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## Article

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# What Determines Saudi Arabia's Development Finance? An Empirical Approach

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## ABSTRACT

**Purpose:** This paper empirically examines determinants of Saudi Arabia's development finance allocation and seeks implications.

**Design/methodology/approach:** Based on the OLS and Tobit estimation, this paper analyzes a dataset covering Saudi Arabia's 111 bilateral aid recipient countries during the time period 2015 to 2020.

**Findings:** This paper finds that Saudi's aid allocation considers both donors' interest (DI) and recipients' needs (RN) given that less populous and relatively lower income developing countries, with strong commercial ties with the Kingdom tend to receive more aid from Saudi Arabia. This result is robust across all the analyses, supported by statistical significance.

**Research limitations/implications:** Geopolitical factors also matter considering that Arab countries are, on average, receive more aid from the Kingdom while other countries do not, and this confirms Arab solidarity. The Kingdom places a high importance on their non-interference policy in nation states' sovereignty and their territorial integrity. The Kingdom has a short history as an aid donor. As such, bilateral data is available only since 2015, which is a major caveat in this study.

**Originality/value:** Existing literature mostly deals with OECD DAC countries in examining aid determinants. This is one of the first studies in this field of literature empirically examining Saudi Aid. This study is expected to shed light to other emerging donors and promote effective South-South cooperation.

*Keywords: Development Finance, Saudi Arabia, DI-RN, Geopolitics, Panel Data*

## I. Introduction

Since the 1970s, the Gulf States gained international power and the ability to assist other developing countries due to their substantial oil revenues, allowing them to emerge as donors of foreign aid. It was around that time Saudi Arabia established the Saudi

Fund for Development in 1974 and started to provide development assistance.

There are several reasons to look at the case of Saudi Arabia. First, its assistance strategy is centered on South-South aid, as opposed to the North-South trend for most of the main DAC donors. Second, Saudi Arabia values state sovereignty and does not want to interfere in the recipient country's domestic policies; therefore, they do not focus on good governance and provide unconditional aid to the recipient countries, unlike most western donors who condition their foreign aid on good governance, and the promotion

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of democratization (Burnside and Dollar, 2000; Easterly et al., 2004; and Daalgard et al., 2004). For example, activities supported by Saudi Arabia's foreign aid are limited to development and non-political, such as education, infrastructure, humanitarian assistance, and economic development (SFD)<sup>1</sup>.

Table 1 clearly shows the focus and scope of Saudi assistance. Table 1 depicts Saudi bilateral aid by sector, using 2019 data as an example. The majority of Saudi aid is directed toward social infrastructure and humanitarian assistance. Education, water and sanitation, and health were three major areas of concentration for investments made in the domain of social infrastructure and services. In addition, 769.4 USD worth of humanitarian assistance was provided with an emphasis on peace, health, and education (SFD, 2019).

Yet, the existing literature empirically examining the determinants of foreign aid are mostly for the so-called OECD-DAC countries and multilateral agencies (McKinlay and Little, 1977; Alesina and Dollar, 2000; Neumayer, 2001; Bang and Oh, 2020), paying Arab donors, including Saudi Arabia little attention, despite the fact that they are among the largest OECD non-DAC donors, particularly toward humanitarian assistance.

Due to the lack of studies concerning Saudi Arabia's foreign aid, this paper aims to bring a better understanding of the determinant of bilateral aid allocations by Saudi Arabia. More specifically, this study examines, using a panel data of 111 recipient countries of the Saudi aid from 2015 to 2020, to see if the aid allocation is based on humanitarian needs of the recipients'

countries or based on the national and economic interest of Saudi Arabia, which is a part of the so-called DI-RN debate (*per se*, donor's interest - recipient needs). This is one of the first studies in this field, which itself is a contribution to the literature. Also, this study is expected to give direction to other emerging donors and eventually contribute to a more effective South-South cooperation.

