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Does Norwegian Aid Reward Equitable Access to Health in Recipient States? Assessing a 'Moral Superpower's' Aid to Pro-Poor Development, 1990–2019

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Abstract We assess if Norwegian aid policies, widely heralded for being morally driven, rewards pro-poor governance. If higher levels of equitable access to health attracts higher levels of Norwegian aid, one might argue that Norwegian aid prioritizes the poor, which is both morally good and instrumentally valuable. We find that total Norwegian aid and aid for health and social development are economically less valuable to recipients with greater equity of access to health. Yet, one may argue that this result is due to Norway picking the hard cases, those resistant to change. Our results show, however, that Norwegian aid increases to places that have become more equitable over time while simultaneously remaining lower to currently equitable locations. Whether Norway is 'chasing success' or actually 'rewarding reform' is hard to untangle although, in our opinion, a sound donor strategy should be one that targets currently favorable policy, signaling to laggards that change is rewarded. Granger causality tests for assessing the likelihood of reverse causality suggest that higher levels of equity are more likely to 'Granger cause' aid (negatively) than the other way around, suggesting that aid flows are unlikely to be causing equity in the short run. If in fact a country such as Norway fails the poor, at least on this important dimension of equity, then it is hardly reasonable to expect differently from others. The results taken together support critics who suggest that aid often bypasses the poor.

Keywords: health equity; Norwegian aid; aid effectiveness; pro-poor policy

> Evidence shows that the targets and indicators of the Millennium Development Goals tend to ignore or even aggravate health inequalities and weaken health systems, which has undercut recent health responses. (Nelson, 2015, p. 150)

There is a highly contentious, ongoing debate about the effectiveness of foreign aid (Banerjee and Duflo, 2012; Easterly, 2016; Keeley, 2012; Moyo, 2009; Sachs,

2015). While some scholars and many governments argue that aid is a potential catalyst for development, others argue that aid perpetuates many forms of dependency and underdevelopment (Maren, 2002; Wright and Winters, 2010). Some others also argue that aid is sorely needed, but that it is too little and susceptible to high degrees of leakage, where aid officials misallocate aid for their own strategic reasons, or where bad governments simply misuse aid monies for purposes of political survival (Bueno de Mesquita and Smith, 2011). Even when intentions have been good, such as reducing child death rates, favorable results have been obtained at the expense of building equitable and resilient health systems that generate broad-based benefits across societies (Nelson, 2015). The empirical evidence on the broader question of the effectiveness of aid is highly mixed, mostly due to the difficulty of unambiguously demonstrating causality between aid and favorable outcomes, such as economic growth and good governance (Roodman, 2008; Wilson, 2011). Following others, we propose that examining where aid locates is a sound way to assess whether or not an aid agency´s rhetoric, or a so-called 'good donor´s' commitments and intentions, match the transfer of funds favorable to the poor, who must be the principal target of and beneficiaries of international charity (Dreher et al., 2011; Easterly and Williamson, 2011). If a government´s policies towards the poor are already good, then added monies coming from aid can be particularly effective for alleviating poverty and directly benefiting society by reducing the vagaries of poverty-related debilities. Using Norwegian aid flows, which according to many are not susceptible to manipulation for geo-strategic objectives (Gates and Hoeffler, 2004), and Norway´s own stated commitment to equity and global health (Norwegian Ministry of Foreign Affairs, 2011/2012; Norwegian Ministry of Foreign Affairs, 2016/2017), we address the question of the effectiveness of Norwegian aid by empirically assessing whether or not its allocation reflects a pro-poor preference.

Using data from the Varieties of Democracy (VDEM) project measuring the equality of access to health and data on Norwegian aid presented by the Norwegian Agency for International Development (NORAD), we find that the economic value of total Norwegian aid and health aid on a per capita basis are lower among countries with higher equity of access to health. Following others, we assess whether our results are suggesting that Norway picks the hard problems to solve. We define the hard cases as those that have seen either negative or very low changes towards equity in the recent past. If changes have been small, then one might argue that the structural conditions for pro-poor policy (equity) are weak. Our results show that Norway may reward countries with higher rates of change in a more equitable direction, which may suggest either that Norway picks the easy cases, or that Norway rewards reform. We believe, however, from a moral position, that ignoring the current poor is hardly pro-poor policy, and from a practical position, Norwegian conditionality would indeed be a rather weak instrument for inducing change if those already pursuing high levels of equity are punished. Yet, Norwegian aid increases to recipients who change at faster rates over the preceding five years. Could such increases mean

Norway 'chases success' as some allege occurs in the case of other donors? (Wilson, 2011). Our results taken together raise many questions about two broad areas that instruct the effectiveness of aid debate. First, how exactly might one conceptualize and measure the idea of effective aid giving? We have argued that it is best assessed in terms of how much money the poor get, particularly where it counts – the accumulation of human capital. Secondly, focusing on issues of equity is a far sounder indicator of a government´s commitment to the poorest segments of society, not least in terms of the moral value of charity. Overfocus on the effectiveness of aid for economic growth, while useful from a short-term perspective, might miss the longer-term value of aid that increases human capital while ameliorating suffering. Finally, the results also instruct international relations theory that judges state behavior of donors, such as Norway, based on budget size rather than the moral and practical value of aid, particularly from the perspective of the poor. Next, we discuss some debate related to the effectiveness of aid and argue why this debate might pay particular attention to addressing equity, discuss why assessing Norwegian aid might be particularly relevant, then discuss our data and method, present results, and briefly conclude.

1. The aid debate

The rationale for giving foreign aid from the rich world to poorer countries is intuitive. Poor countries lack the savings necessary to jump start economic growth. Since the poor use up their productive capacities for basic needs, savings remain low, and thus, investment remains low. Aid is simply the reallocation of rich people´s savings for investment so that economic development, often measured in terms of economic growth rates, gets started. The notion of aid is also very heavily influenced by neoclassical growth theory that viewed investment in physical capital as the path to growth, where aid would also attract other forms of capital given that the rate of return on capital should be higher in capital-poor environments (Solow, 1956). Moreover, modernization theory allied closely with neo-classical theory saw growth being hampered by old ways of doing things, and aid was one effective way of transferring capital and knowhow to 'backward' societies for increasing output and accelerating modernization. Aid would be a critical part of helping poor countries through the stages of growth and achieve 'takeoff' (Rostow, 1960).

By the 1980s, however, there was considerable disillusionment about the prospects of aid-led development, not least because of new growth theories that saw the real sources of economic growth emanating from endogenous sources located in *human* rather than *physical* capital (Romer, 1986). Moreover, the idea of 'development' as the accumulation of physical capital came to be challenged among academic disciplines and international organizations, which began focusing on 'human development' and social development, associating progress with the accumulation of human capital, social equity, and societal peace (Athurupane et al., 1994; Ranis et al., 2000; Sen 1981). Aid targeting human development, it was argued, was more likely to generate

real, sustained endogenous economic growth and development. These proponents argued that the problem with poor countries was that they lacked the social prerequisites for the conditions of modernization, such as democracy and stable institutions, which ultimately decided whether or not a country developed (Huntington, 1968; Lucas, 1988). Many argued that aid in particular circumstances, such as within democratic societies, where economic rights are more secure, or where corruption is low, could be more effective (Burnside and Dollar, 2000; Dollar and Collier, 2001; Easterly, 2006a; Keeley, 2012; Svensson, 2003; Wright and Winters, 2010). Contrarily, aid monies where policies are less pro-poor are likely to benefit vested interests, and even in the case of democracies, it is not clear who benefits due to the misallocation of aid monies (Bjørnskov, 2010). Indeed, some suggested that the mode of allocation and expectations from aid be fundamentally rethought (Banerjee, 2007; Raghuram and Subramaniam, 2008).

