 1), reduced form (column 2), and fixed effects estimation with the inclusion of the instrument and the endogenous variable (column 3) in the regressions. The result in column 1 shows a positive relationship between the lagged instrument and gender-focused aid disbursements in the first stage, statistically significant at the one percent level. The sign of the estimated coefficient in the first stage conforms with the theoretical expectation that a higher share of women in the recipient pool of donor governments interacted with the probability of receiving gender aid is associated with increased aid disbursements for gender objectives. In column 2, we test for the reduced form relationship between the instrument and the WBL index. Generally, one would expect to observe the same direction of the effect, if the endogenous variable is excluded and the instrument is truly the channel through which gender aid impacts the WBL in the recipient countries. The result in column 2 follows this expectation, showing a positive link between the IV and the outcome variable, statistically significant at the 5 percent level when the gender-focused aid is not part of the regression model. In column 3, we further test for the IV as the transmission channel by adding the natural log of gender-focused aid to the model. Once we add the endogenous variable to the reduced form, the instrument becomes statistically insignificant, while the endogenous variable, gender aid, is statistically significant at the one percent level, indicating that the effect gender aid has on WBL is through the instrument.

Table 6 – First stage, reduced form, and test for instrument inclusion

	(1) Ln Gender Aid (First stage)	(2) WBL (Reduced form)	(3) WBL (IV inclusion)
FemDonGPr (t-2)	1.260***	4.185**	3.114
	(0.000)	(0.041)	(0.129)
ln Gender Aid (t-2)			0.850***
			(0.009)
Country FE	✓	✓	✓
Year FE	✓	✓	✓
Baseline controls	✓	✓	✓
Number of countries	102	102	102
Number of years	28	28	28
Observations	1517	1517	1517
Adj. R-squared	0.787	0.604	0.609

Standard errors in parentheses $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$

Recall that in the IV regressions we instrument the natural log of bilateral gender-focused aid received from the DAC donors. Therefore, in column 1 of Table 7, we show the panel two-way fixed effects results for the bilateral gender aid. The estimated coefficient on the gender-marked aid is positive and statistically significant at the one percent level, indicating that a one percent increase in the bilateral gender-marked aid from DAC donors is associated with a one-point increase in the WBL index, which is comparable to the estimated impact for overall gender-focused aid from both DAC and non-DAC donors (see Table A1, column 3 in the appendix).

Table 7. Gender-market aid from DAC donors. FE and 2SLS results

	(1) FE	(2) IV/2SLS	(3) IV-detrended
ln Gender Aid (t-2)	1.056***	3.320**	2.872*
	(0.321)	(1.460)	(1.624)
Country FE	✓	✓	✓
Year FE	✓	✓	✓
Baseline controls	✓	✓	✓
Number of countries	102	102	102
Number of years	28	28	28
Observations	1517	1513	1513
Adj. R-squared	0.606	0.533	0.549
Mean Dep. Variable	61.90	61.90	61.90
KP (F-stat)		32.54	22.12
CD Wald(F-Stat)		125.38	55.11
KP rk-LM		17.53	14.88
Chi-sq (p-val)		0.000	0.000
Hansen-J (p-val)		0.000	0.000

Standard errors in parentheses * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

In column 2 of Table 7, we present the results from the IV estimation (second stage), which shows a larger and positive effect of DAC gender-marked aid on gender-egalitarian laws in the recipient country, statistically significant at the 5 percent level. All the critical test statistics for IV relevance are reported in the table and show a minimum of 17 and a maximum of 125 for various F-test values.[24] The size of the estimated coefficient suggests that a one percent increase in gender-marked aid received by an average country in our sample can lead to an almost 3 points increase in the WBL index. This effect size is larger than the panel FE estimate in column 1, likely because the IV estimate is only the *local average treatment effect* (LATE). LATE implies that this effect is appropriate for those recipient countries where the instrument is strongly relevant, that is those that receive most of their gender-marked aid from DAC

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[24] A recent study by Lee et al (2021) argue that for a strong instrument one needs F-stat higher than 100, i.e., at least 10 times higher than widely accepted 'rule of thumb' of 10 as threshold value.

donors, which experience substantial variation in the share of women in the core government positions. In column 3, we present the result based on a *detrended* the instrument to address the concern of spurious correlation due to the linearity of the trends for both the instrument and the outcome variable. We find that the effect is largely of the same size and remains robust at the 10 percent statistical significance level. Yet, the F-stats from the KP and CD show that the detrended instrument is relatively weak, likely due to the loss of a large part of the variation. In sum, we find a positive impact of gender-focused aid on women's economic rights in the recipient countries, measured by the Women Business and the Law indicator. The results are robust to using different methods of identification.

Concluding remarks

This paper studies the relationship between development aid marked for gender equality and women's legal empowerment in aid recipient countries – an issue that has been the focus of international development cooperation since the 1990s. We use panel data for over 100 countries from 1990 to 2019 to estimate the effectiveness of such gender-focused aid. Our estimation method includes panel two-way fixed effects and controls for several determinants of women's empowerment shown in the previous literature. The two-way panel fixed effects additionally include recipient-specific linear time trends and non-linear trends conditional on the initial shares of gender aid received by countries. These terms help to capture unobserved confounding factors that change over time in addition to those factors captured by country and year fixed effects included in the estimation. We also use an instrumental variable (IV) method as an alternative identification strategy.

