

Understanding Trends in Proliferation and Fragmentation for Aid Effectiveness During Crises

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Table of Contents

EXECUTIVE SUMMARY	6
I. INTRODUCTION	7
II. GLOBAL VIEW OF PROLIFERATION AND FRAGMENTATION OF OFFICIAL FINANCE	10
II. A Definitions	10
II.B Salient Trends in Official Finance	11
II.B.1 Proliferation	11
II.B.2 Fragmentation	14
II.B.3 Average Transaction Value	17
II.B.4 Pooled Funding	18
III. PROLIFERATION, FRAGMENTATION, AND AID EFFECTIVENESS	19
IV. SUMMARY OF FINDINGS	23
REFERENCES	25
ANNEX 1. KEY DATA SOURCES, TERMINOLOGY USED, AND THE LIMITATIONS OF OECD DATA	28
ANNEX 2. UPDATE ON IBRD/IDA TRUST FUND AND FIF REFORMS	32
ANNEX 3. CORRELATION ANALYSIS OF AID PROLIFERATION AND FRAGMENTATION AND AID EFFECTIVENESS	35
Table 1: 2019 number of transactions by implementation channels	16
Table 2: Share of OFF by funding instrument/aid type, 2012–19	18
Box 1: Aid effectiveness literature, proliferation, and fragmentation	8
Box 2: Actions to address proliferation and fragmentation of aid	9
Box 3: Definitions of proliferation and fragmentation in the literature	11
Box 4: Proliferation and fragmentation in donor support for food systems	15
Box 5: Proliferation and fragmentation in donor support for health and population	16
Box 6: Pooled fund approach adopted by multilaterals	18
Box 7: Aid effectiveness surveys	20
Box 8: Proliferation and Fragmentation in FCV Settings	20
Box 9: Key indicators and findings from the 2018 GPEDC Progress Report and Data Analysis	22
Figure 1: Recipient view of 2019 flow of OFF from donors to recipients	10
Figure 2: Distribution of 2015–2019 OFF by count of donors (in 2019 \$ million)	12
Figure 3: Number of donors and donor agencies 2000–19	12
Figure 4: Proliferation of donor entities in recipient countries (2009 vs 2019)	13
Figure 5: Number and share of donor-funded OFF transactions	14
Figure 6: Number of OFF transactions	14
Figure 7: Average transaction value by flow type (\$ million)	17

ABBREVIATIONS AND ACRONYMS

CGD	Center for Global Development
CPA	Country programmable aid
CRS	Creditor Reporting System
DAC	Development Assistance Committee
DFi	Development Finance Vice Presidency at the World Bank
DOL	Division of labor
FCV	Fragility, conflict, and violence
FIF	Financial intermediary funds
GPEDC	Global Partnership for Effective Development Co-operation
IBRD	International Bank for Reconstruction and Development
IDA	International Development Association
IFC	International Finance Corporation
LDC	Least developed country
LIC	Low-income country
LMIC	Lower middle-income country
MIGA	Multilateral Investment Guarantee Agency
MDB	Multilateral development bank
MDTF	Multi-donor trust fund
MIC	Middle-income country
NGO	Non-governmental organization
ODA	Official development assistance
ODI	Overseas Development Institute
OFF	Official financial flows
OOF	Other official flows
OECD	Organization for Economic Co-operation and Development
PFM	Public financial management
P&F	Proliferation and fragmentation
UN	United Nations
UNDP	United Nations Development Program
\$	United States dollar

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EXECUTIVE SUMMARY

1. The global aid architecture has changed dramatically in the last 20 years. It has evolved without a blueprint, with most of today's aid principles and institutions resulting from debates and joint decisions made in past decades. As financial flows have increased, so too have the proliferation of official finance providers and implementing entities and the continued fragmentation of development activities. All of this has added to the complexity of the global aid architecture, increased transaction costs for developing countries, and impacted aid effectiveness.
2. The purpose of this working paper is to update trends in proliferation and fragmentation of the aid architecture during the last two decades. Building on an initial analysis of the aid architecture landscape, this paper delves deep into the increased proliferation of official finance providers and the fragmentation of aid, both of which are likely contributing to increased transaction costs at the country level.
3. This analysis of trends is timely at the time of overlapping crises worldwide that threaten to derail the achievement of the global development goals. Understanding these trends from the pre-covid period is important to inform decision-making for better aid effectiveness for the benefit of official finance recipients and providers going forward.
4. The analysis of trends in global financing from 2000–19 reveals five main findings:
 - Overall trends show that the increase in Official Financial Flows (OFF) was accompanied by significantly increased proliferation in donors and donor funding entities. OFF commitments increased by 187 percent in real terms over the last 20 years, which was a positive development. However, this was accompanied by a growth in the number of donor countries and multilateral agencies, from 47 to 70, and the number of bilateral and multilateral agencies, from 191 to 502.
 - Source proliferation (i.e., increase in the number of donor agencies) accelerated over the last decade at the recipient country level, as evidenced by the growing share of countries dealing with 60 or more agencies. Proliferation at the global level is also mirrored in recipient countries; in 2009, only 55 percent of countries had more than 60 donor entities, whereas by 2019, this had increased to 78 percent.
 - The major aid coordination challenge for recipient governments arises from the fact that three out of every four OFF transactions are implemented by other entities (e.g., NGOs, donor government entities, and multilateral institutions). Recipient governments implemented only one out of every four OFF transactions and less than one out of every two dollars' worth of commitments in 2019. Almost half (55 percent) of OFF transactions were implemented by non-governmental organizations, donor government channel, and multilateral institutions. Data limitations prevent an estimation of the precise extent of use proliferation (i.e., growth in the number of implementing entities, including different funds and programs).
 - After a decade of slowly decreasing transactions, there was a sharp increase (24 percent) in transactions in 2019 to an all-time high of more than 222,000 transactions with an average size of \$1.4 million. Official development assistance (ODA) grants dominated with 190,323 transactions (86 percent) with an average value of \$0.8 million in 2019.
 - For funding provided to recipient governments, pooled funding has been a recognized solution to reduce the impact of aid fragmentation, but its uptake is low. During 2012–19, pooled funding through government budgets and donor funds accounted for only about 17 percent of OFF, despite global agreements to increase such funding. More than 70 percent of OFF continues to be implemented through project-type interventions.
5. The impact on aid effectiveness remains unclear given limited analysis of the relationship between aid volumes, proliferation, and fragmentation and aid effectiveness. The unique analysis undertaken for this paper revealed some expected trends in the increased use of country systems by development partners in conjunction with an increase in aid channels. The analysis also shows an increase in the proportion of development finance going through government budgets with increased transactions and donor entities in the least developed countries. However, development partners use of country-led results frameworks has declined with the increase in aid channels.
6. A series of country case studies are planned to develop a more granular understanding of country-level impacts, particularly about use proliferation. Given current limitations of global data, country case studies are the best

way to develop a better understanding of use proliferation and its impact on aid effectiveness. These case studies would also enable closer review of pooled funding approaches.

7. The increasing fragmentation and proliferation of aid does not help developing countries, which need to deal with multiple and overlapping crises efficiently to address the dire needs of their citizens in a timely manner. It would be important for the international community to arrest - and eventually reverse - these trends.

I. INTRODUCTION

1. As part of the series of working papers produced by the World Bank's Development Finance Vice

Presidency (DFi), this paper delves deeper into the proliferation and fragmentation in the aid architecture. As the world faces the compounding effect of multiple crises that threaten to derail achievement of the global development goals, it is important to understand recent trends in the development aid architecture to inform decision making for better aid effectiveness going forward. Building on "A Changing Landscape: Trends in Official Financial Flows and the Aid Architecture" paper,¹ which provided an overview of the global trends over the last two decades, including changes in volumes of financing, sources of financing, and delivery mechanisms, this paper takes a closer look at how proliferation and fragmentation have accelerated over the past 20 years, with increases in bilateral and multilateral development agencies and donor-funded project activities and decreases in the average value of individual activities.²

2. Proliferation and fragmentation are usually considered within the larger context of aid effectiveness.³

Academic literature provides explicit or implicit theories of change positing that aid effectiveness is enhanced by having recipient governments, as much as possible, responsible for the deployment and management of external assistance (Box 1). These theories identify four sets of related activities as being necessary to improve aid effectiveness:

- Recipient governments should establish clear national development priorities and donors should align their financial support around these priorities.
- Financing should be better consolidated to increase the flow of funds through recipient government budgets (i.e., general budget or sectoral budget support) or, where government systems are deemed inadequate, there should be greater use of pooled or basket donor funding.
- Complementary efforts should be undertaken to strengthen in-country capacity of the government, non government organizations (NGOs), and private sector for planning and delivery of external finance.
- Donors should proactively reduce their bilateral presence in particular countries or sectors and collectively manage the growth of multilateral institutions.

3. Proliferation and fragmentation are not new challenges for development cooperation, but they have received greater attention over the last two decades.

To highlight the challenges for development cooperation, a 2001 World Bank evaluation coined the term "aid bombardment syndrome" noting that "the sheer volume of resources and numbers of donors, activities, and complex and inconsistent procedural requirements overwhelm the government's capacity to plan, budget, manage, monitor, and evaluate."⁴ While efforts to improve the effectiveness and efficiency of funding have a long history, they have received more focused attention during the last 20 years by increasing recipient country ownership of programs, better aligning support with national strategies and programs, harmonizing donor programs, and improving results monitoring and mutual accountability (Box 2).

4. A wide variety of international and national actions have been taken to advance the global agenda

on aid effectiveness. These actions have included cross-sector division of labor among donors based on their comparative advantages; joint strategies to achieve common objectives; and coordination and harmonization in the use of country systems through communication mechanisms, such as sector working groups and donor

¹ World Bank, 2021: A Changing Landscape –Trends in Official Financial Flows and the Aid Architecture. <https://thedocs.worldbank.org/en/doc/9eb18daf0e574a0f106a6c74d7a1439e-0060012021/a-changing-landscape-trends-in-official-financial-flows-and-the-aid-architecture>

² This paper does not include an analysis of private philanthropy, which constitutes about 6 percent of all reported official aid to developing countries and is largely provided through NGOs and public-private partnerships.

³ For this paper, an increase in the number of entities involved in the financing and delivery of official finance is defined as "proliferation." This includes "source proliferation," increases in providers of official finance, and "use proliferation," increases in the number of recipient countries and the number of implementing entities within recipient countries. An increase in the number of donor-funded activities is defined as "fragmentation."

⁴ World Bank. (2001). *The Path to Partnership*. Operations Evaluation Department. Washington, D.C.

consultative groups. Donors have also used co-financing agreements⁵ (including Procurement Framework Agreements between co-financiers that facilitate increased harmonization of policies and procedures) and pooling of aid through contributions to multilateral organizations.⁶ These actions have been taken globally (e.g., through the GPEDC), at the level of major donor groupings (e.g., the European Union's Code of Conduct on Complementarity and Division of Labor in Development Policy, which is utilized by the 27 EU member states and the European Commission), and at the level of individual donor countries.

Box 1: Aid effectiveness literature, proliferation, and fragmentation

Issues and terms related to aid proliferation and fragmentation, especially the need to coordinate, are part of academic and practitioners' debates on aid effectiveness (Dearden, 2013; Wood et al., 2011). The literature focuses on how proliferation and fragmentation can increase transaction costs and reduce the efficacy, efficiency, and development impact of official finance.

Transaction costs are noted to be high on both sides of the aid relationship (Anderson 2012) leading to overburdened administrative capacities in recipient countries (Roodman 2006), weakened country ownership, and blurred lines of accountability (Bigsten et al. (2006)). This is especially true in small countries that deal with numerous donors for relatively smaller amounts of financing. Acharya et al. (2006) separate transaction costs into direct and indirect costs. Direct transaction costs refer to the absorption of scarce resources, energies, and the attention of relatively senior government staff, whereas indirect transaction costs relate to the dysfunctional bureaucratic and political behavior that is stimulated by aid proliferation. Nadoll and Hussain (2008) postulate that beyond transaction size, consolidation matters (i.e., whether a given volume of aid is divided into many smaller projects or fewer larger programs). They note that this should not be misunderstood as an argument against small projects per se (as many may support innovation), but rather, it is a call for a more integrated and program-based approach to development going beyond individual projects (e.g., addressing sector policy reforms). Bűrcky (2011) focuses on how donors can reduce transaction costs for recipients by managing and reducing the number of sectors and/or countries to which they provide financing.

Effectiveness could be diminished by one or more of the following aspects: sectoral allocations reflecting the priorities of global public goods/donors rather than the recipient; duplication of donor approaches through different, sometimes contradictory, strategies and approaches to development; lack of coordination leading donors to focus on the same sectors, sub-sectors, and geographical areas and resulting in a surfeit in some areas and funding gaps in others (Carlsson et al., 2009, p. 29); depletion of common public goods through earmarking; and the use of earmarked funding to sustain administrative costs of donor field offices.

Diminished proliferation and fragmentation could also have negative consequences as it could reduce partner country choices and, in extreme cases (as sometimes experienced by so-called aid orphans), lead to a very narrow choice of donors for some partner countries.

The literature provides some key caveats on the limitations of proliferation and fragmentation analysis. First, the impact that the volume of finance or the number of sector engagements has on development outcomes is unclear. Policy advice, demonstration projects supporting innovation and blended finance projects, and projects involving the private sector can have impacts that far exceed their financial support. Second, not all transactions have the same cost or benefit. Better coordination mechanisms (e.g., budget support or pooled funding) can have lower impacts than stand-alone project interventions. Finally, identical transactions can have differing impact based on differing recipient country capacities.

⁵ Co-financing reduces aid fragmentation by pooling ODA into larger packages, often through existing and established channels, instead of providing ODA through stand-alone, small donor-driven projects.

⁶ Studies that have assessed the relative benefits and costs of each of these approaches have reached mixed conclusions. A study by Pietschmann, E. (2016), assessed pooling of resources as having higher potential compared to other approaches, like division of labor and coordination mechanisms. Other studies, such as Klingebiel, S. (2013), consider different combinations of various approaches as an option for partner countries based on where they are placed along the program/project implementation lifecycle. These studies are covered in the publication "The fragmentation of aid concepts, measurements, and implication for development cooperation" by Klingebiel, S. (2013).

Box 2: Actions to address proliferation and fragmentation of aid

The necessity to overcome proliferation and fragmentation of aid through coordination was one of the rationales for creating the Development Assistance Committee (DAC) of the Organization for Economic Cooperation and Development (OECD) in 1961. Its work regularly focused on this topic in the 1970s, 1980s, and 1990s (Herman 2013). Over the last 20 years, this has resulted in four high-level fora on aid effectiveness.

The 2003 Rome Declaration on Harmonization recognized that urgent, coordinated, and sustained actions to improve aid effectiveness were needed to address the growing evidence that donor requirements and processes were generating unproductive transaction costs, drawing on limited capacity, and not always fitting well with national development priorities and systems. The declaration acknowledged that good practice standards or principles were required and recognized some ongoing work on this.