New growth theories broadened the scope and purpose of aid while perhaps also explaining its failure – building roads, bridges and airports were not as effective as focusing on human development, such as schooling and health, supported by other endogenous factors associated with good governance. The problem was not so much the lack of finances but the social and political environments conducive to growth (Easterly and Levine, 1997; Easterly et al., 2006). Many autocratic regimes, particularly in Sub-Saharan Africa, failed to deliver on development despite being propped up by massive amounts of aid, many of which collapsed with the end of the Cold War (Wright and Winters, 2010). Many began to see new, more promising directions for aid with the geo-political changes of the 1990s. Aid aimed at education and health, including governance that focused on the poorest and most vulnerable, came to be hailed as the hallmarks of new aid policy and practice. Indeed, the current Sustainable Development Goals (SDGs) are generally made up of human and social development sectors, with the added area consisting of the environment (Dreher et al., 2011). In this new climate, the Nordic countries, particularly Norway, came to be seen as models for emulation, not just as big givers, but also as pallbearers of a social democratic style of economic and political development that valued equity and justice. Apparently, countries such as Norway promoted pro-poor, more equitable policies that targeted human suffering and injustice, promoting Norway´s own egalitarian values abroad (Noel and Therien, 1995). As some saw it, Norway has achieved 'moral superpower' status, and its activity around the world is directed at moral causes shorn of geo-strategic interests (Egeland, 1989).

Most previous research has focused on the aid-growth relationship, and the results have been highly mixed (Roodman, 2008; Wright and Winters, 2010). Vocal aid pessimists, such as Dambisa Moyo, view foreign aid as a problem for development, fueling a 'vicious cycle' of 'corruption, disease, poverty and aid-dependency' (Moyo, 2009, p. ix). Moyo claims that aid has been given uncritically to Africa for decades and created an aid addiction among the recipients and the donors. According to her, the aid business continues because it is not in the interests of the powerful to

stop giving aid because it promotes the strategic interest of donor countries and international agencies that ensure the delivery of desired policies from recipient states (Moyo, 2009, p. 75). Boone (1996, p. 322) claims that it is not 'optimal for politicians to adjust distortionary policies when they receive aid flows', suggesting that aid produces moral hazard by encouraging the continuation of bad policies, particularly those that hurt the poor. Indeed, William Easterly (2006b) portrays this dilemma as two tragedies. The first is that the poor suffer easily preventable maladies, such as hunger and disease. The second tragedy is that trillions of dollars of foreign aid has failed to deliver basic human welfare for the disadvantaged, representing a colossal waste (Easterly, 2006b, p. 4). In essence, the pessimists' argument is that aid prolongs human suffering, mostly because it is given for buying policies favorable to the donors, bypassing the poor (Bueno de Mesquita and Smith, 2011). As some suggest, especially when it comes to strategic aid giving, ordinary people blame the donor countries for siding with the problem – their own governments (Dimant et al., 2020; Root, 2008).

Assessing the effectiveness of aid on growth and similar outcomes are plagued with problems, not least because of the reciprocal relationship between aid flows and governance. Like others, we argue that the way out of the dilemma might be to assess the selectivity criteria of donors (Easterly, 2013; Easterly and Williamson, 2011). Apparently, much research suggests that the problem is not aid in itself but the nature of the recipient country´s political environment, which may or may not be caused by the flow of aid (Wright and Winters, 2010). Burnside and Dollar (2000, p. 864), for example, found aid to be effective when given under good policy environments (Burnside and Dollar, 2000, p. 864). Similarly, Sachs (2015, p. 3) suggests that this is particularly true if aid was directed at good policies targeting social infrastructures, such as education and health systems. Indeed, there is very little consensus about what should go into the measurement of good policy, and the question of how such indices might be aggregated for proper empirical scrutiny, remains thorny (Høyland et al., 2012; Ravaillon, 2011; Roodman, 2011). Some argue that the underlying indicators suffer from poor conceptualization, the relationship of these indicators to other factors are poorly specified, where theory and measurement as well as the aggregation processes that go into rankings remain problematic. One solution to the measurement problems outlined by many experts is to assess on single, more simple, theoretically justified policy dimensions targeting the question of poverty, rather than mashing up disparate measures aggregated to provide a single value. To take the United Nation´s Human Development Index (HDI), which is made up of equally weighted income per capita, child mortality, and life expectancy, as an example, prompts the question as to whether a government should raise incomes to increase its HDI or pay more attention to longevity or child mortality. Indeed, one might applaud a government for raising its HDI score, but such a feat might have been achieved solely by increasing income, which may have come at the expense of child survival, which is often an issue for the poorest segments of society.

Alternatively, GDP, if accurately measured, indicates people´s command over commodities that may in fact increase other good things over the longer term. Aggregate measures of performance often used to study the effectiveness of aid focus on material outcomes, without considering the more moral, and perhaps also practical issue of inequalities of access. As critics suggest, the measurement of effective pro-poor policy, or its concomitant outcomes, thus, are not easily ascertained in 'mashup' indices (Ravaillon, 2012). We argue that assessing the effectiveness of aid might be evaluated on moral and practical grounds by assessing the flow of monies to pro-poor environments measured in terms of its value to the poor.

1.1. *Why health equity? Why Norway?*

To be clear, we are not advocating any one particular measure of good policy for judging development outcomes, nor are we suggesting that aid does not bring positive outcomes, but we are only interested in how one Nordic country – Norway – apparently a country that belongs in the group of 'good donors' as identified in the literature, allocates its aid (Dreher et al., 2011; Gates and Hoeffler, 2004).[1] If the 'moral superpower' allocates aid in a way antithetical to equity, then perhaps expecting others to be more supportive of egalitarian outcomes might be too tall an order. Studies that look at the priorities of donors often assess the composition of aid budgets (Easterly and Pfutze, 2008; Easterly and Williamson, 2011). We argue that the better strategy is to assess the value of aid to the recipient poor given the conditions of governance they live under. Later, we justify what theory might suggest about Norwegian aid allocation, but for the moment we examine why we focus on health equity. Rather than use standard indices for reasons discussed above, we use a measure focused particularly on equity in the health sector, which is a useful measure of general equitable, pro-poor (egalitarian) governance (Sigman and Lindberg, 2015).

The UN Millennium Development Goals of 2000 marked global health as a top priority, emphasizing that equality in access to health care is critical for combating poverty (Keeley, 2012, p. 35). In 2015, the UN Sustainable Development Goals explicitly highlighted global health, the no. 3 goal: 'to ensure healthy lives and promote well-being at all ages' with the subgoal no. 3.8 being 'to achieve universal health coverage' (United Nations, 2015). Since much health in poor countries relate to the burden of communicable disease, improving the health of the poor should have ripple effects across societies because wealth and privilege alone does not stop the spread of disease. Take for instance the deadly case of dengue fever, a mosquito borne disease. If drainage and sanitation in poor areas, where the dengue mosquitoes breed are cleaned up, then a direct benefit to the poor also benefits the rich by stemming its spread. If poor people are immunized against communicable diseases, then everyone benefits

1 Indeed, there are several recent studies showing positive effects of aid. See Arndt et al. (2015). Roodman (2008).

(Nelson, 2015). Closing the health gaps, thus, is not just morally valuable, but it also carries massive instrumental value in terms of reducing the overall burden of disease in poor countries and aiding the process of development through human capital accumulation.

