

Lies, Damned Lies and Statistics: Justice-Orientated Counter- Storytelling About Aid Flow to Gaza in 2023

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Abstract

Background: The escalating hostilities with Israel that began on 7 October 2023 have intensified the already dire situation in Gaza, with power outages and severe shortages of medicines and health supplies crippling hospitals' ability to deliver life-saving care. Using Gaza as a case study, in this article we introduce the concept of “justice-orientated statistical counter-stories”.

Methods: We argue that traditional statistics distort reality, hide disparities, and generally misrepresent social and environmental issues. We show that by making “adjustments” based on identifiable flaws in raw statistical datasets we can rectify this problem and offer an alternative view. We illustrate the principles of justice-oriented statistical counter-stories by examining the aid flow to Gaza in 2023 from major OECD countries.

Results: Our justice-orientated analytical lens shows how the rankings for OECD countries shift significantly when we factor in donor nations' GDP and military aid donations to Israel, who are propagating a war against the Palestinian people. Our paper also identifies some of the key methodological challenges in making such adjustments (issues of aggregated data, asymmetrical data periods and unavailable data).

Conclusion: We conclude by emphasising the broader implications of “justice-orientated statistical counter-stories” for understanding not only aid flows, but global development and the representation of social and environmental issues.

1. Introduction

Although Gaza has suffered previous escalations, the current war stands out as unprecedented in the scale of death, destruction, and human suffering it has incurred (Pathan et al, 2024). Military operations are ongoing, unfolding and intensifying, and along with the almost complete siege on Gaza, have created a catastrophic humanitarian situation (Gaza: Two years after, 2023). 1.7 million people have been displaced from their homes.

The situation has raised concerns about whether it has met the threshold criteria for acts of “genocide”, as indicated by the International Court of Justice (ICJ) (Gunawan et al., 2020).

The wider conflict between Israel and Palestine, including the occupation of the West Bank by Israel, has been likened to the historical system of institutionalized discrimination in South Africa (Adonis, 2017; Ayubi, 2023).

In a case brought to the ICJ by South Africa in January 2024, the court called on Israel to cease its military operations, allow humanitarian aid into Gaza, and take action to prevent genocide (ICJ, 2024; Amnesty International, 2024). Additionally, in May, the ICJ issued an order which instructed Israel to stop its assault on Rafah, in the south of the Gaza Strip, and allow for the opening of the border crossing for aid (United Nations, 2024). Israel has largely ignored these demands and intensified its military bombardment of Gaza (Mackenzie, 2024).

Food & water insecurity

Famine is imminent in Gaza as the recent (2024) IPC assessment reveals that half of its population, 1.1 million people, face catastrophic food insecurity. This represents the highest share of a population ever recorded globally (GAZA STRIP: Famine is imminent as 1.1 million

people, half of Gaza, experience catastrophic food insecurity, 2024). Among those on the brink of famine are an estimated 50,000 pregnant women, jeopardizing the lives of both mothers and new-borns ("Gaza is at breaking point": Health workers and patients describe an unfolding catastrophe in Rafah, 2024). The crisis has also led to a doubling of acute malnutrition rates among children under two, with one in three now suffering from malnutrition. Gaza now accounts for 80 percent of all people facing famine worldwide (Imminent famine in northern Gaza is 'entirely man-made disaster': Guterres, 2024).

The "Nutrition Vulnerability and Situation Analysis - Gaza" report paints a dire picture of conditions in Northern Gaza, which show that 15.6% of children under 2 are acutely malnourished. Urgent action is needed to prevent further deterioration, as food, water, and healthcare remain in critically short supply: 90% of children under 2 and 95% of pregnant/breastfeeding women face severe food insecurity (Children's lives threatened by rising malnutrition in the Gaza Strip, 2024). According to the latest assessments, a severe food crisis exists in both North Gaza and the broader Gaza region, with 70% of the population now classified in the direst IPC Phase 5 category (IPC, 2024). This category relates to famine, and indicates an extreme lack of food access, causing acute malnutrition and increased morbidity¹.

Israel has historically controlled and restricted water supply to Gaza and Occupied Palestinian Territory (OPT), and is weaponising water by cutting supply from pipelines, targeting water treatment and sanitation facilities in its bombing campaign, and restricting aid flows into Gaza (Abdul Samad et al, 2024). This policy can be summarised by Israeli Defence Minister Yoav Gallant's statement in the aftermath of 7th October: "No electricity, no food, no water, no gas - it's all closed" (Abu Alouf and Slow, 2023).

Depleting access to healthcare and damage to health systems

The conflict has had a devastating impact on healthcare access in Gaza. Hospitals and medical facilities are crippled by shortages of essential medicines and fuel, leaving over 350,000 people with chronic illnesses like cancer and diabetes, as well as 50,000 pregnant women, struggling to receive necessary care (WHO Special Situation Report Gaza, 2024). This disproportionately affects women and girls, heightening risks of gender-based violence. The imminent influx of approximately 160 Gazan pregnant women daily will strain the already overwhelmed healthcare system, which has seen nearly two-thirds of clinics and most major hospitals become non-operational (Gender Alert: The Gendered Impact of the Crisis in Gaza, 2024). Highlighting just how poor conditions have become, polio has re-emerged amongst children in Gaza. The UN has called for a “polio pause” (August 2024) in order to vaccinate before the disease becomes epidemic, but Israel has refused to cooperate, allowing previously eradicated diseases to spread (Guterres Appeals for ‘Polio Pause’ in Gaza | UN News, 2024).

Aid blockages in Gaza

The humanitarian crisis has been exacerbated by aid blockades, disrupting livelihoods and access to essential services for its inhabitants (Tamming, 2023; Farhat, 2023). The restrictions have cut off Palestinians from vital services such as hospitals and banks (Osler, 2023; Muthumani, 2024). The blockade has denied the population access to basic human rights like food, water, shelter, and healthcare, leading to a devastating toll on children (Nashwan, 2023; Alarabed, 2024). Restrictions have severely limited essential medical supplies, further straining the healthcare system (Aldahdouh, 2024). The blockade has also hampered the

effectiveness of reconstruction efforts in Gaza, with restrictions on the movement of goods and individuals hindering progress (Barakat et al., 2019). The situation has been worsened by a severe electricity and fuel crisis (Phusavat, 2024). The blockade has not only impacted physical health but has also taken a toll on mental health, with health professionals in Gaza facing significant challenges in providing mental health services (Tamming, 2023).