As an emerging donor of development finance, Saudi Arabia may not have a clear direction on which side they would focus on, based on which a hypothesis (or rather a conjecture) can be derived that the Kingdom may show a pattern of following both DI and RN instead of having only one.

The remainder of the paper is organized as follows. Section 2, overviews the context of Arab donors and Saudi Arabian foreign aid policies with relevant literature. The methodology and data are highlighted in Section 3 and Section 4 discusses the results and the preliminary findings. Lastly, Section 5 concludes.

## II. Background of Arab Development Partners and Relevant Literature

Boogaerde (1991) provided an early overview of Arab foreign aid in 1991, claiming that the increase in oil revenues in 1973 was the reason for the increase in development finance in the region and that the fluctuation of oil prices over time was the reason for its decrease in the 1980s. Several studies devoted efforts to understand their motives for aid allocation, including geopolitical and cultural factors and proposed two theories - political motivation and developmental motivation (Neumayer, 2003; Villanger, 2007; Shaun and Marcoux, 2011, Kibria et al., 2021). These studies found that Arab solidarity, geographic alignment, and human capital are important determinants of Arab donors' aid allocation.

Several Arab aid agencies had been established since the 1970s (Sherbiny, 1986), and neighboring Arab countries were their main recipients (Boogaerde,

**Table 1.** The structure of the Saudi bilateral aid in 2019

Sector	US\$
Social infrastructure and services	802
Economic infrastructure	247.8
Production	36.6
Multi-sector	118.6
Humanitarian assistance	769.4
Other sectors	474.7

OECD-library.org Development Co-operation Profiles, Saudi Arabia - bilateral ODA by sector, commitments in million USD

1) The Saudi Fund for Development website - <https://www.sfd.gov.sa/en>

1991), with the primary goal of assisting Arab in their quest for socioeconomic growth, arguing that Arab solidarity was among the primary motives (Williams, 1976; Villanger, 2007; Kibria et al., 2021). Regarding this, Imady (1984) viewed Arab donors' focus on neighboring countries as a moral obligation, given that the majority of Arab donors also belonged to developing world, sharing common culture, language, and religion, which can translate into Arab solidarity (Imady, 1984) or later known South-South Cooperation. Given the cultural and historical ties, the preference for Arabian countries is understandable, just as DAC donors demonstrate their own strategic aid allocations and interest when allocating aid to former colonies, commercial ties, and UN friends (Cotterrell and Harmer, 2005)

Regarding the Saudi foreign aid, its disbursement structure is complicated due to the large number of actors involved in decision-making and implementation process (Al-Yahya and Fustier, 2011; Bakrania, 2012; Li, 2019). The groups that is responsible for making final decisions includes the Royal family, the Royal court, the Ministry of Interior, the Ministry of Foreign Affairs, and the Ministry of Finance. In Addition, the Saudi Fund for Development, the Saudi Red Crescent, King Salman Humanitarian Aid and Relief Center, and other Royal foundations are in charge of putting those decisions into action (Ibid).

The Saudi implementing institutions are listed in Table 2. The table demonstrates that the two main actors are KSRelief, which offers humanitarian aid,

and SFD, the national aid agency that offers soft loans to recipients' countries as a form of development aid. Additionally, the Ministry of Foreign Affairs oversees Saudi Arabia's contributions to multilateral institutions and frequently coordinates the implementation of bilateral aid with the country's embassies around the world. The Ministry of Finance is in charge of managing bilateral aid and is also in charge of carrying out humanitarian assistance decisions authorized by the royal family (Al-Yahya and Fustier, 2011; OECD, 2020).

For two reasons, the Saudi government favors bilateral arrangements for its official assistance. First, Saudi Arabia places a high importance on nation states' sovereignty and territorial integrity, and it seeks to avoid any potential interference in their domestic affairs and economic policies (Barakat and Zyck, 2010). Second, dealing directly with recipient governments strengthens ties between Saudi Arabia and the recipient countries; this is an opportunity that would be lost when multilateral channels are used instead of bilateral arrangements (Al-Yahya and Fustier, 2011).