We find robust evidence for a positive and statistically significant relationship between the lagged share of gender-focused aid and within-country changes in the gender-equal laws among the aid recipients. Our main specification indicates that a 10 percent increase in the average share of gender aid, from 12 percent to 22 percent, can lead to a 0.5-point increase in the WBL score contributing to women's legal empowerment in a recipient country. This effect is third of the average annual change in the WBL score for the sample of countries in our study. The findings of this study suggest that if donors include gender components in all their projects and increase the share of aid specifically for women's rights, this can lead to substantial changes in the gender-equal laws in that country for women's economic empowerment. The results from the IV estimation are consistent with the panel fixed effects results.

In this study we focus on laws only that affect women's economic activity throughout their working life until pension. However, changes in-laws do not necessarily lead to changes on the

ground. Nonetheless, legal changes open up opportunities for changes in practice and serve as a stepping stone for changing traditions and norms that can be harmful to women. Yet, changes in norms and traditions are likely to take longer than one political cycle and are part of a very long-term process. Future research with longer time coverage, for example, over three generations, can shed more light on how well government-initiated changes in gender-equal laws translate into practice.

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APPENDIX

Figure A1 – Gender-focused aid disbursements, 1990-2019 USD (in millions).
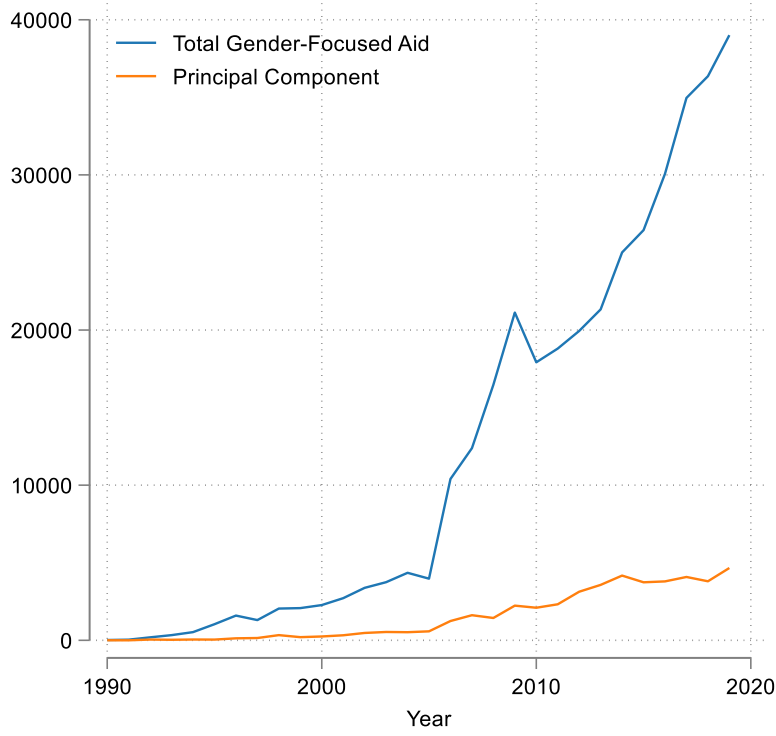
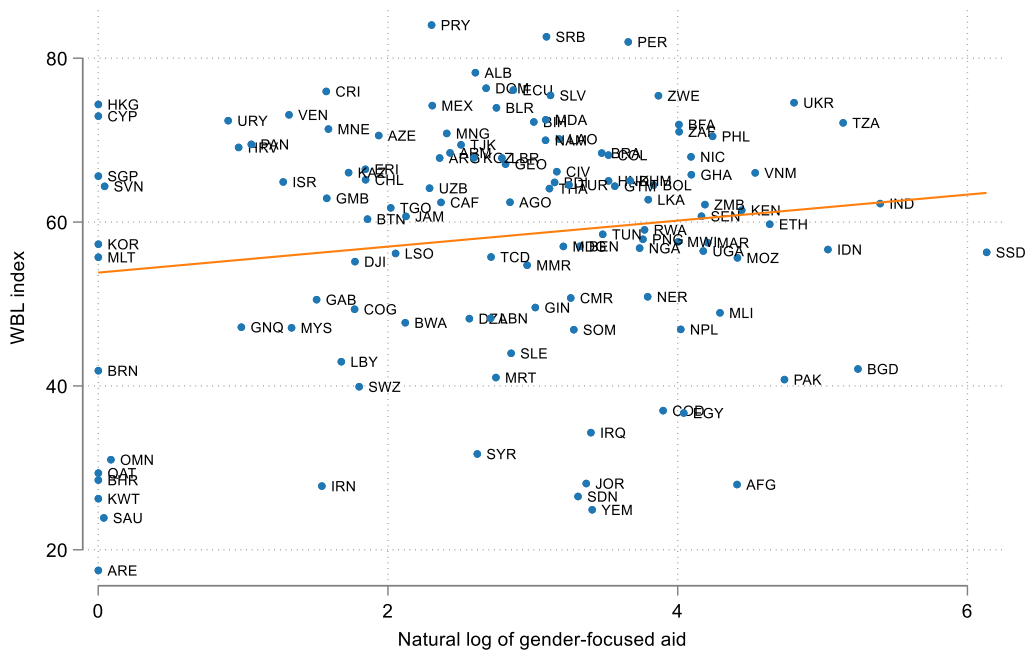Figure A2 – Correlation between WBL and gender-focused aid disbursements

