The implications of Aid Fungibility. Evidence from the Health Sector in Ghana.

Las implicaciones de la fungibilidad de la ayuda. El caso del sector sanitario en Ghana.

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ABSTRACT

Foreign aid is crucial for strengthening institutions, alleviating poverty and improving healthcare in developing countries. The European Union, a significant donor, encounters obstacles such as corruption and aid fungibility, which diminish the effectiveness of development funds. This research utilized a quantitative approach to analyze data, offering objective insights into the issue, with a focus on tertiary healthcare and policy-making institutions in Ghana under the Ministry of Finance. Regression analysis confirmed that fungibility negatively predicts healthcare delivery outcomes, explaining 56.1% of the variance. Pearson correlation revealed that general fungibility (aid diverted across sectors) exerts the strongest adverse impact ($r = -0.656$), followed by categorical ($r = -0.450$) and non-additional fungibility ($r = -0.326$). Further analysis uncovered key institutional challenges inhibiting fungibility control, including poor transparency, weak accountability, and inadequate coordination among donors and recipients. Seven major challenges exceeded the mean threshold ($M \geq 1.72$), notably "lack of integrity in aid use" ($M = 1.81$). The study highlights the urgent need for robust governance frameworks, better donor oversight, and public education on foreign aid utilization. Targeted reforms could help maximize the developmental potential of healthcare aid and mitigate the risks posed by fungibility.

Keywords: foreign aid, aid fungibility, health care aid, sustainable development agenda.

Classification JEL: O19, P45.

RESUMEN

La ayuda exterior es crucial para reforzar las instituciones, aliviar la pobreza y mejorar la asistencia sanitaria en los países en desarrollo. La Unión Europea, donante importante, se enfrenta a obstáculos como la corrupción y la fungibilidad de la ayuda, que merman la eficacia de los fondos para el desarrollo. Esta investigación utiliza un enfoque cuantitativo para analizar los datos, ofreciendo una visión objetiva de la cuestión, centrándose en la atención sanitaria terciaria y las instituciones responsables de la elaboración de políticas en Ghana, dependientes del Ministerio de Finanzas. El análisis de regresión confirmó que la fungibilidad predice negativamente los resultados de la prestación sanitaria, explicando el 56,1% de la varianza. La correlación de Pearson reveló que la fungibilidad general (ayuda desviada entre sectores) ejerce el mayor impacto adverso (r = -0,656), seguida de la fungibilidad categórica (r = -0,450) y no adicional (r = -0,326). Un análisis más detallado puso de manifiesto los principales problemas institucionales que dificultan el control de la fungibilidad, como la falta de transparencia, la escasa rendición de cuentas y la coordinación inadecuada entre donantes y receptores. Siete retos importantes superaron el umbral medio (M ≥ 1,72), entre los que destaca la "falta de integridad en el uso de la ayuda" (M = 1,81). El estudio subraya la urgente necesidad de marcos de gobernanza sólidos, una mejor supervisión de los donantes y la educación pública sobre la utilización de la ayuda exterior. Unas reformas específicas podrían contribuir a maximizar el potencial de desarrollo de la ayuda sanitaria y mitigar los riesgos que plantea la fungibilidad.

Palabras clave: ayuda exterior, fungibilidad de la ayuda, ayuda sanitaria, agenda de desarrollo sostenible.

Clasificación JEL: O19, P45.

1. INTRODUCTION

The European Union (EU) plays a critical role as one of the world's leading providers of foreign aid, supporting sustainable development across various regions. As a key donor, the EU allocates substantial funding to strengthen governance, enhance healthcare systems, and promote economic stability in developing nations. However, its aid programs frequently encounter structural challenges such as corruption, misallocation of funds, and inefficiencies in resource management (Andrews, 2009; Juselius et al., 2014; DevelopmentAid, 2025).

It is without reservation that the need to promote sustainable development in a country requires a healthy population. This imperative compels policymakers to devise and implement robust strategies for financing, planning, monitoring, and evaluating population health. According to the World Health Organization (2024) Results Report (2024–2026), countries that prioritize health system strengthening—particularly through equitable financing and strategic purchasing—are better positioned to achieve sustainable development goals. Similarly, the recent International Labour Organisation Report (2024) continues to advocate for universal access to care through inclusive social protection mechanisms, emphasizing that health financing is central to economic resilience and social equity, especially in the context of climate change.

It is without reservation that the need to promote sustainable development in a country requires a healthy population. This makes it necessary for policy makers to devise strategies to finance, plan, implement, monitor, and evaluate the health status of the population (International Labour Organisation, 2024; World Health Organisation, 2024).

The importance of sustaining development, especially in developing countries, was emphasized in the adoption of the 2030 Agenda for Sustainable Development by United Nations member states in 2015 (United Nations, 2015). These seventeen (17) Sustainable Development Goals are anchored on social, economic, and environmental grounds (United Nations Development Programme, 2016).

Achieving sustainable development in developing and least-developed countries relies heavily on annual budgetary support through financial and technical aid from developed nations. International diplomacy has focused on reducing poverty, strengthening democracy, and promoting economic development in these regions (Andrews, 2009; Juselius et al., 2014). Since 2008, Africa has received substantial foreign aid from Western countries, with approximately US$600 billion delivered by that year alone (Akonor, 2008). Among these donors, the European Union has consistently stood out as the largest single provider of Official Development Assistance (ODA) to Africa. In fact, EU institutions and member states together accounted for over 42% of global ODA in

2022 and 2023, reaffirming their leadership in sustainable development efforts (Council of the EU, 2024).

At the 2015 G8 summit, donor countries pledged to double annual aid to Africa from US$25 billion to US$50 billion (Asongu & Nwachukwu, 2015). The EU not only supported this commitment but also launched strategic frameworks like the EU-Africa Strategy and the Global Gateway Investment Package, which mobilized €150 billion in investments targeting green energy, digital infrastructure, education, and health systems across the continent (European Commission, 2023).