Despite the lack of a clear foreign aid strategy, Saudi Arabia divides its aid into three categories: Arab and neighboring countries, Islamic countries, and countries with strategic partnerships (Al-Yahya and Fustier, 2011; Li, 2019). The question of whether Saudi Arabia prefers providing help to Muslim majority and Arab countries, and whether foreign aid is utilized to promote Arab and Islamic unity and solidarity, is still being debated. According to the Financial Tracking System, from 2000 to 2005, 92 percent of 149 Saudi donations went to countries with at least a 75 percent Muslim population (Cotterrell and Harmer, 2005). The Kingdom, on the other hand, denies these allegations, and the SFD charter states that the Saudi aid is not geographically restricted; rather, it is allocated to developing and low-income countries, including those in Sub-Saharan region, with 730 signed loan agreements to finance developmental projects and programs totaling more than SR. 69095 million since its inception in 1974. (SFD, 2020). Furthermore, since its foundation in 2015, the King Salman Humanitarian Aid and Relief Center has provided humanitarian and developmental assistance to over 84 countries across all regions,

**Table 2.** Total ODA disbursed through government agencies in 2019.

Agency	Per cent
King Salman Humanitarian Aid and Relief Center	45.2
Saudi Fund for Development	33.7
Ministry of Finance	11
Ministry of Education	6.9
Other agencies	3.1
Total	99.9

OECD-library.org Development Co-operation Profiles, Saudi Arabia, gross disbursement in per cent 2019

totaling US\$ 5 billion (Ksrelief). As one of the world's top oil producers and a member of the G20, Saudi Arabia's importance and expanding influence in the international community often compels the Kingdom to engage in addressing global issues (Liu, 2020).

Previous research has shown that political and economic gains are among the motivations for many donor countries to provide foreign aid. Consequently, donor countries attempt to pursue their national interests (Algosaibi, 1965). In this regard, the Kingdom's incentive for providing foreign aid takes several factors into account, including foreign policy, diplomatic goals, humanitarian principles, religion, internal and external security, and the promotion of economic interests. (Neumayer, 2003; Villanger, 2007; Al-Yahya and Fustier, 2011; Bakrania, 2012; Li, 2019; Kibria et al., 2021).

Saudi Arabia's national policy as the most powerful and economically significant state in the Gulf region is to maintain stability in the country as well as in neighboring countries. As a result, the Kingdom places a high value on regional security issues and wishes to exert greater influence in the region in proportion to its economic strengths (Li, 2019). Furthermore, the country rewards allies and builds strategic alliances by providing aid to countries in times of conflict, and foreign aid is utilized as a diplomatic tool (Villanger, 2007). Since the Arab Spring began in 2010, Saudi Arabia has provided foreign aid to the region in order to maintain national and political stability, by increasing its assistance to Egypt, Yemen, and Syria (Salloukh, 2013; Huaxia, 2021)

On the other hand, since Saudi Arabia has a large

expatriate and migrant population, humanitarian and developmental assistance to their home countries could be considered as well, as a way to reduce tensions, foster cohesiveness, and manage internal security (Al-Yahya and Fustier, 2011) Saudi Arabia's expatriate population is estimated to be 13.1 million in 2019 (Migrants and Refugees, 2019); thus, internal security is another reason for the country to provide foreign aid, as the majority of the foreign workers are from low-income countries like Bangladesh, Pakistan, and Indonesia (Li, 2019). In this sense, it is understood that the SFD charter includes an export promotion provision that allows for the financing and guarantee of non-oil exports, thus mandating the promotion of economic gains (Neumayer, 2004, SDF charter). According to Li (2019), Saudi Arabia uses the Saudi Riyal when making loans to recipient countries in order to achieve economic goals, reduce domestic instability, and reduce inflation in Saudi Arabia. The use of riyal in SFD loans to developing countries allows the Kingdom to avoid foreign exchange losses in foreign currency conversions (Li, 2019).

