ITALIAN OFFICIAL DEVELOPMENT ASSISTANCE (ODA): A TERRITORIAL PERSPECTIVE[1]

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Abstract. Official Development Assistance (ODA) promotes the economic development and welfare of developing countries. Its relevance has increased constantly since 1970 when the UN set the target of 0.7% of GNI for donor countries. This goal has been further reaffirmed by SDG 17.2 of the 2030 Agenda. In the last few years, there has been a growing strand of literature attempting to disentangle the development efforts of donor countries. Still, little emphasis has been put on the "local" dimension of aid on the donor side. This paper examines the flows of Italian Official ODA for project-based interventions and international scholarships, funded by local administrations and Italian public universities. Using OECD data, we examine the regional distribution, the sectoral allocation, the type of interventions, and the geographical orientation of ODA in the years 2019 and 2021. In addition, we carry out an exploratory econometric exercise to understand whether regional ODA flows follow a similar dynamic to that of trade flows between the recipient country and the region, using a simple gravity model. Results show that Italy's ODA is mostly concentrated in a few Regions and focuses on a limited number of key sectors, addressing specific countries. We discuss the implications of these findings for the coherence and effectiveness of the development cooperation policy.

1. Introduction

The development of local communities is a noble goal even if the ways to achieve it are complex. Yet ahead of the publication of the 2030 Agenda, the international community had taken some steps in the direction of rebalancing the dynamics of global development. This awareness has given rise to *Official Development Assistance* (ODA): the aid provided by developed countries to the least developed or to developing ones. The first international entity to formalize this exchange of resources was the Organization for Economic Co-operation and Development (OECD), which in 1961 established the Development Assistance Committee (DAC),

[1] The paper is the result of the common work of the authors. Armenise has written Section 5; Fiore has written Section 2; Giannelli has written Section 1; Guida has written Section 3; and Virga has written Section 4. Conclusions and future developments are by all the authors. The views expressed in the paper do not reflect those of the authors' affiliation institution.

gathering donor countries, and providing economic, financial, and technical assistance. Currently, ODA covers a multitude of resources including grants, loans, export credits, mixed credits, associated finance, private investment, etc. Moreover, the target of 0.7% of a country's Gross National Income (GNI) devoted to ODA was first agreed upon in 1970 and reaffirmed in the 2030 Agenda (Target 17.2). OECD yearly publishes ODA data on the national level; however, it is recognised that a localised approach is essential to translate SDGs into effective place-based actions. Therefore, the need to monitor the contribution of local entities to the 2030 Agenda requires observing indicators related to Target 17.2 at the regional level (Armenise, 2023; Lella and Oses-Eraso, 2023).

Indeed, there is a significant distinction between the source of funding, typically a state, and the channel through which ODA is delivered. ODA can be channelled through governments/ministries, non-governmental organizations or public-private partnerships, multilateral agencies, and international organizations (most frequently). Finally, part of ODA is channelled through the so-called "territorial entities" (e.g., states in a federal system, regions, municipalities, etc.), and public universities. As for Italy's ODA, by cross-checking OECD data and those provided by the Italian Ministry of Foreign Affairs and International Cooperation (MAECI), it has been possible to analyse the ODA channelled through territorial entities and public universities.

The focus of this research is to dig out the contribution of Italian territorial entities and public universities to development cooperation and to investigate potential patterns highlighting connections between local donor entities and recipient countries. The underlying idea is that local administrations and public universities play a crucial role in fostering development by leveraging their proximity to communities and understanding local needs. In this sense, they translate development policies into actions addressing specific territorial challenges. Another concept behind the study is that development cooperation itself may act as a booster for bilateral relations among donor and recipient territories, even if the cause-effect relationship in these dynamics requires further evidence and investigation.

The rest of the paper is structured as follows. Section 2 reviews the literature and outlines the theoretical background. Section 3 presents the data and methods. Section 4 introduces the descriptive results and Section 5 the empirical results. Finally, section 6 contains the preliminary conclusions and future developments.