The 2005 Paris Declaration enunciated five principles (i.e., ownership, alignment, harmonization, managing for results, and mutual accountability), 56 commitments, and 12 monitoring indicators. Regarding proliferation and fragmentation, two of the 12 indicators focused on mitigating the impact of donor transactions through donors aligning their aid with national priorities and providing the information needed for it to be included in national budgets, and through aid being provided via harmonized programs coordinated among donors.

The 2008 Accra Agenda for Action went further in making specific commitments to “reduce costly fragmentation of aid” by improving the complementarity of donors’ efforts and the division of labor among donors, including through improved allocation of resources within sectors and countries, and across countries. This was to be achieved by recipient countries determining the optimal roles of donors, by donors ensuring that new arrangements did not result in less aid to specific countries, and by developing good practice principles on country-led division of labor.

The 2012 Busan Partnership for Effective Development Co-operation noted that responsibility to reduce fragmentation and curb the proliferation of aid channels without reducing volume and quality of resources was on the providers of development assistance. While reiterating earlier commitments to make greater use of country-led coordination arrangements, including division of labor, a new commitment was made to improve the coherence of policies on, make more effective use of, and reduce proliferation in multilateral institutions, global funds, and programs.

The Global Partnership for Effective Development Co-operation (GPEDC) provides the institutional framework within which the work on aid effectiveness has continued since Busan. This multi-stakeholder partnership is built around four main principles (enunciated in the 2016 Nairobi Outcome Document): ownership of development priorities by partner countries receiving support, focus on results, inclusive partnerships, and transparency and accountability. The GPEDC has conducted three rounds of surveys in 2014, 2016, and 2018.

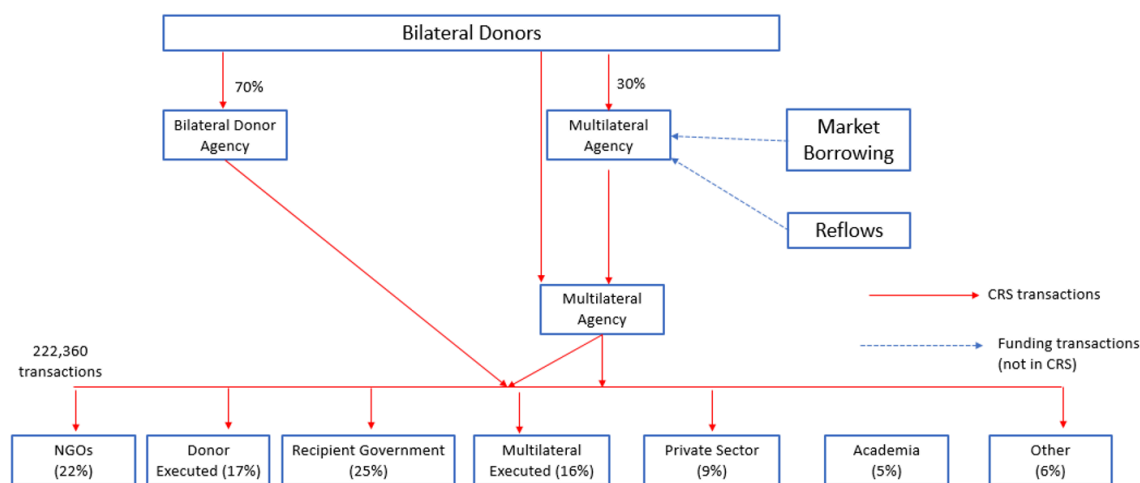
5. The remainder of the paper is organized as follows. Chapter II looks at the global view of proliferation and fragmentation of official finance. Chapter III provides analysis of the likely impact of proliferation and fragmentation on aid effectiveness. Chapter IV provides a summary of findings and lays out areas for further analysis. The annexes offer additional information on various aspects of this research and analysis.

II. GLOBAL VIEW OF PROLIFERATION AND FRAGMENTATION OF OFFICIAL FINANCE

II. A Definitions

6. The flow of funds from bilateral donors reaches implementing agencies in recipient countries through several direct and indirect channels.⁷ All official finance originating from bilateral donors is channeled to recipients either through bilateral or multilateral agencies. The multilateral agencies can receive funds directly from bilateral donors or indirectly through bilateral agencies or other multilateral agencies. Some multilateral agencies also fund activities using reflows from earlier lending or borrow funds from financial markets. In 2019, 70 percent of recipient OFF transactions were financed by bilateral agencies and only 30 percent were financed by multilateral agencies. While the recipient governments only executed about one-fourth of transactions, almost half (55 percent) of OFF transactions were implemented by NGOs, donor government entities and multilateral institutions. The remaining 20 percent of transactions was implemented by private sector, academia, and other entities. Figure 1 illustrates these flows using the volumes of OFF for 2019. Figure 1 illustrates these flows using the volumes of OFF for 2019.
7. For purposes of this analysis, an increase in the number of entities involved in the financing and delivery of official finance is defined as “proliferation.” This includes source proliferation (increases in providers of official finance) and use proliferation (increases in the number of recipients and the number of implementing entities within recipient countries). An increase in the number of donor-funded activities is defined as “fragmentation.” The use of these two terms varies within the academic literature (Box 3). Detailed definitions of all terminology used in this paper can be found in Annex 1.

Figure 1: Recipient view of 2019 flow of OFF from donors to recipients



Note: “Multilateral executed” includes global partnerships and PPP transactions and bilateral flows implemented by multilateral channels.

⁷ Figures from OECD Development Assistance Committee’s (DAC) Creditor Reporting System (CRS). Some caveats apply to the channel of delivery reporting, including that the first implementing partner is reported (i.e., the entity with which the donor entity has a contractual relationship). Where there are several implementers, the principal one (i.e., one receiving the most funds) is reported. In the case of loans, the borrower is reported as the implementer.

Box 3: Definitions of proliferation and fragmentation in the literature

There is broad consensus on the use of the term “proliferation” as referring to an increase in the number of donors (Acharya et al., 2004; Bürcky, 2011; Nadoll & Hussain, 2008; and Roodman, 2006). Most of the analysis in the literature, however, focuses on donors and not on donor entities. As discussed in this paper, the extent of proliferation of donor entities is far greater than the proliferation in the number of donors.

The term “fragmentation” is used in different ways. Like this paper, Knack and Rahman 2004 and Nadoll and Hussain 2008 utilize the number of transactions in reference to fragmentation though they focus more narrowly on concessional finance/ODA rather than all official finance. Acharya et al., 2004 use the term “fragmentation” to refer to the number of donors or the proportionate share of a donor within a recipient country or sector.

Bürcky uses the European Union’s Code of Conduct on Complementarity and Division of Labor to measure proliferation, but they refer to it as fragmentation. Their focus is on Country Programmable Aid (CPA^{a/}) rather than overall ODA and on the sector tail (donors contributing the smallest amount, e.g., 10 percent). Transactions are referred to as “aid events.”

^{a/} CPA is a proxy for aid that providers program for individual countries or regions, and over which partner countries have a significant say. The detailed definition and computation are shown in Annex 1.

II.B Salient Trends in Official Finance

8. Over the last two decades, commitments for official financial flows (OFF) roughly tripled in real terms and the complexity of the aid architecture increased with the emergence of new bilateral, private, and multilateral development agencies.⁸ OFF grew from \$111 billion in 2000 to \$319 billion in 2019. The remainder of this chapter analyzes the relationships between changes in funding, donor entities, and the number of transactions.

II.B.1 Proliferation

9. An increase in bilateral and multilateral donors contributed to source proliferation.⁹ The number of bilateral and multilateral donors increased from an average of 47 donors in 2000–04 period to 70 donors in 2015–19. Bilateral donors grew from 25 in 2000 to 43 by 2019¹⁰ in part due to countries that had previously been recipients of official finance becoming providers of funding. Multilateral institutions grew from 22 in 2000 to 27 by 2019¹¹ due to a heightened interest in global or regional public goods (e.g., climate change).

10. Despite the increase in the number of donors, funding remained highly concentrated with 80 percent of OFF being made by the 20 largest donors. During 2015–19, the top 10 donors made 60 percent of OFF commitments and the next 10 donors provided 20 percent of OFF commitments. Less than 5 percent of OFF commitments were made by the 30 smallest donors (Figure 2).

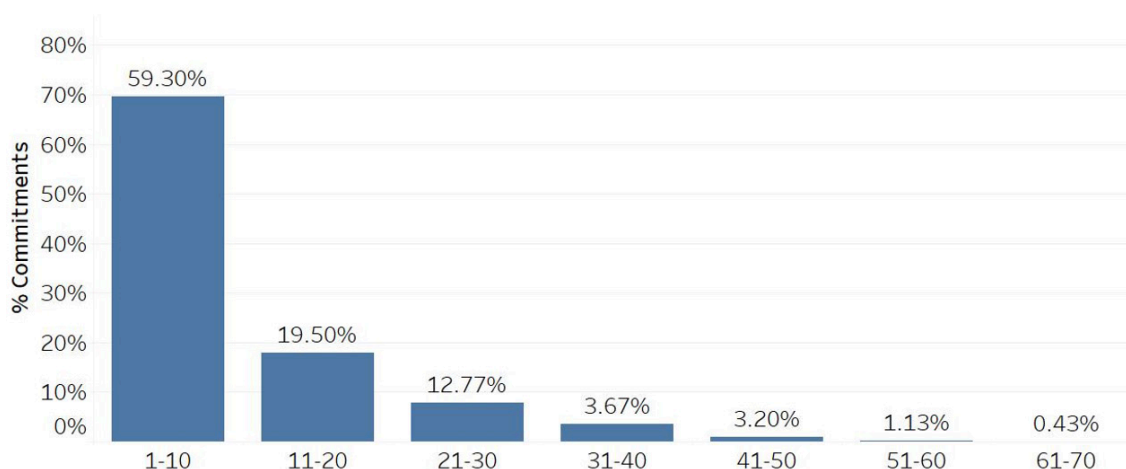
⁸ World Bank (2001)

⁹ Annex 1 describes limitations and corrective approaches utilized for analyzing data on proliferation.

¹⁰ New bilateral donors: Azerbaijan, Croatia, Estonia, Hungary, Iceland, Kazakhstan, Kuwait, Latvia, Lithuania, Poland, Romania, Saudi Arabia, Slovak Republic, Slovenia, Timor-Leste, and United Arab Emirates

¹¹ New multilateral donors: Asian Infrastructure Investment Bank, Central Emergency Response Fund, Climate Investment Funds, Green Climate Fund, and Global Green Growth Institute

Figure 2: Distribution of 2015–2019 OFF by count of donors (in 2019 \$ million)

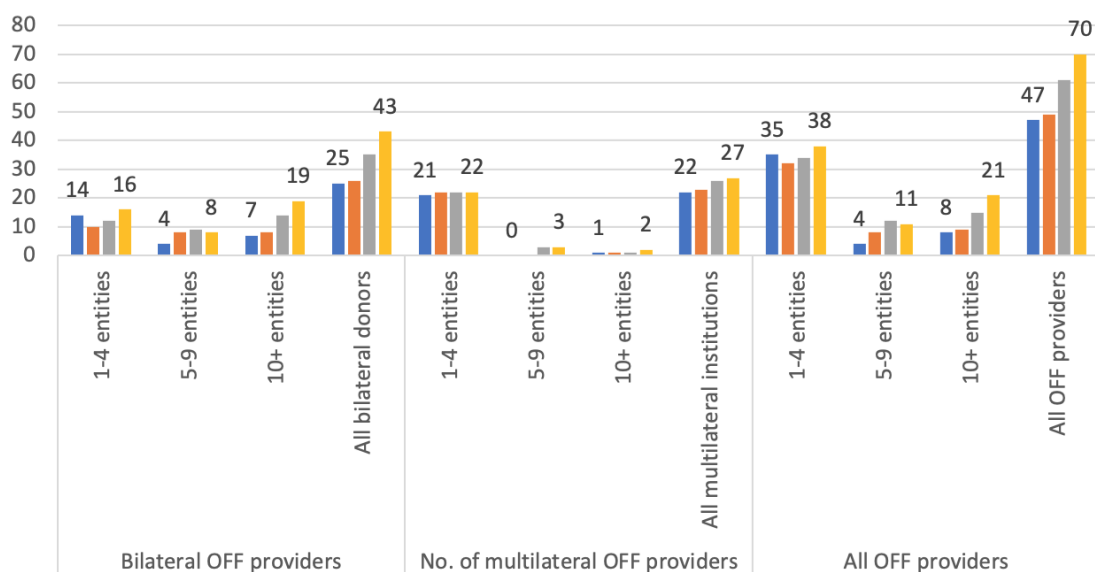


Note: The figure above show share of volume of commitments by groups of 10 donors.

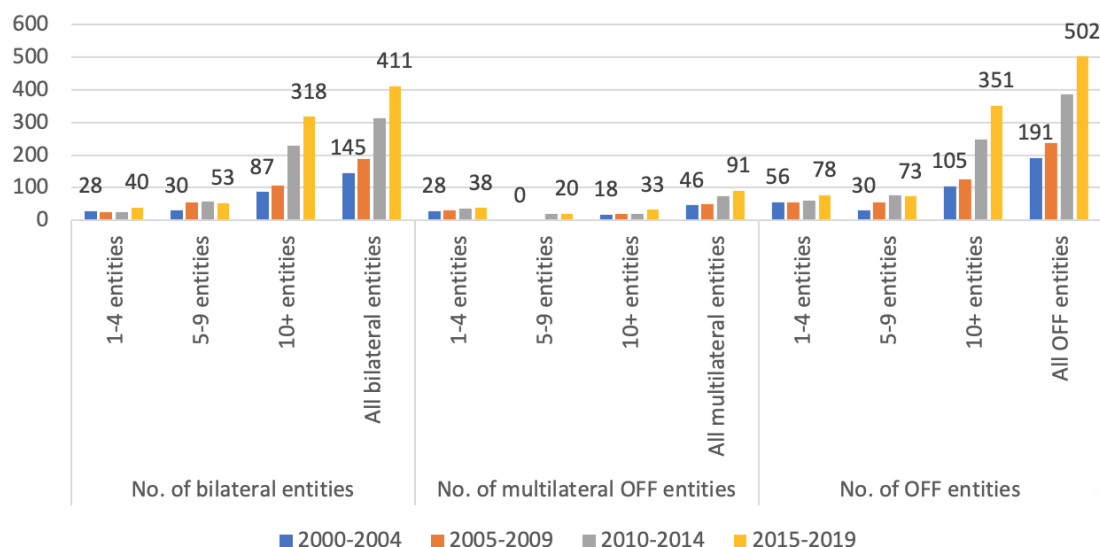
11. The increase in the donor agencies was much more dramatic. The analysis of proliferation (and associated proliferation indices)¹² has typically focused on the number of donors. However, the more dramatic growth in the number of donor agencies, from 191 in 2000–04 to 502 in 2015–19, has been far less studied (Figure 3). Over two decades, 266 new bilateral entities and 45 new multilateral entities started providing funding. This growth has occurred across most donors; during 2000–04, only 26 percent of donors (12 out of 47) had five or more entities per donor, but by 2015–19, this had increased to 46 percent of donors (32 out of 70).