### III. Methodology and Data

This paper is based on a dataset covering Saudi Arabia's 111 bilateral aid recipient countries during the time period 2015 to 2020. Table 3 shows the descriptive statistics of the observed variables used in the analysis with the following regression equation.

**Table 3.** Descriptive statistics of the observed variables

Variable	Obs	Mean	Std. Dev.	Min	Max
ODA	666	18.406	147.507	0	3477.333
GDP per capita (constant 2015 US\$)	645	3658.425	3143.297	270.691	15073
Population	660	5.47	1.85	71175	1.41
Export	587	973.049	4263.511	.00004	47588.33
Import	603	504.926	2396.522	.00006	26509.17
GNI	537	2.85	1.40	3.15	1.45

Note: Due to inconsistency of the number of observations across variables, this study finally adopts the smallest one (537) in the analyses.

$$\ln Y_{it} = \beta_0 + \beta_1 \ln pcgdp + \beta_2 \ln pcgdp^2 \quad (1)$$

$$+ \beta_3 \ln pop + \beta_4 \ln pop^2 + \beta_5 \ln Export$$

$$+ \beta_6 \ln Import + \beta_7 \ln GNI + \beta_8 Israel$$

$$+ \beta_9 Arab + \beta_{10} Africa + \epsilon_{it}$$

Where ( $Y$ ) is the log-transformed share of the Saudi aid the country ( $i$ ) receive at time ( $t$ ), the recipient needs (RN) in this paper are captured by the following variables,  $\ln pcgdp$  is the log of GDP per capita in constant 2015 US\$, with linear and quadratic terms,  $\ln pop$  is the log of population size of the recipient country, again with linear and quadratic terms<sup>2)</sup>,  $\ln GNI$  is the log of gross national income (not per capita income),  $\ln Export$  and  $\ln Import$  are their export flows to Saudi Arabia and import flows from Saudi Arabia, respectively, the export and import variables were used in this paper to test for the donor's self-interest, and finally,  $Israel$ ,  $Arab$ , and  $Africa$ , are dummy variables with 1 if countries belong to the designated region<sup>3)</sup> or has the diplomatic relations with Israel and 0 otherwise. The expected signs vary depending on whether the Saudi aid pursues donors' interest (more aid to larger, richer, and more populous countries with stronger commercial and political ties) or recipients' needs (otherwise) (Neumayer, 2003; Kibria et al., 2021). As an emerging donor of foreign aid, it can be conjectured that the Kingdom does not have a clear direction but may pursue both.

Some of the frequently used variables to test for RN in other studies, such as democracy, governance, human rights violations, and corruption, are not used in this study, as Saudi Arabia does not interfere in domestic affairs of the recipient country. It may be rather too early to take these factors into account,

which could be considered in a further study. In addition, Muslim dummy is not considered, either, due to its multicollinearity issue with  $Arab$  dummy.

Regarding data source, bilateral ODA flows between Saudi Arabia and its aid recipient countries are collected from OECD CRS database; GDP per capita, population, and GNI are collected from the World Bank's World Development Indicators (WDI); import and export are collected from the IMF's Direction of Trade Statistics (DOTS), regional classification such as African and Arab, are collected from Pew Research Center database; finally, data on the diplomatic relations with Israel is from the Ministry of Foreign Affairs of Israel.

Regarding methodology, this study initially conducts the typical OLS estimation, together with the Tobit random-effect as a follow-up robustness check. This flow is a common analytic tool used in several aid allocation literature (Alesina and Dollar, 2000, Berthélemy and Tichit, 2004; Kim and Oh, 2012). When the dependent variable contains many zeros, which is the case in this study, Tobit model is appropriate, as it allows the parameters related to aid volume to be correctly estimated by compensating for the downward bias provided by the large number of zero observations (Eisenberg et al., 2015). Additionally, in order to reduce the potential endogeneity issues and reverse causation problem, the major independent variables in this study, except time-invariant ones, are lagged by one year.