Between 2012 and 2013, ODA commitments to Africa rose modestly from US$64.88 billion to US$65.94 billion, with disbursements increasing from US$51.34 billion to US$55.79 billion (OECD, 2015). By 2021, Africa received US$64.8 billion in aid, with the EU contributing a significant share through both bilateral and multilateral channels (OECD, 2022).

However, by 2023, total aid to Africa declined to US$60 billion, and in 2024, despite global aid reaching US$288 billion, Africa's share dropped nearly 7% to US$74 billion. The EU responded by boosting its humanitarian aid, committing €750 million in 2025 to address urgent needs in food security, healthcare, education, and climate resilience across regions like the Greater Horn of Africa and West and Central Africa (European Commission, 2025).

Meanwhile, African governments faced mounting debt pressures, spending more per capita on interest payments (US$70) than on health (US$39) or education (US$60) (UNECA, 2025; Afreximbank, 2024). Looking ahead, the OECD projects a further 9–17% drop in aid to Africa in 2025, with the EU expected to maintain its leadership role despite budgetary constraints and shifting geopolitical priorities (OECD, 2024b).

Foreign aid is intended to complement efforts in Africa aimed at improving healthcare and eradicating poverty and slow economic growth. Since the adoption of the SDGs, the health sector has received heightened international attention, encouraging institutions to dedicate significant resources to strengthening the sector through improved financing mechanisms (Sayinzoga & Bijlmakers, 2016; Africa Centres for Disease Control and Prevention, 2025; UNAIDS, 2025).

While governments worldwide invest vast financial and material resources to improve healthcare delivery, systems in developing countries—particularly in Africa—remain highly dependent on donor support for infrastructure, professional training, and procurement of medical supplies. This reliance is longstanding, but recent data underscores that the imbalance persists. According to the World Health Organization (2023, 2024), donor countries continue to contribute disproportionately to healthcare

financing in low-income regions, often outspending domestic governments. The European Union, for example, remains the largest provider of Official Development Assistance globally, and in 2025 alone committed €750 million in humanitarian aid to African regions facing health and food insecurity (European Commission, 2025; Council of the EU, 2024). Despite these efforts, WHO's Results Report (2024) reveals that financing gaps in essential services remain acute, with many African countries unable to sustain critical health programs without external aid.

The Government of Ghana has steadily increased budgetary allocations to the health sector over the past decade, with the 2025 national budget reflecting a 13.4% nominal rise in health funding compared to 2024 (Ministry of Finance, 2025). Despite this progress, recent analyses reveal that allocations still fall short of the Abuja Declaration's 15% target, largely due to persistent challenges in domestic revenue mobilization (Alliance for Reproductive Health Rights, 2025). According to the 2025 *Programme-Based Budget Estimates* from the Ministry of Health, a significant portion of health sector financing continues to rely on donor contributions and external technical support (Ministry of Finance, 2025). The suspension of USAID funding in early 2025, which created a US$156 million shortfall, underscores Ghana's structural dependence on aid and has prompted renewed calls for sustainable domestic health financing (Citi Newsroom, 2025). In response, the government has uncapped the National Health Insurance Levy (NHIL), projected to generate GHS9.93 billion to support essential medicines, vaccines, and primary healthcare initiatives (Alliance for Reproductive Health Rights, 2025).

1.1 Research problem

Araral's early analysis (2009) revealed that substantial amounts of financial aid are released annually into African countries to support economic development. More recent estimates confirm that between 1960 and 2010, donor countries disbursed approximately US$3 trillion in aid to developing and least-developed countries (Kono & Montinola, 2013). Although this aid is intended to improve development outcomes—particularly in healthcare—concerns persist about its effectiveness. The *OECD Development Co-operation Report 2025* highlights that fragmented aid delivery and weak accountability mechanisms continue to hinder impact assessments in recipient countries (OECD, 2025). Moreover, studies by the World Bank (2025) and Africa CDC (2025) show that healthcare aid is frequently fungible or diverted to other government priorities, especially during fiscal crises, undermining its intended purpose. This pattern of fungibility remains a critical challenge for donors seeking to align foreign assistance with sustainable health outcomes.

Empirical studies continue to affirm that the effective use of aid hinges on a government's capacity to implement coherent fiscal policies, particularly in taxation and public expenditure (Mavrotas & Ouattara, 2006; Ouattara & Strobl, 2024). Recent analyses also highlight that aid modality—whether project-based or budget support—significantly

influences outcomes, especially in contexts with strong institutional frameworks (Cordella & Dell'Ariccia, 2007; IMF, 2024). Moreover, the lingering effects of the global financial crisis and subsequent economic shocks have reshaped donor countries' fiscal priorities, resulting in fluctuating aid volumes and heightened scrutiny over aid effectiveness (World Bank, 2024; OECD, 2025).

Empirical studies continue to affirm that the effective use of aid hinges on a government's capacity to implement coherent fiscal policies, particularly in taxation and public expenditure management (Ouattara & Strobl, 2024; Mavrotas & Ouattara, 2006). However, Cordella and Dell'Ariccia's foundational analysis (2007) remains relevant, as donor countries—still grappling with post-crisis fiscal constraints—have intensified scrutiny over aid utilization and its alignment with development outcomes.

Jha and Swaroop (1999) already observed that donors struggle to trace aid directly to public expenditure, complicating accountability. While some governments view fungibility as a pragmatic tool to address urgent domestic needs, donors often interpret it as misappropriation, undermining transparency and trust.