The ongoing conflict in Gaza makes it incredibly difficult for UNICEF and partners to move safely and access those in need. Convoys face fire, and the World Health Organization has recorded unprecedented attacks on health facilities, ambulances, and supplies. Humanitarian workers in Gaza face challenges similar to the broader population. They have experienced personal losses and been forced to relocate for safety. Many lack reliable access to basic necessities like electricity, food, and water. The logistics of delivering aid to Gaza are severely constrained. There is a shortage of trucks and fuel, and relief supplies must undergo lengthy and unpredictable inspection processes before entering the Gaza Strip. This has significantly impeded the delivery of critical medical and other essential supplies (WHO Special Situation Report Gaza, 2023; The humanitarian impact of 15 years of blockade, 2023). Consequently, the entire Gazan population is dependent on humanitarian aid to meet their fundamental survival needs.

Justice-orientated statistical counter-stories

Against this devastating backdrop, it is essential that the international public has a full and clear picture of aid requirements, and that sufficient aid reaches Gaza. In this article we introduce and employ our novel concept of “justice-orientated statistical counter-stories”

(JOSC) to outline how current statistical representations of aid flow to Gaza from major OECD countries distort its true picture.

We outline why JOSC is required, the principles we will employ to adjust statistics about aid flow to Gaza, findings from our statistical counter-story, and implications for our understanding of aid flow to Gaza and aid flow at large.

2. Literature Review: The Problem with Traditional Statistics and their Role in Society

2.1 QuantCrit

There is an established and growing body of literature which critiques the role of statistics, largely informed by Critical Race Theory (CRT) and to a lesser extent, by feminist theories and epistemologies. There are two traditions here: QuantCrit and CritQuant. The latter is less established and builds on multiple critical theoretical positions (Fryer, 2024). Our framework is most profoundly interested by QuantCrit., which is slightly better defined and relevant for our particular case study.

At the core of QuantCrit is a belief that quantitative methods are subjective and can be used in the service of social justice, to answer critical questions about the world and for social transformation (Sablan, R. J., 2018). Quantcrit challenges the assumption that quantitative data is objective and neutral, arguing that statistical data often encode racist perspectives, and are shaped by societal power dynamics and historical contexts (Demack, S, W, P, G, D.,

2017; Huss, 2023). Statistics can be influenced by ethno-national and settler-colonial policies, emphasizing the need to factor in and adjust for broader socio-political factors when interpreting statistical data (Dahu et al., 2023). Quantcrit argues that rather than being epistemologically neutral, statistical data can - and does - reflect and perpetuate systemic inequalities. It suggests that statistics have long been used as a technology of neo-liberal government, used to govern performance in a range of contexts from education to healthcare and welfare (Gillborn, D., Warmington, P. and Demack, S., 2017)

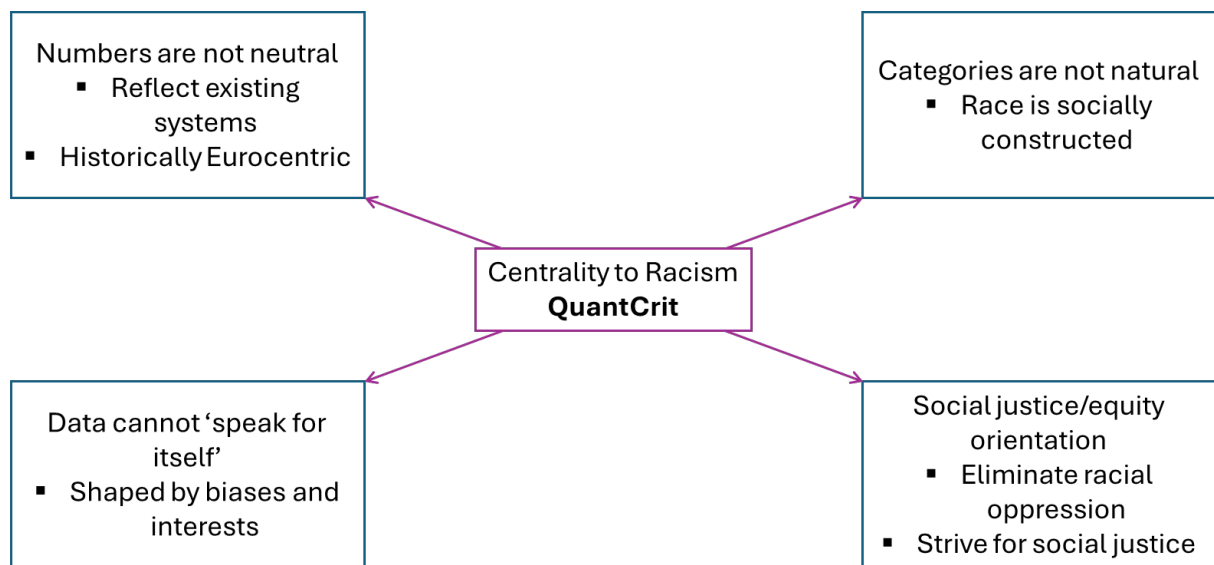


Figure 1: The 5 tenets of Quantitative Critical Race Theory (QuantCrit).

Worse, the *assumption* that quantitative data at large is neutral, authoritative, and free from bias is dangerous because it confers credibility and legitimacy that is not warranted (Gandy, H, O., 2001). In the bargain, it also delegitimises qualitative data, which is widely perceived as subjective, biased, and distorting (Gelman, A. and Hennig, C., 2017).

QuantCrit applications

QuantCrit has been used extensively in education research and to recognise how racism is embedded and insinuated in education practice, interrogating numbers for deficit analyses, valuing marginalized voices, and using statistics for social justice (Arellano, L., 2022; How to “QuantCrit:” Practices and Questions for Education Data Researchers and Users, 2023).