#### IV. Results

Table 4 shows the OLS estimation results. The first column of the table shows that coefficients of population and GDP per capita are all significantly negative, indicating that Saudi Arabia provides more aid to smaller and relatively poorer countries. This basically supports the claim that the Kingdom takes recipients' needs (RN) into consideration in aid disbursement. However, the significantly positive

2) Using both linear and quadratic terms for GDP per capita and population has been applied, to see if there are any diminishing marginal returns, by several studies, including Alesina and Dollar (2000), Berthelemy and Tichit (2004), and Kim and Oh (2012).

3)  $Arab$  is set to 1 for Egypt, Morocco, Sudan, Jordan, Syria, Yemen, Tunisia, Djibouti, Lebanon, Mauritania, Algeria, Libya, Comoros, Palestine, Iraq, and Somalia, and zero otherwise;  $Africa$  is set to 1 for all Sub-Saharan African countries and zero otherwise.

**Table 4.** Estimation results: OLS and random effect tobit

	(1)	(2)	(3)	(4)	(5)
GDP per capita	-7.970*** (2.389)	-7.336** (3.068)	-5.951** (2.376)	-7.867** (3.484)	1.033 (1.357)
Population	-7.600*** (2.431)	-8.959*** (2.678)	-5.376** (2.446)	-7.581** (3.521)	
Export	0.324*** (0.047)	0.317*** (0.050)	0.195*** (0.055)	0.379*** (0.081)	1.717 (1.404)
Import	0.110** (0.046)	0.106** (0.047)	0.084 (0.047)	-0.039 (0.065)	0.286*** (0.089)
GNI	7.301*** (2.423)	7.123*** (2.462)	5.358** (2.423)	7.415** (3.518)	-0.087 (0.066)
GDP per capita (squared)		-0.033 (0.129)			-1.646 (1.388)
Population (squared)		0.046 (0.030)			
Israel			-0.538** (0.273)		-0.650 (0.512)
Arab			1.374*** (0.418)		1.492** (0.679)
Africa			0.271 (0.351)		-0.247 (0.572)
Constant	9.752*** (2.156)	21.002* (10.964)	4.988* (2.669)	5.753 (3.663)	3.778 (4.393)

Notes: \*\*\*, \*\*, and \* respectfully notes significance levels at 1%, 5%, and 10%. Models (1) to (3) are based on the OLS estimation and Models (4) and (5) are based on Tobit random effect analyses, with normal distribution and censoring at zero. The White heteroskedasticity-consistent standard errors are in parenthesis. standard errors in parentheses. All independent variables are log-transformed and, in Models (4) and (5), GDP per capita and population have been lagged for one year to avoid endogeneity issues.

coefficients for both export and import imply that it also considers strong commercial ties as one of main determining factors for aid allocation. In fact, the SFD charter states that assisting developing countries can strengthen economic ties with recipient countries (SFD, 2020) and this column of the table confirms that both donors' interest and recipients' needs are all addressed in Saudi's aid allocation.

This dual-track approach is also confirmed by the significantly positive coefficient for GNI, as large, in absolute terms, as those with GDP per capita and population; holding other variables constant, a one percent increase in the aid recipient country's GNI results in 7.3 percent increase in the share of ODA, meaning that the Kingdom takes the country's economic

size and potential into a serious consideration.

The second column adds square terms of GDP per capita and population to the equation, but, unlike previous studies, all of them fail to provide significant coefficients; the linear estimation seems to fit better than the quadratic ones, without having diminishing returns of ODA flows.

Column 3 examines the impact of dummy variables on the aid allocation. As expected, Arab countries receive a greater share of aid from Saudi Arabia, due to Arab solidarity or strategic alliances with these countries to maintain the leadership in the region (Neumayer, 2003 and Villanger, 2007). Or, as Al-Yahya and Fustier (2011) asserted, this may address the fact that Arab countries are among the top aid needed

poor countries and Saudi Arabia considers these needed countries the most. Regardless of these underlying theories, what is revealed is that the Arab countries on average receive 3.9<sup>4)</sup> times more aid than other countries. In the same direction, African countries on average receive 1.3<sup>5)</sup> times more aid from Saudi Arabia, but fail to provide significant result, contrary previous research findings of the existence of African solidarity (Nayumer, 2003; Bakrania, 2012; Kibria et al., 2021).