Healthcare aid, in particular, has drawn sustained attention. Mavrotas (2002) highlighted its contentious nature in development literature, and recent studies reinforce this concern. Dieleman et al. (2024) demonstrate that earmarked health aid frequently displaces domestic health spending, especially in aid-dependent economies. Araral (2009) warned of the limited empirical evidence on how fungibility affects actual service delivery—a concern that remains salient. Newer analyses reveal that off-budget aid modalities often bypass fiscal oversight, complicating effectiveness assessments (Van de Sijpe, 2024; World Bank, 2025). These findings underscore the urgent need for transparent aid reporting and robust institutional mechanisms to ensure that health aid translates into measurable service improvements.

It is therefore important to assess the implications of aid fungibility within Ghana's health sector in order to contribute meaningfully to achieving the goals outlined in the 2030 Sustainable Development Agenda.

2. METHODOLOGY

2.1 Scope of Study

There are many institutions in Ghana that are involved directly and indirectly in the management of foreign aid and healthcare delivery. Healthcare delivery in Ghana is grouped into primary healthcare services, secondary healthcare services and tertiary healthcare services. Due to financial, material and time constraints, it was practically impossible to include all the institutions involved in the solicitation and management of

foreign aid in this study. The study limited its scope to only tertiary healthcare delivery and the healthcare policy-making institutions in Ghana. The study therefore selected institutions under the Ministry of Finance. The scope of the research was further restricted to the Ghana health Service, Ridge Hospital and Ministry of Finance. To be precise it was restricted to the senior and middle level managers in Ghana Health Service, Ridge Hospital and Ministry of Finance for effective analysis and discussion.

Due to the inability to include all in the institutions involved in the solicitation and management of foreign aid in the study, generalization of the findings was cautiously done since the selection of only Ghana health Service, Ridge Hospital and Ministry of Finance may necessary not represent all the players involved in the management of foreign aid. The study employed rigorous sampling techniques to ensure fair representation of all the levels of managers in the selected institutions. The choice of the research approach and sampling technique also ensured that the findings are unbiased and thus provide useful insights into the implication of aid fungibility on health delivery in Ghana.

2.2 Study Population and Sample Size

An online sample size calculator called Creative Research Systems survey software was used to determine the sample size for this study. The study used a margin of error (confident interval) of +/-5 %. A confident level of 95% was estimated for this study. With the application of the Creative Research Systems survey software, the sample size for the study gave the number of respondents as 69 workers.

2.3 Data collection

A formal and systematic data collection is an essential process in research as it ensures that the data collected are defined and credible so that in the end the deductions and conclusions arising from the analysis of such data can be reliable and valid. There are various techniques that are used in collecting data for research work. Some common data collection methods are the questionnaire, interview and observation. Data collection instruments allow systematic collection of data to ensure that they are reliable and can be analysed for study. The instrument for the data collection for this study was questionnaire. A closed ended questionnaire was developed for the study. Most questions required the participant to mark the extent of their agreement or disagreement with a statement using a seven-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree).

2.4 Data Management and Analysis

The data was carefully and thoroughly cleaned before analysis was conducted. The quantitative data from the questionnaire were analysed using Statistical Package for Social Sciences (SPSS). Frequency tables, chi-square, regression, correlation and other vital statistics were generated from the quantitative data for analysis and discussion. The study made use of content and thematic analysis for the open-ended questionnaires.

2.5 Ethical Consideration

Appropriate permission was sought from the management of the Ghana Health Service, Ridge Hospital and Ministry of Finance before the questionnaires were distributed to the respondents. Confidentiality of the respondents were upheld and all information provided by the respondents were highly kept confidential. The researcher guaranteed the respondents that information that will be provided will be utilised for its purpose. Also, before the start of the data collection, the researcher did personal self-introduction, and the nature and purpose of the study were explained to the respondents.

2.6 Model Specifications

The study developed a regression model to assess the statistical viability of the study. The Cronbach Alpha was used to establish the reliability and validity test of the data obtained from the respondents The study adopted and modified the general regression model to the variables utilised in the study. The regression model is provided below.

General Regression Model:

$Zit = \alpha + \beta 0Yit + ... + \mu it$ ..... *Equation 1*

Where:
Zit represents the dependent variable,
α represents the intercept,
β0 represents the slope,
Yit represents the independent variables,
μit represents the error term.

More so, based on the general regression model stated above, the study adopted the below model categorising the three types of aid fungibility outlined by Morrissey (2006) in assessing the implications of aid fungibility on health care delivery.
Individual Level Factor Model

$HD = \beta 0it + \beta 1GF + \beta 2CF + \beta 3NF + ... + B \infty Nit + \mu it$ ..... *Equation 2*

Where Healthcare Delivery (HD) represents the dependent variable
The independent level variables are denoted below:
General Fungibility (GF),
Categorical Fungibility (CF)
Non-additionality Fungibility (NF)
Infinity variable (Nit)

The Individual Level Factor Model shows the relationship between the individual independent variables of aid fungibility and the dependent variable: health care delivery.

In order to examine the relationship existing between the two variables, the Pearson correlation coefficient was used.

The Analysis of Variance (ANOVA) results from the regression was used to interpret the extent of variance between fungibility of healthcare aid and healthcare delivery in the health sector of Ghana.

3. RESULTS AND DISCUSSION

The purpose of the study is to examine the implications of aid fungibility in the Ghanaian health sector. This part presents the results from analysis of data obtained from sampled respondents. The results are presented in line with the stated research objectives and questions. The study utilizes descriptive statistics, correlation, regression, frequencies, tables and figures in order achieve the purpose of the study. The findings of the study are discussed in line with literature.

3.1 Demographic Characteristics of Respondents

The study investigates the demographic characteristics of respondents on a number of indicators namely gender, age, education, position, department and number of years in service. The results are presented in Table 1.