QuantCrit has been applied to specific quantitative theoretical approaches and methods, including measurement theory, mixture modelling and the development of new indices for Communities of Color (Sablan, R, J., 2018; Stage, K, F. and Wells, S, R., 2014). Quantcrit has also been instrumental in encouraging quantitative scholars to engage in the kinds of critical examination which qualitative researchers have long performed, including their own positionality and inherent (including unconscious) biases to produce more equitable and effective anti-racist quantitative research (Suzuki, S., Morris, L, S. and Johnson, K, S., 2021; Garcia, M, N., López, N. and Vélez, N, V., 2017; Dusen, V, B. and Nissen, J., 2021)

2.2 Analysing statistical models for aid through a QuantCrit lens

QuantCrit approaches, along with more conventional critical race theory have been used to critique aid from the Global North to the Global South. It’s been argued that data collection – primarily quantitative data - has been used by international organizations to perpetuate neo-colonial practices, undermining Global South control over their own data and development processes (Durokifa, A. and Ijeoma, E., 2018; Time to Decolonise Aid, 2023; Squire, V. and Alozie, T, M., 2023). Secondly, prevailing conceptualisations of well-being have often failed to account for the historical and cultural contexts of poverty and inequality in the Global South (Milan, S. and Treré, E., 2019; Adams, G. and Estrada-Villalta, S., 2017; Mahali, A. et al., 2018).

One key critique revolves around the concept of needs-based allocation, highlighting the discrepancy between the actual needs of recipient communities and the priorities and strategic interests of donors (Tamang, R., 2009; Niyonkuru, F., 2016). This Quantcrit-aligned argument centres around the use of traditional aid statistics to obscure the root causes of socio-economic (and health) disparities, and instead perpetuates a system where aid distribution may not effectively target historical injustices and ongoing inequalities. Additionally, the contestation of practices of “datafication” in the aid sector has been highlighted as an area of concern (Gutiérrez, M. and Bryant, H, J., 2022; Lynch, R. et al., 2023). The assessment of the impact of aid on development outcomes beyond financial flows has been another focal point of criticism. Traditional aid statistics tend to focus on financial metrics and fail to comprehensively evaluate the real-world impact of aid on development outcomes (Hafizurrachman, 2023). By challenging techno-colonialism and scrutinizing the uncritical implementation of technological interventions in aid programs, scholars highlight the need for a more nuanced comprehension of how historical injustices continue to shape current aid practices (Chipidza, W. and Leidner, E, D., 2019).

Taken as a whole, these QuantCrit critiques of traditional aid statistics highlight the need for a paradigm shift in not only aid allocation, but also in the assessment of aid impact and its representation in official data, with consequences for public understanding of donor aid.

3. Methodology

3.1 Justice-Orientated Statistical Counter-Stories

With the QuantCrit approach as our theoretical foundation, we have a compelling case for not only critiquing but seeking to redress and remodel traditional statistics (and statistical models) on social and environmental issues by exposing power asymmetries, the neglect of (historical) context and the “data minoritisation” of those who are *already* minoritised by race, gender, sexuality, or disability. The purpose of justice-orientated statistical counter-stories (JOSC) is thus threefold: (1) to highlight the statistical misrepresentation of social and environmental issues, particularly where they are distorted or biased in favour of oppressive or hegemonic forces; (2) to creatively but rigorously present statistical “counter-stories” in favour of the minoritised and oppressed; and (3) to raise awareness of the methodological challenges of doing (1) and (2), since they are often (but not always) connected to questions of power and subjugation. All 3 objectives serve the wider aim, aligned with the QuantCrit movement at large, of transforming dominant narratives on social and environmental issues by harnessing statistical remodelling for social justice.

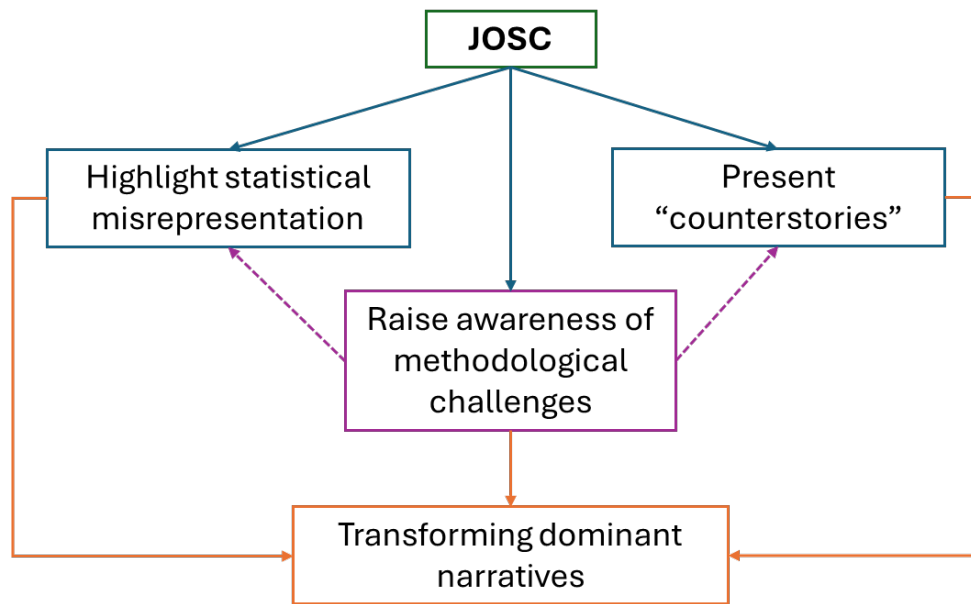


Figure 2: A visualisation of justice-orientated statistical counter-stories (JOSC). This framework breaks JOSC into 3 purposes: highlighting statistical misrepresentations, presenting “counter-stories”, and raising awareness of methodological challenges of these two facets. All 3 of these objectives feed into our central aim to transform dominant narratives, in line with the QuantCrit movement.