2. Previous literature

To map the historical evolution of ODA, which has served as a benchmark for foreign aid in fostering development cooperation for half a century, the seminal

reference is Hynes and Scott (2013); the authors present a comprehensive analysis of its trajectory and suggest potential refinements to the ODA framework to maintain its significance in the future.

The literature on ODA unfolds in various strands. Scholars have primarily concentrated on evaluating the effects of ODA on recipient countries, examining various development sectors. Lin Moe (2008) aims to investigate the relationship between ODA and human and educational development in countries in Southeast Asia between 1990 and 2004; Wang et al. (2021) estimate how ODA promote renewable energy development levels in developing countries; Wang et al. (2022) provides a better understanding of the effects of ODA on carbon emissions in 59 low-income and lower-middle-income countries. The QuODA, now in its fifth edition, serves as an extensive instrument for evaluating the quality of aid[2]. It assesses and benchmarks ODA providers across 17 quantitative indicators, organized into four distinct dimensions based on the concepts proposed by Birdsall et al. (2010). A new strand of literature has emerged since ODA became one of the targets of the 2030 Agenda (OECD, 2023). Yet, the body of literature analysing Italian ODA is not extensive. Venturi (2019) highlights the discrepancy between international laws and Italian priorities. Likewise, Paviotti and Fattibene (2023) argue that development cooperation, including ODA, is facing a pivotal moment in Italy.

To the best of our knowledge, no study has provided a comprehensive territorial breakdown of ODA from a single donor country.

3. Data and methods

The analyses presented in this paper are based on an elaboration of OECD-MAECI data on ODA flows managed by Italian local administrations and universities in 2019 and 2021.

Italian Regions and universities play a pivotal role in the country's development cooperation framework (Sistema Italia), emphasizing the importance of decentralized cooperation through aid delivered by local authorities.

Additionally, Italy actively fosters academic partnerships between Italian universities and institutions in developing countries, especially in Africa, the Balkans, and the Mediterranean. These partnerships encompass inter-university collaborations and training activities including specialized courses and master's programs, tailored to address the specific needs of participants.

[2] The Quality of Official Development Assistance (QuODA) is a tool developed by the Center for Global Development and the Brookings Institution to measure which donors provide "higher quality aid" and how they can improve. For more information: www.cgdev.org/topics/quoda.

The analysis in this study adopts the DAC-CRS methodology used by donors to report their aid flows to OECD. Specifically, the paper focuses on two prominent modalities of ODA flows: project-type interventions (C–C01) and international scholarships (E–E01, E02).

Project-type interventions (C-C01) refer to structured initiatives comprising coordinated inputs, activities, and outputs agreed upon with partner countries to achieve defined objectives or outcomes within a specified timeframe, budget, and geographical scope. Scholarships and student costs in donor countries (E) include scholarships/training in donor countries, financial aid awards for individual students, and contributions to trainees (E01), as well as indirect ("imputed") student costs of tuition in donor countries (E02)[3].

The thematic focus of the analysed ODA – referred to as "*Sector Code*" or *Purpose Code*"[4] by the OECD – is based on the specific economic or social sector that the aid intends to support, regardless of the type of goods or services provided by the donor. Contributions not easily attributed to specific sectors are classified as non-sector allocable aid.

As for the geographical distribution of the aid examined - termed "geographical aid allocations" by the OECD - ODA it is classified by income group (e.g., Least Developed Countries [LDC)], Other Low-Income Countries [Other LICs], Lower Middle-Income Countries [LMICs], Upper Middle-Income Countries [UMICs], unallocated areas, and More Advanced Developing Countries and Territories [MADCTS]), or by geographic regions (e.g., sub-Saharan Africa, South and Central Asia, other Asia and Oceania, Middle East and North Africa, Latin America and the Caribbean, Europe, and unspecified regions).