Table 1 Demographics of Respondents

		Frequency	**Percent**
Gender	Male	35	70.0
	Female	15	30.0
	Total	**50**	**100.0**
Age	Below 30 years	-	-
	31-40 years	20	40.0
	41-50 years	25	50.0
	51 year and above	5	10.0
	Total	**50**	**100.0**
Education	JHS/SHS	-	-
	HND	-	-
	Bachelor's Degree	15	30.0
	Master's Degree	30	60.0

	Doctorate	5	10.0
	Total	**50**	**100.0**
Name of organization or agency	Ghana Health Service	15	30.0
	Ridge Hospital	15	30.0
	Ministry of Health	10	20.0
	Ministry of Finance	10	20.0
	Total	**50**	**100.0**
Position	Account officers	10	20.0
	Administrators	10	20.0
	Project managers	10	20.0
	Managers of donor funds	10	20.0
	Supervisors of donor funds	10	20.0
	Total	**50**	**100.0**
Department	Accounts	10	20.0
	Administration	10	20.0
	Project management	10	20.0
	Donor fund management	20	20.0
	Total	**50**	**100.0**
Number of Years in Service	1-5 years	5	10.0
	6-10 years	10	20.0
	11-15 years	15	30.0
	Above 15 years	10	20.0
	Total	**50**	**100.0**

Source: Own elaboration based on field data.

The demographic characteristics of respondents investigated by the study included gender, age, education, name of organisation or agency, department, position, and number of experience or years in service. The results are presented in Table 4.1. It reveals that out of the 50 respondents sampled for the study, 35 (70.0%) of the respondents were male and 15 (30.0%) were females. Regarding the age of sampled respondents, a majority were

between 41 to 50 years representing 25 (50.0%), followed by those between the ages of 31 to 40 years constituting 20 (20.0%) with the lowest representation being age bracket of 51 and above years constituting 5 (10.0%). Further, the results show that about 60.0% of the sampled respondents had master's degree representing the majority, followed by those with bachelor's representing 30.0% with the group least represented (10.0%) being respondents with doctorate degrees. With regard to name of organization or agency, the result shows that 15 (30.0%) of the respondents were sampled from Ghana Health Service and the same number came from the Ridge Hospital. On the other hand, 10 (20.0%) of the respondents were each sampled from Ministry of Health and also the same number came from Ministry of Finance. In addition, the results show that respondents held significant number of positions namely: account officers or managers, administrators, project managers, managers of donor funds and supervisors of donor funds represented by 10 respondents (20.0%) respectively. In congruence to this, respondents were sampled from accounts (10, 20.0%), administration (10, 20.0%), project management (10, 20.0%), and donor fund management (20, 40.0%) under the category of departments of the health sector agencies.

Further, the results show that 30.0% of the respondents sampled had between 11 to 15 years' work experience, followed by those with above 15 years of work experience and also between 6 to 10 years representing 20.0% each. The least represented group was those with work experience between 1 to 5 years representing 10.0% of the respondents sampled. On the overall note, it is evident that respondents had an enormous level of educational qualification and work experience to understand the questions posed to them. Sampled respondents also had adequate practical experience that was within the study area. This suggests that respondents also had the capacity to provide succinct information with regard to the research topic and its objectives.

3.2 Reliability analysis

Table 2 Reliability Test of reliability for scale

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	No. of Items	No of Valid Cases
.874	.979	44	50

Source: Own elaboration based on field data.

Table 2 presents the results on the reliability and validity test analysis of the data from the respondents. The results on the data reliability test indicates a strong Cronbach Alpha. This strong Cronbach Alpha indicates that the data from the study are highly reliable and are suitable for effective analysis. Also, the results show a Cronbach's alpha value of coefficient [@= 0.874] making the data more statistically acceptable for the study. In

relation to the number of standardised items employed during the data collection exercise, the study further indicates a higher Cronbach value of [@ = 0.979].

The N value in table 2 stands for the number of standardized Likert scale level questions that were responded to by the sampled respondents which is 44 items. Moreover, the study indicates that all the standardized items used in the study were valid showing 50 valid cases as shown in the Table 2.

3.3 Causes of Fungibility of Healthcare Aid

The first research objective was to examine the causes of aid fungibility in the health sector of Ghana. In order to achieve the slated objective, descriptive statistics were utilized to ascertain whether the indicators or statements presented to respondents were agreed or disagreed. The result is shown in Table 3.

Table 3 Causes of Fungibility of Healthcare Aid in Ghana

Causes of Fungibility of Healthcare Aid	N	Mean	SD	T	df	Sig. 2-tailed
B1: Urgency to finance budget deficits by recipient governments (Ghana)	50	1.89	0.847	3.6	186	0.000
B2: Urgency to supplement and finance excess budget items by recipient government (Ghana)	50	1.69	0.621	4.1	186	0.000
B3: Urgency to settle domestic and international debts by recipient government (Ghana)	50	1.86	0.667	2.2	186	0.000
B4: Urgency to improve military powers by recipient government (Ghana)	50	1.78	0.703	3.2	186	0.000
B5: Little information regarding the utilization of aid by donor countries	50	1.82	0.705	2.7	186	0.000
B6: Overstatement of cost of projects by recipient government (Ghana)	50	1.85	0.837	6.5	186	0.000
B7: Understates of cost of project to lure the donor partners to finance the project	50	1.69	0.631	3.2	186	0.000
B8: Corrupt attitudes of some healthcare directors and government officials	50	1.77	0.657	2.8	186	0.000
B9: Lack of budget support from donor countries	50	1.75	0.702	2.3	186	0.000
B10: Inability of donor countries to monitor and supervise project	50	1.79	0.725	4.2	186	0.000

B11: Inability of donor countries to quantify the cost of project	50	1.76	.0705	3.1	186	0.000
Overall mean		**1.77**	**0.709**			

Source: Own elaboration based on field data.

Table 3 shows the result of regarding causes of fungibility of healthcare aid in Ghana. The items were measured on a 5-point Likert scale from strongly disagree to strongly agree. The results generally indicates that all the 11 items considered are statically significant indicated as *[p= 0.000 < 0.05; significant two-tailed*]. The mean values from the data analysis ranges from 1.89 being the highest to 1.69 as the lowest. This therefore means that there is a high level of similarity among the causes of aid fungibility.