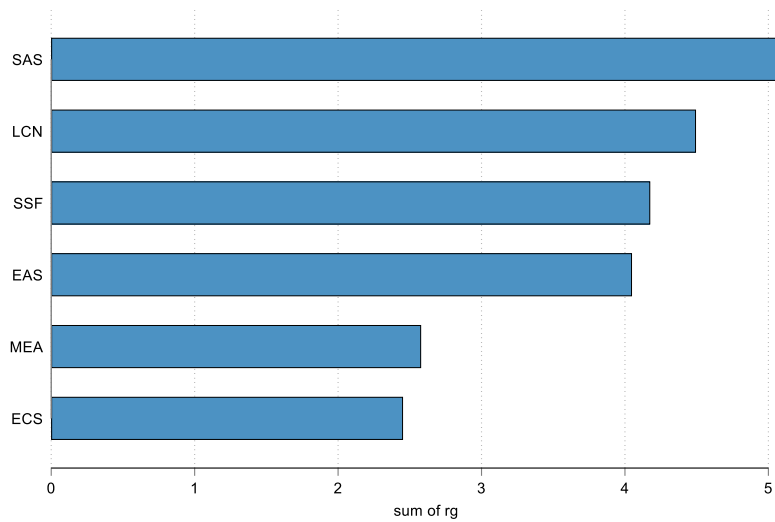Figure A3 – Share of gender-focused aid (disbursements) by region.

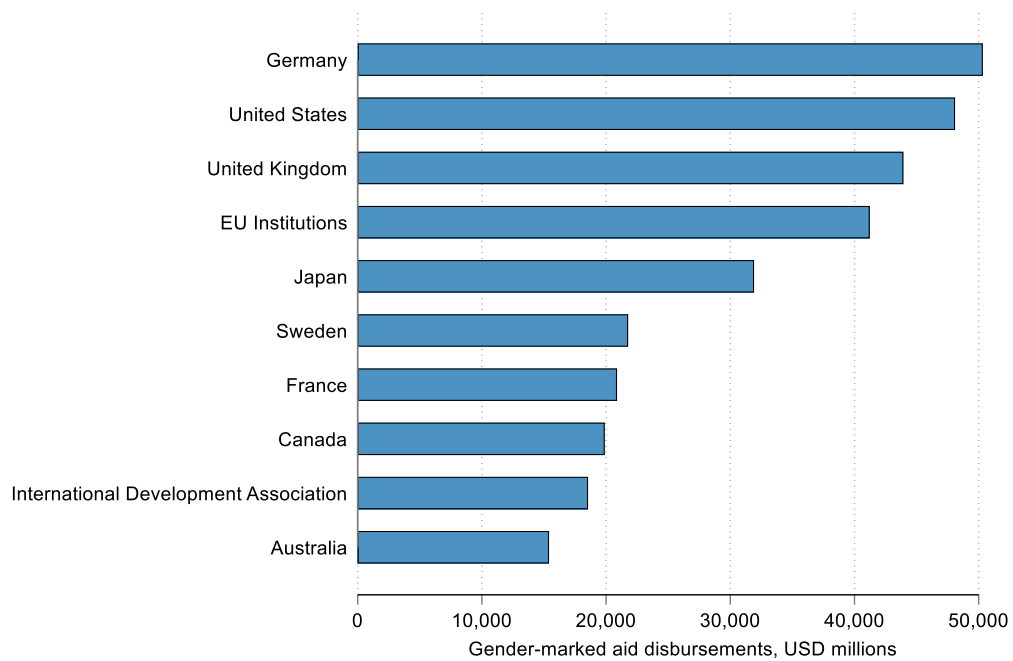Figure A4 – Top 10 donors of gender-focused aid disbursements, 1990-2019.

Figure A5 – Top 10 donors with the largest share of gender-marked aid, 1990-2019.
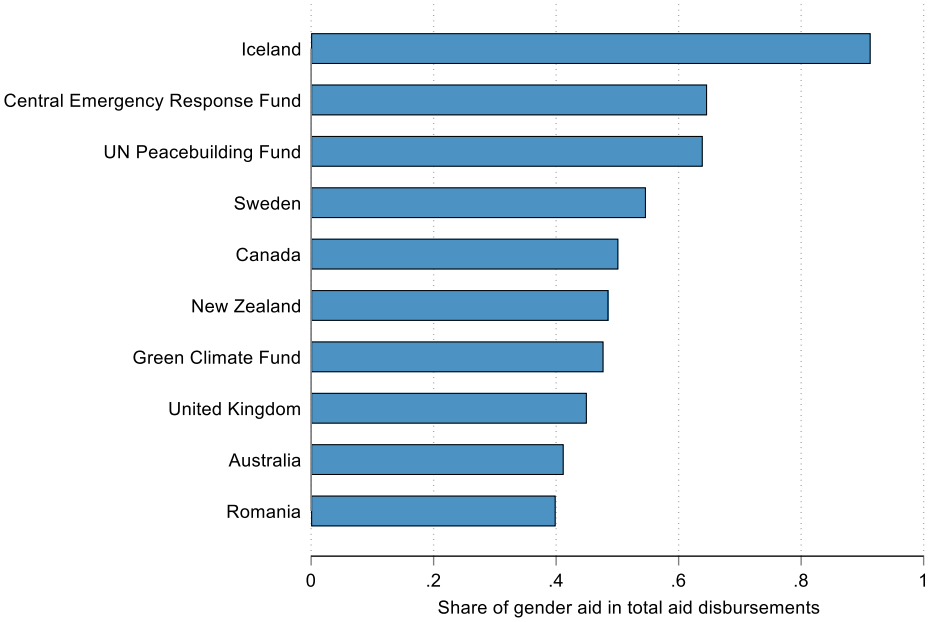

