

Magnus Høyer-Humberset

Does Norwegian aid have an effect on the recipient country's equality of access to health and education?

An empirical analysis, 1960-2019

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Supervisor: Indra de Soysa

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Abstract

The efficiency of foreign aid has been a debate continuously evolving without lasting consensus. Research has shown contradicting results, dividing the discussion between aid pessimists and positivists. Norway is regarded as a major actor in foreign aid and has several advantages as a donor country, which leads to high expectations of its results. *Does Norwegian aid have an effect on the recipient country's equality of access to health and education?* This thesis analyzes empirical data with OLS regressions and finds pessimistic results. Norwegian bilateral aid does not affect the recipient country's equality of access to health. It has a negative effect on the equality of access to education, and a small, but positive, effect on the under 5 mortality rate. In either case, Norway does not perform better than the DAC-countries as a group. These results substantiate other studies that raise questions to the validity of the good reputation of Norwegian aid, crediting it to the large spending rather than its actual outcomes.

Content

- 1. Introduction..... 3
- 2. Theoretical foundation..... 4
 - 2.1 The effects of foreign aid on development..... 4
 - 2.2 The supposed advantages of Norwegian aid 6
 - 2.3 The importance of equality of access to health and education 8
 - 2.3.1 Health 9
 - 2.3.2 Education..... 10
 - 2.4 Summary..... 11
- 3. Data and method..... 12
 - 3.1 Method..... 12
 - 3.2 Data 13
 - 3.3 Variables..... 13
 - 3.4 Format of the analysis 15
- 4. Results 16
 - 4.1 Equality of access to education..... 16
 - 4.2 Equality of access to health..... 18
 - 4.3 Under 5 mortality rate..... 19
- 5. Discussion 21
- 6. Conclusion 22
- 7. Literature 24
- 8. Appendix..... 29

1. Introduction

The efficiency of foreign aid spending is a topic that has been debated and researched for over 50 years. However, it remains without a clear consensus between scholars and decisionmakers regarding its real effects. Some research has shown results of aid having a positive effect on the recipients, whereas other studies have shown having no effects, or even negative effects. Although these findings are individually robust, collectively, they are contradicting poles which fail to produce a generalized and credible consensus. Some explain the variance in empirical evidence on choice of data and estimation methods (Michaelowa & Weber, 2007, p. 2), while others point to the difficulty of accurately measuring the effect aid has on long-term developments (Riddell & Nino-Zarazua, 2015, p. 32).

Whereas a large part of aid research has focused on the efficiency of aid on economic growth and developments, little attention has been paid to research on the effect aid has on the equally important question of equity. As universally agreed upon, the education and health of the population is proven to have a positive relationship with development because human capital is an essential long-term input to development (SDSN, 2014, p. 26). These factors have therefore been researched heavily to determine their significance and whether targeted aid towards them is effective spending. However, rather than adding another finding to the unclear consensus of aid literature, this paper will take a closer examination of the important and highly relevant question of whether aid effects a government's decision to increase access to health and education, which might be considered a pro-poor approach to growth.

One of the biggest actors in foreign aid is Norway. Norway's spending has for a long time remained among the highest in the world per capita, and contributed to the country's global reputation of being a humanitarian superpower (Leira, 2013; Tvedt, 1995, p. 26). Norway has several advantages compared to other donors, such as not being a former colonial power, being very rich, having little to no geopolitical interests, economic and military-strategic interests or military interests in aid, and a large national consensus supporting aid among the population (Tvedt, 2007, p. 622-624). Also, one of the advantages that Norway has as a donor is its image of a country devoted to the principles of equality. Therefore, Norway is a particularly interesting donor to study in terms of aid's effectiveness on promoting equality because if a country like Norway cannot get this right, then we would not expect to see larger donors caring much about promoting global equity.

The research question which this paper tries to answer is therefore “*Does Norwegian aid have an effect on the recipient country’s equality of access to health and education?*”. Following this, the theory and empirics of former research will be presented, regarding relevant literature on aid in general, Norway’s aid position, and the importance of education and health. Then the method and data will be presented, followed by an analysis, a discussion of the findings, and a conclusion.

2. Theoretical foundation

In this section, relevant literature and empirics to the research question will be presented in order to compare the results from the following analysis to existing work in aid research. This section will be structured by first introducing literature on aid in general (2.1), its efficiency and developments, and if aid has influenced the equity. Then, Norwegian aid will be presented with its development (2.2), and literature on its good reputation as a donor nation with altruistic goals. Following will empirics of health and education and their developments in poor countries be presented (2.3), and the importance of equality of access and opportunity for the whole population. Finally, a summary of the literature (2.4) before presenting data and method for the analysis later in chapter 3.

2.1 The effects of foreign aid on development

Globalization has led to growing prosperity alongside growing inequality. Both poor and rich countries have experienced severe growth, and life is arguably better now than in almost any other time in history. Still, the growth which often leads to increased inequality, has led to bigger gaps between countries, as well as between people within each population (Deaton, 2013, p. 5). Differences in development has led to foreign aid from rich countries to the poor, with some of the goals being altruistic, as in reducing inequality and assisting the poor.

However, the efficiency of foreign aid in developing countries is still unclear. Although aid spending from different countries throughout the years has been huge, and many recipient countries have experienced positive developments, scholars still disagree on its efficiency (Michaelowa & Weber, 2007; Mourmoras & Rangazas, 2006; Roodman, 2007). Some conclusions are that of even negative growth, where aid may have worsened the economic performance and developments of its recipients (Easterly, 2006; Easterly & Williamson,

2011). Other studies point to robust evidence that aid targeted to infrastructure has resulted in quick growth payoffs (Mourmoras & Rangazas, 2006, p. 3). Different studies have pointed in different directions and thus resulted in a discussion divided by aid positivists and aid pessimists.