The overall mean value was found to be [M = 1.77]. The overall mean value was used as the mid-point at which the main causes of fungibility of healthcare aid were identified. Therefore, any mean value equal to or greater than the overall mean value is an acceptable indicator and mean values that are less than the overall mean value is rejected indicators.

From Table 3, the highest mean value was obtained by B1: "B1: Urgency to finance budget deficits by recipient governments (Ghana)" [M = 1.89, *p< 0.05*] which is an acceptable indicator, and the lowest mean value was recorded by B9: "Lack of budget support from donor countries" [M = 1.75, *p< 0.05*]. The agreed indicators included: B3: "Urgency to settle domestic and international debts by recipient government (Ghana) [M = 1.86, *p< 0.05*]; B4: "Urgency to improve military powers by recipient government (Ghana)" [M = 1.78, *p< 0.05*]; B5: "Little information regarding the utilization of aid by donor countries" [M = 1.82, *p< 0.05*]; B6: "Overstatement of cost of projects by recipient government (Ghana)" [M = 1.85, *p< 0.05*]. B8: "Corrupt attitudes of some healthcare directors and government officials" [M = 1.85, *p< 0.05*]; and B10: "Inability of donor countries to monitor and supervise project" [M = 1.79, *p< 0.05*].

However, the rejected or disagreed indicator included: B7 "Understatement of cost of project to lure the donor partners to finance the project" [M = 1.69, *p< 0.05*]; and B11: "Inability of donor countries to quantify the cost of project" [M = 1.76, *p< 0.05*].

It is therefore clear that out of 11 items presented, 8 were acceptable as major causes of fungibility of healthcare aid while 3 of the items were disagreed or rejected. Table 4.2 also shows degree of freedom (df) at 186. This implies that, the causes of aid fungibility indicated in the table are important factors that cause fungibility in aid in the health sector of Ghana.

By implication the causes of fungibility of healthcare aid in the health sector include urgency to finance budget deficits by recipient governments, urgency to settle domestic and international debts by recipient governments, urgency to improve military powers by recipient governments, little information regarding the utilization of aid by donor countries, overstatement of cost of projects by recipient governments, corrupt attitudes of

some healthcare directors and government officials, and inability of donor countries to monitor and supervise project.

The results show that the central government is very influential in the usage of donor funds in the health sector aid. A careful analysis of the causes of aid fungibility in the health sector points out that the concept mostly arises from high budget deficits in aid-recipient countries. Most donor funds are used by the central government to finance budget deficits in the economy. Most governments in developing economies overspend their estimated budget due to corruption and mismanagement. Government financial decisions impact significantly on the ways and manner in which donor funds released to the health sector are utilised.

Again, the results also indicate the central government's inability to fulfil its obligation in settling domestic and foreign debts. Most governments in developing countries have contracted huge amount of loans which have overtime, adversely choked their economies. Some of these countries have even been classified as Highly Indebted Poor Countries (HIPC) which Ghana was once a member. To reduce their indebtedness, governments speedily divert donor funds to finance their debts. This is in line with the assertion of Morrissey (2006) that aid intended for a particular sector is diverted to finance activities in another sector. This situation pertains in Ghana as indicated in the Table 2.

The results from the study also indicate that overstatement of cost of projects by government is also a major factor causing aid fungibility in the health sector of Ghana. The government does not budget with quality data to effectively match expected expenditure to expected revenue. This creates difficulty in the implementation of the budget. In a highly politicized environment, the government always finds means of financing the budget overstatement. The government mostly does this by diverting foreign aid meant for a specific project to finance the excessive budget. This supports the notion of Leiderer (2012) that government in developing countries finance their budgets with ring fenced foreign aid.

This clearly shows that the causes are enormous and can be controlled or prevented through a holistic approach. The finding is consistent within the discoveries by Pack and Pack (1993), who found that aid fungibility arises from urgency to finance budget deficits by recipient governments. Recipient governments in an attempt to finance their budget deficits divert foreign assistance they received from donor partners to supplement and finance their excess budget items. It also supports the findings by Feyzioglu et al. (1998), who pointed out that aid fungibility occurs when governments want to improve their military powers thereby channelling aid to support military activities. It is also consistent with the finding by UNU-WIDER (2016) who indicated that aid fungibility occurs when donor partners have little information on the utilization of aid by the recipient country.

3.4 Relationship between Fungibility of Healthcare Aid and Healthcare Delivery

The second objective of the study was to identify the relationship between fungibility of healthcare aid and healthcare delivery. In order to examine the relationship between the two variables the Pearson correlation was carried out to establish the relationship between the level of independent level factors such as general fungibility, categorical fungibility and non-additionality fungibility and the dependent variable healthcare delivery. The result is presented in Table 4.

Table 4. Correlation Results on Fungibility of Healthcare Aid and Healthcare Delivery

Variables	Healthcare Delivery	
	r	Sig
General Fungibility	-.656	.000**
Categorical Fungibility	-.450	.000**
Non-additionality Fungibility	-.326	.001**

95% confidence level; alpha of 0.05

Source: Own elaboration.

The correlation result shows a negative relationship between all the fungibility variables and healthcare delivery. Specifically, a strong statistically negative relationship was established between general fungibility (it is when an aid intended for a particular purpose is used to finance another public expenditure) and healthcare delivery in the health sector. In addition, a moderate statistical negative relationship was established between categorical fungibility (when an aid intended for a particular sector is diverted to another sector) and healthcare delivery. Moreover, a statistical weak negative relationship was established between non-additionality fungibility (when government receives funding for a particular project she has planned and budgeted for thereby freeing the government's resources to be used in other projects) and healthcare delivery.