3.1.1 Highlight misrepresentation of social and environmental issues (or others deemed to be in the public interest)

As argued above, traditional statistics and statistical models often fail to capture the complex realities of important social and environmental issues fully and fairly. These include underlying inequities between actors in social and environmental ecosystems (this can be on a micro-geographical scale, such as between owners and renters in a city, or at a macrogeographical scale, such as between countries in the Global North and Global South). Such inequities can often relate to historical context, such as histories and legacies of colonialism, and economic or cultural imperialism. These inequities have often not been

factored into statistical modelling of social and environmental issues because they are difficult to quantify. ⁱⁱ Our methods of doing so involve scrutinizing aggregated data that obscures the experiences of smaller or less powerful groups, addressing asymmetrical data collection and availability that privilege certain perspectives over others, and uncovering concealed data that may intentionally downplay or conceal the severity of social and environmental challenges (or the disproportionality of the impact of socio-environmental issues on minoritised groups). This process does not only describe the nature of the statistical misrepresentation, distortion, or exclusion but the effect it has on our understanding of a public issue and the representation of minoritised or oppressed groups in relation to it. The second part of this methodological approach is vital and mirrors Castillo et al's point about the necessity of positionality statements in QuantCrit studies going beyond a mere description of the researcher's identity, to reflect on the impact of such identities on their attitude and approach to their data analysis (Castillo et al, 2023). Through this two-step process, the JOSOC approach aims to challenge the dominant narratives and shed light on the systemic issues and power imbalances that shape the collection, analysis, and interpretation of statistical information.

3.1.2 Present justice-orientated statistical counter-stories

The second "act" JOSOC involves a process of statistical remodelling to tell a "counter-story". Sablan (2019) has argued that while CRT has tended to use qualitative methods to tell counter-stories, there is no reason why quantitative methods cannot be used in the service of this theory and social justice at large.

Integral to the JOSOC methodology is crafting credible but not infallible or incontestable counter-stories; our aim is to present counter-stories alongside existing dominant narratives to allow for debate and discussion. We do so because, in fidelity to the axiomatic principles of QuantCrit, we believe that *all* quantitative data should be open to contestation because it is likely to be biased, subjective and influenced by the positionality of the research team. In the case study we present in this article, we do so by making statistical corrections or adjustments to a well-established and publicly available dataset. We chose this dataset, because although the dataset itself is extricated in the circuitry of hegemonic power (it is produced by and for the United Nations Relief and Works Agency), it is important to subject it to scrutiny since it plays a critical role in supporting dominant narratives about aid flow to Gaza (more detail on our choice of that particular dataset follows).

3.1.3 Raise awareness of the methodological challenges of crafting statistical counter-stories

The third act of creating JOSOC highlights methodological challenges, since they are often bound up with questions of power and subjugation. We do so because crafting statistical counter-stories can only be created with counter-data; without that data those stories can't be told (or they *can*, but partially and without credibility). Among the methodological issues are aggregated data, which obscures minority perspectives *or* prevents essential analysis. Another issue is "asymmetrical" or incomparable data, which equally serves to obscure our understanding of an issue and has serious consequences for the pursuit of social justice. A third is the unavailability of data, and this is sometimes because that data is held behind national security firewalls or is otherwise not deemed to be for public consumption. Unavailable data acts as a roadblock on the creation of JOSOC. Another challenge is the exclusion of important contextual information that is necessary for a comprehensive

understanding of the issue (this was the basis for our first statistical remodelling of aid flow to Gaza). Addressing these data challenges is crucial for developing justice-oriented statistical counter-narratives; even if they might present obstacles in the short term, bringing them to public awareness increases the possibility that they could be overcome in the future.

3.2 Positionality statement

Positionality statements are exercises of vulnerability, accountability and self-reflection of authors' positions and corresponding privilege in society (Hampton, Reeping, & Sevi Ozkan, 2021). Given that "the centrality of racism" is a central principle of QuantCrit, it's vital that those of us working in alignment with this theoretical and methodological approach are transparent about how we have benefitted or been oppressed by a system of racism (Pérez, Vélez, and Solórzano, 2018). This is doubly important in our case since a sizeable body of evidence suggests that the intellectual, political, financial, and humanitarian response to the crisis in Gaza is defined by the racialised framing of Palestinian lives (Farhat, T. et al., 2023; Lloyd, M., 2016; El-Haj, A, N., 2010). As a diverse research team, comprising of male and female white researchers (British and European), and male and female Indian and British-Indian researchers, our relationship to racism(s) is not homogenous. We would also like to reflect that none of our team are Muslim and so have not been subjected to Islamophobia. We would all like to acknowledge that we benefit from our positionality in the Global North. We drew explicitly from our experiences as researchers who are active in the pro-Palestinian solidarity movement at our university, even if aid flow to Gaza is a new area of methodological and empirical enquiry for all of us. We would all like to acknowledge that just as our lived personal and professional identities have influenced our data analysis and choice of theoretical/methodological framework, it has reciprocally influenced us both personally

(through our new understanding of aid flow) and professionally (by operationalising the axiomatic principles of QuantCrit and the development of JOSOC).

3.3 UNRWA Donations Dataset

Several international non-governmental organisations (NGOs) and United Nations (UN) bodies are currently providing aid to Gaza, with a focus on delivering essential supplies such as food, medical assistance, shelter, and water, as well as supporting infrastructure and human rights initiatives. For our analysis, we used a United Nations Relief and Works Assistance (UNRWA) dataset on humanitarian aid flow to Palestine and Palestinian refugee camps in the Middle East

(https://www.unrwa.org/sites/default/files/overall_donor_ranking_2023.pdf)

UNRWA was selected as one of the primary providers of aid to Palestinian refugees, including those in Gaza. UNRWA is funded by voluntary contributions from UN member states, the European Union, and other regional organizations. We acknowledge that the dataset is bound up with, and reflects, hegemonic power and consensus perspectives (as the United Nations itself is) (Köchler, H., 2006; Adeniji, A., 2005; Christopher, F. et al., 2021). It is the only official dataset from a supranational body which sets out aid contributions from major nation-states and is comprehensive in its global span. It was, and is, therefore ideal for our purposes of interrogating dominant narratives about humanitarian aid contributions from major nation-states to official Gaza appeals.