On the other hand, maintaining diplomatic relations with Israel might be a factor of decreasing the chances of receiving aid from the Saudi government; countries having diplomatic relations with Israel receive approximately half<sup>6)</sup> the aid from Saudi Arabia, contradictory to Neumayer (2003), finding that relations with Israel is not a significant determinant of Arab's foreign aid allocations.

Results produced by Tobit model is basically consistent with those from the previous ones; in Model (4), GDP per capita and population are all negative and export are still positive. Import has a negative coefficient but not significant. The lack of significance is still found in Model (5) for Israel dummy; like the previous result, the sign is still negative, yet insignificant. The African dummy changes its sign to minus but lacks significance, anyway. The main contribution from Tobit approach is that it confirms strong ties with neighboring Arab partners.

## V. Conclusion

This paper used OLS and Tobit regression analysis to look at Saudi Arabia's ODA allocation for 111 recipient countries from 2015 to 2020. Saudi Arabia's finance disbursement was found to be geared toward

lower-income developing countries with smaller populations and greater GNI. The findings of this paper contradict previous studies done on Arab donors, which suggested more populous countries are expected to receive more aid from the Kingdom (Neumayer, 2003; Kibria et al., 2021). In addition, although the African solidarity does not turn out to be very strong, the Arab dummy shows a positive result, showing that Arab solidarity and being an Arab still exist as a preference for allocating aid. This might be for sharing common language, culture, or religion, and Arab countries are politically aligned with the Kingdom. Saudi foreign aid may be visible in Arab countries and it may show that it is concentrated in these areas. At the same time, many of these Arab recipients are least developed countries (LDCs) with top beneficiaries of the OECD DAC donors. So, this result may also reflect Saudi Arabia's stance of considering recipients' needs for development support.

The main challenge is maintaining diplomatic relations with Israel could be a factor of receiving less aid from the Kingdom. Due to the Israeli-Palestinian conflict, Saudi Arabia does not have a diplomatic relation with Israel. However, given that Israel reached normalization deals of diplomatic ties with the United Arab Emirates and Bahrain in 2020, Israel believes that it can also have a normalization process with Saudi Arabia (Keller-Lynn et al., 2022). If the Kingdom decided to change its policy and decide to normalize its relation with Israel in the near future, this may change the empirical result in this regression analyses, too.

The Kingdom has a short history as an aid donor. As such, bilateral data is available only since 2015, which is a major caveat in this study. However, it should be noted that the country has recently increased its attention to its development finance and took steps towards greater transparency, by creating the Saudi Aid Platform to register projects and humanitarian, developmental and charitable contributions based on the international standards of the United Nations Financial Tracking System (UNFTS), DAC-OECD, and

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4) The number was derived from the exponential of 1.374, the coefficient of the Arab dummy variable

5) The number was derived from the exponential of .2709758 for Africa dummy variable

6) The number was derived from the exponential of -.5384148 for Israel dummy variable

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7) The information was derived from the Saudi Aid Platform

the International Aid Transparency Initiative (IATI).<sup>7)</sup> In addition, examining the effectiveness of its aid modality will be also desirable (Han and Oh, 2019). All of these is worth examining, which will be reserved for further studies.