12. There is also a pattern of funding being concentrated among donor agencies within some countries. For example, Germany had an average of 10 agencies in 2000–04, which increased to 34 in 2015–19. BMZ was the leading German donor agency, receiving approximately half of all grant funding from Germany in 2019. Other German agencies each received less than 2 percent of total grant funding.

Figure 3: Number of donors and donor agencies 2000–19

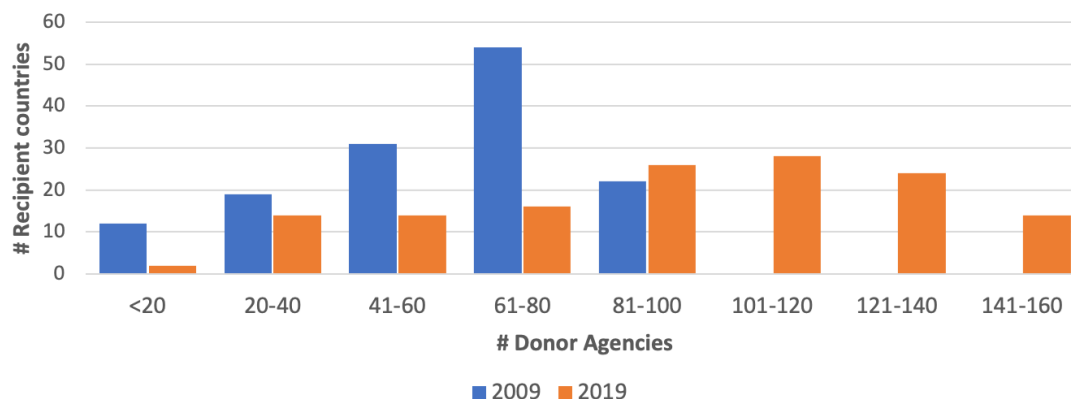


¹² Donor counts were utilized, for example, by Acharya et al. (2004): Index of donor proliferation (based on an inverted Thiel Index) and Index of recipient fragmentation (based on the Hirschman-Herfindal Index - HHI). Similarly, both Knack & Rahman (2008) and Carlsson et al. (2009) use the HHI.



13. The significant growth in the number of donors and donor entities at the global level has also resulted in proliferation at the recipient country level. While not all donor entities provided funding in all recipient countries, there was still a substantial growth in donor entities in each recipient country over the last decade. As shown in Figure 4, only 55 percent of countries¹³ in 2009 had more than 60 donor entities, whereas by 2019, this had increased to 78 percent. In 2009, only 22 countries had more than 80 donor entities whereas by 2019, 92 countries (two-thirds) had at least 80 donor agencies, with Ukraine reaching the highest number at 170 donor entities.¹⁴

Figure 4: Proliferation of donor entities in recipient countries (2009 vs 2019)



14. While source proliferation (i.e., increases in the number of donor entities) can be seen from the available data, trends in use proliferation (i.e., increases in the number of implementing entities within recipient countries) are less clear. Only a small proportion of funding is implemented by donor entities; for example, in 2019, donor agencies implemented only 17 percent of OFF transactions.¹⁵ While the bulk of transactions were implemented by other implementing agencies, the number of such entities cannot be easily identified from the data available through the OECD Development Assistance Committee's (DAC) Creditor Reporting System (CRS). It only allows certain categories (e.g., international organizations) to be aggregated by implementing entity; others (e.g., international NGOs or private sector institution) can only be aggregated at the category level. In addition, limitations of the recording methodology also apply (i.e., only the first implementer is shown, or the largest implementer is recorded when there are more than one, and the borrower is noted as the implementer in the case of loans).

¹³ Comparison of 138 countries for which data was available for both 2004 and 2019.

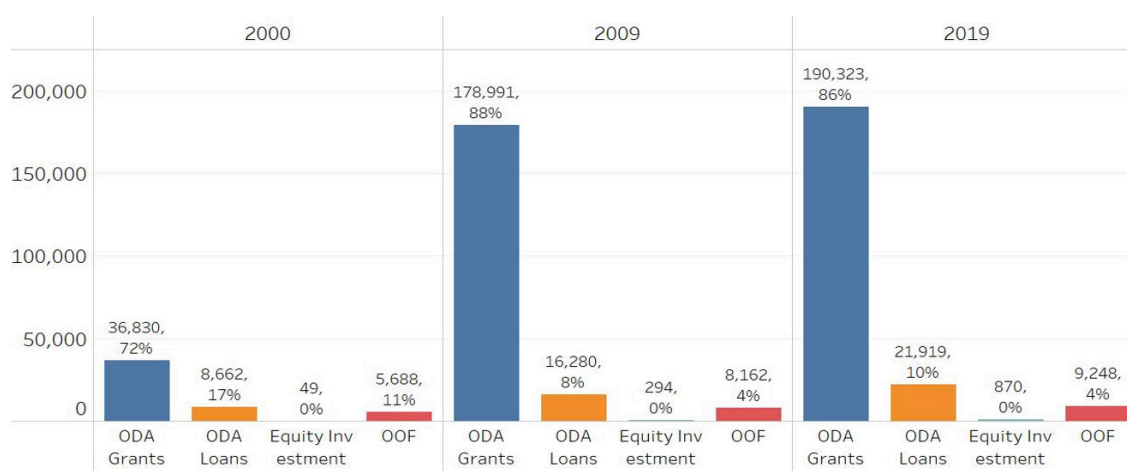
¹⁴ The proliferation of recipients per donor country presents a similar picture with 16 bilateral donors providing financing to more than 100 recipients, on average, during 2011–2019. The United States and Japan funded more than 150 recipients each.

¹⁵ The percentage of commitments implemented by donor agencies were in a similar range though slightly higher at 17 percent.

II.B.2 Fragmentation

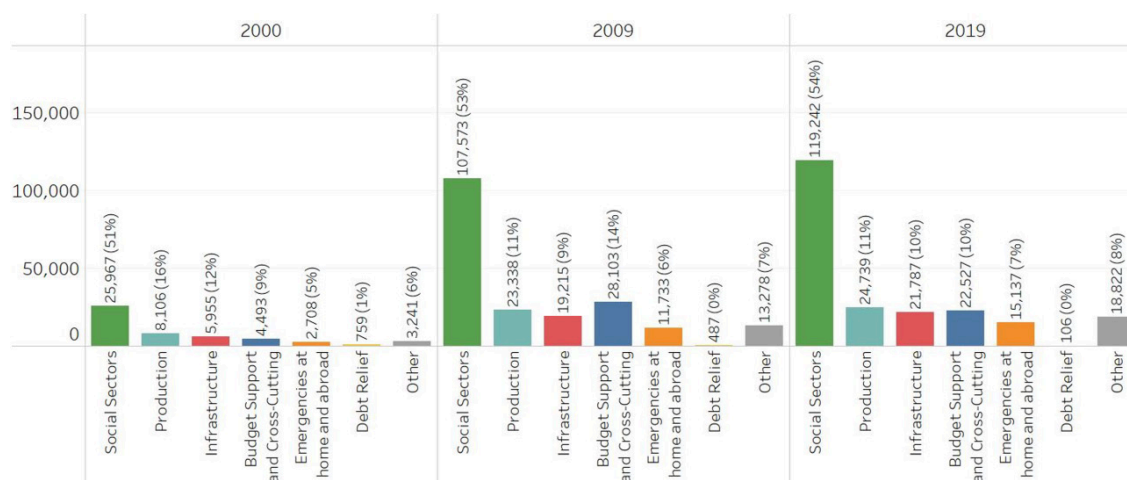
- 15. Source fragmentation (i.e., increase in the number of OFF transactions) has progressed slightly faster than the increase in the volume of OFF.** Both the increased volume of OFF and the increasing number of donor entities resulted in an increasing number of recorded commitments, transactions, or activities¹⁶ over the 20-year period. Number of transactions increased from 51,229 in 2000 to a peak of 203,727 in 2009,¹⁷ fluctuated thereafter at a slightly lower level (between 203,727 to 179,721) during 2009–2018 before reaching an all-time high of 222,360 in 2019.
- 16. Source fragmentation increased the most for grant commitments, which constituted 86 percent of all transactions in 2019.** OFF was provided as concessional funds (including as ODA grants, loans, and equity investments) and non-concessional funds (i.e., other official finance loans excluding export credits). ODA grants dominated as the main type of financing, increasing from 36,830 transactions (72 percent) in 2000 to 190,323 transactions (86 percent) in 2019 (Figure 5).

Figure 5: Number and share of donor-funded OFF transactions



- 17. Social sectors had the largest number and proportion of transactions throughout the 20-year period.** By 2019, the social sectors recorded 119,242 transactions and accounted for 54 percent of all transactions in 2019 (Figure 6).

Figure 6: Number of OFF transactions



Note: Other transactions include debt relief (759 in 2000, 487 in 2009, and 106 in 2019).

¹⁶ In general, a transaction signifies allocation of funds to a specific activity (project or program) in a given sector in a given recipient country. However, to improve the accuracy of CRS-based statistics, providers sometimes choose to compile CRS reports at a finer level, in which case a transaction represents a component of an activity. There are also cases where it is preferable to report at a more aggregated level, so a transaction can be the sum of several activities.

¹⁷ The fourfold increase during the first decade resulted, in part, from improved reporting of individual transactions in the CRS. This conclusion is based on the reducing divergence between the amounts in the aggregate data (in the OECD DAC system) and the detailed transaction reporting (in the OECD CRS system).

18. Consistent with the overall bilateral/multilateral share of OFF commitments, more transactions were for bilateral funding than for multilateral funding. The bilateral share of transactions remained at around 70 percent with some fluctuations over the period. While the multilateral share of non-grant transactions (i.e., ODA loans, equity, and OOF loans) was higher (82 percent), these types of flows were a modest proportion of all transactions. The larger number of bilateral donors and entities and the smaller unit value of each transaction have often led to coordination challenges. These challenges are illustrated using the case of food systems¹⁸ (Box 4).¹⁹ In the run-up to the Food Systems Summit (FSS), a report, *Stocktaking report on Donor Contributions to Food Systems*, documented the complexity of the current architecture of institutions, processes, and platforms and its ad hoc evolution. The report shows that most food systems-related aid flows through recipient governments to in-country projects. However, non-governmental organizations (NGOs) and the private sector along with United Nations agencies also play key roles as intermediaries in the flow of food systems-related aid. Similar to trends in broader aid architecture, most aid ends up in country-level project interventions, with a vast number of individual projects covering a very broad range of areas. Given the many aspects of food systems, donor support has covered a vast array of interventions across many traditional sectors. In addition, a complex international and regional architecture of intergovernmental and nongovernmental decision-making and policy forums, networks, and initiatives has developed. The challenges of increasing fragmentation and proliferation of aid are likely even more severe for developing countries, which are addressing the food crises as only one among several overlapping crises.

19. Use fragmentation (i.e., transactions by type of implementation entities) reflected limited implementation by recipient governments and a larger role for NGOs, donors, and multilaterals. As noted for use proliferation, given the available information, use fragmentation can only be analyzed at the category level. In 2019, recipient governments implemented 25 percent of transactions.²⁰ NGOs implemented 22 percent of transactions,²¹ followed by donors (17 percent), multilaterals (16 percent), private sector (9 percent) and universities and thinktanks (5 percent). The type of implementing entities varied by funding instrument. For example, NGOs implemented the highest proportion of grants while recipient governments played a more important role in implementing ODA loans and non-concessional loans. Given that sectors also drive the choice of funding instruments, a similar pattern can be observed with NGOs implementing 25 percent of social sector commitments and recipient governments implementing 56 percent of infrastructure commitments.

Box 4: Proliferation and fragmentation in donor support for food systems

Proliferation and fragmentation in food systems accelerated with diverging patterns between bilateral and multilateral donors and entities over the last decade. Specifically:

- **While commitments from bilateral agencies grew slightly faster than those from multilateral agencies over the last decade, this was accompanied by twice as many new bilateral agencies as multilateral agencies.** Over the 2010-2019 period, annual commitments from bilateral agencies grew by \$4.5 billion (from \$10.2 billion to \$14.7 billion), and those from multilateral agencies grew by \$3.6 billion (from \$10.2 billion to \$13.8 billion). Growth in the number of bilateral donors was higher - from 26 in 2010 to 43 (out of 45) in 2019. Multilateral donors also grew from 20 in 2010 to 31 in 2019. The increase in donor entities was more striking: 46 new bilateral agencies (from 90 in 2010 to 136 in 2019) and 22 new multilateral agencies (from 27 in 2010 to 49 in 2019).
- **Bilateral fragmentation was much greater than multilateral fragmentation.** Both bilateral and multilateral agencies had approximately 50 percent share of OFF in 2010-2019. However, the multilateral share of the number of transactions was less than half (30 percent) of the

¹⁸ The term “food systems” refers to how food is produced/processed, distributed, marketed, and consumed, along with the associated supporting functions and institutional environments involving a broad range of actors. It includes CRS purpose codes for agriculture, health, agro-industry, rural development, food security, and food safety.

¹⁹ GDPRD. (2021).

²⁰ While the share of 2019 transactions for recipient governments was 25 percent, their commensurate share in volume of commitments was 42 percent.

²¹ 76 percent of NGO transactions were implemented by donor country-based NGOs. The commensurate share of the various other implementation channels in the 2019 volume of commitments were NGO 7 percent, followed by donor government 14 percent, multilateral 14 percent, private sector 12 percent, and university and think tanks 2 percent.

bilateral share (70 percent), which resulted in the average size of the multilateral transaction (\$1.9 million) being double of the bilateral transaction (\$0.8 million).

- **As with the overall aid architecture, financing was provided by a handful of donors with a simultaneous long ‘tail,’ i.e., many (mainly bilateral) donors with small commitment levels.** The US is the largest bilateral, and the WBG is the largest multilateral.
- **Use fragmentation varied by implementation channels, with multilateral and recipient government having less fragmentation than NGOs.** During 2010-2019, recipient governments had somewhat comparable shares of commitments (37 percent) and transactions (29 percent) in 2010-19. Multilateral agencies (United Nations organizations, World Bank, and specialized multilateral agencies like IFAD) had a 23 percent share of commitments but only a 10 percent share of transactions. On the other hand, NGOs had a share of only 12 percent of commitments but a share of almost a third of transactions (32 percent), resulting in a fragmented portfolio with an average transaction size of \$0.4 million.

20. Over the last two decades, most of the transactions were in the social sectors.²² A 2007 World Bank paper on the aid architecture reviewed health sub-sectors and highlighted the challenge of proliferation, particularly in global programs and vertical funds.²³ This challenge has continued (Box 5).