UNRWA operates schools, health clinics, and relief services, and has been providing emergency humanitarian assistance during crises. Several other entities such as the International Committee of the Red Cross (ICRC), Médecins Sans Frontières (Doctors Without

Borders), and UN entities such as the World Health Organisation, the World Food Programme and UNICEF have been heavily involved in providing medical care, supporting hospitals, and delivering essential supplies like water and food during crises in Gaza in the period of heightened conflict.

3.3.1 Issues with dataset

Whilst this is the most prominent dataset on humanitarian aid from major nation-states, there are still several issues with the data. The inability to disaggregate data by time period is a major issue; data is only available for the calendar year of 2023 and so we were unable to extrapolate the difference in aid given to Gaza before and after October 2023. We were also unable to disaggregate the data to a level that ensured all aid we included in our analysis was given to Palestinians in Gaza.

Secondly, there is no breakdown of programme budgets available. Reports show that UNRWA operates across OPT including Gaza and the West Bank, and refugee camps and displaced Palestinian populations in surrounding countries such as Lebanon and Jordan. It is therefore impossible to disaggregate the data and separate the funds spent only on Gaza. We therefore included 100% of the programme budget in this analysis. There is limited data on each of the non-programme areas that UNRWA operates. Only the Gaza Flash Appeal is unambiguous; EA OPT money goes to both Gaza and the West Bank, and 'Projects' cover all OPTs, as well as refugees and displaced people in surrounding countries. We removed the funds for the Syria Appeal, Syria Flash Appeal – Earthquake, Early Recovery Appeal for Jenin, and Ein El Hilweh Flash Appeal as these covered only displaced Palestinian populations in countries that surround Israel and OPT.ⁱⁱⁱ

3.3.2 Adjustment to Humanitarian Aid Given to Gaza

The first statistical adjustment we made as we crafted our statistical counter-story was based on our perception that the ranking of donors to the UNRWA appeals to Gaza and OPT was misleading because it showed absolute aid donations but did not reflect the size of each donor country's Gross Domestic Product (GDP). This matters because nation-states with larger economies should give the same proportion as those with smaller economies regardless of the absolute size of the contribution. We are conscious, of course, that aid allocation is often rooted in the strategic interests of donor countries as well as international political dynamics (Fatimah, 2024, Di Lorenzo, 2023). Nonetheless, we felt that ranking countries by the size of their aid contribution was misleading because it did not represent the ability of each donor nation to contribute relative to the size of their economy. For example, the original absolute donor had the United States of America as the leading contributor to UNRWA appeals to Gaza, with Germany, France, and Sweden next on the ranking list (3,4 and 5 respectively); the European Union, a supra-national body, was 2nd.

3.3.3 How we did it: calculated aid as a % of GDP

In order to “adjust” or “correct” these aid figures to make them more representative, we used the official UNRWA donor figures for the calendar year 2023 and calculated them as a % of the donor nations' GDP figures for the same time period, by dividing aid figures by total GDP for the calendar year 2023 and multiplying by 100. We obtained these figures from the Organisation for Economic Development, which keeps economic data for all major and minor economies. The data we accessed can be found at the following website:

<https://www.oecd.org/en/data/indicators/real-gross-domestic-product-gdp.html>.

3.4 2nd adjustment: Gross aid – military aid: Rationale: misrepresentation of actual net contribution to humanitarian assistance given the % of military aid spent on war in Gaza.

Our second adjustment was a contextualisation made based on our understanding that nations which made financial donations to the UNRWA appeals also made military aid donations to Israel during the same period (the calendar year 2023). In our opinion doing so undermined the value of humanitarian assistance because there is evidence that military aid donations to Israel have been used to fund the war or “genocide” (ICJ, 2024) in Gaza.

Therefore, we subtracted the amount of military aid by each donor country from their corresponding humanitarian aid to Gaza, to give ‘the gross aid’ actually given for humanitarian purposes.

4. Findings

4.1 Adjusted donor rankings as % of GDP

As shown in the chart below, when we adjust donor rankings as a % of Gross Domestic Product (GDP) the poverty of using absolute numbers is brought into stark relief. For example, Finland gave just \$45 million but from a GDP of \$401 billion, or 0.0114% of GDP. The United States of America gave the far larger sum of \$422 million, but from an economy worth \$21433 or 0.0020%. It is evident from these calculations that humanitarian aid calculated as a % of GDP is a far more accurate representation of a nation’s commitment to a given humanitarian crisis, as well as demonstrating when nations fall below (or above) internationally recommended humanitarian assistance targets (see discussion).

Table 1. OECD countries' total donation of humanitarian aid to Gaza (in US dollars), ranked from 1-20 after donations adjusted by % of Gross Domestic Product (2023)

Ranked by % of GDP	Country	Total Donation (USD)
1	Luxembourg	10514461
2	Norway	36101092
3	Sweden	47545667
4	Denmark	25533021
5	Germany	180659861.00
6	Ireland	18170892
7	Netherlands	40754272
8	Switzerland	25689012
9	Canada	37975768.00
10	Belgium	11959476
11	Finland	5643323
12	Spain	28369907.00
13	France	54907163.00
14	USA	374583945.00
15	United Kingdom	36872747.00
16	Australia	14542856
17	Austria	3744237.00