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**Appendix 1.** List of the countries in Middle East and North Africa included in the study

Country	Income classification
Algeria	LMI
Egypt	LMI
Libya	LMI
Morocco	LMI
Tunisia	LMI
Djibouti	LMI
Iran	LMI
Lebanon	LMI
West Bank and Gaza Strip	LMI
Syrian Arab Republic	LI
Yemen	LI
Iraq	UMI
Jordan	UMI

\* The following abbreviation stands for (LMI) low-middle income, (LI) low-income, and (UMI) upper-middle income, based on the World Bank country classification by income level for the year 2021

**Appendix 2.** List of the countries in the Sub-Saharan Africa included in the study

Country	Income classification
Burundi	LI
Comoros	LMI
Eritrea	LI
Ethiopia	LI
Kenya	LMI
Madagascar	LI
Malawi	LI
Mauritius	UMI
Mozambique	LI
Rwanda	LI
Somalia	LI
South Sudan	LI
Sudan	LI
Tanzania	LMI
Uganda	LI
Zambia	LI
Zimbabwe	LMI
Angola	LMI
Cameroon	LMI
Central Africa Republic	LI
Chad	LI
Congo	LMI
Equatorial Guinea	UMI

**Appendix 2.** Continued

Country	Income classification
Gabon	UMI
Sao Tome and Principe	LMI
Botswana	UMI
Lesotho	LMI
Namibia	UMI
Benin	LMI
Burkina Faso	LI
Cabo Verde	LMI
Côte d'Ivoire	LMI
Gambia	LI
Ghana	LMI
Guinea	LI
Guinea-Bissau	LI
Liberia	LI
Mali	LI
Mauritania	LMI
Niger	LI
Nigeria	LMI
Senegal	LMI
Sierra Leone	LI
Togo	LI

\* The following abbreviation stands for (LMI) low-middle income, (LI) low-income, and (UMI) upper-middle income, based on the World Bank country classification by income level for the year 2021

**Appendix 3.** List of the countries in Europe and Central Asia included in the study

Country	Income classification
Albania	UMI
Belarus	UMI
Bosnia and Herzegovina	UMI
Kosovo	UMI
Moldova	UMI
Montenegro	UMI
North Macedonia	UMI
Serbia	UMI
Turkey	UMI
Ukraine	LMI
Azerbaijan	UMI
Kazakhstan	UMI
Kyrgyzstan	LMI
Tajikistan	LMI
Turkmenistan	UMI

**Appendix 3.** Continued

Country	Income classification
Uzbekistan	LMI
Georgia	UMI

\* The following abbreviation stands for (LMI) low-middle income, (LI) low-income, and (UMI) upper-middle income, based on the World Bank country classification by income level for the year 2021

**Appendix 4.** List of the countries in Latin America and Caribbean included in the study

Country	Income classification
Cuba	UMI
Dominica	UMI
Dominican Republic	UMI
Haiti	LMI
Jamaica	UMI
Belize	UMI
Honduras	LMI
Mexico	UMI
Nicaragua	LMI
Panama	HI
Argentina	UMI
Bolivia	LMI
Brazil	UMI
Colombia	UMI
Ecuador	UMI
Guyana	UMI
Venezuela*	NC

\* Venezuela (NC) was not classified by the World Bank in the recent years, \*The following abbreviation stands for (HI) high-income, (LMI) low-middle income, (LI) low-income, and (UMI) upper-middle income, based on the World Bank country classification by income level for the year 2021

**Appendix 5.** List of the countries in East Asia and Pacific included in the study

Country	Income classification
Cambodia	LMI
China	UMI
Indonesia	LMI
Lao People's Democratic Republic	LMI
Malaysia	UMI
Mongolia	LMI
Philippines	UMI
Thailand	UMI
Viet Nam	LMI
Fiji	LMI
Solomon Island	LMI
Myanmar	LMI

\*The following abbreviation stands for (HI) high-income, (LMI) low-middle income, (LI) low-income, and (UMI) upper-middle income, based on the World Bank country classification by income level for the year 2021

**Appendix 6.** List of the countries in South Asia included in the study

Country	Income classification
Afghanistan	LI
Bangladesh	LMI
India	LMI
Maldives	UMI
Pakistan	LMI
Sri Lanka	LMI
Nepal	LMI

\*The following abbreviation stands for (HI) high-income, (LMI) low-middle income, (LI) low-income, and (UMI) upper-middle income, based on the World Bank country classification by income level for the year 2021