The aid community is quick to point out that emergency relief health aid has proven effective. The global community's involvement in health-related emergencies has led to the eradication of smallpox, better treatments of tuberculosis, HIV and aids, malaria, and other communicable diseases.[2] Indeed, global agencies, such as the World Health Organization (WHO) and the United Nations Children´s Fund (UNICEF) play an invaluable role in coordinating the responses of governments to health crises, delivering aid and offering expertise, but critics of aid have suggested that often the responses have been slow and ineffective in many areas, such as delivering vaccines in a timely fashion to people that really need them, such as the delivery of cheap bed nets for fighting malaria, etc. (Banerjee, 2007; Easterly, 2006b). While some argue that aid´s focus on single problems that can be quantitatively assessed, such as child death, have come at the expense of more holistic approaches (Nelson, 2015), others cannot even find consistent evidence showing that aid causes lower child death (Williamson, 2008; Wilson, 2011). If aid for a specific purpose is more effective when targeted at good policies, as many have suggested, then it is fair to assume that policies aimed at equity is pro-poor and likely to yield the highest dividends (Ludi and Bird, 2008). As Ludi and Bird (2008, p. 1) write:

> the institutional setting must be conducive, and growth must be inclusive and must aim at reducing both inequality and adverse incorporation. Such an approach must ensure that women are included in growth processes, that gender equity is addressed and that fundamental rights and freedom for women in the political, economic, social, cultural and civic fields are delivered.

Thus, to evaluate the pro-poor, equity enhancing value of Norwegian aid in the health sector, we assess Norwegian aid flows to pro-poor policy environments as measured by the VDEM project´s indicator of equitable access to health. Several factors result in inequality of access to health care: both on individual, systemic, and institutional levels that are perhaps determined by histories of various societies. Thus, the objective of this study is not to see whether aid effects equity but to assess a good donor's response towards the poor in more versus less equitable environments.

The UN finds health inequality to be a strong indicator for other inequalities and exclusionary political and economic processes (United Nations, 2015). Scholars suggest that reducing health inequalities is an efficient and moral path to better overall development outcomes (Nelson, 2015). Studies from developing countries,

2 See for example official statements by NORAD. https://www.norad.no/tema/global-helse/norsk-helsebistand/ (last accessed February 9, 2022).

especially Sub-Saharan Africa, show that the poor are often the most neglected when it comes to healthcare (Bonfrer et al., 2014). Moreover, inequality in wealth can be a strong determinant in terms of barriers of access to the poor and the way in which the richer segments of the population get privileged access to health resources (Johar et al., 2018). Further, governments' commitment to health measured as the size of a health budget is a poor predictor of health outcomes among the general population, suggesting that spending on health might be captured by narrower swaths of the population through corruption and rent seeking (Anderson and Poullier, 1999; Babazono and Hillman, 1994; OECD, 2017). We argue that these findings suggest that assessing commitment to pro-poor policy in the allocation of aid is justified conceptually and in terms of practical and moral obligation of a donor. If indeed countries such as Norway value pro-poor policy in its aid allocation, then the short and long-term objectives of aid are likely to be met, regardless of the complex, mutually reinforcing causal pathways from aid to development. The question is, does Norwegian aid value health equity?

Norwegian official statements have clearly prioritized global health for over two decades (Norwegian Ministry of Foreign Affairs, 2011/2012, 2016/2017). Indeed, these statements focus specifically on equity. According to the ministry of foreign affairs (2016/2017, p. 13) report to the parliament of Norway:

> Epidemics and pandemics are a threat to global health security and to social and economic development. We will build further on Norway's longstanding efforts to improve women's, children's, and young people's health, fight the major infectious diseases, and strengthen health systems in the poorest countries.

Similar statements committing Norway to global health security and social equity are made by other agencies, such as the Research Council of Norway (NFR).[3] Critics of Norwegian aid suggest that despite official statements, there are many competing forces for aid and competing reasons for why it is given (Borchgrevink, 2004; Tvedt, 2007). Nevertheless, Norway is one of the largest and most committed foreign aid donors, committed to spending at least 1 per cent of its GDP in foreign aid. In 2020, Norway gave a whopping 39.5 billion NOK, approximately around 4.76 billion US Dollar in foreign development aid.[4] Roughly 25 per cent of total Norwegian aid is allocated to multilateral institutions, which means that a full 75 per cent is disbursed through its own discretion. In 2020, health and social sector aid amounted to roughly 11 per cent of the budget, although many other sectors, governance, education, infrastructure and environmental aid also certainly contain health-related

3 See https://www.norad.no/tema/global-helse/norsk-helsebistand/ (last accessed August 29, 2022). See also https://www.norad.no/om-bistand/dette-er-fns-barekraftsmal/mal-3-god-helse/ (last accessed August 29, 2022).

4 See NORAD´s website: https://resultater.norad.no/geografi/?show=bistand (last accessed February 10, 2022).

relevance. Of the health aid, primary health care makes up the largest share (56 per cent) of the budget.[5] Why a small country like Norway would aspire to being an aid giant requires some explanation since it relates to why one expects Norway to be a champion for promoting equity and supporting pro-poor policy.

In international relations theory, realists would argue that aid buys power and prestige and the ability to buy strategically important policy. Yet, Norway has few great power ambitions although prestige can buy Norway a place at the table in terms of a prominent place in international fora. Critics might argue that Norwegian generosity, thus, is a matter of power politics in a softer way. Liberal theory might suggest that Norwegian aid giving is motivated by self-interested reasons, but it ultimately promotes global cooperation, where aid reflects the collective effort to overcome common dilemmas, such as poverty related threats. Indeed, small states, such as Norway and Switzerland, may use wealth and technological power to gain status (de Carvalho and Neumann, 2014). Constructivists see beyond self-interest to argue that states are also motivated by ideational factors beyond simply material ones. Norway´s behavior 'outside' is a reflection of its behavior 'inside' – as they argue, norms and values of a society, not just interests, are reflected in foreign policy (Noel and Therien, 1995). Given the strong egalitarian values and the active commitment of Norwegian policies towards poverty reduction and universal welfare at home – the so-called Norwegian model – one would expect that Norwegian aid would be particularly sensitive to promoting egalitarian values abroad, targeting the plight of the poor.

The generosity of Norway, for whatever the reason, has also brought criticism in terms of the disbursement of that aid. Given the broad bipartisan consensus in Norway for giving aid, some argue that there is little accountability and critical scrutiny of the allocation of Norwegian aid (Borchgrevink, 2004; Easterly and Williamson, 2011; Tvedt, 2007). Nevertheless, official statements suggest that the intentions of aid are to 'contribute towards lasting improvements in economic, social and political conditions for the populations of developing countries, with particular emphasis on ensuring that development aid benefits the poorest people' (cited in Gates and Hoeffler, 2004, p. 4).