18	Japan	31719002.00
19	South Korea	3741238.00
20	Italy	1466924.00

Total Donations (USD) to Gaza as a percentage of GDP by Country

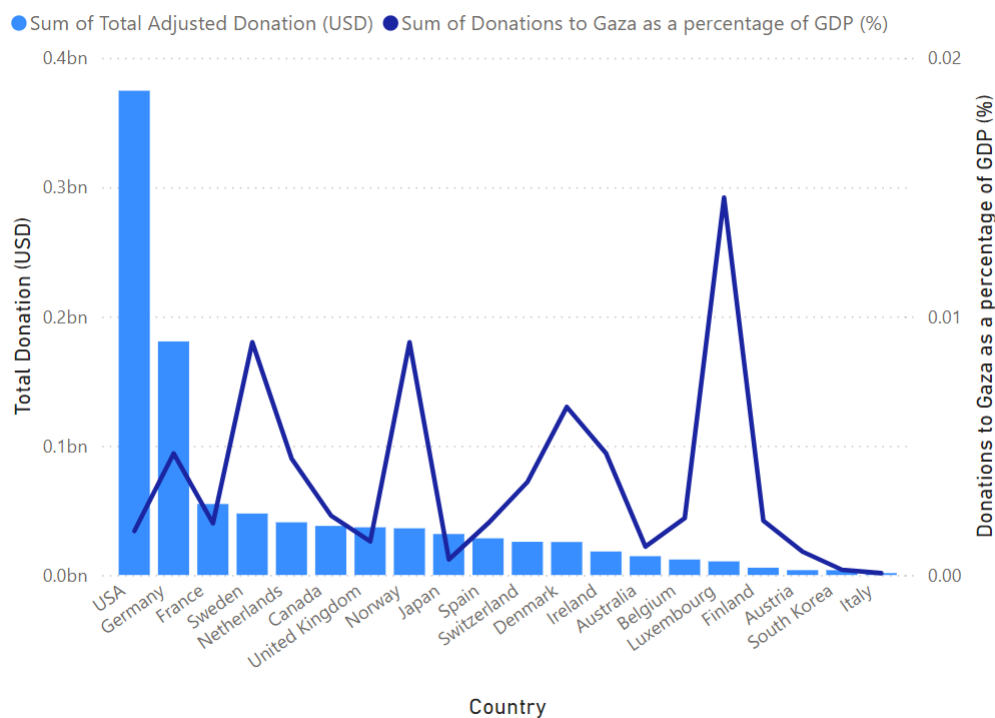


Figure 3: Donation of humanitarian aid to Gaza by country, in US dollars, further adjusted by Gross Domestic Product. After adjustment, this shows a huge difference in donation relative to a country's economic wealth.

4.2 Military aid to Israel calendar year 2023

It is evident that some major aid donors to UNRWA are also major military aid donors to Israel. From Table 2, the USA and Canada give almost as much to Israel in military aid as

they give to the Gaza appeals (\$0.80 and \$0.81 dollars for every \$1, respectively).

Germany gives more in military aid than humanitarian aid - \$1.97 for every \$1- while Italy gives \$10.20 for every \$1.

Table 2: Each OECD country which had available data, shown with the sum of the military aid they gave to Israel in 2023 in US dollars. This is accompanied by the adjusted ratio of how much aid was given to Israel, in dollars, per \$1 dollar given to Gaza. This is displayed as a heatmap.

Country	Sum of 2023 Military Aid to Israel (US \$)	\$ to Israel per \$1 to Gaza
Germany	356,561,588.14	1.97
USA	300,000,000.00	0.80
Canada	30,641,495.83	0.81
France	25,503,500.00	0.46
UK	23,209,174.80	0.63
Italy	14,968,632.79	10.20
Spain	1,754,918.40	0.06

Adjusting the humanitarian aid donations to Gaza by the net military contributions to Israel produces both net positive and negative funds to Gaza. For some nations (like Spain) their military aid contribution to Israel was small, which had little impact on their net figures to Gaza. For others, however, such as Canada, the US, the UK it had a much greater impact. For two European nations, Germany, and Italy, it put them into *net-negative* territory: they gave more to Israel in military aid -a significant proportion of which was used to fund the war in Gaza – than they gave to the UNRWA appeals.

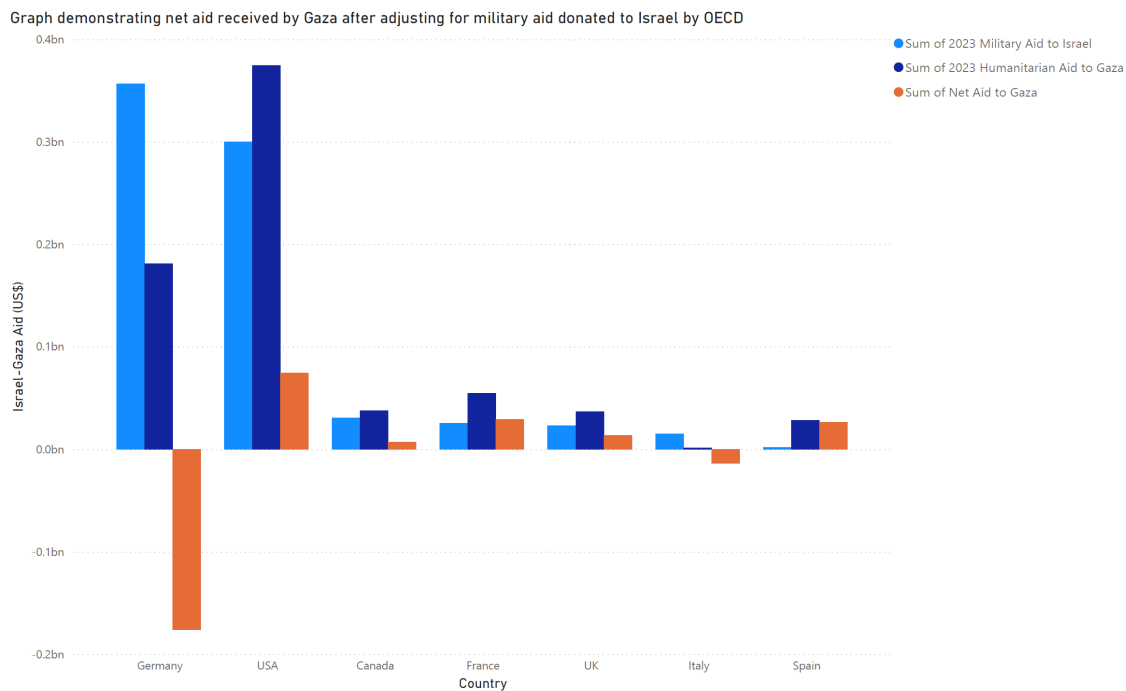


Figure 4: Each OECD country which has available data on both military aid given to Israel in 2023 (blue), and humanitarian aid given to Gaza in 2023 (navy), is shown in the figure. The third bar (orange) is the net contribution in aid to Gaza after the military aid is subtracted. In some instances, this shows a negative contribution to the humanitarian situation in Gaza due to the high funds given to Israel to support their military operations.