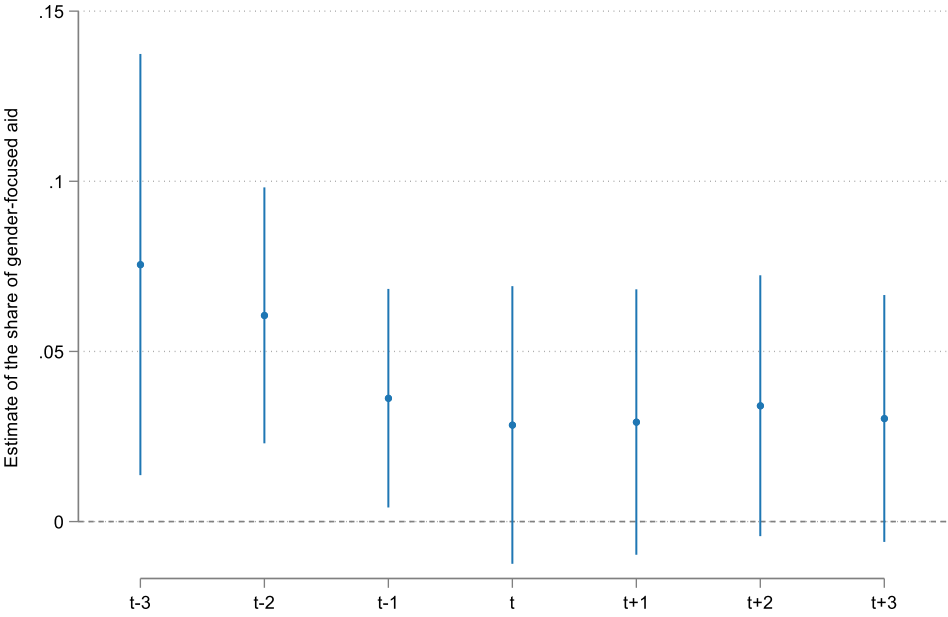Figure A6– Estimated lags and leads of share of gender-focused aid on WBL (95% confidence interval).

Table A1 - The size of the gender-focused aid disbursements (ln) and WBL, 1990-2019.

	(1) WBL INDEX	(2) WBL INDEX	(3) WBL INDEX	(4) WBL INDEX
ln Gender aid (t-2)	2.268***	1.579***	1.165***	0.734**
	(0.574)	(0.489)	(0.353)	(0.288)
Share of women in parliament		0.246***	0.169***	0.0856
		(0.0904)	(0.0583)	(0.0559)
Trade/GDP ratio		-0.0265	0.0423**	-0.00771
		(0.0274)	(0.0184)	(0.0168)
Total fertility rate		-3.793***	-1.180	0.156
		(1.303)	(1.265)	(2.074)
FDI/GDP (inflow)		0.175*	0.0938	0.0587
		(0.0978)	(0.0757)	(0.0409)
FLFP, Total		0.547***	0.217	-0.0556
		(0.108)	(0.153)	(0.214)
FLFP, 15-24 ages		-0.211	-0.203*	-0.00319
		(0.131)	(0.121)	(0.156)
Major constitutional changes (#)		-1.557	-1.849***	-1.319**
		(1.705)	(0.668)	(0.546)
Gender parity index (enrollment)		-5.900	-8.132	-10.45
		(9.691)	(9.109)	(11.19)
Internal conflict index		4.521	1.677	2.436*
		(3.791)	(1.334)	(1.444)
Battle related deaths		-3.316*	0.0912	0.234
		(1.992)	(0.646)	(0.470)
GDP p.c. (ln)		1.854	2.811	-0.397
		(1.799)	(2.249)	(3.156)
Country FE	-	-	✓	✓
Year FE	-	-	✓	✓
Recipient trend	-	-	-	✓
Number of countries	102	102	102	102
Number of years	28	28	28	28
Observations	1517	1517	1517	1517
Adj. R-squared	0.0747	0.501	0.618	0.809
Mean Dep. Variable	61.90	61.90	61.90	61.90

Table A2 – Step-by-step inclusion of controls, with full set of fixed effects and recipient-specific time trend

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Share of gender aid (t-2)	0.0532**	0.0535**	0.0531**	0.0512**	0.0516**	0.0516**	0.0531**	0.0543**	0.0546**	0.0549**	0.0554**
	(0.0231)	(0.0229)	(0.0232)	(0.0227)	(0.0229)	(0.0229)	(0.0223)	(0.0222)	(0.0220)	(0.0221)	(0.0226)
Share of women in parl.	0.0819	0.0818	0.0824	0.0841	0.0854	0.0857	0.0819	0.0850	0.0836	0.0844	0.0845
	(0.0565)	(0.0561)	(0.0565)	(0.0560)	(0.0563)	(0.0566)	(0.0568)	(0.0565)	(0.0567)	(0.0567)	(0.0568)
Trade/GDP ratio		-0.00821	-0.00852	-0.0105	-0.0102	-0.0101	-0.00934	-0.00864	-0.00864	-0.00888	-0.00864
		(0.0167)	(0.0169)	(0.0165)	(0.0163)	(0.0163)	(0.0161)	(0.0160)	(0.0160)	(0.0160)	(0.0163)
Total fertility rate			0.905	0.878	0.952	0.944	0.797	0.431	0.490	0.477	0.474
			(2.234)	(2.226)	(2.165)	(2.158)	(2.178)	(2.061)	(2.069)	(2.079)	(2.074)
FDI/GDP (inflow)				0.0560	0.0554	0.0549	0.0544	0.0536	0.0524	0.0519	0.0516
				(0.0399)	(0.0392)	(0.0399)	(0.0395)	(0.0396)	(0.0396)	(0.0389)	(0.0388)
FLFP, Total					-0.0538	-0.0363	-0.0165	-0.001	-0.001	-0.001	0.001
					(0.126)	(0.211)	(0.205)	(0.208)	(0.209)	(0.209)	(0.208)
FLFP, 15-24 ages						-0.0194	-0.0282	-0.0317	-0.0349	-0.0341	-0.0364
						(0.159)	(0.153)	(0.151)	(0.152)	(0.151)	(0.150)
Major const. changes							-1.408**	-1.343**	-1.368**	-1.365**	-1.368**
							(0.557)	(0.549)	(0.547)	(0.548)	(0.549)
Gender parity index								-11.68	-10.96	-10.97	-10.93
								(11.51)	(11.40)	(11.38)	(11.48)
Internal Conflict Index									2.399*	2.324*	2.329*
									(1.360)	(1.383)	(1.391)
Battle-related deaths										0.265	0.262
										(0.457)	(0.453)
GDP p.c. (ln)											-0.842
											(3.239)
Country FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Recipient trend	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Number of countries	102	102	102	102	102	102	102	102	102	102	102
Number of years	28	28	28	28	28	28	28	28	28	28	28
Observations	1516	1516	1516	1516	1516	1516	1516	1516	1516	1516	1516
R-squared	0.803	0.803	0.803	0.804	0.804	0.804	0.806	0.807	0.807	0.807	0.808
Mean Dep. Variable	61.90	61.90	61.90	61.90	61.90	61.90	61.90	61.90	61.90	61.90	61.90