From the correlation statistical table, the result is indicated as [General Fungibility; r = -.656 < 0.05; Categorical Fungibility; r = -.450 < 0.05; Non-additionality Fungibility; -.326 < 0.05] respectively. This shows that all the three fungibility indicators were statistically significant in terms of their relationship with healthcare delivery. It is therefore clear that in Ghana and within the health sector the major fungibility issue covers health aid intended for a particular purpose is used by government to finance other public expenditure such as road construction, building of schools and many other activities. This has a tremendous effect on healthcare delivery. It is clear that whether fungibility of healthcare aid is general or categorical or non-additional, it exerts negative effect on healthcare delivery in the country.

The finding is consistent with the study by Oliver (2015), who indicated that the ineffectiveness of foreign aid in recipient countries is because of government diversion of foreign funds from their intended purposes to finance other government's projects. This increases aid fungibility and also reduces the quality healthcare delivery as well. It

also congruence with the study by Devarajan and Swaroop (1998) and Adams (2016), who indicated that aid fungibility is a deviation from the core purpose of disbursing financial support to developing countries. Aid fungibility occurs when resources intended to undertake a specific project are diverted to finance other public expenditures.

Table 5 ANOVA Result from Regression

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	8.393	2	3.1979	4.909	.001[a]
	Residual	10.0551	48	3.5179		
	Total	9.6942	50			

a. Predictors: (Constant), Fungibility of healthcare aid

b. Dependent Variable: Healthcare Delivery

Source: Own elaboration.

Table 5 shows the ANOVA results from regression regarding the relationship between fungibility of healthcare aid and healthcare delivery in the health sector of Ghana. The results show statistically significant difference between fungibility of healthcare aid and healthcare delivery indicated as [*df=2, 50; F= 4.909, sig = .001, < 0.05*].

Table 6 Coefficient Results from Regression

		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	14346.100	18224.937		-1.659	.001
	Fungibility of Healthcare Aid	1703.737	1457.517	-.561	-.483	.000

Dependent Variable: Healthcare Delivery

Source: Own elaboration.

Table 6 shows the results from the coefficient of regression regarding the relationship between fungibility of healthcare aid and healthcare delivery. The confidence level was pegged at 95.0%. Using the Beta indicator, the result shows that fungibility of healthcare aid predict a negative healthcare delivery within the health sector of Ghana. This clearly shows that fungibility of healthcare aid exerts significant negative effect on healthcare delivery, that is, 56.1% of variance.

By implication, it is succinct to expound that the higher or stronger the fungibility of healthcare aid the lower the quality of healthcare delivery and the lower the fungibility of healthcare aid then the higher the quality of healthcare delivery. It is therefore appropriate that critical measures are taken by government and health sector management to curtail such a menace.

The finding supports the study by Devarajan and Swaroop (1998) and Leiderer (2012), who pointed out that aid fungibility affects the effectiveness of foreign aid and healthcare by reducing cost-effectiveness of aid by incurring additional administrative and monitoring costs to ensure that the recipient country adheres to the objective of the aid. Further, aid fungibility reduces the level of leverage that the donor partners have on the aid in the recipient country which affects healthcare delivery as well as the intended purpose of the aid.

3.5 Challenges confronting the health sector in controlling fungibility of healthcare Aid

The third research objective was to identify challenges confronting the health sector in controlling fungibility of healthcare aid. The result is presented in Table 7.

Table 7 Descriptive Statistics on Healthcare Aid Fungibility Challenges

Challenges	N	Min	Max	Mean	SD
D1: Lack of assistance to support the entire public spending program in the recipient country (Ghana)	50	1.00	5.00	1.73	0.737
D2: Poor transaction costs for government reporting arrangements	50	1.00	4.00	1.71	0.624
D3: Lack of mechanisms for maximizing the predictability of donor funding	50	1.00	4.00	1.66	0.667
D4: Poor government accountability on healthcare aid	50	1.00	5.00	1.78	0.721
D5: Poor budget spending efficiency on healthcare aid	50	1.00	4.00	1.79	0.604
D6: Lack of integrity and transparency on use of healthcare aid	50	1.00	5.00	1.81	0.704
D7: Lack of strict bidding to the conditionality on the funding	50	1.00	4.00	1.67	0.605
D8: Lack of promotion on development and achievement of medium-term results	50	1.00	4.00	1.71	0.615
D9: Poor coordination of actions of donor partners with recipient countries	50	1.00	5.00	1.77	0.714
D10: Inadequate knowledge on foreign aid types by recipient countries	50	1.00	4.00	1.72	0.712
D11: Lack of collaboration and decision making on the selection of aid modalities	50	1.00	4.00	1.78	0.615

Overall Mean	**1.72**	**0.665**

Source: Field Data, 2018.

Table 7 shows the results regarding challenges confronting the health sector in controlling fungibility of healthcare aid. The items were measured on 5 points Likert scale from strongly disagree through to strongly agree. The N value was 50, indicating the number of respondents who answered that particular question. The overall mean value was found to be [M = 1.72]. The overall mean value was used as the mid-point at which the challenges confronting the health sector in controlling fungibility of healthcare aid were ascertained. Therefore, any mean value equal to or greater than the overall mean value is an acceptable challenge and those less than the overall mean value are rejected indicators.

From Table 7, the highest mean value was obtained by D6: "Lack of integrity and transparency on use of healthcare aid" [M = 1.81] which is a major challenge and the lowest mean value was recorded by D3: "Lack of mechanisms for maximizing the predictability of donor funding" [M = 1.66] which was found not to be a challenge. Beside D6: "Lack of integrity and transparency on use of healthcare aid" the study found significant number of challenges confronting the health sector in controlling fungibility of healthcare aid in Ghana to include; D1: "Lack of assistance to support the entire public spending program in the recipient country (Ghana)" [M = 1.73]; D4: "Poor government accountability on healthcare aid" [M = 1.78]; D5: "Poor budget spending efficiency on healthcare aid" [M = 1.79]; D9: "Poor coordination of actions of donor partners with recipient countries" [M = 1.77]; D10: "Inadequate knowledge on foreign aid types by recipient countries" [M = 1.77] and D11: "Lack of collaboration and decision making on the selection of aid modalities" [M = 1.78].