Given the discussion above, if we are to assess the effectiveness of Norwegian aid, then examining the economic value to places that this aid is allocated to, particularly in terms of its impact on the poor, matters. We have argued that health equity is a good single indicator of pro-poor policy that if aided is morally sound and should increase human capital accumulation and benefit overall development goals. There are also very good reasons, as argued above, to expect that Norwegian generosity is informed by its own identity and beliefs about a good society. The question is whether such propositions might be detected in the real world. We empirically test the following hypothesis:

5 See https://resultater.norad.no/sektor/helse-og-sosial-sektor. (Last accessed February 13, 2022).

H1. The economic value of Norwegian aid is greater among more pro-poor policy environments measured as health equity

2. Method and data

As mentioned earlier, our primary identification strategy is to assess, *ceteris paribus,* where larger values of Norwegian aid locate in terms of pro-poor policy and in terms of the economic value to recipients. We do not argue that Norwegian aid causes pro-poor policy, which should be a question examined also, but by inference, if Norwegian aid is higher in terms of value to the recipient in more equitable societies, we could conclude that Norwegian aid values those societies that value equity. We utilize a time-series cross-section (TSCS) dataset that identifies Norwegian aid flows over the period 1990–2019 for roughly 140 developing countries.[6] Thus, we have annual data for over roughly 3 decades across countries for the period that most studies find favorable effects of aid on development (Wright and Winters, 2010). TSCS data typically present problems for standard regression analysis because of the complicated co-dependencies in the data, both over time and across space. Thus, we utilize ordinary least-square regression (OLS) with Driscoll-Kraay standard errors, which are robust to heteroskedasticity, serial correlation, and general forms of spatial autocorrelation (Driscoll and Kraay, 1998; Hoechle, 2007). Running the Wooldridge test for autocorrelation revealed that our data were first-order serially correlated. We employ the Hausman test to decide between random and fixed effects models. The Hausman tests rejected the null-hypothesis that there was no difference between the random and fixed effects, thus we mainly focus on the fixed effects estimations but initially display the random effects specification for comparison of coefficients. We enter a time trend in all models to capture common shocks and bias due to simultaneously-trending data. Monte-Carlo simulations suggest that fixed effects regressions with a time trend (one-way fixed effects) provide consistent and unbiased estimations and cleanly capture the overtime relationship between X and Y (Kropko and Kubinec, 2020).

Our main dependent variable is total Norwegian aid disbursed by the Norwegian foreign ministry agency, NORAD.[7] These data are publicly available in millions of Norwegian kroner from 1990 onwards. We converted the kroner to dollars using the official exchange rate available through the Norwegian Central Bank (Norgesbank)[8] and then deflated the values to 2015 US dollars using the GDP deflator taken from the United States Government Bureau of Economic

6 The VDEM data covers countries with at least 250,000 inhabitants and more. See https://www.v-dem.net (Last accessed February 10, 2022).

7 See https://resultater.norad.no/en. (Last accessed, February 10, 2022).

8 See https://www.norges-bank.no/en/topics/Statistics/exchange_rates/?tab=currency&id=USD. (Last accessed February 10, 2022).

Analysis (BEA).[9] The correlation between the NORAD data and the bilateral aid values for Norway reported by the World Bank´s, World Development Indicators (WDI) online database was almost perfect ($r = .998$), giving us confidence in our conversion of the NORAD data. We followed a similar method for converting the Norwegian health aid data from NORAD. We use the total health aid budget regardless of who disbursed it, but the recipient is the public sector agency in the recipient government. Since we are interested in the economic value of Norwegian aid to the recipient, we divide the dollar values of the annual flows of aid by total population, computing the per capita aid received. We log transform these variables to avoid bias from skewed data (see summary stats in appendix). Health aid disbursed directly by Norway to a recipient government is roughly 5 per cent of the total aid budget. Figure 1 provides a graphical account of the sectoral distribution of the total Norwegian aid budget in 2022.

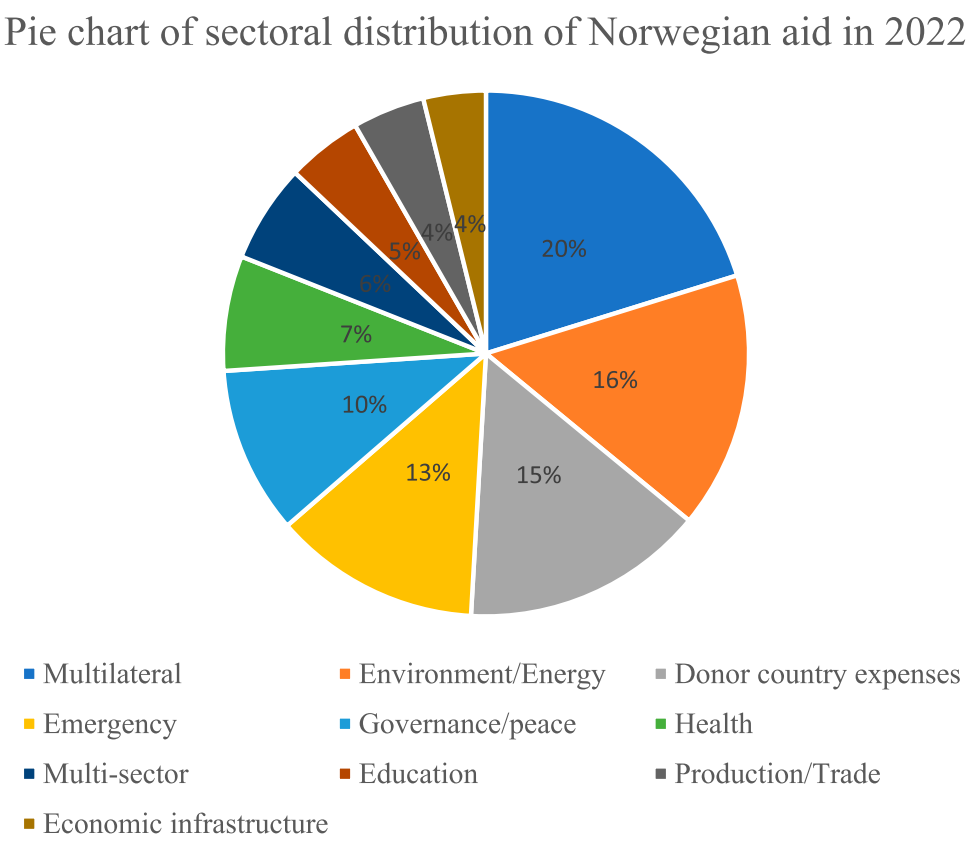
As seen there, health receives 7 per cent of the total budget. While this number may seem low, we need to consider that health-related aid might be incorporated in aid given to the multilateral as well as aid to other sectors, such as to peace and reconstruction as well as education and infrastructure. Regardless, as we have argued, it is not the amount of aid that that should matter but the locational choice associated with equity of access in the recipient country.

Our main independent variable of interest is taken from the celebrated VDEM project, which measures equality of access to health as one of the key indicators that enter into measuring egalitarian democracy (v2pehealth in the codebook) (VDEM, 2021). This variable is generated by expert judgement about 'the level of access of the poorest segments of society to health care compared with the richest segments' (Pemstein et al., 2018). These coding are then subject to rigorous analyses for minimizing bias (Sigman and Lindberg, 2015). The experts assign scores from 0 (extreme inequality) – 4 (total equality) to the question: 'To what extent is high quality basic health guaranteed to all, sufficient to enable them to exercise their basic rights as adult citizens?' (VDEM, 2021). The final ratings are transformed into an interval scale stretching from 0 to 1.[10] We use the 1-year lagged values of the independent variables so that Norwegian aid at time t responds to the health equality at time t-1. The VDEM measure is correlated at $r = 0.84$ with the index of health inequality collected on the basis of the incidence of actual childhood diseases collected by the Global Burden of Disease project, which means that the expert coded data are accurate (Hornset and de Soysa, 2021). Figure 2 shows the trends in both total Norwegian aid per capita and health aid per capita assessed against the trend in the health equity index, our main independent variable.

9 See https://www.bea.gov/data/prices-inflation/gdp-price-deflator. (Last accessed, February 10, 2022).

10 See appendix for the exact coding scheme.

Figure 1: Norwegian aid distribution by sector in percentages, 2022



As seen there, total Norwegian aid in terms of the per capita value to recipients increased over time, peaking roughly around 2015. Norwegian health aid in terms of per capita value has gradually reduced over time while equal access to health has dramatically decreased in the past decade after steady increases in the previous years. Why this might be happening can only be speculated about at this point, but the trend supports the contention that aid targeting single quantifiable indicators, such as child death, may have come at the expense of equity and more resilient health systems (Nelson, 2015). The figure does not provide a simple picture of the association between Norwegian aid flows and the equity of access to health.