Figure A7 - Trends in WBL index for regular and irregular aid recipients.
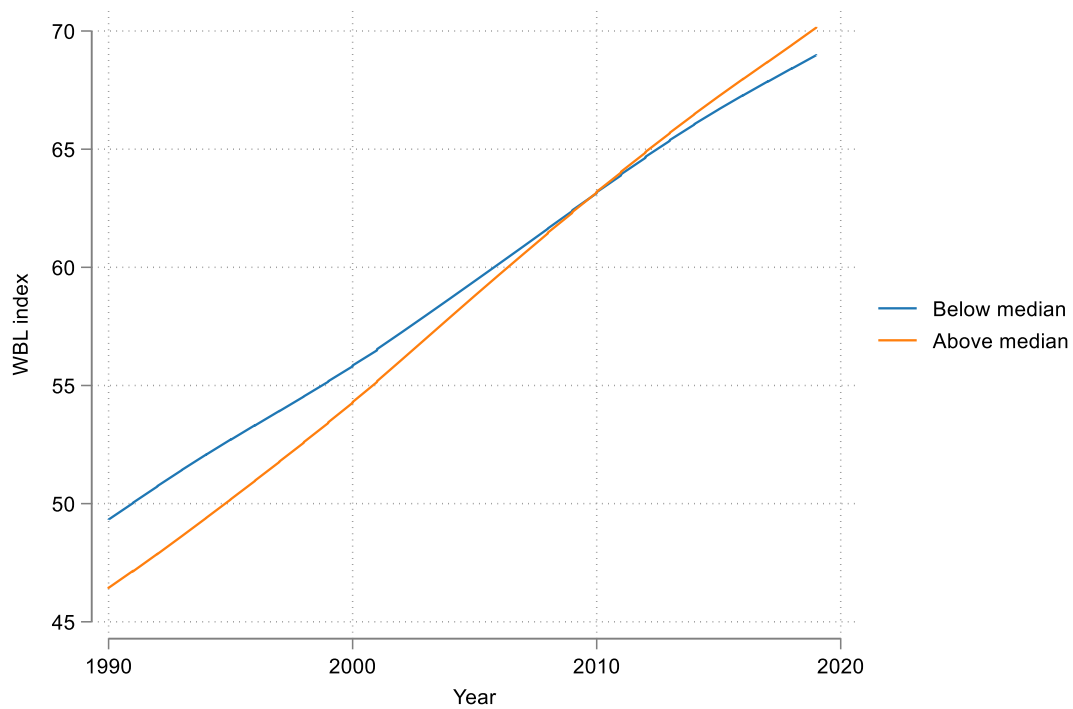
Note: Lowess in WBL for countries with the above and below the median probability of receiving aid. The figure shows that the trends are relatively similar, however from the year 2010 onwards countries with above median probability of receiving gender-focused aid surpassed those with a below-median probability of receiving gender-focused aid in their WBL score.