Finally, in this study, ODA flows managed by Italian local administrations and public universities have been grouped according to their respective administrative Regions.

[3] Other cooperation modalities included in the study though not significantly relevant in ODA flows include core contributions and pooled programmes (B); experts and other technical assistance (D); other in-donor expenditures (H); and administrative costs not included elsewhere (G, G01).

[4] In the Creditor Reporting System (CRS), data on the sector of destination are recorded using 5-digit purpose codes. The first three digits refer to the corresponding DAC sector or category. As a result, in the present study, the sector codes were merged into 11 categories based on their sectoral inclinations. The categories identified included: Education (111-114), Health (121-123, 130, 140), Civil Society & Peace (151-152), Social infrastructure & Transport (160), Energy (231-232), Business & Banking (240, 250), Agriculture, Forestry, Fishing & Environment (311-313, 410), Industry, Trade & Tourism (321, 323, 331, 332), Emergency & Disaster (520, 720, 730, 740), Administrative (910), Other (430, 998).

4. Descriptive results

In 2019, the total disbursement of Italian ODA channelled through local administrations and public universities amounted to over 40 million USD. As with 2021, most ODA flows were concentrated on scholarships and student costs in donor countries (E) and project-type interventions (C) (Table 1).

Table 1 – *Italian regions' ODA per cooperation modality. Years 2019 and 2021. Values in dollars (USD).*

Cooperation modality	2019	2021
B - Core contributions and pooled programmes and funds	4,478	0
C - Project-type interventions	11,599,167	10,176,833
D- Experts and other technical assistance	1,228,506	1,568,386
E - Scholarships and student costs in donor countries	27,783,990	42,710,576
G - Administrative costs not included elsewhere	0	938,266
H - Other in-donor expenditures	74,730	63,062
Total	40,690,871	55,457,123

Source: Authors' elaboration on OECD-MAECI data.

In 2019, the total ODA allocated to project-type interventions by Italian local entities and public universities amounted to 2.6% of Italy's overall ODA for this category (11,599,167 USD out of a total of 439,787,140 USD). Conversely, in the same year, ODA allocated by public universities for scholarships and training accounted for 80% of the total Italian ODA in this category (27,783,990 USD out of 34,727,371 USD).

By 2021, the allocation for project-type interventions had significantly declined, accounting for just 0.04% of the total ODA in this category (111,556 USD out of 272,077,365 USD). However, the allocation for scholarships and training via public universities rose substantially, constituting 98.9% of the total Italian ODA in this category (12,736,697 USD out of 12,871,023 USD).

In 2019, among the 17 Regions contributing to ODA flows (excluding Basilicata, Calabria, Lazio, and Aosta Valley), 10 Regions predominantly directed their efforts toward category E - Scholarships and student costs in donor countries. Notably, Liguria, Molise, Sicilia, Umbria, Marche, Emilia-Romagna, and Veneto flows were concentrated almost exclusively in category E, with the largest disbursement (in absolute terms) made by Emilia-Romagna (9,809,135 USD), Tuscany (6,731,484 USD), and Marche (4,283,272 USD), collectively amounting to 20,823,891 USD out of 27,783,990 USD.

For category C – Project-type interventions, ODA flows were prevalent in six Regions (Bolzano, Campania, Friuli-Venezia Giulia, Apulia, Sardinia, Trento), with Lombardy allocating half of its ODA to project-type interventions. Friuli-Venezia Giulia, Apulia, and Trento focused exclusively on category C, and Sardinia almost entirely. Bolzano and Trento collectively contributed 5,688,436 USD out of a total of 11,599,167 USD.