Table 1: 2019 number of transactions by implementation channels

	Grants	%	ODA Loans	%	OOFF	%	Equity Investment	%	Total (OFF)	%
NGOs	48,034	25%	2		-		6	1%	48,042	22%
Donor Government	37,236	20%	42	0%	0		1	0%	37,279	17%
Recipient	26,293	14%	21,393	98%	6,908	75%	53	6%	54,647	25%
Multilateral	34,478	18%	142	1%	57	1%	12	1%	34,689	16%
Private sector	18,317	10%	295	1%	1594	17%	748	86%	20,954	9%
University & Thinktanks	11,717	6%	0		-		0	0%	11,717	5%
Other & Unspecified	14,248	7%	45	0%	689	7%	50	6%	15,032	6%
TOTAL	190,323	100%	21,919	100%	9,248	100%	870	100%	222,360	100%

Note: “Multilateral” includes global partnerships and PPP transactions and bilateral flows implemented by multilateral channels.

Box 5: Proliferation and fragmentation in donor support for health and population

- **Proliferation has remained high.** Forty out of 43 bilateral donors and 16 out of 27 multilateral donors made commitments in the health and population/reproductive health sub-sectors in at least one year during the 2010–19 period. Further, the number of entities providing OFF in these two sub-sectors increased from 164 bilateral and 43 multilaterals in 2010–14 to 219 bilateral and 53 multilateral donor entities in 2015–19, 33 percent, and 23 percent increases, respectively.
- **Funding concentration was high with more than half of funding provided by four entities.** The US provided 35 percent of all OFF, including 73 percent of bilateral OFF. Three multilateral institutions (the Global Fund, the Gavi, and the World Bank Group) provided 28 percent of all OFF, including 66 percent of multilateral funding. The Global Fund and the GAVI focused only on the sub-sectors (16 percent) while funding from the World Bank Group (12 percent) was part of its country-based development model.

²² Social sectors include education; health; population and reproductive health; water supply and sanitation; government and civil society; and other social infrastructure.

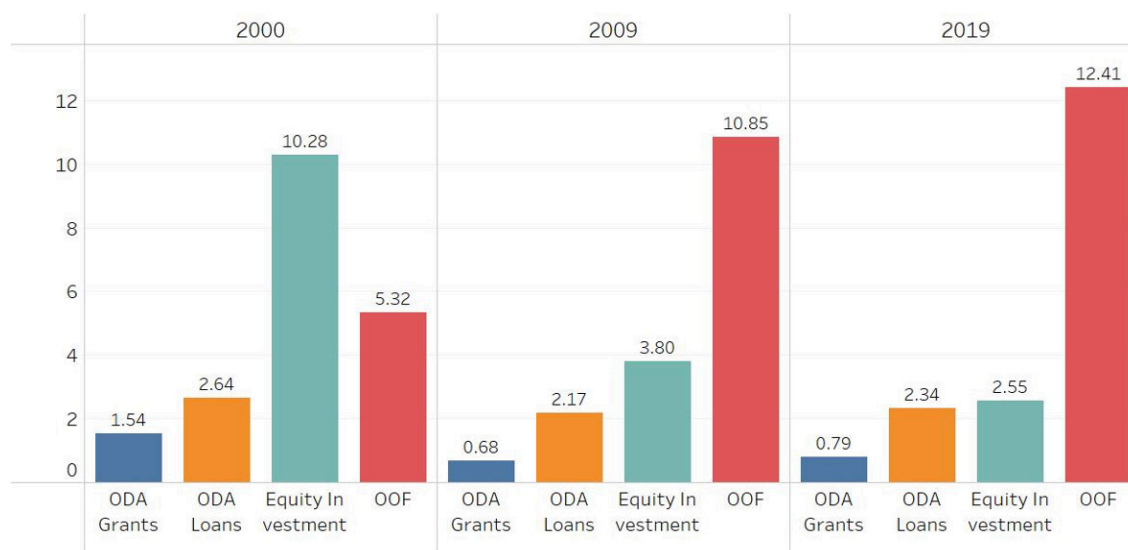
²³ See World Bank, 2007: Aid Architecture: An Overview of the Main Trends in Official Development Assistance. Sub-sectors include health and population and reproductive health. Global programs focus “vertically” on specific issues or themes, in contrast with the “horizontal” approach of the country-based aid model.

- **There was a wide dispersion of commitment size in key donors.** The average commitment size during 2010–19 fluctuated around \$1 million. It started with \$0.9 million in 2010, peaked to \$1.35 million in 2015, before declining to average of \$0.99 in 2019. However, there was a wide dispersion of transaction size among the largest donors. The US had both the highest bilateral commitments (\$83.5 billion) and number of transactions (49,000), resulting in an average \$1.7 million commitment. The Global Fund had the highest volume of multilateral commitments (\$30.3 billion) but a small number of transactions (around 2,000), leading to a much larger average commitment of \$15 million. The WHO had the largest volume of multilateral transactions (21,000) but committed only \$4.4 billion, resulting in an average commitment size of only \$0.2 million.
- **Multiple channels were used to implement health sector commitments.** Thirty percent of 2010–19 volume of commitments was implemented by recipient governments, 20 percent by NGOs, 15 percent by donor governments, and 14 percent by multilateral institutions and global partnerships. The private sector (4 percent) and academia (3 percent) contributed modestly.

II.B.3 Average Transaction Value

21. In addition to the growing number of transactions, the average transaction value for OFF²⁴ declined by a third between 2000 (\$2.2 million) and 2009 (\$1.2 million) and subsequently stabilized at around \$1.17–\$1.43 million over the last decade. The size of ODA grants almost halved between 2001 and 2019, as shown in Figure 7. This reduction in the size of grants reflects the higher level of fragmentation in grant financing, where the number of transactions increased faster than the volume of ODA grants.

Figure 7: Average transaction value by flow type (\$ million)



22. The average size of transactions varied by sector and by types of instruments and sectors. Social sector transactions had a smaller average value than infrastructure and production sectors, which can be explained by larger capital investments in the latter sector relative to a considerable amount of operating cost financing in the social sectors. A higher proportion of infrastructure and production sector transactions were funded by concessional or non-concessional loans as there was greater potential for linking project costs and benefits and revenue streams.
23. The average size of bilateral transactions was about half the average size of multilateral transactions. This resulted from bilateral making more grant commitments, particularly in the social sectors.

²⁴ The average transaction value per year was calculated by dividing the amount of OFF by the number of transactions.

II.B.4 Pooled Funding

24. The impact of a larger number of transactions on aid effectiveness was expected to be partially mitigated by increasing fund flows through government budgets and pooled funding; however, there has been almost no increase in the proportion of funding channeled through these mechanisms. Over an eight-year period (2012–19),²⁵ the use of funding instruments did not fundamentally change. Most funds went to discrete development projects (average of 71 percent), with only 17 percent going to budget support, core contributions,²⁶ and pooled funding (positioned as tools for aid effectiveness) and another 12 percent going to non-project interventions and costs in donor countries (Table 2). The share of pooled funding is lower for the health sector (13 percent) where it could have considerable benefits. It is higher for emergencies at home and abroad in fragile countries (22 percent); however, the funding is not delivered through recipient governments but largely (50 percent) through contributions to specific-purpose programs managed by the UN system. Despite the broader stagnation in increasing pooled funds, some progress was made by multilateral institutions to address the fragmentation (Box 6).

Table 2: Share of OFF by funding instrument/aid type, 2012–19

Funding Instrument/Aid Type	Range	Average %	2012-19 Average OFF (in \$ billions)
Budget support	6-11%	9%	24.3
Basket funding/pooled funds	0-1%	1%	1.8
Core contributions - non govt	1-2%	1%	3.4
Specific purpose contributions	5-7%	6%	16.9
Sub Total	12-19%	17%	46.5
Project type interventions	64-70%	68%	191.3
Experts and technical assistance	2-3%	3%	7.5
Sub Total	66-73%	71%	198.9
Debt relief	0-1%	1%	1.4
Admin costs	3-4%	3%	8.6
Student costs in donor countries	1%	1%	2.1
Other in-donor expenses	2-6%	3%	9.6
Not applicable	3-6%	5%	13.1
Sub Total	9-18%	12%	35.0
Total		100%	280.5

Box 6: Pooled fund approach adopted by multilaterals

The concept of pooled funds is for programming, design, and supervision of aid activities to be carried out by one agency on behalf of several donors. Among the different approaches to defragmentation, pooling may have the greatest potential for reducing transaction costs as the programming, design, and supervision of activities, in principle, can be carried out by one agency on behalf of different donors. However, pooling may not be the optimum solution if it comes with preferencing that stems from internal fragmentation in donor agencies. With division of labor (DOL), transaction costs tend to rise during an initial phase as the DOL framework is set up, but then decrease in a second phase (Weingärtner, 2008, pp. 18-19).

Aid harmonization and coordination through communication accepts the presence of many donors active in multiple sectors and is likely to present the largest transaction costs, both for donors and partner countries (Easterly & Williamson, 2011). The coordination-through-communication approach calls for an increased exchange of information, which can help solve the problem of inefficient allocations. This would allow donors to adjust their allocations to a certain sector based on other donors' allocations to that area (Halonen-Akatwijuka, 2004). However, with a larger number of donors involved, such allocation decisions would require

²⁵ Shorter period selected as in earlier years, around 25 percent of financing was not identified by instrument type.

²⁶ Core contributions include core support to NGOs, other private bodies, PPPs and research institutes and specific purpose contributions that comprise funding mechanisms that pool resources from several providers.

more negotiations and coordination meetings as compared to pooling or DOL, thereby increasing transaction costs and delaying overall allocation of aid (Weingärtner, 2008, p. 23). Also, coordination-through-communication can mitigate the types of collective action problems that arise from a lack of information (Halonen-Akatwijuka, 2004), but it does not necessarily limit the diffusion of responsibilities.

In terms of efficient allocation of resources, a pooling approach would be particularly helpful, as consolidation enables a better overview and allocation of aid activities and the avoidance of gaps in coverage (Abbott & Snidal, 1998, pp. 13-14), as well as enabling economies of scale.

UN pooled funds. The UN pooled funds administered by the Multi-partner Trust Fund Office (MPTFO), hosted by UNDP, covers multi-donor trust funds (MDTFs) and joint programs and provides some lessons learned. Since it began in 2004, the MTFPO has managed over \$10 billion in funding through 148 funds, supporting activities in over 110 countries with 52 participating UN organizations and 98 donors (93 countries and five non-country donors). The evaluation of the UN pooled funds covering 2010 to 2017 revealed that pooled financing had become a well-established mechanism and played a role in harmonizing aid. It reduced transaction costs. Concerns remain among some donors on the unclear results focus of some funds, loss of donor visibility, transparency in fund utilization further down the delivery chain, and value for money.

World Bank trust fund and FIF reforms. Consistent with Busan commitments, the World Bank's ongoing reform for trust funds and financial intermediary funds (FIFs) aims to reduce fragmentation, from over 550 trust funds to a smaller number of around 72 umbrella programs and a limited number of stand-alone trust funds (Annex 4). These Umbrella 2.0 Programs are to be aligned with the World Bank's priorities and leverage development resources by strengthening integration with the World Bank's institutional strategy, planning, budgeting, and staffing processes. This is intended to reduce transaction costs for the World Bank, development partners, and clients.

Each umbrella program is anchored by a primary MDTF with a relatively broad thematic or geographic scope and a common governance, results framework, and reporting structure. If development partners have specific dedicated financial reporting requirements, these are accommodated through the establishment of associated trust funds. As of March 2021, 55 of the 72 proposed Umbrella Programs were operational (77 percent of the number of trust funds and almost 77 percent of signed contributions) and more than 88 percent of new resource mobilization was being channeled through these programs.

The FIF reform recognizes that FIFs can serve as valuable platforms for global partnerships around specific development challenge, but they can also add complexity and transaction costs for recipients. It has placed greater emphasis on selectivity and understanding the circumstances in which FIF structures are the most "fit for purpose" financing mechanism. Since the reform began, 27 proposals for establishing new FIFs have been directed toward more suitable alternatives, including existing trust funds and FIFs, thereby minimizing further fragmentation of the aid architecture.

III. PROLIFERATION, FRAGMENTATION, AND AID EFFECTIVENESS

25. Progress made by bilateral donors and multilateral institutions in improving aid effectiveness is periodically assessed through three well-known international surveys.²⁷ While the objectives and coverage of the surveys differ, they measure similar elements, like distribution of aid (shares by country type and themes) and aid effectiveness (predictability and transparency of funding, alignment with country strategies, and systems). Proliferation and fragmentation are not directly measured, but information on them can be extrapolated from changes in some of the other measured elements. For example, increases in the untangling of aid (which is measured) point to greater potential for pooling of aid and reduced fragmentation. The approach adopted by two thinktanks, the Center for Global Development (CGD) and the Overseas Development Institute (ODI), focuses on donor-level effectiveness and is summarized in Box 7.

²⁷ The three surveys are the Principled Aid Index (PAI) from ODI, Quality of ODA (QuODA) from CGD, and survey on aid effectiveness from GPEDC.

Box 7: Aid effectiveness surveys

The CGD has produced its Quality of ODA (QuODA) report five times (in 2010, 2011, 2014, 2018, and 2021^{a/}) to examine behaviors and choices that are largely within a donor's control. The 2021 QuODA measures 17 indicators grouped into four dimensions: prioritization, ownership, transparency and untying, and evaluation. Several indicators measure aid effectiveness, including adjusted CPA, poverty-weighted ODA, support to under-aided countries and fragile states, allocations to global public goods, and development information transparency. Indicators that monitor progress in activities with potential impact on proliferation and fragmentation include level of untied aid, predictability of funding, use of country financial systems, and core support to multilaterals.

The ODI's Principled Aid Index report was produced for the first time in 2020. The 2020 Principled Aid Index assesses bilateral donors' motives for aid-giving at a time of growing nationalism and global division when the costs of disunity could be higher^{b/}. Several indicators^{c/} measure the extent to which donors are plugging development gaps, investing in global institutions and challenges, and committing to public-spirited behaviors that do not instrumentalize aid for narrow, short-term gain. These include CPA, comparison of funding and poverty headcounts, funding for health and education in under-aided countries, funding for conflict-affected states, funding for global public goods (specifically climate change, communicable diseases, and peace and security), aid for trade and other factors (UN voting, arms exports, and domestic elections in partner countries), and funding for gender. The indicators that monitor progress in activities likely to impact proliferation and fragmentation directly are country-based pooled funds, level of untied aid, and core support to multilaterals.

a/ First three reports were produced jointly by CGD, and the Brookings Institution and last two reports were produced by CGD.

b/ Aid allocation can be driven by philanthropic or other strategic motivations, such as poverty alleviation, historic ties, geographic proximity, shared economic or political interests, global peace and security issues, and/or climate change and other environmental considerations (Klingebiel et al. 2016).

c/ PAI data suggests that bilateral donors are increasingly making less principled aid allocation decisions. This is exemplified by the percent decline in scores on the development gaps principle.

26. The assessment of aid effectiveness at the level of bilateral donors and multilateral institutions does not, by design, capture the considerable variation in aid effectiveness at the level of individual countries or typologies of countries. The extent to which the patterns of significant proliferation and fragmentation at the global level are reflected in individual countries varies considerably. For example, proliferation patterns in countries affected by fragility, conflict, and violence (FCV)²⁸ were like those at the global level, but funding concentration was higher for the top 10 donors. Similarly, while a higher proportion of funding went toward emergencies and social sectors, implementation channels showed a greater use of recipient governments. This was less expected given the institutional and social considerations that led these countries to be included in the FCV category (Box 8).