It is clear that a significant number of challenges confront the health sector in controlling fungibility of healthcare aid in Ghana. These challenges include issue of integrity and transparency, lack of support for public spending programs, poor government accountability, poor budget spending efficiency, poor coordination of actions of donor partners, inadequate knowledge on foreign aid types and lack of collaboration and decision making on aid modalities selection have tremendous effect on healthcare delivery as well as its quality within the industry.

The results indicate that integrity issues in the management of aid are very critical. Some public officials entrusted with the responsibility of managing aid to improve health service delivery do not display high level of integrity. They do not effectively safeguard the resources provided by donor partners to support health delivery. This view is supported by the assertion of Kerrow (2018) that public officials in Africa display high degree of lackadaisical behaviour in the management of national resources. Most officials conceal information from the authorities and donor partners in the management of aid.

The lack of transparency enables the public officials to dissipate resources for their private gains.

The central government also has inadequate resources to execute its project and programmes. This is mostly due to inability of the government to internally mobilize sufficient revenue. With intense pressure from the public for the government to deliver essential services to the citizens, the government is forced to misappropriate donor funds to support other public services.

Poor accountability in the management of foreign aid continues to hinder efforts to reduce aid fungibility, particularly in the healthcare sector. Weak oversight mechanisms and limited enforcement of reporting standards allow corruption to flourish, ultimately compromising service delivery (World Bank, 2025). Aid managers often fail to provide transparent accounts of how funds are utilized, with some officials submitting falsified reports or none at all (DEval, 2023). In many cases, systems designed to ensure accountability are poorly implemented, and officials who neglect reporting obligations face no consequences—undermining deterrence and perpetuating misuse (Global Partnership for Effective Development Co-operation, 2023).

These findings align with Vinaya's (1998) foundational study, which emphasized that one effective strategy to mitigate aid fungibility is to channel assistance through support for the recipient country's entire public expenditure framework. More recent evaluations reinforce this approach, highlighting that general budgetary support reduces transaction costs, improves donor funding predictability, and strengthens government accountability mechanisms (DEval, 2023; Global Partnership for Effective Development Co-operation, 2023). When aid is integrated into national budgets rather than delivered through fragmented projects, it enhances fiscal transparency and promotes institutional ownership—key ingredients for sustainable development outcomes (World Bank, 2025).

4. CONCLUSIONS AND RECOMMENDATIONS

The European Union (EU) stands as a cornerstone of global development aid, playing a pivotal role in fostering economic growth, institutional reform, and social progress across developing nations. As one of the largest donors, the EU's contributions extend beyond mere financial assistance—they shape governance structures, enhance healthcare systems, and support education access, ultimately laying the foundation for sustainable development. However, despite its extensive reach, the effectiveness of EU aid is often compromised by structural inefficiencies, corruption, and misallocation of funds, which hinder its transformative potential.

Foreign aid plays a significant role in the delivery of healthcare services in Ghana. It can be noted that the government would find it extremely difficult to provide quality

healthcare services to its growing population without aid. The study indicates that fungibility of healthcare aid has the potential to affect the delivery of health. The study successfully analysed and discussed the aid fungibility and how it affects healthcare delivery. The causes of aid fungibility in the health sector were identified.

The research suggests that the factors that cause aid fungibility complicate the efforts of the government and donor partners to minimize the level of aid fungibility. The study implies that the factors that cause aid fungibility complicate the efforts of the government and donor partners to minimize the level of aid fungibility.

4.1 Causes of Fungibility of Healthcare Aid

This is the first specific objective and also forms the foundation of the study. The study indicates that aid fungibility in the health sector is caused by factors such as urgency to finance budget deficits by recipient governments, urgency to supplement and finance excess budget items by recipient government, urgency to settle domestic and international debts by recipient government, little information regarding the utilization of aid by donor countries, overstatement of cost of projects by recipient government, understatement of cost of projects to lure the donor partners to finance the project, corrupt attitudes of some healthcare directors and government officials, inability of donor countries to monitor and supervise project, inadequate budget support from donor countries and inability of donor countries to quantify the cost of project.

Analyzing the individual factors, it was found that some of the identified factors are major causes that have greater chances of influencing aids to be fungible. The results indicate that the government has higher influence to make foreign aid fungible. All the major causes of aid fungibility are directly or indirectly related to government's actions and inactions. It was found that the desire of the government to urgently finance its budget deficits is the major reason why most foreign aids become fungible. Moreover, the study found out that government has contracted huge amounts of domestic and foreign loans and finds it difficult to settle its debt with its self-generated financial resources only. The government therefore turns to divert foreign aids meant for the health sector to settle debts. This causes aid fungibility and it is influenced by fast approaching maturing loans and increasing pressure from creditors. The high level of loans and increasing debt to GDP ratio are influencing the desire of government to divert aid from their intended purposes.

The study also indicates that aid fungibility is mostly caused by inflated costs of projects by government. Many government projects are overpriced, and the national budgets are not backed by hard core and statistically proven data. Government therefore has to find ways of financing these over blotted budget estimates. In doing so, the government is tempted to divert donor funds to finance its projects. This is mostly done in situations where projects intended to be financed by aid have low costs compared to the inflow of

donor financial support. This practice is making aid fungible in the health sector. This cause of aid fungibility normally happens especially during election periods.