Figure A8 – Trends in gender aid disbursements by regular and irregular recipients
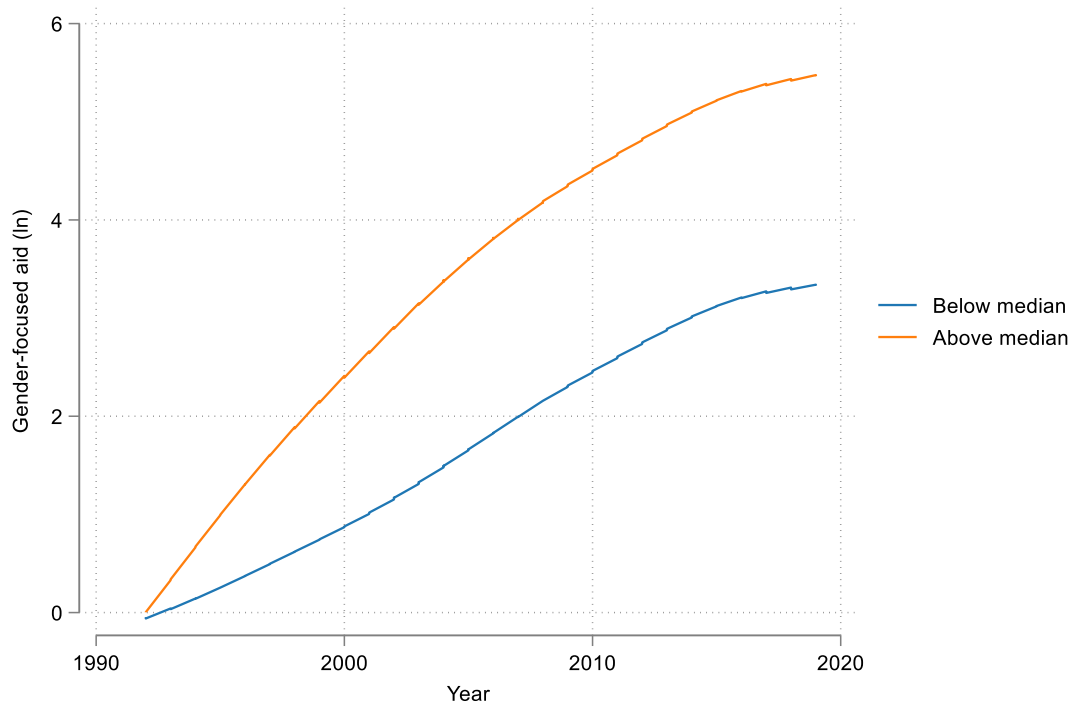
Not. The figure depicts trends in gender-focused aid disbursements for countries above and below the median probability of receiving aid.

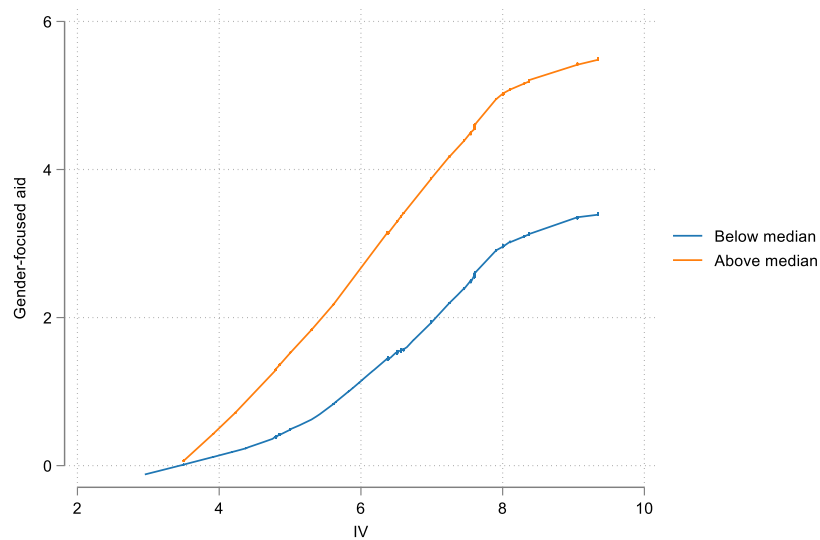Figure A9 – Trend in women's share in core government positions in the donor countries

Note: The Y-axis denotes the share of women in the core government positions in the donor countries. The figure depicts lowess over time for countries with below and above the median probability of receiving gender-focused aid. The trends are comparable for both regular and irregular recipients.

Figure A10 –Women's share in core government positions in donor countries - detrended
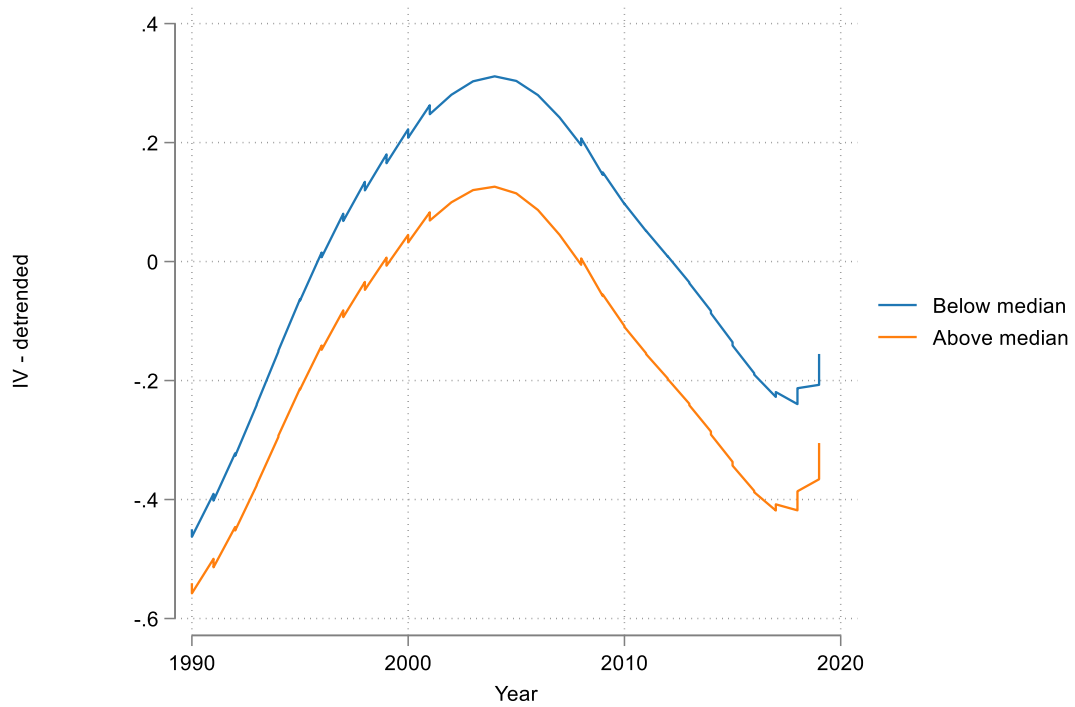
Note: The Y-axis denotes the share of women in the core government positions in the donor countries. The figure depicts the detrended lowess over time for countries with below and above the median probability of receiving gender-focused aid. The trends are comparable for both regular and irregular recipients.