The need for aid largely stems from the lack of a sufficient and sustainable revenue stream for developing countries. This forces poor governments to govern less and differently than the rich out of necessity (Thomas, 2015, p. 98). While rich liberal democracies are largely financed through taxations, developing countries struggle to do so due to their poor population and underdeveloped tax systems and institutions (Thomas, 2015, p. 77). Monetary policies have therefore been used to a larger degree, relative to the richer countries, to cope with some of the potential lost revenue from flawed fiscal policies. On average, poor countries get about 22% of their revenue by printing it, compared to 1,7% of rich countries (Thomas, 2015, p. 94). However, while excessively printing money does provide the government with increased capital for spending, it can cause inflation, devaluing the currency and reducing its purchasing power for the population. To avoid this, foreign powers have paid more attention to reforms in developing countries' fiscal policies and the development of robust financial institutions for effective tax-systems. This has previously led to aid donors intervening in foreign governments and demanding reforms as a condition for receiving aid. However, this has since been criticized for being unsuccessful, with the growth usually being modest and short-term (Mourmoras & Rangazas, 2006, p. 25). Notable reforms are often very costly and will require sufficient aid flows in order to not revert to its old practices, both policy and growth-wise, which is likely to happen (Mourmoras & Rangazas, 2006, p. 25).

Gustav Ranis (2007, p. 8) describes how the need to lend with a long list of insufficient conditions, which he terms the disbursement dilemma, is amongst the most problematic handicaps in effective aid. Conditioned aid may reflect intellectual trends in the West more than the recipient priorities, and therefore act inefficiently (Thomas, 2015, p. 91). To address the conditional aid which Ranis deems ineffective, he proposes a change in aid transactions, with a new lending window that would permit donors to act more like banks. This system would operate passively, where donors would be approached by borrowers only when they have internally generated their own reform initiatives (Ranis, 2006, p. 12). This way, the recipient countries will have real ownership of the funds and control of the spending, with

better knowledge about its own country and system than the donors, creating a more effective aid system (Mourmoras & Rangazas, 2006, p. 25).

The foreign aid system naturally differs in its practices; actors conduct their business differently and, in return, have different results to show for. Some donors have the global reputation of performing better than others, which in turn contributes to developments in aid strategies. The extensive research of Easterly & Williamson of the best and worst aid agency practices, both bilateral and multilateral, find on average poor and declining results (Easterly & Williamson, 2011, p. 1946). They find that the Scandinavian countries, which globally have a good reputation as aid actors, overall only ranks about average. Norway ranks in 9th place of the bilateral agencies, and 15th when multilateral agencies are included (Easterly & Williamson, 2011, p. 1944). They criticize the validity of Scandinavian aid's good reputation of altruism, crediting it to the volume of aid rather than following the best aid (Easterly & Williamson, 2011, p. 1931 & p. 1944). However, these results only cover aid practices, not aid effectiveness.

2.2 The supposed advantages of Norwegian aid

Norway is widely regarded as a major player in terms of aid and humanitarian work (Tvedt, 1995; Tvedt, 2007). High integrity, trust, and a reputation as a legitimate development actor with real humanitarian goals are some of the traits that Norwegian aid possesses. The advantages that contribute to its reputation of altruistic goals include the lack of political plays and exploitive agenda that other actors seek with their aid (Tvedt, 2007, p. 615). Typically, this could be the donor's military, economic, and geopolitical interests. Although own agendas do also exist here, such as aid involvement being a door-opener for Norway in both Brussels and Washington (Tvedt, 2007, p. 619), the Norwegian aid program is still in a large extent due to altruism, which is widely agreed upon. Norway is not a former colony-nation, nor has it had significant past relationships in either Africa, Asia or Latin America, which is atypical to the other major actors in the aid community (Tvedt, 2007, p. 624).

Other donors have agendas of political-ideological character and are utilized by governments in spreading their own perceptions and handle money stuck in state-to-state channels (Tvedt, 1995, p. 18). These donors carry a formidable power in the new network of global politics and are often met with skepticism in many developing countries over their motives (Tvedt, 1995, p. 19). Notably, the US and Soviet Union both used organizations to increase influences and

alliances in other regions during the Cold War, developing systems which supported donor countries with aid, but also worked as tools in political situations (Tvedt, 1995, p. 19). The same happened in the US's war in Korea and Vietnam, and with Africa being introduced to aid organizations with the Suez-crisis in 1956 (Tvedt, 1995, p. 19). Although aid from big powers with their own interests embedded can result in a positive development, it is no longer humanitarian aid with the altruistic motives in the same way. Recipients are aware of this and are therefore more skeptic to such aid, and more welcoming to Norwegian agents who likely can be trusted to a larger degree in their motives (Tvedt, 1995, p. 30).

In addition to the international advantages Norway has in foreign aid, there are also major domestic advantages. Perhaps most importantly, is the wealth of Norway. Being one of the wealthiest countries per capita lays a foundation to easier distribute its wealth abroad. However, foreign aid, in many people's eyes, is a zero-sum game, meaning that the capital spent abroad is at the expense of its own national citizens. Thus, prioritizing foreigners over nationals globally tend to be frowned upon. However, in Norway, this, to a large degree, is not the case (Borchgrevink, 2004; Toje, 2010, p. 211). The Norwegian people have continuously shown broad support for humanitarian aid work and privately volunteered their own contributions through events like *TV-aksjonen* (Tvedt, 1995). Some of their support of aid, which generally entails decreasing differences through aid from the rich to the poor, might be rooted in their equality of the population. Norway, relative to the international aid community, is more equal in several aspects of life, such as income- and wealth distribution, access to health and education, and other opportunities. Most likely, this has also contributed to the Norwegians continuous consensus of the importance of foreign aid and pro-poor, difference-reducing policies (Leira, 2013).