Next, we assessed the association between equitable access to health and the under-5 mortality rate as reported by the World Bank´s *World Development Indicators* (WDI) online data. This correlation is $r = -0.63$, which is high given that actual child death is dependent on geography, poverty levels, and disease vectors etc. that are not always meaningfully connected to equity of access to health, which is largely a policy-based factor. Figure 3 shows this connection graphically.

Naturally, we need to control for several other factors that might be important confounders in the association between Norwegian aid flows and the level of health

Figure 2: Average global trend in equality of access to health and Norwegian aid flows, 1990–2019

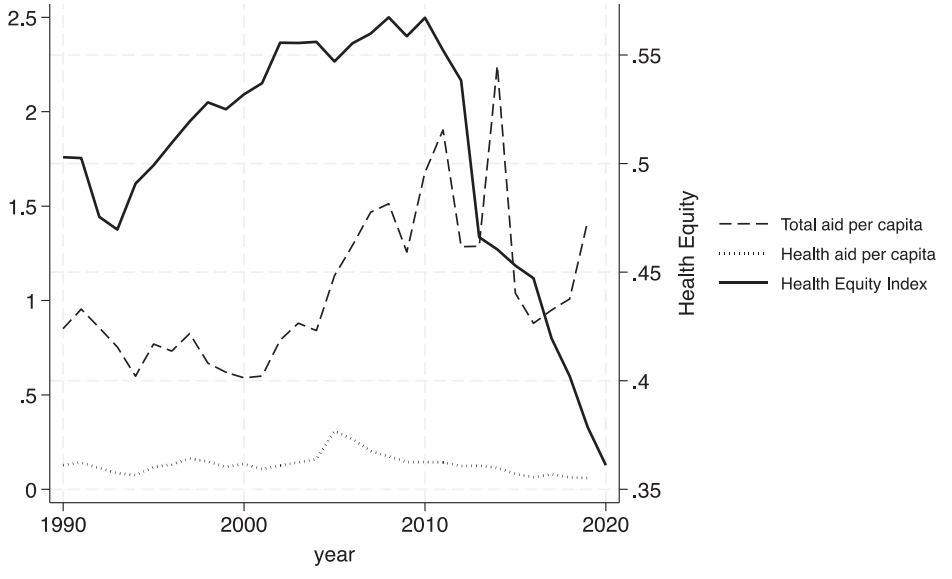
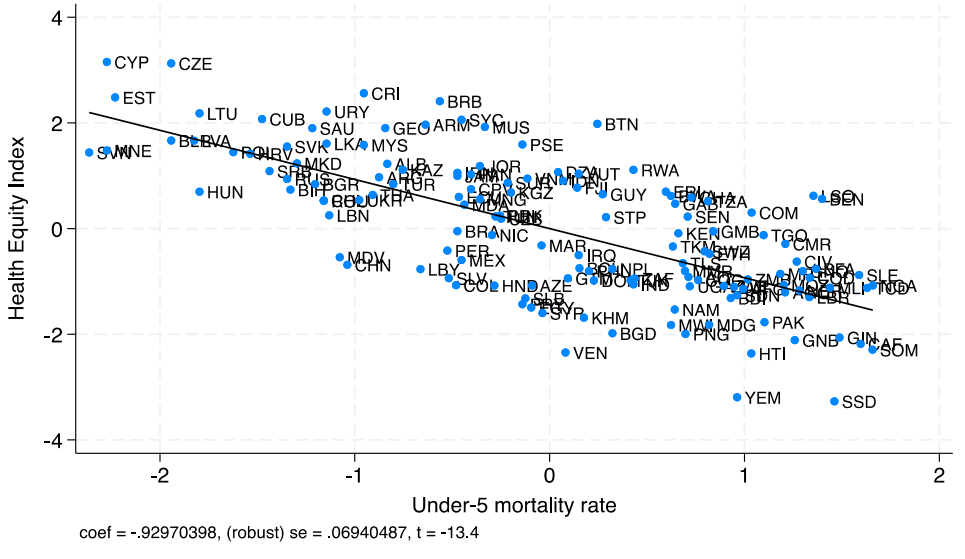


Figure 3: Association between health equity and under-5 mortality 1990–2019



equity. We keep our models small and manageable for tractability and for ease of interpretation of the main findings (Achen, 2005). Following others, we use per capita GDP in 2015 constant US dollars to capture the level of development, or the extent of poverty as most others do (Dreher et al., 2011; Ravaillon, 2011; Wilson,

2011). Per capita income levels capture many other unmeasured factors, such as the quality of physical infrastructure, level of education, and the quality of institutions, etc. Next, we enter a measure of formal democracy measured as free and fair elections that show meaningful competition and are conducted without violence and coercion taken from the VDEM (v2x_polyarchy) (Coppedge and Reinicke, 1990). This is a minimum definition of democracy, which is appropriate since poor countries usually do not show all the trappings of advanced democracies. Moreover, since health equity relates to freer societies, it is best to test a minimum definition to avoid any spurious effects of equity due to aid flows to democracies, and democracy is a standard control in most aid selectivity models (Wilson, 2011). Next, we add a demographic variable since aid is likely to reach people best when population density is high, and densely populated countries are also likely to have more access to health regardless of other factors due to economies of scale (Alesina and Wacziarg, 1998). We, thus, add a term for population density measured as people per square kilometer taken from the WDI database. This term is logged to reduce skewness.

Finally, we capture the level of domestic conflict since conflict-prone countries are likely to have lower access to health and yet gain higher attention from donors. We add the incidence of civil war defined as a contest between a state and rebel group(s) where at least 25 battle-related deaths have occurred in a single year. These data are obtained from the Uppsala Conflict Data Project.[11] Additionally, we add the history of peace as a count variable derived from the civil war incidence indicator to account for the length of peace and the proximity of conflict as aid for reconstruction might be a factor. Conflict zones often receive more aid due to international commitments to peace, and in many cases, may even be used strategically by conflicting parties (Nielsen et al., 2011). Regardless, countries in conflict and those immediately recovering from conflict are likely to be higher aid recipients, *ceteris paribus.*

Additionally, we vary this basic model by adding several potential confounders in robustness tests. First, we enter a term for total overseas development assistance (ODA) since Norwegian aid might simply be reflecting its shared interests with the other donors. We use ODA per Gross National Income (GNI) taken from the WDI database. Next, it might be that Norwegian aid follows business interests connected to oil, and oil wealth may have negative effects on health equity and outcomes because of the infamous 'resource curse' argument (Cockx and Francken, 2014; de Soysa and Gizelis, 2013). Next, we test a measure of trade openness of a country given that aid may follow trade interests and vice versa, and trade may relate to greater health access indirectly from economic factors and the accumulation of productivity-driven human capital (Bergh and Nilsson, 2010; de Soysa and Vadlamannati, 2021; Martens et al., 2010). These latter two variables are also obtained from the WDI online database. Finally, we test a model including total domestic government

11 See https://ucdp.uu.se (last accessed February 11, 2022). We use civil wars defines as those that may also contain external interventions.

spending on health. Perhaps Norwegian aid is influenced by the amount of government commitment to health, which may also relate to equity of access. The intercorrelation of each of our key variables and summary statistics appear in the appendix.

3. Results

Table 1 displays the results of estimating the effects of equal access to health on Norwegian aid flows.