Figure A11 – Gender aid (ln) and women's legal-economic empowerment (WBL) by regular and irregular recipients.
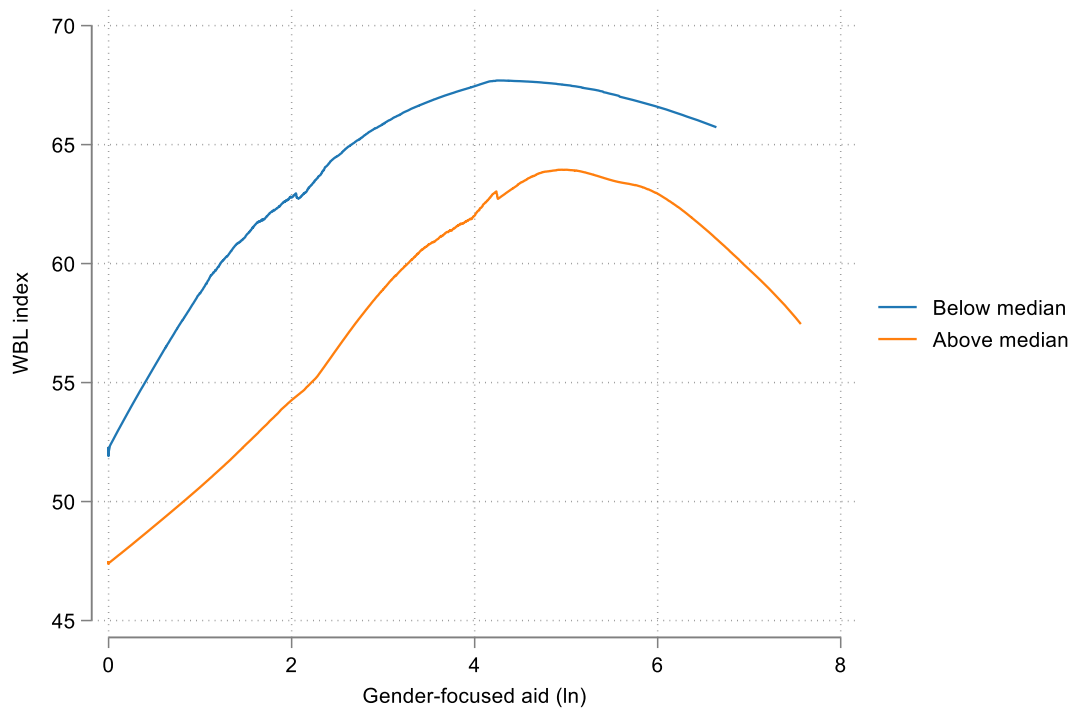
Note. The graph (lowess) depicts the cross-sectional relationship between the natural log of gender-focused aid disbursements and WBL score for countries with above and below-median probability of receiving aid, showing that both regular and irregular recipients of gender-focused aid exhibit a similar form of relationship with WBL.

Figure A12 – Gender aid (ln) and the share of women in core government positions in the donor countries (IV)
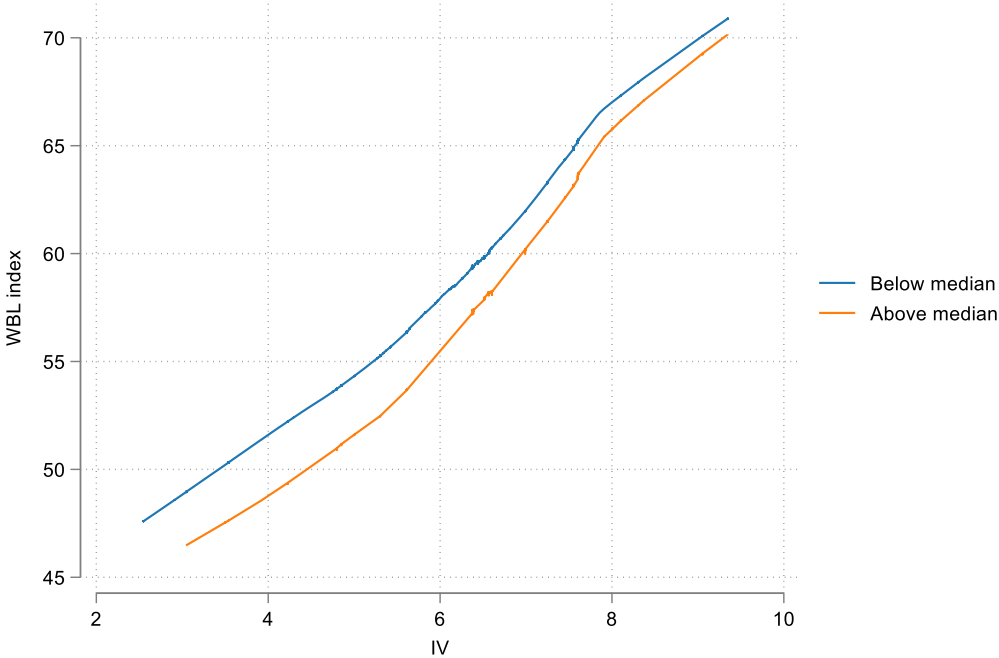

Note: The graph (lowess) depicts the cross-sectional relationship between the natural log of gender-focused aid disbursements and the share of women in core government positions in the donor countries, the exogenous part of the IV, for countries with above and below-median probability of receiving It shows that both regular and irregular recipients of gender-focused aid exhibit similar (positive) form of relationship with WBL.