The development of Norwegian aid all happened in under 50 years. The Norwegian government allocated its first budget to private organizations working with international questions in 1963, with a total of NOK 2.7 million to seven organizations (Tvedt, 2007, p. 616). By 2019, the total Norwegian aid since 1960 is over NOK 638 billion, with the aid for 2019 alone being a record high NOK 37.7 billion (Norad, 2020). The vast increase in capital moved towards foreign aid has surely played a big part in Norway's international reputation of being a generous, humanitarian superpower.

The increase in aid and Norwegian foreign policy led to a notable governmental change in 2004. What once was charity has now become politics (Borchgrevink & Hansen, 2004, p. 5). The new governmental *development message* translated to "Joint battle against poverty. A

wholesome development policy”, replaced what used to be *aid messages*. Likewise, a new minister post was also created, with the minister of development replacing the former minister of aid. Borchgrevink & Hansen (2004) describes the changes as a shift in Norway’s aid development system. The development message which focused on universal human rights and sufficient politics in the recipient countries, led to increased demands having to be met in order to receive funding (Borchgrevink & Hansen, 2004, p. 6). Such intervention in foreign governing and demanding fiscal reforms have, as described earlier, since been criticized for its inefficiency (Mourmoras & Rangazas, 2006. Ranis, 2006. Thomas, 2015).

This again prescribes the lack of consistent consensus of good aid strategies, both globally and in Norway. From 2004 to 2019, or in even fewer years, policymakers and scholars have shifted stances on aid completely (Tvedt, 2007, p. 623). Although this has been a global problem, the high status of Norwegian aid still remains in question for some. As described earlier, Easterly & Williamson contribute Norway’s good reputation to its large volume of aid, and not due to having good aid practices (Easterly & Williamson, 2011, p. 1931 & 1944). However, the Principled Aid Index (PAI) find opposite results, concluding that the most generous donor countries also tend to be the most principled in the way they give aid (Broom, 2019). PAI assesses the 30 wealthiest nations that make up the OECD’s Development Assistance Committee (DAC), and ranks Norway in 5th place (Broom, 2019). Thus, the validity of Norwegian aid’s status of being a humanitarian superpower is also inconclusive, despite the advantages that Norway possesses.

2.3 The importance of equality of access to health and education

The process of societal development and escaping poverty does not only rely on money, but just as important, or even more so, are better health and opportunity of living long enough to prosper (Deaton, 2013, p. 13). One of the most evidence-backed findings in the social sciences is the positive correlation between health and education (Conti, Heckman & Urzura, 2010, p. 234). Health and education are both human rights and inputs to human capital and societal developments, but they are also very unequally distributed between rich and poor people (SDSN, 2014, p. 26). The progress in global wealth has been as impressive as the progress in global health. However, the prosperity has increased along with the inequality (Deaton, 2013, p. 5).

2.3.1 Health

The UN Sustainable Development Solutions Network (SDSN) described health as both a precondition for and an outcome of sustainable development and relates it to all four pillars of sustainable development (economic, social, environmental, and governance) (SDSN, 2014, p. 25). Better health in early life is associated with higher educational attainment, which in turn associates with better health later in life, and bigger contributions to development (Conti, Heckman & Urzura, 2010, p. 234). Sick children cannot go to school and require tending from parents or others, taking up time that could have been spent on their education or work. Sick employees either underperforms at work or stay away from work. Malnourished kids also perform poorly in academics and sport (SDSN, 2014, p. 25). Under-nutrition in early childhood has been shown to have an impact on IQ and cognitive development, affecting learning and long-term career prospects (SDSN, 2014, p. 26). These conditions of poor health and education, which tend to be evident in underdeveloped countries, all damage its development and growth.

As mentioned, the progress in wealth has grown parallel with the inequality of health. The overall global quality of life is still at probably its highest level ever (Deaton, 2013, p. 5). Life expectancy in rich countries has in the past century increased by thirty years, and it continues to increase by two or three years every ten years (Deaton, 2013, p. 6). Child mortality is falling in poor countries, and middle-aged and elderly mortality is falling in rich countries. The health improvements have led to decreased fertility, as parents have fewer babies believing fewer will die. From 1950 to 2000, expected births per woman in Africa reduced from 6,6 children to 5,1, and the UN estimates that it is 4,4 today (Deaton, 2013, p. 155). In Asia, Latin America and the Caribbean, the reduction is even larger, from 6 children to just over 2. Positive effects from this, except the spearing of pain parents experience when losing a child, are more free women - enabling them opportunities in education and employment, which ultimately contribute to economic growth and development.

Despite all these global health improvements, the inequality of health services, whether it be access to hospitals, vaccines, or other goods, is still a luxury for the poorest of people and countries. Public health systems are disturbingly unequal, where the supply of necessary personnel and equipment differ significantly between rich and poor countries. Whereas the US has approximately one doctor for every 413 people, and Sweden one for every 265 people, Liberia has one doctor for every 71.428 people, and Tanzania has one for every 125.000 people (Thomas, 2015, p. 85) The poor countries' clinics may also lack the basics for

functioning, such as water, medicines and general equipment. They are very dependent on foreign aid for operating the poor health services they do provide, as several African countries finance over half of their public health spending through aid (Thomas, 2015, p. 85).