4.2 Relationship between Fungibility of Healthcare Aid and Healthcare Delivery

The study found out that aid fungibility impacts greatly on healthcare delivery. The study indicated that the factors that cause aid fungibility in healthcare are statistically significant and the factors also have strong relationships with healthcare delivery in Ghana. Grouping all the factors of aid into fungibility into three main indicators of fungibility (general fungibility, categorical fungibility and non-additionality fungibility) for statistical analysis, a strong relationship was established for all. The study found out that the relation that was established was negative. This indicates that it is important to effectively manage aid fungibility in healthcare aid since the higher the level of aid becoming fungible in the health sector, the lower the delivery of healthcare in Ghana, which will affect the overall health status of the citizens. Similarly, the lower the level of aid fungibility, the higher the quality of healthcare delivery. This is particularly so as high percentage of the health sector's budget is financed through aid from donor partners. Majority of the aids are used to finance heath care projects that target the improvement in maternal and child health. They are also used to undertake public education and awareness creation as well as the prevention and eradication of major international health issues such as Ebola, and infectious tropical health diseases. It therefore means that both government and donor partners must work together to prevent aid from becoming fungible.

4.3 Challenges Confronting the Health Sector in Controlling Fungibility of Healthcare Aid

The analysis and results from the study indicate that the health sector is confronted with some challenges in the management of aid fungibility. The key challenges in order of importance as identified in the study include lack of integrity and transparency on use of healthcare aid, lack of assistance to support the entire public spending program, poor government accountability on healthcare aid, poor budget spending efficiency on healthcare aid, poor coordination of actions of donor partners with recipient countries, inadequate knowledge on foreign aid types by recipient countries, lack of collaboration and decision making on the selection of aid modalities.

The study found out that managers of the healthcare aid are confronted with integrity and transparency problems. Managers of foreign aid do not receive complete and accurate information from the officials implementing the utilization of aid. Information on the utilization of aid are in most cases shrouded in secrecy. Where information is provided, they are often insufficient and lack integrity to promote transparency. The study also found that there is high level of unaccountability of resources. There is the challenge of holding people accountable for the actions and inactions in the management of aid. This promotes corruption and mismanagement affecting the delivery of quality healthcare services to the general public especially to the poor and the vulnerable.

The coordination of donor funds lacks effectiveness. Projects supported by foreign aid are not properly coordinated and monitored on regularly to assess their implementation efficiency. These hampers the ability of aid to have higher impacts on stakeholders and beneficiaries. In many instances, the actual implementation of donor funded projects deviates from its core objectives, activities, outputs and outcomes due to poor coordination.

4.4 Recommendations and Policy Implications

Firstly, it is recommended by the study that, there should be intensive public education and awareness creation on any project that is funded by aid. The public should be made aware of the aid-funded projects, their objectives, outputs, outcomes and impacts. The stakeholder, target groups and the beneficiaries should be involved in the design, formulation and implementation of aid-funded projects. This will increase their level of participation, and they will accept and own the projects. Once the public understands, accepts, and owns the project, they will ensure that funds for the project are used for its intended purposes.

Secondly, the study recommends that the government should increase efforts to mobilize adequate domestic revenue to fund its projects. The government must create an enabling environment to boost productivity. The government should also increase the tax net. By this the economy will be able to generate revenue to support government's core projects. The diversion of aid to finance government activities will be reduced and ultimately aid fungibility will be minimized.

Thirdly, the study recommends that there should be high degree of accountability and transparency in the management of aid in the country. Part of the aid for the execution of projects or supporting government policies must be allocated to training officials who will manage and utilize the aid. Their capacities should be built to produce adequate and accurate reports on the utilization of the aids. The donor partners and the government should employ the services of qualified and credible accountants and auditors to generate financial reports where necessary. The laws on accountability and transparency should be enforced and culprits adequately punished.

4.5 Limitations of Study

The main limitation of the study was the use of only quantitative approach in the study. The choice of quantitative approach was to enable the study to effectively generalise the findings of the study. It must be noted that use of quantitative approach was not able to provide in depth explanation to the quantitative findings that were generated.

To overcome this challenge the study employed a comprehensive scale to assess the topic under study so that the findings from the study could provide better insight to inform

subsequent qualitative research on the topic. The study also designed the questionnaire to include open-ended questions to provide some qualitative insight into fungibility of healthcare aid in Ghana.

The study's reliance on a sample composed exclusively of workers from Ghana Health Service, Ridge Hospital, and the Ministry of Finance—institutions tied to healthcare delivery and foreign aid management—introduces a limitation in terms of external validity. While the findings contribute valuable insights at the policy level and align with existing literature, the narrow institutional scope restricts generalizability across the broader health sector. Patterns of aid utilization, accountability, and transparency may differ significantly across healthcare tiers, particularly within primary and secondary facilities, regional offices, and donor agencies. Systemic issues like corruption or misreporting may manifest differently in smaller clinics or community health centers, limiting the study's ability to capture these operational variations.

Accordingly, results were interpreted with caution, acknowledging that the views of selected respondents may not represent those from other sectors within Ghana Health Service, the Ministry of Health, or decentralized healthcare institutions. The sampled institutions do not necessarily reflect the realities of aid implementation at frontline service delivery points, where context, resource dynamics, and oversight mechanisms may differ considerably.

Data collection was a challenge that confronted the study. This was because of the busy nature of the respondents. Some of the respondents were unavailable at the time of data collection. This limitation was overcome through persistence and ingenuity. The researchers also have connections in the Ghana Health Service, Ridge Hospital, Ministry of Health and Ministry of Finance which helped in the data collection process.

4.6 Suggestions for Further Studies

The suggestions for further studies are threefold. Firstly, further research needs to be conducted to examine the individual factors that influence aid to be fungible in the health sector. Further studies should be conducted to increase knowledge on the individual causes of aid fungibility.

Secondly, the study also suggests that additional research works should be carried out to identify aid fungibility in other sectors of the economy. These studies can be conducted in education, work, transportation, waste, environment, natural resources, democracy and civil education.

Thirdly, it is recommended that additional studies should be with larger sample size and must include the intended beneficiaries of the aid supported projects to ascertain the impacts of the aid fungibility in the health sector on a larger scale.

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