5. Discussion

5.1 Re-ranking UNRWA donations as a % of economic wealth

QuantCrit reminds us that numbers are not neutral and have historically been used to serve white (male) supremacy (Castillo & Babb, 2023). QuantCrit also argues that categories and groups are not natural definitions but are socially constructed. This is evident in the dominance of categories of humanitarian aid donations that distort the genuine scale of such donations by not adjusting for GDP. Without these adjustments, it is clear that the numbers

do not “speak for themselves” but are “stories” produced by instruments and researchers with both conscious and unconscious biases which are grounded in their lived experiences, privilege, and worldview. There is a danger to naturalising categories like raw or gross aid statistics without sufficient interrogation of why those categories exist, what purpose they serve, their relation to systems of global domination or oppression, and what they obscure. Such an interrogative imperative is vital if we are to build the QuantCrit as an academic and intellectual practice.

Relatedly, statistical data on humanitarian aid to Gaza is impoverished without contextual data about, among other things, donor nations’ overall commitments to overseas aid. In the financial year 2023-24, major developed nations spent a varying percentage of their GDP on overseas development aid (ODA). While a handful surpassed the United Nations’, OECD, and World Bank’s recommended target of 0.7% of GDP (Luxembourg, Norway, Sweden, and Germany), the vast majority fell below that benchmark. The USA gave just 0.20% of its GDP to ODA. Their contributions reflect their prioritisation of humanitarian aid/development assistance to domestic priorities as well as their security concerns (Balla, E. and Reinhardt, Y, G., 2008; Qarmout, T. and Bland, S, D., 2012; Woods, N., 2005).

This contextual reframing notwithstanding it is apparent that several major nations are proportionately giving far less than those with smaller economies. In fact, 8 of the bottom 10 nations in our table of major donors by % of GDP are members of the G20, but there are important moral as well as self-interested (human and energy, among other) security reasons for nations around the world to provide sufficient humanitarian aid to Gaza (Shraeder et al, 1998).

According to data from the United Nations Office for the Coordination of Humanitarian Affairs (OCHA), the estimated total humanitarian funding needed for Gaza and the West Bank in 2024 was \$4.09 billion. However, only approximately \$1.6 billion, or 39% of the required amount, has been disbursed by member states, leaving a significant shortfall in meeting the most critical humanitarian needs of the population (OCHA, 2024).

Furthermore, the World Bank and the United Nations have reported that the damage to Gaza's infrastructure alone is estimated at around \$18.5 billion, further compounding the challenges in providing effective humanitarian assistance. The ongoing conflict, access restrictions, and damage to key infrastructure have made it increasingly difficult to address the urgent needs of the population, particularly in terms of access to food, water, and medical supplies.

5.2 Military aid contributions to Israel

Our findings on military aid to Israel (in 2023) offers a significant contextual adjustment to raw aid statistics. Some major aid donors to UNRWA are also major military aid donors to Israel. From our table the USA and Canada give almost as much to Israel in military aid as they give to the Gaza appeals (\$0.80 and \$0.81 dollars for every \$1, respectively). Germany gives more in military aid than humanitarian aid - \$1.97 for every \$1- while Italy gives \$10.20 for every \$1. As noted earlier, military aid donations to Israel in 2023 were largely spent on the war in Gaza so such donations indirectly undermine humanitarian aid efforts, since a significant outcome of military interventions in Gaza include aid blockage which have denied access to food, water, shelter, and healthcare (Nashwan, 2023). Military interventions have also involved the destruction of hospitals and other healthcare facilities (Alarabeed, 2024).

While comparing military aid to Israel versus humanitarian aid to Gaza is an important step in addressing inherent distortions in traditional aid statistics, comparing the two figures in this way does not address the outsized damage that military aid to Israel can have. Arguably, even “donation parity” to both does not consider the wider impact military assistance has in terms of long-term destruction of infrastructure, economy, education, health, and food systems. iv

It is also important to note that the USA may be in violation of Leahy’s Law, which prohibits the U.S. government from providing military assistance to foreign security force units that violate human rights with impunity (Human Rights Bureau, 2023). Similarly, the UK may be in violation of the Export Control Order (2008) on similar grounds. All EU nations may be in contravention of the Common Position on Arms Exports adopted under the Treaty of Maastricht and all nations may be violation of the UN’s Arms Trade Treaty, which requires that all nation-states assess the risk that arms transfers could be used to commit or facilitate serious violations of international humanitarian law or human rights law. There is evidence that all military aid donors are aware that their assistance is being used to fund war crimes and human rights violations, including, among others, the UNHRC’s position on Israel’s on alleged human rights abuses in the OPT (2019).

Amnesty International has highlighted that the Israeli military's actions in Gaza, supported by military aid, have led to large-scale civilian casualties and infrastructure destruction, severely obstructing humanitarian efforts. They argue that the ongoing military operations and blockade have created a humanitarian crisis in Gaza, with hospitals overwhelmed and civilians cut off from essential supplies like food, water, and medicine. This is compounded by Israel's control over Gaza's borders, airspace, and sea access, effectively tightening the blockade and further restricting humanitarian aid (Siege and Starvation: How Israel Obstructs

Aid to Gaza, 2024; The Gaza Strip: The Humanitarian Impact of the Blockade, 2023; Locked in - The humanitarian impact of two years of blockade on the Gaza Strip, 2023).

Human Rights Watch, along with other humanitarian organizations, has urged the U.S. government to withhold military assistance to Israel that could facilitate violations of international humanitarian law. These organizations argue that continued military support undermines efforts to protect civilians in Gaza and directly impacts the effectiveness and delivery of humanitarian aid (Joint Letter to President Biden on Continued US Security Assistance to Israel, 2024; US Military Aid to Israel Is Illegal Due to Horrendous Israeli War Crimes Against Palestinian Civilians in Gaza, in July-August 2023). In line with evidence from these organisations, we argue that it is essential that humanitarian aid to Gaza (through donations to the UNRWA appeals) is offset against military aid to Israel, which compromises and undermines humanitarian aid.