2.3.2 Education

Education, as with health, is also universally agreed upon as having a positive relationship with development. Undereducated countries tend to be poor and underdeveloped. The lack of quality education has several adverse socio-economic effects. The importance of education is reflected in most national budgets, ranging from almost one-third of the entire budget in the early 1970s in developing countries, to the lower 15 percent in industrialized countries (Faegerlind & Saha, 1983, p. 3). Education is expensive, and thus, very difficult for the poorer countries to sufficiently provide without the assistance of foreign aid. The UN estimates that in 2008, countries such as Mali, Rwanda, Liberia and Zambia financed more than 50% of their education budget from external sources (Thomas, 2015, p. 85).

As with other parts of the discussion of aid efficiency, the literature lack consensus; scholars disagree with each other's conclusions (Michaelowa & Weber, 2007, p. 2), and the positions on efficient strategies have severely changed throughout aid history (Riddell & Nino-Zarazua, 2015). Some of the earlier conclusions were that developing countries were different from industrialized countries because the school rather than the family background had the bigger effect on school performances, which led to the belief that school aid is an efficient use of resources (Riddell & Nino-Zarazua, 2015, p. 25). These conclusions have since been challenged. In modern times, the efficiency research focuses more on the production of educational quality through learning assessments (Riddell & Nino-Zarazua, 2015, p. 25).

Some empirical literature does find some evidence for a positively significant relationship between educational outcomes and development aid; however, the effects are small, and the costs are too high (Michaelowa & Weber, 2007, p. 14). One of the main objectives of development aid is universal primary education, but little evidence of its effectiveness exists (d'Aiglepierre & Wagner, 2013, p. 107). Despite this, d'Aiglepierre & Wagner (2013) do find robust evidence that aid for primary education has a positive effect on primary school enrollment. The flow of access to first grade, the completion rate and the number of children enrolled in primary education variables are significantly improved by a rise in aid specifically targeted on primary education (d'Aiglepierre & Wagner, 2013, p. 107). These results call for increased aid allocated towards primary education with a focus on the most lacking countries. However, an analysis by the World Bank in 2015 found that in order to achieve universal

primary education, 47 developing countries would have to increase their aggregated educational budgets from \$8.5 billion to \$21 billion (Thomas, 2015, p. 82). The report concludes that the goal of universal primary education would not be achieved without sustained and significant external financial support (Thomas, 2015, p. 83). Also, this figure does not entail the quality of learning, the number of students per teacher, facilities, textbooks, and other equipment needed to provide sufficient education. This contributes to the inequality of access to education, where poor countries and people simply cannot afford it.

While some studies do show positive effects on education from aid, others show the opposite, which leaves us with the uncertainty of the effect of aid. Michaelowa & Weber points to the choice of data and estimation methods as to what have determined both the positive and negative empirical results (Michaelowa & Weber, 2007, p. 2). Others point to the difficulty in measuring the effect aid has- on education specifically, based on the educational developments being long-term (Riddel & Nino-Zarazua, 2015, p. 32). The long-term effects of aid are easier to assess with health, which can produce relatively quick results within areas such as vaccine outcomes. However, many outcomes of aid to education takes many years to see the effects from, and also opens to other factors influencing the development, making it more challenging to analyze the effects of the aid itself.

2.4 Summary

The literature on aid have continuously evolved without much of a consensus. Scholars differ over the efficiency of aid practices and have frequently shifted stances. Notably is the example of conditional aid, entailing foreign intervention and setting demands for policies in order to receive funding. Many poor countries are heavily reliant upon aid to fund their underdeveloped health- and education systems. As global development has rapidly increased, so has the inequality between rich and poor. The increase in inequalities have likewise reflected in increased foreign aid. Norway has especially increased its aid and is broadly regarded as a humanitarian superpower with altruistic goals, and perhaps more so than other donors with political interests embedded in their aid. Nevertheless, some raise questions as to whether this status of Norway is justified by its results, or just by the large spending itself. One could assume that Norway, given its advantages and relatively more equal society, would perform better in providing aid to reduce inequality in the recipient countries. However, as well as with most of the aid literature, the scholars and research also differ on this.

3. Data and method

3.1 Method

This study will try to estimate whether Norwegian bilateral aid affect the equality of access to health and education in its recipient countries. A pooled, time-series, cross-sectional dataset (TSCS) will be used to do this. The dataset covers the development of roughly 140 countries from 1960 to 2019. Data from TSCS-datasets can experience biased outcomes if the estimates are unadjusted for the complex correlation patterns across countries, within countries, as well as overtime (Beck, 2001; Driscoll and Kraay 1998; Hoechle 2007). In order to combat the bias and increase the robustness of the results, the method used will be ordinary least squares (OLS) instead of generalized least squares (GLS). However, standard regression analyses can still present complications due to the complicated correlation patterns between and across cases within the panels. Such complications are temporal dependence (autocorrelations) and special dependence (spatial correlations). Autocorrelations have issues with errors that correlate across panels over time, which can inflate the standard errors and lead to biased results. Spatial correlations are when the units, in this case; countries, correlate with each other across space systematically, which can also lead to biased results.