By 2021, the total ODA disbursement increased significantly, exceeding 55 million USD (+36.3%). Scholarships and student costs in donor countries (category E) remained the predominant focus in 11 of 17 Regions (excluding Basilicata, Lazio, Aosta Valley, and Liguria). Regions such as Umbria, Sicily, Molise, Marche, Calabria, and Abruzzo directed all their ODA flows exclusively to category E. In absolute terms, the largest contributions were from Veneto (15,032,985 USD) and Emilia Romagna (12,677,733 USD) out of a total of 42,710,576 USD. For project-type interventions (category C), ODA flows were concentrated in four Regions (Bolzano, Friuli-Venezia Giulia, Apulia, Sardinia), with Bolzano making the largest contribution of 2,335,239 USD out of a total of 10,176,833 USD for this category.

In terms of aid flows classified by recipient countries, in 2019, the majority of ODA was directed to the South of Sahara, with over 13 million USD allocated to this region. Excluding regional and unspecified allocations, the Middle East and North of Sahara followed, receiving 3,575,245 USD and 3,075,639 USD, respectively. While most Regions diversified their ODA allocations across multiple areas, certain Regions, including Sicily, Campania, Liguria, and Friuli-Venezia Giulia, concentrated their efforts on one or two specific geographical areas. The emphasis on the South of Sahara persisted in 2021, with ODA flows in this region totalling 11,738,296 USD. In contrast to 2019, South and Central Asia emerged as the second largest recipient region in 2021, with ODA disbursement reaching 8,197,445 USD, primarily from Emilia-Romagna and Veneto. Other notable recipient regions included the Middle East (4,959,076 USD) and Europe (4,612,618 USD). Although the general trend of regional diversification in ODA flows continued, exceptions were observed, such as Sicily exclusively focusing on the South of Sahara, and Molise concentrating solely in South America (Table 2).

Table 2 – *Italian regions' ODA per recipient countries. Years 2019 and 2021. Values in dollars (USD).*

Recipient countries	2019	2021
Africa	993,394	1,424,103
Asia	9,083	2,296,852
Caribbean & Central America	641,697	834,265
Europe	3,287,421	4,612,618
Far East Asia	2,824,050	2,064,865
Middle East	3,575,245	4,959,076
North of Sahara	3,075,639	3,090,822
Regional and Unspecified	5,784,560	13,996,449
South & Central Asia	5,076,143	8,197,445
South America	2,061,809	2,242,332
South of Sahara	13,361,830	11,738,296

Source: Authors' elaboration on OECD-MAECI data[5].

An alternative approach to examining the geographical allocation of ODA is to analyse the distribution across income groups as classified by the OECD. The data reveals that, excluding unallocated funds, Lower Middle-Income Countries received the highest ODA flows in both 2019 and 2021, amounting to 16,168,121 USD and 17,634,742 USD, respectively. This was followed by Upper Middle-Income Countries and Least Developed Countries, while Low-Income Countries received only a marginal share.

Digging out the ODA amounts channelled through local administrations and public universities individually, in 2019, local administrations accounted for approximately 10 million USD, while public universities received nearly three times that amount (29,866,823 USD). By 2021, the ODA flows from local administrations declined slightly to just over 8 million USD. In contrast, aid channelled through universities significantly increased, exceeding 45 million USD.

At the regional level, most regions demonstrated a specialization, predominantly focusing on either category C or category E. Notably, Tuscany, Piedmont, Lombardy, and Emilia Romagna were among the few Regions maintaining ODA flows in both categories throughout both years. A clear specialization pattern emerged: in some Regions, institutional donors were exclusively local administrations (e.g. Bolzano and Apulia), while in others, universities and research centres were the primary donors (e.g. Abruzzo, Calabria, Campania, Molise, Sicily, and Umbria).

[5] In the OECD classification for ODA flows, the region name "Africa" or "Asia" generally refers to the entire continent encompassing all its sub-regions. This distinction is important for accurately categorizing and analyzing aid distribution.