Secondly, we found strong evidence that in the fiscal year 2023-2024, a significant portion of Israel's military budget was allocated to the war in Gaza (Times of Israel, 2023). Israel's military expenditure rose by 24 percent to reach \$27.5 billion in 2023. The Israeli government passed an additional budget of approximately \$7.85 billion (29 billion shekels) specifically to cover the costs associated with the Gaza conflict and related military activities. This was reflected in an increase in Israel's monthly military expenditure grew from an average of \$1.8 billion per month before October to \$4.7 billion in December 2023 (Stockholm International Peace Research Institute, 2023).

Strengths of our research include the creative way in which we have operationalised the principles of QuantCrit and built a framework for statistical counter-storytelling from it. We

have shown how, despite methodological challenges, it is possible to pool data and create robust datasets to enable such counter-storytelling. We have hopefully contributed to changing perception of aid flow to Gaza with clear pathways to impact (either increasing donations to UNRWA or other appeals, or decreasing military aid donations to Israel).

Our study has several limitations. The first is that we did not include other non-UN appeals, such as the International Committee of the Red Cross (ICRC), Save the Children, Médecins Sans Frontières (MSF), Islamic Relief Worldwide and Oxfam International. We provided a rationale for focussing on the UNRWA earlier in the article, but we would like to include these other funding appeals in future research. We could not include other counter-story-telling adjustments such as economic subsidies to Israel and areas under the Palestinian Authority, or tax-deductible donations to far-right groups which block aid to Gaza (this applies only to the USA and would be subtracted from aid to Gaza). Analytically, our statistical adjustments were fairly simple, and we were not able to make use of some of the emerging innovative asset-based quantitative methods (Sablan, 2019).

There is scope for a great deal of further research. One would be to compare % of GDP given to comparable humanitarian crises (Ukraine, Syria etc) by European and North American countries and adjust by geographical distance and/or geo-political alignment. Developing our own innovative quantitative techniques which can credibly and robustly translate qualitative principles into quantitative data can allow us to extend potential applications for JOSC further.

6. Conclusion

Our article has shown how quantitative data, in the form of statistical data about humanitarian aid flow to Gaza, can be misleading. The implication is that public narratives about aid flow and the contributions of major economies in particular is distorted: raw, unadjusted and decontextualised, they appear to show significant donation sums to the UNRWA appeals. When adjusted as a % of GDP nations which are presented as being the highest-ranking donors in absolute \$ terms turn out to be among the lowest ranking (the USA and UK among others). When absolute donor sums are contextualised in and subtracted from military aid donations to Israel, which is used to fund attacks in Gaza, they are significantly smaller. In some cases, such as Germany and Italy, our research has shown that they are actually *net-negative donors*.

Our research has implications for how aid allocations should be represented in the future. For one, we believe that it is important that calculations of donations to specific funds as a % of GDP - as well as total ODA - should be publicly available, as well as a breakdown of nations' spend on ODA across specific appeals and regions. Doing so would particularly enable citizens, lobby groups, human rights organisations, and parliamentarians to advocate for either increased ODA in total or a rebalancing of ODA towards appeals where the humanitarian need might be greater (or both).

Our research has built on the theoretical and methodological principles of quantitative CRT or QuantCrit. We have operated from the central axiomatic principle that data and data categories are not natural, that data cannot "speak for itself," and that quantitative data can be used for social justice. Our framework of justice-orientated statistical counter-storytelling shows how the naturalisation of quantitative data and data categories can hinder progress

towards social justice and the urgent need to challenge such naturalisations and provide counter-stories using statistical data.

We hope we have demonstrated the transformative potential of justice-orientated statistical counter-storytelling for global social justice. It is when statistical and other quantitative – and qualitative – data models are naturalised and normalised that they obscure the truth of social injustice. In the words of the author David Foster Wallace, “**the most obvious, important realities are the ones which are often hardest to see and to talk about**” (2005).

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ⁱ The famine threshold for acute food insecurity has already been vastly exceeded, and the data indicates a steep rise in acute malnutrition cases. In North Gaza alone, the acute malnutrition rate has risen from a pre-escalation estimate of 1% to 12.4-16.5% in February 2024, with an even more serious situation for children aged 6-23 months, where the rate has soared from 16.2% to 29.2%. Given these distressing trends, it is highly likely that the famine threshold for acute malnutrition has also been breached, and the upward trajectory of non-trauma mortality is expected to accelerate further, with all famine thresholds likely to be crossed imminently.

ⁱⁱ There is of course a valid argument that quantifying them can be reductive, simplistic and subjects such considerations to a quantitative logic which is antithetical to wider objective of social justice (Ellis, M., 2023; Hughes, C. and Cohen, L, R., 2010).

ⁱⁱⁱ Data to identify direct contributions from countries for Gaza was available for UNRWA, however extracting similar information was challenging for other organisations as donations included public donations, those from a mix of government contributions, private donations, and grants from international organizations. For example, WHO's work in Gaza (WHO-OPT) is funded by contributions from member states, the UN, and other international donors. Recently, additional aid was also announced for example from the UK for UNFPA in Gaza and by the EU and WHO for the Palestinian health system. However, this was not included in the analysis as specific data from each member state/ country for Gaza could not be identified.

^{iv} It is also important to consider the opportunity costs associated with supporting military actions in conflict zones, such as Israel's military operations. Funds allocated to military aid by countries included in our analysis could alternatively be directed towards protecting civilians in Gaza or addressing pressing social issues and inequalities within the donor countries themselves. A justice-adjusted statistical approach highlights the need for prioritising expenditure that not only addresses international humanitarian needs but also enhances domestic welfare systems, such as healthcare and social services, thereby promoting a more equitable allocation of resources that are aligned with efforts to achieve the SDGs.