To account for these complications, the estimators Newey-West and Driscoll-Kraay will be used in the OLS regressions. The nature of the Newey-West estimator is to account for serial correlation. But ahead of this, a Wooldridge test will be run to check for serial correlations to see if the use of the estimator is even necessary. However, due to this panel's long time period over several countries, a serial correlation is practically given. If this is the case, standard regressions won't find anything significant, which calls for alternative methods. By using the Newey-West estimator for both time and country fixed effects, the standard errors will be robust to heteroscedasticity and serial correlation. Additional to the Newey-west estimator, the regressions will also be estimated with Driscoll-Kraay standard errors that account for spatial correlations. This is done to examine the within unit variance and increase the robustness of the results.

3.2 Data

Equality of access to health and education are values difficult to measure objectively. The data for these two variables are derived from expert opinions from Varieties of Democracy (VDEM) coders. Although their data are perceived as highly credible, they are nonetheless still subjective. Therefore, an objective indicator strongly correlated with equality of access to health will be included to capture actual indicators of real-world outcomes. This will be a variable of the under 5 years old mortality rate. The measurement has been widely used in determining health developments and gives a strong indicator in the equality of access to health. The under 5 mortality rate is a strong measurement of equality of access, because the disparity between rich and poor is highly correlated with the disparity between access and not access to health. Poor people will likely have less access to health, and a higher under 5 mortality rate. Thus, if the aid increases equality of access, it should also reduce the mortality rate, given its correlation. This analysis therefore includes three independent variables.

The data for the variables are collected from different databases that specialize in different areas. Some of the variables are collected from the online database of World Development Indicators (WDI), which is a compilation by the World Bank of high-quality, comparable statistics about global development. The WDI is the primary World Bank collection of development indicators, representing the most current and accurate global development data from officially recognized international sources (World Bank, 2020a). These data make up robust control variables for the general, global status of big developments, such as population and growth, but also numbers in aid. However, other relevant control variables are collected from data from more specialized databases, such as the Uppsala Conflict Data Program (UCDP). The UCDP is the main global data provider on conflicts, violence, and civil wars. Such factors likely have an effect on equality of access to health and education and are therefore included as control variables.

3.3 Variables

A summary of the descriptive statistics of all the variables used is in the appendix. The two main dependent variables are equality of access to health, and equality of access to education. Both of these variables are based upon data from the v10 dataset of the V-DEM report of 2020. V-Dem produces the largest global dataset on democracy and its attributes, enabling democracy-related research based on its data. One of the main indices, is the Egalitarian

Component Index, which “*measures to what extent all social groups enjoy equal capabilities to participate in the political arena*” (VDEM, 2020b, p. 35). This index consists of three underlying indices: the equal protection index, the equal access index, and the equal distribution of resources index. Health- and educational equality lies in the latter.

V-Dem defines health equality (variable named v2pehealth in the dataset) as: “*To what extent is high quality basic healthcare guaranteed to all, sufficient to enable them to exercise their basic political rights as adult citizens?*” (VDEM, 2020a). The category variable is sectioned into four divisions: unequal, somewhat equal, relatively equal, and equal. The fourth tier, equal, describes “*basic health care is equal in quality and less than five percent of citizens cannot exercise their basic political rights as adult citizens.*” (VDEM, 2020a).

V-DEM defines educational equality (v2peedueq in the dataset) as “*To what extent is high quality basic education guaranteed to all, sufficient to enable them to exercise their basic rights as adult citizens?*” (VDEM, 2020a). The difference between educational equality and health equality is slim, only swapping the terms. The same thing also applies to the division of the category variables.

The third dependent variable is the under 5 mortality rate, with its data being from the WDI. It is defined as “*the probability per 1,000 that a newborn baby die before reaching age five, if subject to age-specific mortality rates of the specified year*” (World Bank, 2020b). The mortality rate is frequently used to identify socio-economic developments and is included in this study due to it being an objective indicator with a strong correlation with equality of access to health.

The two main independent variables are index variables of aid; One for Norwegian bilateral aid, and one for total Development Assistance Committee (DAC) aid, both data coming from the WDI. These are logged to reduce skewness from the effects of extreme values. The net bilateral aid flows from DAC countries are the net disbursements of official development assistance (ODA) or official aid from the members of the DAC (World Bank, 2020d). The total DAC aid is included to compare the effects of Norwegian aid to the effects of the other 29 DAC countries’ aid.

Five additional independent variables are included to control for other interesting explanations of the effects on the dependent variables. These control variables are:

- GDP per capita
- Population

- Liberal democracy
- Years since civil war,
- Years of peace

The variables *GDP per capita* and *population* are included to account for differences in country size and economy. Both are collected from WDI data and logged to reduce skewness from the effects of extreme values. GDP per capita is included instead of just GDP. This provides a better indication of the possibilities of distribution of wealth, rather than just an indicator of the economy as a whole. Liberal democracy is an index variable by V-Dem data, which captures both liberal and electoral aspects of democracy (VDEM, 2020b, p. 32). The last control variables describe stability and peace, which are strongly linked with access to health and education. A dummy variable called *civil war* will separate countries in an active civil war and countries that are not, with the respective values of 1 and 0. But finished wars still carry effects over to the post-war time, which takes time of peace to recover from. Post-war times can include rebuilding of infrastructure, schools, and hospitals, which directly correlates with the access to health and education, but also indirectly with political and institutional reforms and behavioral change from wartime. Therefore, also the variable *years of peace* have been included, to complement the variable of active civil war, in determining the effects of former wars have on access to health and education several years later. Each of the independent variables are lagged one year to reduce the effects of simultaneity.