The effect of equal access to health on Norwegian aid per capita in column 1, when the fixed effects specification is estimated, shows a negative and statistically highly significant effect. This result suggests that the economic value of Norwegian aid for a recipient is lower the greater the pro-poor policy environment measured as equality of access to health. Recall that this measure also corresponds well with child mortality. Substantively, a standard deviation increase in equality of access to health reduces the per capita value of Norwegian total aid by roughly 4 per cent of a standard deviation of the within variance in total Norwegian aid, holding each of the other variables at their mean values. This effect works out to be roughly 11.3 US cents less per person on an annual basis.[12] This basic result is replicated in column two when the random effects estimator is used. Columns 3 and 4 present results for Norwegian health aid flows. As seen there, equal access to health also reduces the inflow of health aid per capita from Norway. Using column 3, we estimate the substantive effects calculated as above. In this case, a standard deviation increase in health equity reduces Norwegian health aid per capita by roughly 3 US cents per person per annum, holding each of the other variables at their means. While these effects may seem small in absolute terms, they are best compared with the effects of other conceptually interesting variables.[13] When increasing democracy by a standard deviation, for example, health aid from Norway increases by 2 US cents per person. Thus, Norway seems to ignore health equity when allocating health aid on average to roughly the same value as it rewards increases in electoral democracy! This comparison is indicative of a prioritization, which suggests that Norwegian aid prefers to compensate democracy, while punishing more equitable access to health. The moral and practical value of this aid policy outcome for the poor versus funding democracy is a debatable topic.

The results taken together, thus far, allow us to reject the hypothesis that Norway values health equity by rewarding pro-poor environments with more aid per capita. However, it might be argued that the mandates of aid agencies is not to reward

12 This calculation is based on the standardized coefficient based on the logged aid data, which is then used to calculate the actual dollar value using the unlogged aid flow values in USD.

13 The Center for Disease Control (CDC) lists the cheapest dengue vaccine, for example, at $20 per dose. See: https://www.cdc.gov/vaccines/programs/vfc/awardees/vaccine-management/price-list/index.html. (Last accessed February 12, 2022). In Africa, even a simple bed net would cost roughly $5. See https://www.cdcfoundation.org/bednets. (Last accessed February 12, 2022).

	(1)	(2)	(3)	(4)
	Fixed	Random	Fixed	Random
Dependent vars.	Total aid/pc	Total aid/pc	Health aid/pc	Health aid/pc
Equal access to health (t-1)	−0.19**	−0.26***	−0.46***	−0.42***
	(0.07)	(0.06)	(0.12)	(0.09)
GDP per capita (log)	−0.38*	−0.40***	0.27	−0.15
	(0.19)	(0.12)	(0.25)	(0.15)
Electoral democracy	0.89***	0.68**	1.03***	0.82**
	(0.31)	(0.27)	(0.31)	(0.31)
Population density	−2.72***	−0.42***	−0.46	0.04
	(0.43)	(0.10)	(0.45)	(0.15)
Civil war ongoing	0.30**	0.27**	0.14*	0.12
	(0.11)	(0.11)	(0.08)	(0.08)
Years of peace since last war	−0.02***	−0.01***	−0.01***	−0.01**
	(0.00)	(0.00)	(0.00)	(0.00)
Observations	3,168	3,168	3,154	3,154
Number of groups	142	142	142	142

Table 1: OLS regressions with fixed and random effects estimations of equal access to health on Norwegian aid flows per capita, 1990–2019.

Standard errors in parentheses.
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.
Time fixed effects estimated.

good behavior per se, even if bad environments are likely to be a waste of aid money. It might be that Norway follows a bold aid strategy and picks the really hard cases that are slow to adopt more equitable policies. We follow Sven Wilson (2011) who argues that hard cases would be those with relatively slow policy changes, whereas those that have higher rates of change towards good policy are the easier cases. If changes have been small in the very recent past, then one might argue that the structural conditions for pro-poor policy are weak. Following Wilson (2011) we estimate the change in equity as health equity at time t minus health equity at time t-5 and at time t and time t-2 (Toft and de Soysa, 2020; Wilson, 2011).[14] Thus, the next models use the same estimating strategy as above but now assesses how proximate levels of health equity affect Norwegian aid flows per capita when past performance measured as rates of change is estimated simultaneously. Higher changes in equity should reduce Norwegian aid per capita because aid agents, if they are being bold, should want to spur change by increasing aid to slow reformers. As seen in Table 2, however, Norwegian total aid per capita and health aid per capita increase to countries that have higher rates of change in the 5-year period, while aid levels to currently equitable places

14 We use the compound growth rate calculated as ((health equity $_{t-1}$ − health equity $_{t-5}$)/health equity $_{t-5}$).

	(1)	(2)	(3)	(4)	(5)	(6)
Dep var = Norwegian aid/pc	Total aid	Total aid	Total aid	Health aid	Health aid	Health aid
Health equity (2-year change)	0.00		−0.00	0.01*		−0.00
	(0.00)		(0.00)	(0.00)		(0.00)
Health equity (5-year change)		0.005***	0.01***		0.01***	0.01***
		(0.00)	(0.00)		(0.00)	(0.00)
Health equity (level) t-1	−0.23***	−0.26***	−0.26***	−0.50***	−0.52***	−0.52***
	(0.06)	(0.05)	(0.05)	(0.11)	(0.10)	(0.10)
GDP per capita (ln)	−0.39**	−0.50***	−0.50***	0.19	0.17	0.17
	(0.19)	(0.15)	(0.15)	(0.22)	(0.21)	(0.21)
Electoral democracy	0.59	0.33	0.32	0.93***	0.88***	0.88***
	(0.38)	(0.35)	(0.35)	(0.30)	(0.30)	(0.30)
Population density (ln)	−2.52***	−2.22***	−2.22***	−0.55	−0.27	−0.27
	(0.44)	(0.49)	(0.49)	(0.50)	(0.42)	(0.42)
Civil war ongoing	0.26**	0.30***	0.30***	0.08	0.13	0.13
	(0.11)	(0.10)	(0.10)	(0.10)	(0.10)	(0.10)
Years of peace since last war	−0.02***	−0.02***	−0.02***	−0.01***	−0.01***	−0.01***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Constant	11.88***	9.71***	9.73***	0.00	−4.97**	−4.95**
	(1.48)	(2.05)	(2.06)	(0.00)	(2.28)	(2.28)
Observations	3,144	3,123	3,123	3,130	3,109	3,109
Number of countries	137	137	137	137	137	137

Table 2: OLS fixed effects regressions of health equality & change in health equality on Norwegian aid flows per capita, 1990–2019.

Driscoll-Kraay standard errors in parentheses.
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.
Year fixed effects estimated.

remain negative and statistically highly significant. These results taken together do not suggest that the negative effects of health equity on Norwegian aid is due to Norway´s 'desire' for success but is most likely due to 'chasing success.' Of course, the most favorable interpretation is that Norway rewards those who show improvements while punishing those who have already achieved higher equity. Why this is a more moral policy from the point of view of the poor recipient is debatable, however. Moreover, why punishing the currently high levels of equity is a credible signal to laggards makes little logical sense from the view of using aid conditionally. It is clear, however, that the negative effect of Norwegian aid to higher levels of equity is not due to Norway choosing the harder cases.