Figure A13 - Gender aid (ln) and de-trended share of women in core government positions in the donor countries.
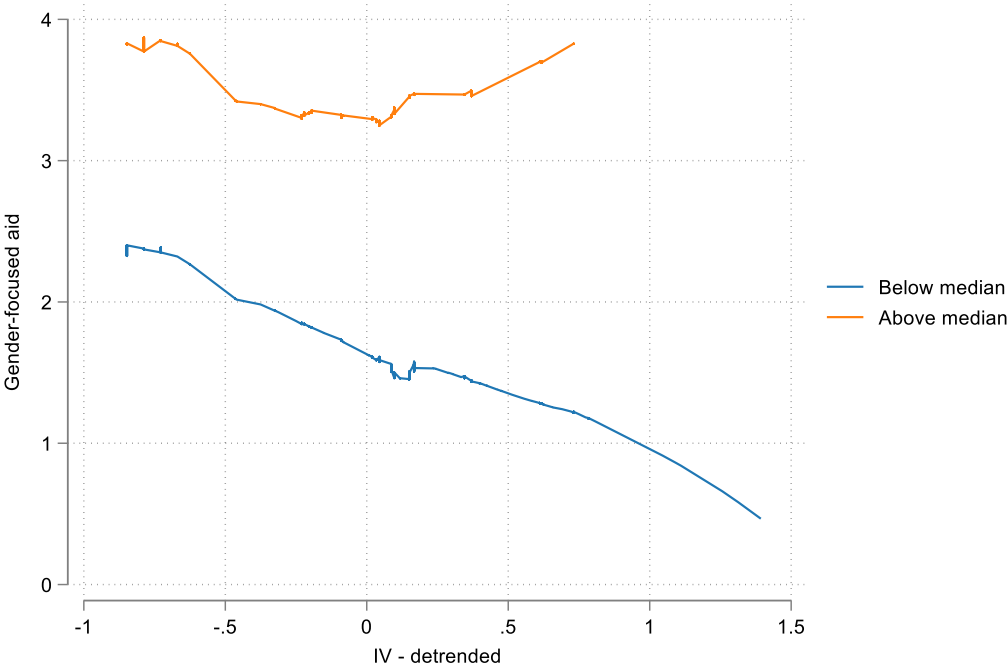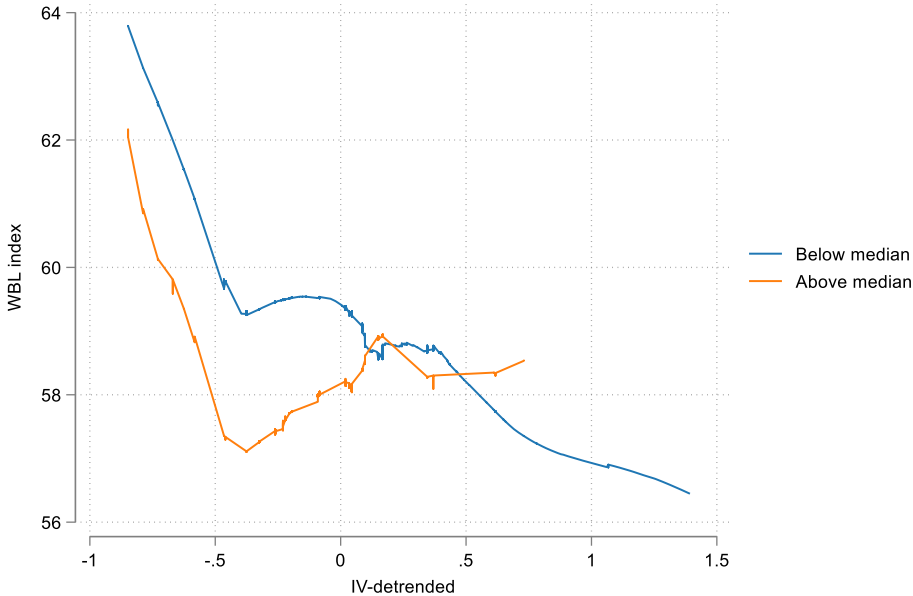

Note: The graph (lowess) depicts the cross-sectional relationship between the natural log of gender-focused aid disbursements and the *detrended* share of women in core government positions in the donor countries, the exogenous part of the IV, for countries with above and below-median probability of receiving gender-focused aid. The trends are partly parallel but there is a divergence between the two groups at larger values of de-trended IV values (residuals).

Figure A13 – WBL and the share of women in the core government position in the donor countries (IV) by regular and irregular recipients

Note: The graph (lowess) depicts the cross-sectional relationship between WBL and the exogenous part of the IV, the share of women in the core government positions, by recipients with above and below-median probability of receiving gender-focused aid.

Figure A14 – WBL and the share of women in the core government position in the donor countries (IV) by regular and irregular recipients

Note: The graph (lowess) depicts the cross-sectional relationship between WBL and *detrended* exogenous part of the IV, the share of women in the core government positions, by recipients with above and below-median probability of receiving gender-focused aid.