3.4 Format of the analysis

Parallel to the effects war has on access is the effects war has on aid. Most notably is the Cold War, which, as described in 2.1, undoubtedly influenced aid practices more than any other war. Therefore, this analysis will split its time period in two. One, being the total available time period of Norwegian aid, the year 1960 to 2019. Two, a restrictive period following the Cold War, from 1989 to 2019. Thus, differences in aid outcomes can indicate correlations with the Cold War.

The analysis will be split into three tables, consisting of the three dependent variables: equality of access to health, equality of access to education, and under 5 mortality rate. These will all have four OLS regressions: two regressions with the Newey-West estimator, and two with the Driskoll-Kraay estimator. These two regressions represent the two time periods. The same seven independent variables are applied in all three tables. By doing these twelve

regressions, the results will account for both serial- and spatial correlation, the effects of the Cold War, and the control variables, which all reduce bias and increase clarity and robustness of the results.

4. Results

First, a Wooldridge test is run to check for autocorrelation in the panel data:

xtserial v2pehealth lgdppc lpop lnorw_blaidpc.

H0: no first-order autocorrelation.

F(0, 135) = 607.685. Prob > F = 0.00.

Autocorrelation is present with these variables, and the null hypothesis is discarded. As stated, this is expected due to the large sample size of both countries and time period. Therefore, OLS-regressions with both Driscoll-Kraay and Newey-West estimators will be used rather than regular regressions. These ordinary least squares estimators are robust to autocorrelation and heteroscedasticity.

The following sections present the results of the analysis. The three tables for each of the dependent variables and their interpretations will be introduced separately. Following the analyses will be a summary of the findings, before the conclusion of the whole study comparing these findings to each other and the theory presented.

4.1 Equality of access to education

Table 1. The effects of Norwegian bilateral aid on equality of access to education

	(1)	(2)	(3)	(4)
Dep variable = equality of access to education	NW(TOT)	NW(CW)	DK(TOT)	DK(CW)
Norwegian Bilateral aid/pc (log)	-0.0695** (0.0232)	-0.0448* (0.0217)	-0.0695** (0.0215)	-0.0448* (0.0198)
Total DAC Bilateral aid/pc (log)	-0.00672 (0.0131)	0.00260 (0.0112)	-0.00672 (0.0154)	0.00260 (0.00891)
GDP/pc (log)	0.0567 (0.0351)	-0.0280 (0.0463)	0.0567* (0.0281)	-0.0280 (0.0312)
Population (log)	-0.102 (0.104)	0.229* (0.123)	-0.102 (0.0826)	0.229* (0.0830)

Liberal democracy (V-DEM) (log)	0.489** (0.0899)	0.368** (0.0966)	0.489** (0.0657)	0.368** (0.100)
Civil war ongoing (dummy)	-0.0392 (0.0250)	-0.0668* (0.0260)	-0.0392 (0.0254)	-0.0668** (0.0133)
Years of peace since last war	-0.00302** (0.00103)	-0.000303 (0.00103)	-0.00302** (0.000858)	-0.000303 (0.000751)
Constant	-0.344 (1.765)	-4.536* (2.191)	0.0473 (1.375)	0 (0)
Observations	4,001	2,918	4,001	2,918
Number of groups	142	140	142	140

Standard errors in parentheses

** p<0.01, * p<0.05, * p<0.10

The effects of Norwegian bilateral aid on equality of access to education, the values which are located through the first row of the dependent variables, produce significant effects on all four regressions. The effects are significant at the ninety-five percent significance level, on both the Newey-West and Driskoll-Kraay estimators for both the post-Cold War period (1989-2019) and the total time period (1960-2019). Interestingly, these significant effects are all negative. Changes in standard deviation is used to interpret these coefficients, which is common in lin-log formats. Standard deviation is used as a measurement due to it being an intuitive quantitative of observable deviations. The formula used is the following: Multiply the coefficient by the standard deviation of the independent variable and divide by the standard deviation of the dependent variable. For the Norwegian bilateral aid for the total time period, this would look like: $-0.0695 \times 0.0565 / 1.5 = -0.026$. This means that an increase in standard deviation of Norwegian aid reduced the equality of access to education by 2.6% of the standard deviation. This is the same for both estimators, indicating robust results. For the time period following the Cold War, the access reduces to 1.68%, which indicates effects from the war.

For the total DAC bilateral aid, the results show insignificant effects on all four regressions. Although conclusions of the effects of total aid cannot be made, the fact that Norwegian aid can be concluded as bad, and the total cannot, indicate that the Norwegian aid does worse than the total aid in this aspect. While these findings add to the support of pessimists of Norwegian aid, both isolated and relative to the total DAC community, it does not support the aid pessimism from scholars in general, as the effects from the total DAC aid is inconclusive.

To add to the robustness, the values of the control variables are unsurprising and seem reasonable. The level of liberal democracy has a highly significant positive effect on the equality of access to education on all four estimations. The population size has a positive effect on the equality of access, at least to the Driskoll-Kraay estimating method. The conflict variables, years of peace and civil war ongoing, both also have significant negative effects on one estimating method. These results are all reasonable. Next, I turn to the results on equality of access to health.