Finally, regarding sectoral allocation, the majority of ODA was concentrated in education accounting for 78% and 84% of total flows in the two years analysed, respectively, with a particular emphasis on post-secondary education. ODA flows in education constituted the largest share of total ODA at the local level in both years, increasing from just over 30 million USD in 2019 to more than 45 million USD in 2021. Following education at a considerable distance were the sectors of Health and Agriculture, Forestry, and Fishing & Environment (none exceeded 10-11% of the total in either year).

5. Empirical results

The descriptive heterogeneities emerging from these regional data can be explored using gravitational models (Tinbergen 1962, Anderson 1979, Eaton 2003, Anderson and Van Wincoop 2003). The reference equation for econometric analysis is derived from the log-linear formulation of the classic gravitational model, expressed as:

$$\ln(ODA_{y,i,j}) = a_1 \ln(Pop_{y,i}) + a_2 \ln(Pop_{y,j}) + a_3 \ln(GDPpc_{y,i}) + a_4 \ln(GDPpc_{y,j}) + a_6 \ln(dist_{i,j}) + X'_{iy}\delta_1 + Z'_{jy}\delta_2 + \varepsilon_{ijt} \quad (1)$$

where $ODA_{y,i,j}$ represents the official flow of development aid from Italian region *i* to country *j* in year *y* (2019-2021). The logarithm of the per capita gross domestic product (GDPpc) of the donor region is included as an index of the region's wealth level and its capacity to donate, while that of the recipient country indicates the level of need for aid. The logarithm of the population (Pop) of region *i* and country *j* is the other variable used to represent the mass of the origin and destination countries. Bilateral distance[6] $dist_{i,j}$ captures the transportation costs and cultural differences. The matrices X and Z contain controls for the donor region (X) and the recipient country (Z), respectively. In this specification, time-fixed effect variables are included to control for unobservables at the country level.

In addition to the standard controls in the specification of a gravitational model, such as contiguity and colonial relationships between the donor regions and the target country, controls were included considering the share of immigrants (ln_imm) from the recipient country in the donor region, and the impact of the recipient country on exports (ln_q_exp).

[6] The bilateral distance is measured as the Euclidean distance between the capital of region *i* and the capital of country *j*.

This specification allows us to evaluate whether these regional aid flows follow theoretical regularities, as highlighted in international trade by gravitational models, wherein they are determined by the mass variables related to the countries and their distance.

Table 3 presents the estimates of the gravitational model according to three OLS specifications[7]. As can be observed, the results in column III do not always show regression coefficients with the expected signs and significance, thus not fully confirming the presence of a gravitational effect in the development aid flow. In line with gravitational logic, distance (ln_dist) consistently shows always a negative and significant coefficient ($p < 0.01$), indicating that greater separation reduces sub-national ODA flows.

It is interesting to note the differing effects of demand and supply between the beneficiary and donor. Specifically, the coefficient for the population is positive and statistically significant only for the recipient country of the development aid and not for the donor region. On the other hand, the coefficient for per capita GDP is statistically significant and negative only for the donor country. This latter result also represents an important point of differentiation from traditional gravitational models, showing that as the per capita income of the donor region increases, the flow of development aid decreases. The export variable (ln_exp) is not significant, indicating that commercial interests are not a key driver of these sub-national flows. Conversely, the control variable for the proportion of immigrants (ln_imm) has a positive and statistically significant coefficient (at the 5% level) associated with ODA flows, suggesting that diaspora ties may favour development aid disbursements.

The R-squared is not too high, assuming a value of 0.11, only in the third specification.