Box 8: Proliferation and Fragmentation in FCV Settings

- **Proliferation.** Almost all bilateral donors and most multilateral institutions were present in FCV-affected countries. The top ten donors had a two-third share of OFF commitments in 2010–19. During that time, the US was the largest bilateral donor to FCV, providing over \$110 billion (21 percent of FCV commitments), followed by Germany (\$32 billion) and Japan (\$30 billion). IDA was the largest multilateral donor (\$61 billion), followed by the EU institutions (\$43 billion).

²⁸ For FY22, the World Bank Group has identified 39 countries/territories as fragile and conflict-affected situations; 22 are in conflict (six in high-intensity and 16 in low-intensity conflict) and 17 face high institutional and social fragility (including seven small states). This static list is based on publicly available global indicators and is updated annually. It distinguishes between countries based on the nature and severity of issues they face. The list does not include all countries affected, nor is it a ranking of countries.

- **Fragmentation.** The share of transactions (23 percent) in FCV affected countries was like the share of OFF flowing to these countries. Also, the average value of FCV transactions (\$1.2 million) was not significantly different from the average value for all OFF.
- **Multilateral/bilateral split.** Bilaterals provided 59 percent of the commitments compared to 41 percent by multilaterals. However, bilaterals accounted for 68 percent of the transactions leading to a smaller average of transactions (\$1.1 million versus \$1.6 million for multilaterals).
- **Channels.** There was much greater use of recipient governments as an implementation channel than expected (37 percent of commitments). Multilateral institutions and global partnerships implemented 20 percent of commitments, followed by NGOs (14 percent) and donors themselves (11 percent).
- **Sectoral composition.** The sectoral composition of OFF was in the expected direction, with a higher proportion of funding for emergencies and social sectors (60 percent versus 42 percent overall).

- 27. For a better understanding of the country-level variations in aid effectiveness, the most comprehensive data set available is based on periodic surveys conducted by the Global Partnership for Effective Development Cooperation (GPEDC).** Three rounds of surveys have been conducted thus far and information on country-level indicators of aid effectiveness have been compiled through GPEDC reports published in 2014, 2016, and 2018. The 2018 GPEDC monitoring report covered a record 86 partner countries and territories, with most participating countries being low and middle-income countries, over half representing fragile contexts, and 22 small island developing states. Almost all least developed countries (LDCs) (43, or 91 percent) participated.
- 28. By combining the CRS and GPEDC datasets, this paper undertook a unique effort to review statistical relationships between country level proliferation/fragmentation and aid effectiveness indicators.** One of the striking findings from the review of existing literature and data analysis was the lack of analysis of potential relationships between proliferation and fragmentation indicators (i.e., total volume of OFF, number of donor entities, and number of transactions) and country-level aid effectiveness indicators. While it is difficult to compare data from different sources, a unique effort was made nonetheless to review potential statistical relationships between OFF, donor entities, and transactions (from CRS databases) and aid effectiveness indicators (compiled by the GPEDC).
- 29. Five GPEDC indicators were included in the analysis:** use of country results frameworks, use of country systems and public financial management (PFM) systems, annual predictability of development finance, inclusion of development finance in parliamentary-approved budgets, and status of untied aid. The analysis used all three 2014, 2016, and 2018 surveys. Beyond aggregate country-level relationships, patterns were disaggregated for different country income groups (i.e., LDC, lower middle-income countries, upper middle-income countries). The methodology of indicator selection and the detailed analysis are summarized in Box 9 and described in detail in Annex 3.
- 30. The analysis revealed five main statistical correlations (or lack thereof).**
- Two correlations were consistent with the expected findings: First, development partners' use of country systems increased in conjunction with an increase in aid channels. Second, the proportion of development finance going through government budgets was correlated with increased (or decreased) transactions and CPA entities in LDCs.
 - One finding was contrary to expectations: Development partners' use of or reliance on country-led results frameworks declined with the increase in aid channels.
 - The data was inconclusive in two areas: Neither the use of country PFM systems nor the annual predictability of development finance had any significant statistical relationship with volume of OFF, number of entities, or number of transactions.

- 31. Given the innovative nature of the analysis and the use of two different datasets, these initial findings should be treated with caution.** However, the analysis is useful in pointing to potential areas for further inquiry, which would be undertaken as part of the proposed country case studies.
- 32. Country case studies could help to better understand the realities in partner/recipient countries.** Most countries experienced growth rates in OFF, donor entities, and number of transactions either above or below the median²⁹ in 2009–19. Even within the same country grouping, the experience varied widely. Among FCV countries with medium-intensity conflict, Haiti saw both OFF and the number of transactions decrease by 51 percent and 26 percent, respectively. In comparison, the number of donor entities surged by 48 percent. Among FCV countries with high-intensity conflict, Somalia saw all the three parameters of OFF, number of transactions, and number of entities increase outside the range by 451 percent, 90 percent, and 47 percent respectively. Among FCV countries with high institutional and social fragility, Congo saw OFF grow by 149 percent, the number of transactions increase by 20 percent, and the number of entities increase within range by 38 percent.

Box 9: Key indicators and findings from the 2018 GPEDC Progress Report and Data Analysis

The report covered progress on 10 indicators that captured the essence of the four internationally agreed principles for effective development cooperation: country ownership, focus on results, inclusive partnerships, and transparency and mutual accountability. From the proliferation and fragmentation perspective, three groups of indicators (and broad findings about these across countries) are especially relevant.

Distribution of official finance. The indicator focused only on untied aid (indicator 10). The share of untied ODA increased from 76 percent in 2015 to 82 percent in 2017 based on self-reporting by DAC members and partner country reporting. These overall numbers masked a mixed performance in LDCs where, despite overall progress (in 25 out of 43 LDCs), there was a decline in 17 LDCs and no change in one country.

Aid effectiveness indicators include country-led results frameworks, predictability, transparency, recording in government budgets, and quality and development partner use of country systems.

- **Strengthening and use of country-led results framework** (indicators 1a (Sustainable Development Goal Indicator 17.5.1) and 1a1): While countries made impressive progress in strengthening their national development strategies, donors' alignment (particularly DAC donors, UN agencies, and vertical funds) to partner country priorities and country-owned results frameworks declined across all country income groups.
- **Annual and medium-term predictability** (indicators 5a and 5b): Annual predictability increased across all country income groups, except high-income countries, and all provider groups, particularly other international organizations, UN agencies, and vertical funds. Medium-term predictability based on forward spending plans decreased from 71 percent in 2015 to 67 percent in 2017. This decrease is also reflected across all donor types, hindering countries' ability to effectively plan and budget for their development efforts.
- **Transparency of development information and systems to track and monitor public expenditures for gender equality and women's empowerment** (indicator 8): Overall, 78 percent of countries have systems that track and make public allocations for gender equality and women's empowerment.

²⁹ Out of 138 countries in the sample, 92 percent had growth above or below the median range (between 30 – 40%) for OFF, 90 percent had growth above or below the median range (between 0-10%) for transactions, and 77 percent had growth above or below the median range (between 35 – 45%) for donor entities in 2009-19. For this purpose, the country programmable aid (CPA) proxy measure was used as OFF that is subjected to multi-year planning at country level.

- Transactions recorded in government budgets (indicator 6): The proportion of development cooperation recorded on budget and subject to parliamentary oversight declined from 2015 to 2017 across all country income groups, and the decline is prevalent among DAC donors and multilateral development banks (MDBs).
 - Quality and development partner use of country systems (indicators 9a and 9b): This indicator assessed four core elements for effective public financial management systems: budgeting, procurement, reporting, and audit. Overall, 65 percent of countries have made progress in strengthening their systems.
- Other indicators. These indicators focus on how the GPEDC process involves the private sector and civil society (indicators 2 and 3).

33. Case studies would also provide an opportunity to develop a more granular understanding of use proliferation in selected countries (i.e., the number of implementing entities in recipient countries).

Current recording of transactions in the CRS only identifies the type of implementing entity (e.g., NGO, recipient government) and does not have unique identifiers for all implementing entities. Case studies could shed light on the actual number of implementing entities, including different funds and programs, and increase understanding of the impact on aid effectiveness. Similarly, given that NGOs account for at least half of all transactions, it is important to understand the extent to which NGO-implemented projects are part of in-country donor and co-financer coordination processes. Finally, given the need to scale up pooled fund approaches, country case studies would also allow for closer review of in-country impact of donor harmonization and coordination efforts, such as co-financing approaches or the World Bank's reform for trust funds and FIFs (Annex 2).

34. Multiple selection criteria would be utilized to select diverse country case studies. Countries would be selected to ensure representativeness of geographical coverage (including Sahel countries, fragile/non-fragile states, small states, and partner countries that are significant for pooled funding initiatives, like World Bank's reforms of trust fund and FIF window and grant activities,³⁰ and harmonization efforts, like co-financing, for positively influencing aid effectiveness) and other country characteristics.

IV. SUMMARY OF FINDINGS

35. The analysis of trends in global financing from 2000–19 reveals five main findings:

- **Overall trends show that the increase in OFF was accompanied by significantly increased proliferation in donors and donor funding entities.** OFF commitments increased by 187 percent in real terms over the last 20 years, which was a positive development. However, this was accompanied by a growth in the number of donor countries and multilateral agencies, from 47 to 70, and the number of bilateral and multilateral agencies, from 191 to 502.
- **Source proliferation (i.e., increase in the number of donor agencies) accelerated over the last decade at the recipient country level, as evidenced by the growing share of countries dealing with 60 or more donor entities.** Proliferation at the global level is also mirrored in recipient countries. Only 55 percent of countries in 2009 had more than 60 donor entities, whereas by 2019, this had increased to 78 percent.
- **The aid coordination challenge for partner/recipient governments arises from the fact that three out of every four OFF transactions are implemented by other entities (e.g., NGOs, donor government entities, and multilateral institutions).** Recipient governments implemented only one out of every four OFF transactions and less than one out of every two dollars' worth of commitments in 2019. Almost half (55 percent) of OFF transactions were implemented by NGOs, donor government channel, and multilateral institutions. Data limitations prevent an estimation of the precise extent of use proliferation, i.e., growth in the number of implementing entities.

³⁰ The upstream pooling of World Bank trust funds into umbrellas may not automatically reduce the window-level preferencing or grant-level fragmentation at the recipient country level and it may be important to understand the drivers of continued fragmentation, if any, at the country level to improve aid effectiveness.

- **After a decade of slowly decreasing transactions, there was a sharp increase (24 percent from 2018) in transactions in 2019 to an all-time high of more than 222,000 transactions with an average size of \$1.4 million.** ODA grants dominated with 190,323 transactions (86 percent) with an average value of \$0.8 million in 2019.

- **For funding provided to recipient governments, pooled funding is a recognized solution to reduce the impact of aid fragmentation, but uptake is low.** During 2012–19, pooled funding through government budgets and donor funds accounted for only about 17 percent of OFF, despite global agreements to increase such funding. More than 70 percent of OFF continues to be implemented through project-type interventions.

36. The impact on aid effectiveness remains unclear given limitations in the analysis of the relationship between aid volumes, proliferation, and fragmentation and aid effectiveness. The unique analysis undertaken for this paper revealed some expected trends in increased use of country systems by development partners in conjunction with an increase in aid channels, as well as increased proportion of development finance going through government budgets with increased transactions and donor entities in LDCs. However, development partners use of country-led results frameworks declined with the increase in aid channels, and neither the use of country PFM systems nor the annual predictability of development finance had any significant statistical relationship with volume of OFF, number of entities, or number of transactions.

37. To develop a more granular understanding of country-level impacts, particularly about use proliferation, a series of country case studies are planned. Given limitations of global data, country case studies would increase understanding of use proliferation (i.e., the number of implementing entities in recipient countries, including different funds and programs) and their impact on aid effectiveness. They would also provide an opportunity to review pooled fund approaches more closely.

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ANNEX 1. KEY DATA SOURCES, TERMINOLOGY USED, AND THE LIMITATIONS OF OECD DATA

OECD DAC terminology

1. The analysis in this paper utilized two OECD databases that contain data reported by donor countries and multilateral agencies: the Development Assistance Committee (DAC) database, which provides aggregate information, and the Creditor Reporting System (CRS) database, which provides transaction-level information. While there have been substantial differences between the financial information in the two databases in the past, there has been greater convergence in more recent years.
2. Reporting is provided on ODA, OOF, and private flows.
 - a. Official development assistance (ODA) consists of resource flows (grants, loans, and equity) to countries and territories on the DAC list of ODA recipients (developing countries) and to multilateral agencies that are (a) undertaken by the official sector, (b) focused on economic development and welfare as the main objective, and (c) provided at concessional financial terms. Until 2018, loans were concessional if their grant element was at least 25 percent (calculated at discount rate of 10 percent). Since 2019, both the grant element and discount rate vary based on the income group of the recipient country.¹ In addition to financial flows, technical cooperation is included in ODA. Equity provided by the official sector excludes foreign direct investment, which is included under private flows.
 - b. Other official flows (OOF) are transactions by the official sector with countries on the DAC list of ODA recipients that do not meet the conditions for ODA eligibility, either because they are not primarily aimed at development or because they have less than the required grant element of 25 percent. These include the following:
 - Grants to developing countries for representational or essentially commercial purposes
 - Official bilateral transactions intended to promote development but having a grant element less than that required to be treated as concessional
 - Official bilateral transactions, whatever their grant element, that are primarily export-facilitating in purpose, including export credits extended directly to an aid recipient by an official agency or institution (official direct export credits)
 - The net acquisition by governments and central monetary institutions of securities issued by MDBs at market terms
 - Subsidies (grants) to the private sector to soften its credits to developing countries
 - Funds in support of private investment
 - c. Private flows consist of flows at market terms financed out of external private sector resources (i.e., changes in holdings of private long-term assets held by residents of the reporting country) and private grants (i.e., grants by NGOs and other private bodies, net of subsidies received from the official sector).
3. The three types of reported flows are aggregated into other indicators:
 - a. Total official financial flows (OFF) is the sum of ODA and OOF.
 - b. Official development financing (ODF), measured for recipient countries only, is defined as the sum of their receipts of bilateral ODA, concessional and non-concessional resources from multilateral sources, and bilateral OOF made available for reasons unrelated to trade, in particular, loans to refinance debt.
 - c. Total receipts, net, are in addition to ODA and include the following:
 - Other official bilateral transactions that are not concessional or, even if they have concessional elements, are primarily trade facilitating in character (i.e., OOF)
 - Changes in bilateral long-term assets of the private non-monetary and monetary sectors, in particular guaranteed export credits, private direct investment, portfolio investment, and, to the extent they are not covered in the preceding headings, loans by private banks
 - Flows from the multilateral sector not classified as concessional

¹ For more on the modernization of the DAC statistical system, visit <https://www.oecd.org/dac/financing-sustainable-development/development-finance-standards/modernisation-dac-statistical-system.htm>

4. Data is provided for actual funds transferred (i.e., disbursements) and funds contractually agreed to be transferred in the future (i.e., commitments). A commitment is a firm written obligation by a government or official agency, backed by the appropriation or availability of the necessary funds, to provide resources of a specified amount under specified financial terms and conditions and for specified purposes for the benefit of a recipient country or a multilateral agency.
- Commitments are made at the date a loan or grant agreement is signed or the obligation is otherwise made known to the recipient (e.g., in the case of budgetary allocations to overseas territories, the final vote of the budget should be taken as the date of commitment). For certain special expenditures, such as emergency aid, the date of disbursement may be taken as the date of commitment.
 - Bilateral commitments comprise new commitments and additions to earlier commitments, excluding any commitments cancelled during the same year. Cancellations and reductions in commitments made in earlier years are reported every year in the CRS, but not in the DAC questionnaire.
 - Commitments of capital subscriptions, grants, and loans to multilateral agencies show the sum of amounts that are expected to be disbursed before the end of the following year and amounts disbursed in the reporting year but not previously reported as a commitment. For capital subscriptions in the form of notes payable at sight, the expected deposits of such notes constitute the amount committed.