4.2 Equality of access to health

Table 2. The effects of Norwegian bilateral aid on equality of access to health:

	(1)	(2)	(3)	(4)
Dep variable = equality of access to health	NW(TOT)	NW(CW)	DK(TOT)	DK(CW)
Norwegian Bilateral aid/pc (log)	0.00613 (0.0207)	-0.00307 (0.0199)	0.00613 (0.0163)	-0.00307 (0.0124)
Total DAC Bilateral aid/pc (log)	0.00392 (0.0129)	0.000179 (0.0113)	0.00392 (0.0131)	0.000179 (0.0102)
GDP/pc (log)	0.186** (0.0361)	0.160** (0.0478)	0.186** (0.0261)	0.160** (0.0364)
Population (log)	-0.241* (0.102)	0.0177 (0.116)	-0.241** (0.0853)	0.0177 (0.0917)
Liberal democracy (V-DEM) (log)	0.955** (0.0919)	0.526** (0.111)	0.955** (0.0836)	0.526** (0.0588)
Civil war ongoing	-0.0451* (0.0255)	-0.0703** (0.0236)	-0.0451* (0.0231)	-0.0703** (0.0198)
Years of peace since last war	-0.000125 (0.00102)	0.00107 (0.000956)	-0.000125 (0.000941)	0.00107 (0.000881)
Constant	1.671 (1.746)	-1.858 (2.087)	1.588 (1.367)	0 (0)
Observations	4,001	2,918	4,001	2,918
Number of groups	142	140	142	140

Standard errors in parentheses

** p<0.01, * p<0.05, * p<0.10

Table 2 shows that neither Norwegian nor total bilateral aid appears to have a significant effect on the equality of access to health. This means that it cannot be concluded that either of the two main independent variables have an effect, either positive or negative, on the outcome variable. By extension, this means that the Norwegian aid appears neither better nor worse than the total aid on equality of access to health. Although the findings isolated are inconclusive due to the lack of significant effects, the results are still interesting. It adds empirics to aid pessimism, showing no effect of aid spending on actual outcomes of the recipients' equality of access to health. It also somewhat adds to Norwegian aid pessimism, showing that Norwegian aid not necessarily outperforms that of other donor countries.

Several of the control variables have highly significant effects, such as the positive effects of increased GDP per capita and a higher level of liberal democracy, and the negative effects of having an ongoing civil war. For all of these, the effects are parallel for the time periods of both Newey-West and Driscoll-Kraay estimators, which indicates robust results.

4.3 Under 5 mortality rate

Table 3. The effects of Norwegian bilateral aid on under 5 mortality rate:

	(1)	(2)	(3)	(4)
Dep variable = under 5 mortality rate				
	NW(TOT)	NW(CW)	DK(TOT)	DK(CW)
Norwegian Bilateral aid/pc (log)	-1.921 (1.644)	-2.381 (1.491)	-1.921 (1.709)	-2.381* (1.235)
Total DAC Bilateral aid/pc (log)	-2.905** (0.785)	-1.980** (0.571)	-2.905** (0.597)	-1.980** (0.434)
GDP/pc (log)	-6.723** (2.014)	-10.63** (2.167)	-6.723** (1.784)	-10.63** (2.805)
Population (log)	-81.49** (5.878)	-120.5** (6.856)	-81.49** (8.112)	-120.5** (5.764)
Liberal democracy (V-DEM) (log)	-17.93** (4.272)	-8.169* (4.391)	-17.93** (3.545)	-8.169* (4.735)
Civil war ongoing	2.637* (1.424)	6.559** (1.294)	2.637 (1.650)	6.559** (1.022)
Years of peace since last war	0.538** (0.0599)	0.141* (0.0645)	0.538** (0.0677)	0.141* (0.0614)
Constant	1,620**	2,229**	0	2,109**

	(100.2)	(121.9)	(0)	(110.0)
Observations	3,969	2,910	3,969	2,910
Number of groups	141	139	141	139

Standard errors in parentheses

** p<0.01, * p<0.05, * p<0.10

Table 3 presents the results of Norwegian bilateral aid on the mortality rate of children under 5 years old, as defined by the World Development Index. Unlike the former two tables, which the dependent variable is a subjective measurement estimated by expert coders at the V-DEM project, the data for this dependent variable is collected from actual objective data collected from the World Bank. Thus, these results pose as objective indicators of real-world outcomes.

As the table illustrates, the effects of Norwegian bilateral aid are insignificant on three of the four regressions. The exception is the fourth regression, which is the time period following the Cold War, estimated with the Driskoll-Kraay method of accounting for spatial correlations. The insignificance in the other three regressions, but not on this one, could possibly be explained by some spatial correlation masking the significance in the Newey-West method, and influences of the Cold War.

The one significant value indicates that raising standard deviation of Norwegian aid reduces the under 5 mortality rate by 1.738% of the standard deviation. This is equivalent to 1.34 fewer deaths of children under 5 years old per 1000 children. This is a small, but still substantive effect. Given the lack of effects of Norwegian aid on access to health, the minor effects on this mortality rate is to be expected.

The results of the total DAC aid are also on this measurement more positive. Unlike Norwegian aid, all four of these regressions show highly significant effects. The effects are parallel in both time periods from both estimators, which indicate highly robust results. To give an accurate comparison, the equivalent regression of the total DAC aid will be compared to the Norwegian one. This value shows that raising standard deviation of total DAC aid reduces the under 5 mortality rate by 4.23% of the standard deviation. This is equivalent to 3.28 less deaths of children under 5 years old per 1000 children, a better result than the Norwegian. Effects from the control variables also seem reasonable, and as expected, with increases in GDP per capita, population and the level of liberal democracy all reducing the mortality rate.