[7] A Breusch–Pagan test led to reject the null hypothesis of homoskedastic errors. Accordingly, we re-estimated the model using robust standard errors. As expected, the magnitude and signs of the coefficients remained consistent, while the standard errors (and thus t-statistics) were adjusted to account for non-constant variance. We show in Table 3 only results with robust standard errors. We checked Variance Inflation Factors (VIF), which ranged from 1.46 to 3.39, with a mean of 1.96. These values lie well below the conventional thresholds (e.g., 5), indicating no serious multicollinearity concerns among the regressors. In addition, we conducted further diagnostic checks to verify the suitability of our model specification: a) we assessed the distribution of the residuals using a normality test (Jarque-Bera) and while strict normality is less critical with a sufficiently large sample, our results did not indicate significant departures from normality that would affect the validity of the estimates; b) as our dataset is cross-sectional (or short-panel), we do not expect strong autocorrelation, nevertheless we performed a Durbin-Watson test, and found no evidence of serial correlation condition.

Table 3 – *The gravity model for the Italian regional ODA – 2019-2021. OLS with Dependent Variable: ODA flows.*

VARIABLES	I	s.e.	II	s.e.	III	s.e.
ln_gdp_pc_i			-0.601***	(0.192)	-1.714***	(0.238)
ln_gdp_pc_j			0.00342	(0.0990)	-0.159	(0.184)
ln_pop_i			0.348***	(0.104)	-0.200	(0.129)
ln_pop_j			0.593***	(0.0674)	0.589***	(0.117)
ln_dist	-0.365***	(0.123)	-0.835***	(0.132)	-0.698***	(0.198)
ln_imm_i					0.226***	(0.0666)
ln_q_exp_j					-0.0738	(0.0889)
Constant	9.158***	-1.030	3.819**	-1.802	8.024***	-2.531
Observations	2,625		2,561		1,605	
R-squared	0.003		0.058		0.117	

Standard errors robust in parentheses.
**** p<0.01, ** p<0.05, * p<0.1*

Source: Authors' elaboration on OECD-MAECI data.

6. Conclusions and future developments

The analysis carried out in this preliminary work will allow a more detailed study of what territorial channelled ODA generate in terms of development for both the donor and recipient territories.

Through OECD-MAECI data, it has been possible to explore Italian local territories' contribution to 2030 Agenda. These data allow us to measure the development aid generated by a specific territory (Armenise, 2023; Lella and Oses-Eraso, 2023). In this sense, the analysis enables the identification of key donors in Italian Regions and provides some insights: the main territorial-based donors are universities and Region's administrations. The contribution to development is diversified; the beneficiary countries do not follow a common pattern, except for geographical distance; the projects and resources allocated to aid, although growing over the past three years, show limited temporal stability.

Indeed, there is a concentration of funds in a few Regions, suggesting a need for more diversified ODA flows. Understanding what drives different disbursement paths and why some Regions are less active in development cooperation is crucial for optimizing aid effectiveness and orienting development policies. Overall, the

geographical allocation of ODA flows reveals a complex landscape of priorities. For a comprehensive understanding, rigorous research is essential to unravel the determinants influencing ODA channelled through local administrations. Factors such as geopolitical relations, economic dependencies, and historical ties wield significant influence. By delving into these dynamics, researchers can provide nuanced insights that empower policymakers to formulate ODA strategies that are more responsive and effective in addressing development needs. In addition, preliminary empirical results obtained by adopting a gravitational model indicate that local-based aid flows do not fully align with traditional gravitational models of international trade. These flows are not attracted to or generated by the classic mass variables used in these models. Therefore, it is likely that elements beyond economic size and wealth level, such as social, volunteer, or political relations, play a role in development aid.

Leveraging the available information, it may be insightful to investigate how these flows contribute to creating social capital, economic benefits, increased trade and movement of people. Delving deeper into these aspects can reveal new dynamics of development aid. Moreover, comparative analysis between regional ODA allocations and national-level priorities offers a refined perspective on the intersections between global and domestic developmental agendas.

It is undeniable that local actors act as an important bridge between higher government levels and grassroots efforts, making development cooperation more effective and contextually relevant.

In conclusion, a rigorous examination of the "local" dimension of international aid can contribute to informing evidence-based policymaking in ODA, advancing global and national efforts to achieve the objectives of the 2030 Agenda.

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