At this point, we should consider the case that the association we do find might be due to reverse causation, which is that higher levels of Norwegian aid causes lower levels of equity. Such a causal analysis of aid´s effect on equity would require an entirely different analysis, which we hope others might undertake with more appropriate empirical strategies, such as the use of instrumental variables techniques. For the moment, we use Granger causality analysis to test reverse causation in our data. Granger argued that x causes y if past values of x associate more strongly with y in the presence of past values of y compared with the other way around (Granger, 1988; Mahdavi and Sohrabian, 1991). Additionally, past values of y in a regression model takes care of any endogeneity in the relationship between x and y. An F-test approaching the threshold value of 10 of the joint significance of the lagged values between the x-y and y-x relationships allows us to decide which of the two relationships are strongest from a Granger causality perspective (Burkhart and Lewis-Beck, 1994). Table 3 shows the F-values and the long run relationship between the two regressions.[15]

As seen there, the effect of lagged values of Norwegian aid per capita on health equity when lagged values of health equity are estimated yields an F-value of 2.97 with an F-test of joint significance that is statistically not different from zero. In contrast, the F-test of health equity on Norwegian aid flows approaches the threshold value of 10 (9.05), which is statistically significant at the 5 per cent level ($p < 0.03$). The long-run effect of health equity on Norwegian aid can be calculated as the sum of the 3 lagged values, which amounted to −0.19 mirroring the effect size for the full model estimated in column 1 of Table 1. Health equity, thus, seems to elicit lower Norwegian aid rather than aid lowering health equity, even when endogeneity is accounted by lagged values of y.

Our second strategy for assessing endogeneity is to test for omitted variables bias, or bias due to selection on observables. We do this in two ways. First we estimate alternative models to test the sensitivity of our basic results to adding theoretically

15 We estimate Granger causality regressions by examining various lag lengths. The optimal lag length was 3 years. We estimated both year and country fixed effects in the models, estimating clustered standard errors robust to heteroscedasticity.

	F-Test	*P* value
Norwegian aid per capita causes health equity	2.97	0.39
Health equity causes Norwegian aid per capita	9.05	0.03

Table 3: Granger causality tests of the relationship between health equity and Norwegian aid per capita, 1990–2019.

relevant variables in the model. Secondly, we conduct a formal test of omitted variables bias in a non-instrumental framework, which we describe below. Table 4 displays the results of the alternative models.

	(1)	(2)	(3)	(4)
Dep var = Total Norwegian aid/pc	FE	FE	FE	FE
Equal access to health t-1	−0.20***	−0.16**	−0.22***	−0.28***
	(0.07)	(0.07)	(0.08)	(0.07)
GDP per capita (ln)	−0.36*	−0.60***	−0.40	−1.10***
	(0.19)	(0.20)	(0.24)	(0.25)
Electoral democracy	0.95***	0.86***	1.20***	1.30***
	(0.33)	(0.30)	(0.36)	(0.30)
Population density	−1.99***	−2.81***	−2.87***	−2.93***
	(0.46)	(0.45)	(0.43)	(0.70)
Civil war ongoing	0.22**	0.31***	0.23**	0.32***
	(0.10)	(0.11)	(0.11)	(0.10)
Peace exposure (year count)	−0.02***	−0.02***	−0.02***	−0.03***
	(0.00)	(0.00)	(0.00)	(0.01)
Total DAC Aid / GNI	0.01*			
	(0.01)			
Oil rents/ GDP (ln)		−0.01		
		(0.11)		
Trade / GDP (ln)			0.22***	
			(0.07)	
Govt. health exp/GDP				−0.12
				(0.08)
Constant	7.92***	14.58***	10.55***	19.08***
	(1.69)	(1.76)	(1.58)	(4.06)
Observations	2,975	3,115	2,947	1,998
Number of groups	126	136	131	133

Table 4: Alternative models estimating Norwegian aid flows on health equity, 1990–2019.

Standard errors in parentheses.
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.
Year fixed effects estimated.

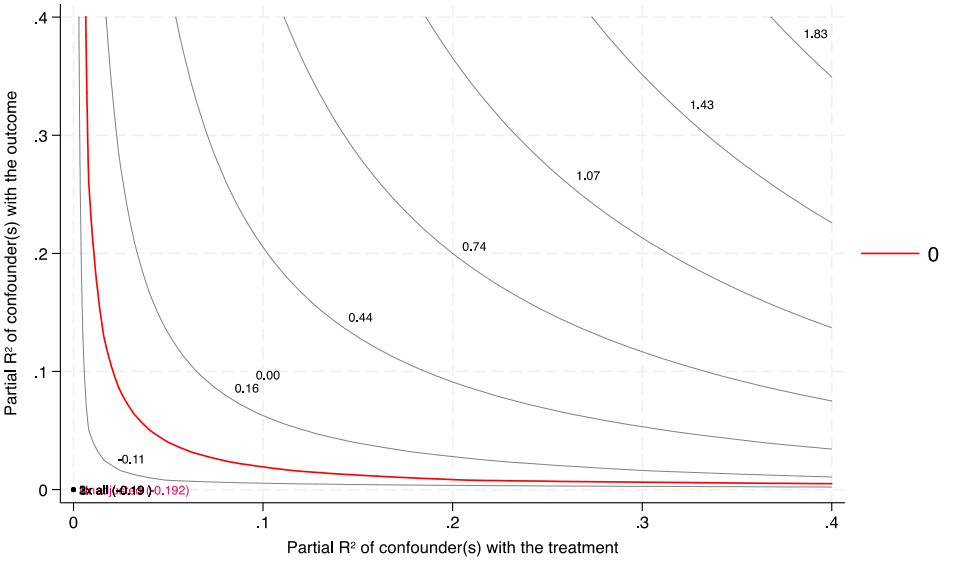
Our first alternative model includes total aid (ODI/GNI). If Norway follows other donors and heavily aid dependent countries are likely not to be equitable, then the relationship between Norwegian aid and equity will naturally be negative. Entering total ODI per GNI yielded a positive effect on Norwegian aid flows but the statistically highly significant negative effect on health equity remains. Note that these results obtain despite a drop in almost 20 developing countries, presumably ineligible for ODA. The results are the same for total aid and health aid. Next, we enter oil rents per GDP. Oil has no statistically significant effect on Norwegian aid flows in the fixed effects specification, but the results on health equity remain the same. Next, we enter trade dependence (total trade/GDP). Norwegian aid flows are positive and statistically highly significantly related to trade, but the negative effects on health equity hold. Finally, we enter total domestic government health expenditure as a share of GDP, but again, the highly significant negative effect of Norwegian aid on health equity remains robust with only minor changes of the effect size shown across the columns despite changes in sample size.

Examining the effects of aid flows on the control variables are revealing. It seems that, while Norwegian total aid is poverty efficient, i.e. locates in larger quantity per capita in the poorer countries, it is not sensitive to levels of equity, which is arguably a far better proxy for pro-poor policy as we argue. Norwegian aid also seems to locate in larger quantities among democracies, although this result is not robust to specification. Again, the comparison of health equity´s result with the level of democracy is interesting because it may support the view that aid located even in democracies disproportionately benefits the rich, not the poor (Bjørnskov, 2010). Moreover, if more trade dependent countries, rather than more equitable countries, get more aid, then one might argue that Norwegian aid might not be fully insulated from the pressures of economy-related strategic objectives, which is a result that one may not necessarily expect from an egalitarian 'moral superpower' concerned about equity and the alleviation of suffering. While trade may indirectly still benefit the poor, and arguably, might even be good aid policy in the long run, future research might examine more carefully the reasons behind, and the consequences of, Norwegian aid flows to more open economies.

We might conclude that the negative and statistically significant association between health equity (our pro-poor indicator) and Norwegian aid flows is quite robust to specification change, but this still does not mean our results are not biased due to some unobserved factors associated with health equity, in other words, bias due to selection on observables. To ascertain the degree of omitted variables bias, we use a formal test of robustness in a non-instrumental variable framework. We utilize the method suggested by Cinelli and Hazlett, which essentially assesses the degree to which the treatment´s effect on the outcome is dependent on unobserved confounders (Cinelli and Hazlett, 2020).[16] The method uses information from the

16 The method is implemented in STATA with the user-written program 'sensemakr.'

Figure 4: Cinelli and Hazlett contour plot of the robustness of health equity to omitted variables bias



partial R-square values of the treatment, computing how strongly all factors associated with the outcome would have to be to drive the treatment´s effect on the outcome to zero. They provide a graphical way in which to observe the computation by way of a contour plot presented as Figure 4.