OECD DAC reports

5. The DAC database provides reporting on aggregated data along the following dimensions:
- Aggregate data (no breakdown by recipient) on ODA, OOF, private, and NGO data by donor, type of aid, and flow (Table DAC1).² The conversion from current to constant prices is undertaken using deflators for each donor country.
 - Geographical breakdown by donor, recipient, and for some types of aid on a disbursement basis (Table DAC2a)
 - Geographical breakdown of official export credits and other official non-concessional lending (Table DAC2b)
 - Geographical breakdown by donor, recipient, and for some types of aid on a commitment basis (Table DAC3a)
 - Geographical breakdown of foreign direct investment, bank flows, and non-bank flows (Table DAC4)
 - Aggregates (no breakdown by recipient) by donor, sector, and type of flow (Table DAC5)
 - The tying status of bilateral ODA commitments (Table DAC7b). Total official development flows by recipient country and region.
 - Total official development flows by recipient country and region
 - Total official flows by recipient country and region. Total disbursements by the official sector by recipient country and region are reported as gross or net flows in current and constant prices.
6. The CRS database provides disaggregated transaction-by-transaction data. The CRS Aid Activity database provides a set of readily available basic data that enables comparable analysis across all DAC members on where aid goes, what purposes it serves, and what policies it aims to implement. Data is collected on individual projects and programs. Focus is on financial data, but some descriptive information is also made available.
7. The CRS data can be analyzed in current and constant prices in the following ways:
- By official donor
 - By sector
 - By flows: ODA grants, ODA loans, equity, OOF, and private finance
 - By flow types: commitments or gross disbursements
 - By delivery channel: public sector, NGOs and civil society, PPPs, multilateral institutions, teaching institutions, research institutes or thinktanks, private sector institutions, and other delivery channel)

² These tables can be accessed at <https://stats.oecd.org/> under the sub menu development.

8. Given recently introduced changes in reporting methodology, only 2018 data is presented in grant equivalent terms in current and constant prices. CRS also presents projects identified as supporting global environmental objectives and supporting gender equality and women's empowerment. It also identifies DAC members' total use of the multilateral system as well as private philanthropy for development.

Country programmable aid (CPA)

9. CPA reflects the amount of aid that is subjected to multi-year planning at country/regional level, and is defined through exclusions, by subtracting from the total gross ODA any bilateral ODA that can be characterized in the following manner:
- Is unpredictable by nature (humanitarian aid and debt relief)
 - Entails no cross-border flows (administrative costs, imputed student costs, promotion of development awareness, and research and refugees in donor countries)
 - Does not form part of cooperation agreements between governments (food aid and aid from local governments)
 - Is not country programmable by the donor (core funding of NGOs)

Recipient country classifications

10. The country income groups are defined as ODA-eligible countries classified into two groups: least developed countries and low-income countries (LDCs and LICs) and middle-income countries (MICs).³

Sector classifications

11. Sector classifications consist of social infrastructure and services, economic infrastructure and services, production sectors, multi-sector and cross-cutting, commodity aid/general program assistance, actions related to debt, humanitarian assistance, donor administrative costs, costs of refugees in donor countries, and unallocated. For purposes of analysis, a category entitled "emergencies at home and abroad" was created combining humanitarian assistance and costs of refugees in donor countries.
12. The sector "allocable ODA" refers to ODA flows aimed at fostering a particular sector in the recipient country. It excludes contributions that are not allocable by sector (e.g., balance-of-payments support, actions relating to debt, emergency assistance, and administrative costs of donors, support to NGOs and unallocated/unspecified ODA).

Prices

13. OECD data are at constant prices (2018). World Bank Group Finance and Accounting data are at current prices.

Fragility, conflict, and violence-affected countries

14. Since 2006, the World Bank Group's Fragility, Conflict and Violence Group has annually released a list of countries affected by fragility, conflict, and violence (FCV). The list has gone through a series of changes in terms of classification, from the list of low-income countries under stress (2006–09), to the list of fragile states (2010), to the harmonized list of fragile situations (2011–15), and now, the list of fragile, conflict, and violence-affected situations. The concept and the list have evolved as the World Bank Group's understanding of the development challenges in countries affected by violence and instability has matured.
- Horizontal and vertical platforms
15. The following institutions are listed under horizontal platforms: the African Development Bank, African Development Fund, Arab Bank for Economic Development in Africa, Arab Fund for Economic and Social Development, Asian Development Bank, Asian Infrastructure Investment Bank, Caribbean Development Bank, Council of Europe Development Bank, and Development Bank of Latin America.

³ For more information, visit: https://www.oecd.org/dac/financing-sustainable-development/development-finance-standards/DAC_List_ODA_recipients2018to2020_flows_En.pdf.

Limitations and corrective approaches for analyzing data on proliferation

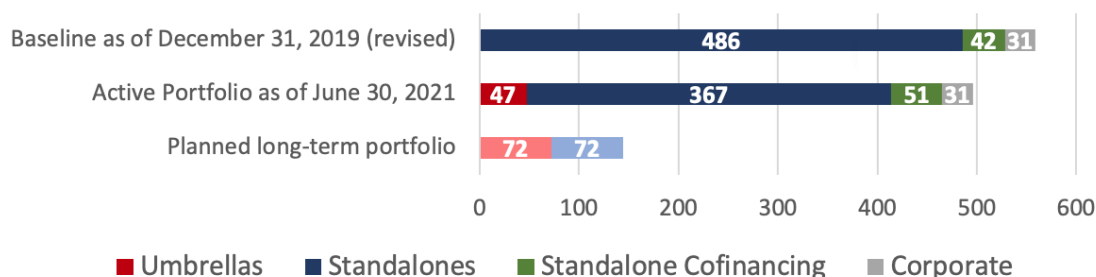
16. The OECD data records each individual UN agency that has come into existence after 2004 as a donor and donor agency, which inflates the number and growth of donors. MDBs are also recorded as more than one donor. For example, the World Bank Group is recorded as three donors (IBRD, IDA, and IFC) and the African Development Bank is represented as two donors (AfDB and AFDF). The paper consolidates the UN, the World Bank Group, and each regional development bank as one donor, while individual institutions and funds (e.g., IBRD) or entities (e.g., IDB Invest) are recorded as entities.
17. There are two cases in 2004 and 23 cases in 2018 where a specific entity is not identified and the nomenclature “miscellaneous” is utilized. The current approach is to count each occurrence of miscellaneous as an entity, the logic being that the count is a lower bound since at least one implementation entity must have been utilized to make the miscellaneous commitment relating to debt, emergency assistance, and administrative costs of donors, support to NGOs and unallocated/unspecified ODA).

ANNEX 2. UPDATE ON IBRD/IDA TRUST FUND AND FIF REFORMS

IBRD/IDA Trust Funds

- 1. World Bank trust funds are an invaluable¹ tool in the World Bank Group’s toolkit. Complementary to IDA, IBRD, IFC, and MIGA,²** trust funds and FIFs are essential for the World Bank to deliver on IDA and IBRD commitments and provide thematic and geographic partnership platforms with key donors. They finance 5 percent of overall World Bank disbursements, mostly in FCV-affected countries, and cover 63 percent of financing for advisory services and analytics (ASA). Trust fund reforms are radically transforming the way the World Bank exercises management oversight over those funds, tightening strategic alignment with Bank Group goals, selectivity, and efficiency.
- 2. In the past, the World Bank’s Board and Senior Management have expressed concerns about the oversight and alignment of trust funds with the Bank’s priorities.** Trust fund reforms of the last three years represent a radical transformation to address these concerns and more. The former fragmented “letting a 1,000 flowers bloom” World Bank trust fund authorizing environment has been replaced by a much more strategically aligned and efficient “Umbrella 2.0 Program” approach. This will reduce the number of trust funds in operations to about 70 strategically aligned umbrellas (plus some stand-alone trust funds, such as for co-financing).
- 3. Umbrella 2.0 Programs are management-prioritized trust funded programs that have standard features for good management oversight, alignment with the Bank’s and clients’ priorities, and strong results orientation.** Umbrella 2.0 Programs are larger and will lead to a reduction in the number of trust fund governing bodies by roughly 75 percent. They have standard governance arrangements with meetings chaired by the Bank (at Director level or higher) and the Bank making funding decisions, with donors providing high-level guidance. This prevents the creation of many “Banks within the Bank.” The stronger role of Bank management in their governance will also support ASA reforms, and a pilot is under way to strengthen transparency and cross-matrix collaboration in internal work program decisions.
- 4. With strong support from donors and the Board, who have been extensively consulted, the reforms are driving a shift from a trust fund portfolio that was large, fragmented, and incoherent to one that is approved by the senior management.** The changes are being phased to limit disruption to operations, with gradual consolidation of some funds and phasing out of others along agreed timelines (Annex Figures 1 and 2).³

Annex Figure 1: Progress toward the reduction of trust funds, based on phased approach



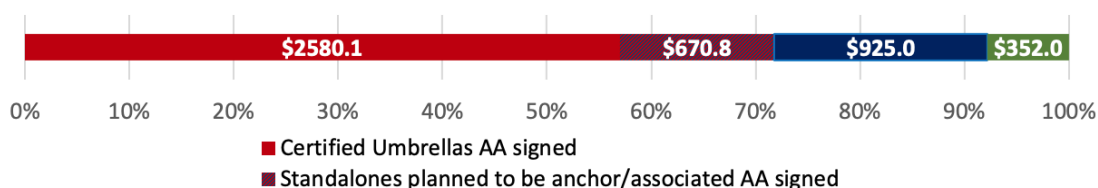
¹ World Bank trust funds and FIFs provide funding that complements IBRD/IDA, increases the scope and reach of activities, furthers the Bank’s knowledge and learning agenda, and enables the Bank to support countries where IBRD/IDA cannot operate (countries in arrears and non-member countries). They provide funding for project preparation and supervision (about 25 percent of supervision costs for IBRD/IDA operations) and funding for those IDA policy commitments which require technical assistance and analytical work. Beyond these direct benefits, they strengthen the Bank’s value proposition with many of its most important shareholders, helping deliver shared development priorities and strengthening their commitment to the institution.

² A very significant share of the Bank Group trust funds are IBRD/IDA trust funds administered by the World Bank.

³ In Annex Figures 2 and 3, trustee-level trust funds that solely co-finance an IDA or IBRD operation have been identified and tagged as such. These co-financing trustees are excluded from the KPI metrics for consolidation on the grounds that they do not contribute to fragmentation or challenges with strategic alignment.

5. The previous trust fund portfolio, with 486 trustee-level trust funds⁴ in operations as of December 2019, will move to some 72 umbrellas, and approximately 72 stand-alone trust funds for special initiatives. The Climate Change Group, for example, plans to consolidate some 70 individual trust funds into four Umbrella 2.0 Programs. As of June 30, 2021, **47 of 72 proposed umbrellas were operational** and 80 percent of signed contributions between January 2020 and July 2021 were linked to umbrellas (excluding contributions to co-financing and corporate trust funds). This streamlined portfolio will enable Bank management to exercise oversight functions more broadly, achieve alignment with the priorities of IDA and IBRD, and make trade-off decisions within larger envelopes.

Annex Figure 2: Distribution of signed contributions volume from Jan 1, 2020 to June 30, 2021 (\$ million)



6. Trust fund reform goals in the next two years foresee a less fragmented trust fund portfolio architecture firmly in place, with Umbrella 2.0 Programs continuing to receive the vast majority of new trust fund contributions. Around 60 to 65 umbrellas should be operational by the end of fiscal year 2022, and the count of stand-alone trust funds is expected to decrease by an additional 100. Trust fund resources will be used with greater transparency, collaboration, and predictability, grounded in systematic and transparent cross-matrix dialogue.

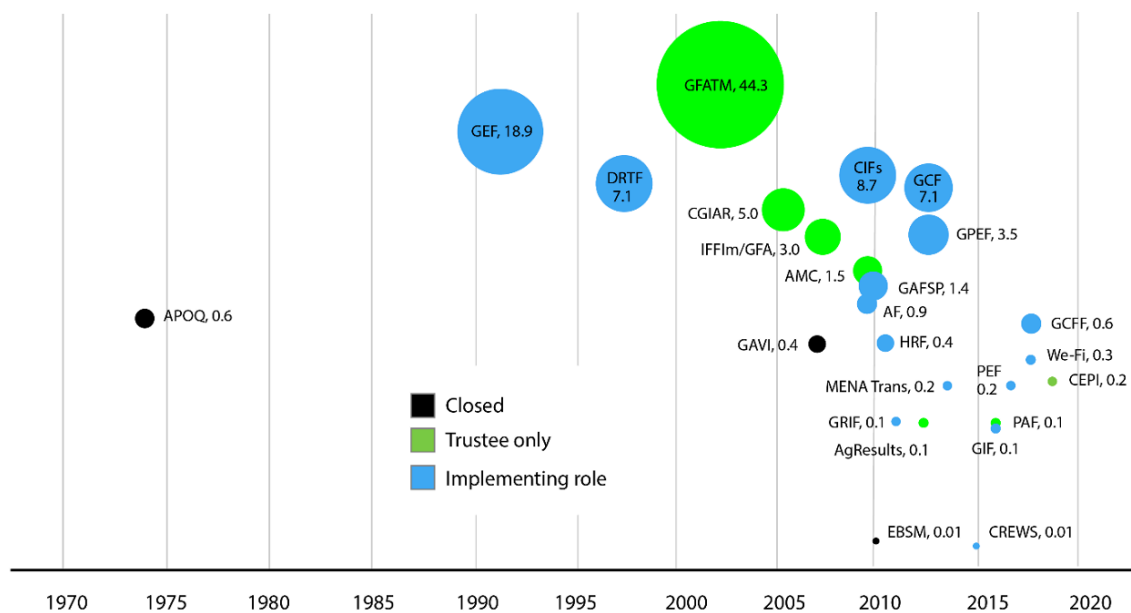
Financial Intermediary Funds

7. Financial Intermediary Funds (FIFs) are also important tools in the development finance toolkit, offering customized financing platforms for partnership programs. The development community places high value on FIFs supported by the World Bank. Large volumes of funds are professionally managed, special financial services are provided to boost the impact of ODA, and coordination is enhanced across MDBs, UN agencies, and beyond. Demand for FIFs has grown as a result (Annex Figure 3). The 2019 FIF Management Framework⁵ has helped increase upstream engagement with partners and shape the dialogue around the continuum of possible financing instruments available to meet development objectives and keep further aid fragmentation in check. No new FIFs have been established since 2018, and the dialogue around new proposals now regularly includes consideration of building on the existing architecture, including existing FIFs.