5. Discussion

The overall results of the regression analyses are pessimistic of Norwegian aid. Isolated, these results show that Norwegian aid has no effect on the equality of access to health, a negative effect on the equality of access to education, and a small, but positive, effect on the under 5 mortality rate in the recipient countries. The advantages of Norway in acting as a humanitarian superpower fails to deliver on its high expectations, at least according to these results. Compared to the other DAC countries as a group, Norway does worse. Norwegian aid does not have better effects than the other donors, and gets outperformed on both equality of access to education and the under 5 mortality rate. Norwegian aid negatively impacts the education variable, whereas the DAC aid has no significant effect. The total DAC aid also outperforms Norway on the under 5 mortality rate, reducing the deaths by 3.28 children per 1000 children under 5 years old, as opposed to Norway's 1.34. Altogether, the Norwegian results are disappointing, both on its own, and in comparison, with the DAC group.

These results seem to follow the conclusion of Easterly & Williamson (2011), which raised questions of the validity of Norway's good reputation in aid (Easterly & Williamson, 2011, p. 1931). They contributed the status to Norway's large spending on aid, rather than the effects it really has had (Easterly & Williamson, 2011, p. 1944). This study provides data to that claim, showing no results warranting the Norwegian aid status. But a pitfall of this study is the difficulty of proving causality. This study only shows that Norwegian aid associates with bad results, although there could be fair reasons as to why. An explanation could lie in the status of being a moral superpower, as Norway often aid the worst-off countries, and more so than other donors. Countries with severely underdeveloped foundations would naturally be more difficult to see real improvements in. Metaphorically, a doctor in the emergency room, likely has a higher death rate of their patients than the family doctor. In other words, patients who are worse off are more difficult to save. That could explain some of the negative effects of Norwegian aid, but some could also be due to failed strategies. As noted in 2.1, Norway engaged from 2004 and onwards with a larger degree of conditional aid, which includes setting demands for reforms in order to receive aid (Borcgrevink, 2004, p. 6). This has since been heavily criticized as inefficient (Mourmoras & Rangazas, 2006, p. 25; Ranis, 2006, p. 8; Thomas, 2015, p. 91) The high status of Norwegian aid could also be inflated, wrongfully exaggerated and credited beyond its true impacts. Norwegians have a proud self-image of their own society, and a belief that Norway can play a part in improving the world (Leira, 2019; Tvedt, 1995; Tvedt, 2007, p. 622). Arguably there could also be made the case of a void

of moral superpowers in aid and that Norway gradually and naturally have fulfilled that role, thus creating inflated expectations of its own practices. However, those are just possible theories as to why Norwegian aid underperforms. The clear results of this study, which are considered robust due to the estimation methods applied, still paint a negative picture of Norwegian aid.

6. Conclusion

The progress of global developments has seen increases in inequality between rich and poor, which in turn have made foreign aid more important. However, the literature on whether aid works and what the right strategies are, have continuously evolved without lasting consensuses. Due to contradicting empirical results, the discussion of aid has separated intellectuals in positivists and pessimists. One of the largest actors in the aid community is Norway, which has been recognized by scholars as a humanitarian superpower with real altruistic goals. The many advantages of Norway as an aid donor, such as wealth, societal equality, and lack of geopolitical interests, could seemingly benefit Norway and result in better outcomes than the foreign aid of other donors. Nevertheless, some question the good status of Norwegian aid, and credit the large spending rather than its results.

This thesis has attempted to answer the question, “*Does Norwegian aid have an effect on the recipient’s equality of access to health and education?*” To do so, the econometric method applied is an OLS regression using a TSCS dataset, producing twelve separate regression analyses. These were spread over three tables, each representing the three dependent variables; equality of access to health, equality of access to education, and under 5 mortality rate. This was done to account for spatial- and autocorrelation, and influences the Cold War might have had on aid, which ultimately increases the robustness of the results.

The main findings are very pessimistic of Norwegian bilateral aid. Relative to the total aid of the other DAC countries used as a control group, Norwegian aid either performs worse or insignificantly indifferent throughout the analyses. Norwegian aid reduces the equality of access to education in its recipient countries, whereas the total DAC aid had no effect. The effects on equality of access to health were insignificant on all four regressions, for both Norwegian bilateral aid and total DAC aid. On the under 5 mortality, both showed positive effects of their aid, reducing the mortality rate. But the Norwegian effects were still worse than those of the DAC group. The Norwegian aid in conclusion, does not suffice a high status

of aid performances. Rather than outperforming the DAC countries as a group, as one might think given the advantages Norway has, these results show the opposite. The results substantiate the conclusion of Easterly & Williamson (2011), which raises questions of the validity of the status of Norwegian aid, crediting it to large spendings rather than having real impacts.

These findings contribute something different to the comprehensive discussion on aid. While numerous studies have focused on the efficiency of aid, especially in areas such as economic development and growth, little has been done on the equality of access to public services such as health and education. Further studies of the importance within this field could be to look at other dimensions of equity, such as the justice system or human rights.

7. Literature

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8. Appendix

Table A1: Descriptive statistics of the summary of all the variables.

Variable	Obs	Mean	Std. Dev.	Min	Max
v2peedueq	9.766	.221528	1.502081	-3.209	3.594
v2pehealth	9.766	.2695306	1.53493	-3.278	3.482
under_5_mort	10.097	76.63547	77.37929	1.7	418.4
lnorw_bla~c	4.639	379475	.5650519	0	4.803495
ltotal_bla~c	8.387	2.85875	1.653503	0	9.399035
lpop	12.695	14.75911	2.438924	8.266935	21.05453
lgdppc	9.274	8.324064	1.536676	4.885096	12.18526
civilwar	8.762	.1630906	.3694694	0	1
peaceyrs	8.762	19.70087	18.46444	0	71
v2x_libdem	9.659	.3264754	.2735313	.003	.891