The bottom left corner of the figure shows the unadjusted estimate of health equity on Norwegian total aid flows per capita (−0.19), the value appearing in column 1 of Table 1. The movement of this treatment effect, health equity lagged 1 year, is then assessed against multiples of the strength of the selected benchmark variables, namely all our control variables lagged 1 year. As seen there, the unobserved confounders would have to be more than 3 times stronger than the chosen benchmark variables jointly to reduce the effect of the treatment to zero. This formal test suggests that the effect of health equity to omitted variables bias is quite robust.

Each of our estimates above show a robust relationship between Norwegian aid flows to be lower to more equitable governance environments measured as equal access to health. This association does not suggest that Norwegian aid causes less pro-poor policy. We also test the possibility that this relationship might be due to Norway choosing the hard cases to solve. Following others, we assess this by examining Norwegian aid flows to the rapid reformers versus slow reformers, and the results suggest that Norwegian aid is lower to the slow reformers. This could mean two things: one, that Norway does not pick the hard cases, and two, that Norway might be rewarding rapid reformers. Since aid flows remain lower to those already at higher levels of equity, we do not believe that this rewarding effect is indeed indicative of a pro-poor preference. The results taken together, thus, raises considerable

question marks about the long-term efficiency of the allocation of Norwegian aid, whether for achieving better health and human capital for the needy, or the narrower goal of signaling to laggards that meaningful pro-poor policies that reflect greater equity will be rewarded with Norwegian aid. Note that these results are only valid for judging Norwegian bilateral aid decisions and not the considerable aid offered by Norway to multilateral channels.

4. Conclusion

Norway is hailed as a humanitarian superpower, driven by intentions that increase the prospects of peace, prosperity, and justice. Extending financial aid to poor countries remains a primary foreign policy tool for Norway with broad societal and political support. Indeed, Norway scores high on the Commitment to Development Index,[17] coming in 3rd in 2021 behind Sweden and France, but such indices are based on the share of funds allocated in terms of quantity and quality of specific areas, such as security, health, trade, technology transfer, etc., but these 'mashup' rankings face serious criticism (Ravaillon, 2012). Another way of assessing the benefits and effectiveness of the allocation of aid is to see how valuable Norwegian aid is to the recipient ´s own agenda – explicitly from the point of view of the recipient. As Sven Wilson (2011, p. 2038) and others argue: 'Reasonable aid donors want to put their money where it is most needed, where costs are low, and where it is most likely to do the most good.' We have, thus, addressed the question of the effectiveness of Norwegian aid by examining the value of Norwegian aid flows from 1990 until 2019 to the level of health equity among the recipient states (developing countries) because equitable access to health is a reliable and valid indicator of the pro-poor governance (societal structures and priorities) of countries. Indeed, given theoretical arguments about why a rich, small power should prioritize equity and pro-poor policy, our expectations were that Norwegian aid, *ceteris paribus,* would be higher among countries with greater health equity. Our results have shown just the opposite. The value of Norwegian aid and health sector aid are both lower among more egalitarian countries. Further assessment of whether these results are due to Norway 'trying hard' by going to difficult places shows just the opposite – total Norwegian aid and health aid are higher where large changes towards greater equity have already occurred in the past – a result consistent with 'chasing success.' We do acknowledge, however, that this result could also be interpreted as Norwegian aid rewarding good behavior in terms of rapid change, but why good behavior is not rewarded in contemporaneous terms to higher levels is a sticky question. We believe that assessing the pro-poor priority is better done based on level rather than change. The determinants of health equity and its consequences are certainly fertile research areas for future empirical work, particularly focused on whether donors really 'cause' good behavior, i.e. does Norwegian

17 See https://www.cgdev.org/cdi#/. (Last accessed February 13, 2022).

aid produce better health equity, which would require a careful causal design based on either GMM estimations, matching, or instrumental variables techniques.

Our results taken together support several other scholars that have approached similar questions about Norwegian aid with different data and empirical strategies and conclude on pessimistic terms (Easterly and Williamson, 2011; Gates and Hoeffler, 2004). Finally, the results accentuate the need to spend more resources on assessing the Norwegian aid footprint and its effectiveness, not so much in terms of the race between donors to show 'good allocation' of their budget shares, but rather from the point of view of the economic value of these budgets for the poor on the ground. International relations theory that examines budget priorities for assessing how states behave may also get things wrong if impacts on the ground are not properly understood based on locational preferences. For example, there might be multiple interpretations for why rich donors allocate large shares for security and human rights, for example – the cynics might see this as a ploy for reducing out migration (buying security), while others might infer noble intentions, such as relief for refugees. Why these same donors sell arms to many of these places has also been questioned in separate literatures addressing the hypocrisy of donors (Perkins and Neumayer, 2010). Clearly, supporting pro-poor policies in health is not just morally good but it carries many benefits in an era when global disease and crisis spreads rapidly. Future research might address other areas of pro-poor policies in terms of the economic value to the poor for encouraging better development policy through morally-inspired charity, rather than other forms of engagement with the poor – an issue that remains cantankerous (Easterly, 2016).

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APPENDIX

Intercorrelation matrix

	1	2	3	4	5	6	7
1. Health equity index							
2. Total aid per capita	−0.2156						
3. Health aid per capita	−0.1508	0.6858					
4. GDP per capita	0.7199	−0.3001	−0.2922				
5. Electoral democracy	0.6012	−0.1307	−0.0801	0.6601			
6. Population density	0.1858	−0.0352	0.0248	0.1882	0.1829		
7. Civil war ongoing	−0.2577	0.0596	0.0335	−0.2297	−0.1677	0.0374	
8. Years of peace	0.3787	0.0469	0.0262	0.4118	0.3592	0.0506	−0.4561

Summary statistics

Variable	Obs	Mean	Std. dev.	Min	Max
1. Health equity index	3,165	0.00181	1.220084	−3.216	3.606
2. Total aid per capita	3,165	1.03392	3.592538	0	120.931
3. Health aid per capita	3,151	0.13359	0.452623	0	8.18127
4. GDP per capita	3,165	7.61208	1.002951	5.09297	10.2944
5. Electoral democracy	3,165	0.44531	0.218294	0.016	0.912
6. Population density	3,165	4.00221	1.261543	0.36749	7.36835
7. Civil war ongoing	3,165	0.22717	0.419071	0	1
8. Years of peace	3,165	22.2562	23.14368	0	73

Description of VDEM´s health equality indicator

The VDEM coders are asked the following question that is coded on the listed 5-point scale.

To what extent is high quality basic health guaranteed to all, sufficient to enable them to exercise their basic rights as adult citizens? (Pemstein et al., 2018, p. 21).

0: Extreme. Provision of high-quality basic health is extremely unequal and at least 75 per cent of citizens receive such low-quality health that undermines their ability to exercise their basic rights as adult citizens.

1: Unequal. Provision of high-quality basic health is extremely unequal and at least 25 per cent of citizens receive such low-quality health that undermines their ability to exercise their basic rights as adult citizens.

2: Somewhat equal. Basic health is relatively equal in quality but ten to 25 per cent of citizens receive such low-quality health that undermines their ability to exercise their basic rights as adult citizens.

3: Relatively equal. Basic health is overall equal in quality but 5–10 per cent of citizens receive such low-quality health that probably undermines their ability to exercise their basic rights as adult citizens.

4: Equal. Basic health is equal in quality and less than 5 per cent of citizens receive such low-quality health that probably undermines their ability to exercise their basic rights as adult citizens.