⁴ This excludes 42 stand-alone co-financing trust funds, which do not adversely impact proliferation, oversight, or efficiency, and 31 corporate trustee trust funds.

⁵ The objectives of FIF reform are anchored by the 2019 FIF Management Framework, which emphasizes increased selectivity and upstream engagement with potential donors and shareholders in addition to internal World Bank coordination and governance. This is helping to shape the dialogue so that strategy and objectives drive the choice of financing mechanism.

Annex Figure 3: FIFs by date of establishment and size (\$ billion)



8. **FIFs are a type of trust fund supporting global partnerships with dedicated financing.** FIFs tend to be large, focused on specific themes, and typically launched in the context of high-level, multilateral fora like the G7 and G20, often in support of global public goods. Consistent with this, FIFs have been concentrated largely in the areas of climate/environment (12 of the 27 FIFs) and health (five of the 27 FIFs).
9. **FIFs like the Climate Investment Funds (CIF) play a critical role in providing concessional financing for innovation and de-risking alongside MDB investments, which is critical for the climate change agenda.** The World Bank has been CIF's largest implementing partner, disbursing roughly 50 percent of funds. With a strong focus on coal transition and improving investments in battery storage in the next phase, CIF will play an important part in achieving the goals of the World Bank's Climate Change Action Plan.
10. **FIFs add value to the development finance toolkit—alongside IDA, IBRD, IFC, and trust funds when key factors come together in response to global calls for collective action.** FIFs offer a large-scale, additional, independently governed collaboration platform for pooled funds that are expected to be available over the medium/long term. FIFs provide closely coordinated decision-making and joint implementation across a significant number of multilateral organizations. While FIFs are generally global in scope, most FIFs still finance country-level investments, building on the MDB operating model. These often address externalities associated with global public goods and provide additional concessional resources to co-finance MDB investments.
11. **The World Bank facilitates the establishment and operation of FIFs by offering a set of administrative, operational, legal, and financial services tailored to the circumstances of each FIF.** The Bank acts as limited trustee for each of the 27 active FIFs, building on a well-established financial, investment management, and accounting platform developed over the past two decades. In addition, the World Bank is an implementing entity of many FIFs and hosts some of their secretariats, providing the legal personality for these FIFs and a range of management functions.

ANNEX 3. CORRELATION ANALYSIS OF AID PROLIFERATION AND FRAGMENTATION AND AID EFFECTIVENESS

1. The GPEDC monitoring framework (Annex Figure 4) consists of 10 indicators to track development stakeholders' progress in aligning their policies and practices with four internationally agreed principles on development effectiveness: results, ownership of development priorities by developing countries, inclusive development partnerships, and mutual transparency and accountability.

Annex Box: GPEDC indicators for the four development effectiveness principles

Principle 1: Focus on results

Development efforts must have a lasting impact on eradicating poverty and reducing inequality and on enhancing developing countries' capacities, aligned with their own priorities.

Indicator: Countries strengthen their national results frameworks (1b)

Indicator: Development partners use country-led results frameworks (1a and SDG 17.15)

Principle 2: Ownership of development priorities by developing countries

Partnerships for development can only succeed if they are led by developing countries, implementing approaches that are tailored to country-specific situations and needs.

Indicator: Development cooperation is predictable: annual predictability (5a)

Indicator: Development cooperation is predictable: medium-term predictability (5b)

Indicator: Quality of countries' Public Financial Management Systems (9a)

Indicator: Development partners' use country systems (9b)

Indicator: Aid is untied (10)

Principle 3: Inclusive development partnerships

Openness, trust, mutual respect, and learning lie at the core of effective partnerships, recognizing the different and complementary roles of all actors.

Indicator: Quality of public-private dialogue (3)

Indicator: Civil society organizations operate within an environment that maximizes their engagement in and contributions to development (2)

Principle 4: Transparency and accountability to each other

Mutual accountability and accountability to the intended beneficiaries of development cooperation, as well as to respective citizens, organizations, constituents, and shareholders, is critical to delivering results. Transparent practices form the basis for enhanced accountability.

Indicator: Transparent information on development cooperation is publicly available (4)

Indicator: Mutual accountability among development actors is strengthened through inclusive reviews (7)

Indicator: Development cooperation is included in budgets subject to parliamentary oversight (6)

Indicator: Countries have systems to track and make public allocations for gender equality and women's empowerment (8 and SDG 5c).

2. Aid proliferation and fragmentation (P&F) may increase the cost of aid delivery and influence aid effectiveness. To evaluate if there is any relationship between P&F and aid effectiveness, correlations between movements in P&F indicators (OFF, donor entities, number of transactions, average transaction value, and CPA)¹ and aid effectiveness were examined by country income groups.² The following hypothesis were tested:
 - **OFF.** A two-way³ relationship could exist; a recipient country's volume of aid could be a function of its aid

¹ The paper uses only three main P&F parameters: OFF, number of agencies, and number of transactions. However, for the purposes of the assessing the impact of P&F on the aid effectiveness, average transaction value and CPA proxy were also considered.

² LDC (Low Income), LMIC (Lower Middle Income) and UMIC (Upper Middle Income) groups were analyzed. High income countries are not covered due to limitations of sample data.

³ The statistical measure of correlation was used for the analysis of two-way relationship in this paper. In the deep dives, regression that linearly combines the highly correlated variables of OFF, number of donor agencies, and number of transactions to address the challenges of multicollinearity would be used, to better assess the causality.

effectiveness indicators, and changes in the volume of OFF could have an impact on recipient country's aid effectiveness indicators.

- **Number of donor agencies.** Only a one-way relationship exists between the number of donor entities and a country's aid effectiveness indicators (i.e., recipient country circumstances would not influence the number of donor entities, which is determined exogenously in the donor country), but the number of donor agencies could impact recipient's aid effectiveness indicators.
 - **Number of transactions.** A two-way relationship could exist; a recipient country's number of transactions could be a function of its aid effectiveness indicators. Likewise, changes in the number of transactions could impact a recipient country's aid effectiveness indicators.
 - **Transaction size.** A two-way relationship could exist; change in the transaction size could impact a recipient country's aid effectiveness indicators. It may be more difficult to have high degree of predictability or leverage country systems for smaller transactions. Also, improvement or deterioration in aid effectiveness indicators may impact OFF volumes that may, in turn, impact transaction size.
 - **CPA.** A two-way relationship could exist; CPA flowing to a recipient country could be a function of its aid effectiveness indicators, and changes in the volume of CPA could have an impact on recipient country's aid effectiveness indicators.
3. The correlation analysis focuses on five aid effectiveness indicators relevant to P&F from the broader GPEDC monitoring framework consisting of 10 indicators. These five were selected for the following reasons:
- **Indicator 1a: Development partners use country-led results frameworks.** The indicator measures the alignment of development partners with recipient's development objectives and results; as well as their reliance on recipient's statistics and monitoring and evaluation systems to track progress in achieving the intended results. The use of country-led results frameworks are relevant for the correlation analysis as the proliferation of donor agencies or increase in number of transactions may lead to fragmentation of results systems that are not aligned to recipient results systems, thereby increasing the transaction costs in sustainably tracking outcomes and reporting them to the various stakeholders.
 - **Indicator 5a: Development cooperation is predictable (annual predictability).** The indicator measures, for the reporting year of reference, the proportion of development cooperation disbursed relative to the funding the development partners had scheduled at the beginning of the year. This indicator is relevant for the correlation analysis as predictable financing leads to more programmatic and sustainable approaches.
 - **Indicator 6: Development cooperation is included in budgets subject to parliamentary oversight.** The indicator measures the portion of development cooperation funds planned for the country's public sector that was recorded in the annual budget submitted for legislative approval. This indicator is relevant for the correlation analysis as the proliferation of donor agencies and increase in OFF or number of transactions may impact use of government channels for implementation, which, in turn, may affect use of country systems for implementation.
 - **Indicator 9a and 9b: Development partners use country and public financial management (PFM) systems.** These indicators measure the proportion of development cooperation disbursed to a country that is managed using its own national PFM systems for budget management and execution (indicator 9a) and financial reporting, auditing, and procurement (9b) instead of using development partner's systems. These indicators are relevant for the correlation analysis as the use of recipient country systems and PFM systems ensures sustainability of development results and lowers transaction costs by eliminating the creation and maintenance of parallel structures by different donor agencies. Therefore, the use by donors of the country systems provides an entry point for partners to harmonize their processes (CABRI, 2014).
 - **Indicator 10: Aid is untied.** The indicator measures the share of development cooperation that is committed for disbursement in recipient countries without legal and regulatory barriers to open competition for procurement. This indicator is relevant to correlation analysis as some donor agencies may tie procurement, in varying degrees, to their own priorities that may not be aligned to national development plans.

4. The cross-correlation analyses are based on two different sources with the following approach:

- The analysis of aid effectiveness indicators (indicator 1a, 9a, 9b, 10, 5a and 6) is based on 2015 and 2017 data drawn from the GPEDC monitoring database as of June 2020.⁴ The data of each indicator except 9a was used as X(t) and only countries with both 2015 and 2017 data were selected for the analysis. Due to relatively small sample sizes, the 2015 and 2017 data of each indicator was combined and used as single datasets, respectively. The data for each indicator was recalculated by excluding “NA” items from detailed transaction dataset by providers and recipients from GPEDC monitoring database, and therefore the calculated dataset is slightly different than the original dataset. For indicators 5a and 6, the concepts of indicators 5a_1 (case 1) and 6_1 (case 1) were used in this analysis.⁵ In terms of indicator 9a, since there are only 2017 data available with the ordinal scales of “negative progress”, “no change”, “progress”, and “significant progress”, they are converted to numerical scales of “-1”, “0”, “1”, and “2”, and are analyzed with averages of 2015 to 2017 data, differences, and percentages of change between 2015 and 2017 data for those P&F indicators.⁶ Correlation analyses by country income group are not conducted due to the shortage of sample sizes.
- For P&F indicators (number of aid channels, number of transactions, and average transaction sizes), the analysis uses the latest OECD data for the years 2012–17. This data is used as Y(t) and also in combinations of Y(t-1), Y(t-2), Y($\bar{x}(t-2, t-1)$), Y($\bar{x}(t-1, t)$), Y($\bar{x}(t-3, t-2, t-1)$), Y($\bar{x}(t-2, t-1, t)$) for multiple time-lagged correlation analysis.

5. The results of the correlation analyses among P&F and aid effectiveness indicators are shown in Table Groups 1–5. The tables show correlation coefficients (r) and p values for all the combinations, while each figure shows a sample of one of the six combinations of the time-lagged correlation analyses for each dataset. The yellow highlighted columns indicate cases where correlation coefficients are statistically significant at 0.05 significance level ($p < 0.05$).

6. This correlation analysis potentially indicates that development partners use of, or reliance on, country-led results frameworks declined with an increase in aid channels. This finding is postulated based on development partners’ use of country results frameworks (indicator 1a) showing a weak negative correlation (e.g., -0.263 for one-year time-lagged dataset) with the number of aid channels (Table Group 1). Statistical significance of this correlation is observed for all time-lagged datasets. The negative correlation was higher for UMICs (e.g., -0.569 for one-year time-lagged dataset). These patterns of negative correlation with statistical significances are also observed between the indicator 1a and the number of entities for CPA.⁷

Table Group 1: Correlation analysis between P&F and aid effectiveness indicator 1a

1a / Number of Channels

	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)
r	-0.235	-0.263	-0.252	-0.252	-0.243	-0.248
p	0.006	0.002	0.003	0.003	0.004	0.004

1a / Number of Transactions

	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)
r	-0.134	-0.114	-0.113	-0.125	-0.114	-0.121
p	0.119	0.188	0.190	0.148	0.184	0.162

1a / Average Transaction Sizes

	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)
r	-0.052	-0.027	-0.113	-0.042	-0.154	-0.093
p	0.551	0.755	0.189	0.628	0.073	0.280

1a / Number of Entities

	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)
r	-0.205	-0.200	-0.194	-0.203	-0.195	-0.198
p	0.017	0.020	0.024	0.018	0.023	0.021

1a / CPA

	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)
r	-0.116	-0.096	-0.135	-0.108	-0.150	-0.130
p	0.179	0.265	0.116	0.211	0.080	0.132

1a / Number of Channels

LDC	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)
r	0.025	0.016	0.034	0.021	0.038	0.031
p	0.855	0.907	0.808	0.879	0.788	0.824

1a / Number of Transactions

LDC	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)
r	0.188	0.176	0.182	0.184	0.175	0.185
p	0.174	0.202	0.187	0.183	0.206	0.180

1a / Average Transaction Sizes

LDC	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)
r	-0.054	0.038	-0.122	-0.012	-0.120	-0.102
p	0.697	0.783	0.380	0.931	0.386	0.464

1a / Number of Entities

LDC	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)
r	0.188	0.187	0.181	0.189	0.175	0.185
p	0.174	0.176	0.190	0.171	0.205	0.181

1a / CPA

LDC	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)
r	-0.062	-0.046	-0.096	-0.055	-0.102	-0.087
p	0.656	0.740	0.489	0.690	0.464	0.533

1a / CPA

LDC	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)
r	-0.067	-0.031	-0.087	-0.051	-0.105	-0.081
p	0.635	0.826	0.399	0.720	0.459	0.568

1a / CPA

LDC	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)
r	-0.238	-0.257	-0.314	-0.250	-0.370	-0.287
p	0.241	0.205	0.118	0.218	0.063	0.151

⁴ The data is available at <https://www.effectivecooperation.org/content/gpedc-monitoring-excel-database>

⁵ The case 1 for indicators 5a and 6 can be referred at GPEDC Technical Companion Document (<https://www.effectivecooperation.org/system/files/2020-07/Technical%20Companion%20-%20Final%20online.pdf>), which also include calculation methods for each indicator.

⁶ Three-year time range is used for P&F indicators to analyze the correlation with indicator 9a with scales to show the progress of the quality of countries’ public financial management systems. It is based on the questionnaire of 9a to ask respondents to evaluate the progress of PFM systems in last three fiscal years. The details can be referred at GPEDC 2018 Monitoring Guide (<https://www.effectivecooperation.org/system/files/2020-07/2018%20Monitoring%20Guide%20%28National%20Co-ordinator%29.pdf>).

⁷ Statistically significant correlation was not found between indicator 1a and the number of transactions, indicator 1a and average transaction sizes, or 1a and CPA proxy for both the entire dataset and any income group.

7. Contrary to the finding that development partners' use of country results frameworks decreased with increases in aid channels was the finding that development partners' use of country systems increased with the increase in aid channels. Development partners' use of country systems (indicator 9b) showed weak but statistically significant positive correlation for the no time-lagged dataset with the number of aid channels. This result also held for number of transactions, average transaction sizes, number of entities for CPA, and CPA commitment (Table Group 2). However, this overall result differed by country income groups with greater explanatory power for LDCs and LMICs where there was higher (though still moderate) positive correlation and statistical significance for the use of country systems and the number of channels, number of transactions, and CPA commitments for all time-lagged datasets. Positive correlation and statistical significance for the use of country systems and the number of entities for CPA was observed only for LDCs.⁸

Table Group 2: Correlation analysis between P&F and aid effectiveness indicator 9b

9b / Number of Channels							9b / Number of Transactions							9b / Average Transaction Sizes						
LDC	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)	LDC	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)	UMIC	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)
r		0.272	0.217	0.263	0.248	0.261	r		0.362	0.348	0.356	0.358	0.367	r		0.231	0.223	0.171	0.236	0.156
p		0.001	0.012	0.002	0.004	0.002	p		0.00002	0.00004	0.00002	0.00002	0.00001	p		0.007	0.010	0.049	0.006	0.071

9b / Number of Entities							9b / CPA						
LDC	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)	LDC	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)
r		0.185	0.196	0.198	0.191	0.191	r		0.289	0.287	0.274	0.292	0.281
p		0.032	0.023	0.022	0.027	0.027	p		0.001	0.001	0.001	0.001	0.001

9b / Number of Channels							9b / Number of Transactions							9b / Average Transaction Sizes						
LMIC	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)	LMIC	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)	UMIC	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)
r		0.430	0.322	0.426	0.381	0.443	r		0.389	0.400	0.402	0.400	0.386	r		-0.399	-0.389	-0.365	-0.406	-0.375
p		0.001	0.020	0.002	0.005	0.001	p		0.004	0.003	0.003	0.003	0.005	p		0.044	0.049	0.067	0.039	0.059

9b / Number of Transactions							9b / CPA						
LDC	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)	LDC	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)
r		0.552	0.568	0.568	0.565	0.570	r		0.438	0.366	0.391	0.406	0.419
p		0.00002	0.000	0.000	0.000	0.000	p		0.001	0.008	0.004	0.003	0.002

9b / Average Transaction Sizes							9b / CPA						
LDC	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)	LDC	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)
r		0.251	0.186	0.212	0.238	0.201	r		0.229	0.294	0.218	0.267	0.226
p		0.073	0.188	0.132	0.089	0.153	p		0.103	0.034	0.120	0.055	0.107

9b / Number of Entities							9b / CPA						
LDC	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)	LDC	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)
r		0.599	0.577	0.569	0.593	0.562	r		0.233	0.234	0.248	0.234	0.244
p		0.000003	0.00001	0.00001	0.00000	0.00001	p		0.097	0.095	0.077	0.095	0.082

9b / CPA							9b / CPA						
LDC	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)	LDC	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)
r		0.479	0.418	0.419	0.458	0.404	r		0.286	0.317	0.275	0.305	0.296
p		0.000	0.002	0.002	0.001	0.003	p		0.040	0.022	0.049	0.028	0.033

9b / CPA							9b / CPA						
UMIC	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)	UMIC	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)
r		-0.399	-0.389	-0.365	-0.406	-0.375	r		-0.290	-0.255	-0.280	-0.275	-0.283
p		0.044	0.049	0.067	0.039	0.059	p		0.414	0.922	0.305	0.591	0.145

9b / CPA							9b / CPA						
UMIC	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)	UMIC	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)
r		-0.340	-0.332	-0.319	-0.337	-0.320	r		-0.067	-0.126	-0.155	-0.097	-0.185
p		0.089	0.097	0.112	0.092	0.111	p		0.744	0.540	0.449	0.636	0.364

8. Untying of aid appears to have some explanatory value in the reduction in the number of transactions and the number of entities for CPA. Untied aid (indicator 10) and the number of transactions showed statistically significant but weak negative correlation (e.g., -0.187 for the average of a one-to-three-year time-lagged dataset). Similarly, and untied aid and the number of entities for CPA, showed statistically significant moderate negative correlation (e.g., -0.298 for the average of a one-to-three-year time-lagged dataset)⁹ (Table Group 3). However, when analyzing the results by country income groups, the correlation did not hold for LMICs, although it did have explanatory power and statistical significance for UMICs and LDCs.¹⁰

⁸ LMICs show weak positive correlation (0.294) with statistical significance for indicator 9b and average transaction size in a one-year time-lagged dataset. UMICs have negative correlation (e.g., -0.399 for no time-lagged dataset) for the indicator 9b and the number of aid channels with statistical significance observed for most time-lagged datasets.

⁹ However, untying of aid does not show clear correlation with number of channels, average transaction sizes, or CPA commitment at the entire dataset level.

¹⁰ Correlation and statistical significance between untying of aid and aid fragmentation, proliferation, and aid effectiveness indicators were not observed for LMICs. LDCs had statistically significant negative correlation between indicator 10 and average transaction sizes (e.g., -0.396 for no time-lagged dataset), UMICs showed statistically significant negative correlation between indicator 10 and number of aid channels (e.g., -0.463 for a one-year time-lagged dataset), number of transactions (e.g., -0.633 for a one-year time-lagged dataset), number of entities (e.g., -0.601 for the average of a one-to-three-year time-lagged dataset), and CPA proxy commitment (e.g., -0.570 for the average of a no-time-to-two-year time-lagged dataset).

Table Group 3: Correlation analysis between P&F and aid effectiveness indicator 10

10 / Number of Channels							10 / Number of Transactions							10 / Average Transaction Sizes									
r	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)	r	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)	r	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)			
r		-0.093	-0.172	-0.170	-0.134	-0.171	-0.143	r		-0.185	-0.184	-0.186	-0.186	-0.187	-0.187	r		-0.030	0.018	-0.006	-0.009	-0.038	-0.015
p		0.330	0.069	0.074	0.160	0.071	0.134	p		0.051	0.052	0.050	0.049	0.048	0.049	p		0.754	0.852	0.946	0.927	0.690	0.872

10 / Number of Entities							10 / CPA								
r	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)	r	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)		
r		-0.283	-0.297	-0.294	-0.291	-0.298	-0.291	r		-0.040	-0.047	-0.040	-0.044	-0.060	-0.041
p		0.003	0.001	0.002	0.002	0.001	0.002	p		0.674	0.622	0.672	0.645	0.527	0.670

10 / Number of Channels							LMIC							UMIC									
r	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)	r	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)	r	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)			
r		-0.172	-0.176	-0.203	-0.176	-0.200	-0.193	r		0.084	-0.009	-0.021	0.039	-0.027	0.017	r		-0.321	-0.463	-0.451	-0.411	-0.462	-0.419
p		0.290	0.276	0.208	0.278	0.217	0.233	p		0.580	0.951	0.889	0.799	0.858	0.908	p		0.145	0.030	0.035	0.058	0.0304	0.052

10 / Number of Transactions							LMIC							UMIC									
r	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)	r	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)	r	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)			
r		-0.153	-0.156	-0.166	-0.156	-0.188	-0.163	r		-0.055	-0.066	-0.072	-0.062	-0.059	-0.067	r		-0.649	-0.633	-0.660	-0.645	-0.673	-0.658
p		0.347	0.336	0.307	0.335	0.246	0.315	p		0.714	0.662	0.635	0.682	0.699	0.657	p		0.001	0.002	0.001	0.001	0.001	0.001

10 / Average Transaction Sizes							LMIC							UMIC									
r	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)	r	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)	r	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)			
r		-0.396	-0.237	-0.360	-0.350	-0.380	-0.390	r		0.132	0.148	0.158	0.143	0.132	0.152	r		-0.001	0.093	0.036	0.044	-0.002	0.023
p		0.011	0.141	0.023	0.027	0.016	0.013	p		0.382	0.328	0.294	0.343	0.383	0.314	p		0.996	0.682	0.873	0.847	0.994	0.920

10 / Number of Entities							LMIC							UMIC									
r	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)	r	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)	r	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)			
r		-0.111	-0.147	-0.152	-0.130	-0.151	-0.140	r		-0.256	-0.262	-0.252	-0.260	-0.264	-0.254	r		-0.534	-0.588	-0.593	-0.561	-0.601	-0.574
p		0.497	0.366	0.348	0.423	0.351	0.389	p		0.086	0.078	0.091	0.081	0.077	0.088	p		0.010	0.004	0.004	0.007	0.003	0.005

10 / CPA							LMIC							UMIC									
r	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)	r	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)	r	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)			
r		-0.155	-0.114	-0.149	-0.138	-0.168	-0.153	r		0.121	0.096	0.125	0.111	0.105	0.125	r		-0.564	-0.438	-0.542	-0.530	-0.565	-0.570
p		0.340	0.485	0.360	0.396	0.301	0.345	p		0.424	0.527	0.408	0.463	0.486	0.409	p		0.006	0.042	0.009	0.011	0.006	0.006

9. Annual predictability of development finance (indicator 5a) showed no clear correlation with statistical significance observed between P&F and aid effectiveness indicators for the entire dataset or at the level of country income group (Table Group 4).

Table Group 4: Correlation analysis between P&F and aid effectiveness indicator 5a

5a / Number of Channels							5a / Number of Transactions							5a / Average Transaction Sizes									
	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)		t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)		t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)			
r		-0.067	-0.053	-0.063	-0.058	-0.066	-0.063	r		-0.042	-0.034	-0.041	-0.038	-0.036	-0.042	r		-0.157	-0.107	-0.099	-0.140	-0.101	-0.124
p		0.441	0.537	0.465	0.499	0.445	0.464	p		0.628	0.697	0.632	0.661	0.677	0.628	p		0.068	0.214	0.250	0.105	0.243	0.152

5a / Number of Entities							5a / CPA								
	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)		t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)		
r		-0.135	-0.138	-0.143	-0.137	-0.143	-0.141	r		-0.103	-0.074	-0.088	-0.090	-0.081	-0.094
p		0.116	0.108	0.098	0.111	0.096	0.103	p		0.234	0.394	0.308	0.297	0.350	0.276

5a / Number of Channels							LMIC							UMIC									
	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)		t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)		t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)			
r		0.011	0.003	-0.039	0.009	-0.040	-0.019	r		0.046	0.042	0.063	0.052	0.074	0.062	r		-0.021	0.139	0.125	0.057	0.110	0.069
p		0.937	0.983	0.785	0.950	0.777	0.894	p		0.740	0.762	0.651	0.709	0.596	0.654	p		0.918	0.499	0.544	0.780	0.593	0.737

5a / Number of Transactions							LMIC							UMIC									
	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)		t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)		t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)			
r		0.060	0.059	0.051	0.060	0.056	0.054	r		0.073	0.082	0.067	0.077	0.077	0.069	r		0.056	0.033	0.043	0.044	0.046	0.047
p		0.675	0.676	0.722	0.673	0.692	0.705	p		0.600	0.557	0.630	0.579	0.579	0.619	p		0.787	0.874	0.836	0.830	0.822	0.819

5a / Average Transaction Sizes							LMIC							UMIC									
	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)		t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)		t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)			
r		0.074	0.124	0.082	0.105	0.037	0.083	r		-0.175	-0.143	-0.130	-0.165	-0.119	-0.149	r		-0.222	-0.158	0.014	-0.204	0.014	-0.086
p		0.601	0.382	0.564	0.458	0.792	0.560	p		0.205	0.304	0.349	0.232	0.391	0.281	p		0.277	0.440	0.946	0.317	0.947	0.677

5a / Number of Entities							LMIC							UMIC									
	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)		t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)		t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)			
r		0.038	0.015	0.018	0.027	0.024	0.025	r		-0.142	-0.133	-0.139	-0.138	-0.144	-0.140	r		0.072	0.089	0.068	0.081	0.075	0.070
p		0.787	0.915	0.902	0.849	0.868	0.862	p		0.307	0.339	0.318	0.321	0.299	0.312	p		0.726	0.664	0.741	0.696	0.714	0.735

5a / CPA							LMIC							UMIC									
	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)		t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)		t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)			
r		0.013	0.019	-0.016	0.016	-0.039	-0.007	r		-0.087	-0.049	-0.059	-0.070	-0.036	-0.069	r		-0.011	-0.002	0.047	-0.006	0.047	0.025
p		0.928	0.894	0.909	0.910	0.783	0.960	p		0.533	0.727	0.670	0.617	0.795	0.618	p		0.958	0.993	0.820	0.976	0.820	0.904

10. Counter-intuitively, the proportion of development finance going through government budgets increased the number of transactions as well as the number of entities involved in the provision of CPA. The inclusion of development finance in budgets approved by legislatures (indicator 6) only shows statistically significant positive correlation with the number of transactions (e.g., 0.415 for no time-lagged datasets) and the number of entities for CPA (e.g., 0.442 for no time-lagged datasets) in LDCs (Table Group 5). The rest of the datasets for the number of aid channels, the number of transactions, the average transaction sizes, and CPA commitment do not have any correlation with the indicator 6.

Table Group 5: Correlation analysis between P&F and aid effectiveness indicator 6

6 / Number of Channels

	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)
r		0.021	-0.006	0.022	0.007	0.020
p		0.822	0.945	0.812	0.936	0.827

6 / Number of Transactions

	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)
r		0.089	0.087	0.092	0.053	0.085
p		0.335	0.344	0.319	0.562	0.357

6 / Average Transaction Sizes

	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)
r		-0.036	-0.070	-0.062	-0.053	-0.071
p		0.700	0.446	0.502	0.563	0.439

6 / Number of Entities

	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)
r		-0.031	-0.046	-0.043	-0.039	-0.049
p		0.736	0.617	0.643	0.676	0.597

6 / CPA

	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)
r		0.018	-0.010	0.001	0.005	-0.001
p		0.847	0.914	0.988	0.959	0.988

6 / Number of Channels

	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)
LDC		0.236	0.205	0.212	0.223	0.213
r		0.114	0.172	0.157	0.136	0.155

LMIC

	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)
r		0.000	-0.086	-0.021	-0.043	0.001
p		0.998	0.551	0.887	0.768	0.992

UMIC

	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)
r		-0.151	0.010	0.035	-0.066	-0.012
p		0.502	0.964	0.879	0.769	0.958

6 / Number of Transactions

	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)
LDC		0.415	0.398	0.403	0.411	0.407
r		0.004	0.006	0.005	0.005	0.005

LMIC

	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)
r		-0.004	-0.013	-0.008	-0.008	-0.013
p		0.980	0.930	0.958	0.956	0.928

UMIC

	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)
r		-0.025	-0.062	-0.054	-0.044	-0.053
p		0.910	0.785	0.811	0.846	0.813

6 / Average Transaction Sizes

	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)
LDC		0.269	0.158	0.257	0.238	0.222
r		0.071	0.293	0.085	0.111	0.139

LMIC

	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)
r		-0.055	-0.087	-0.075	-0.072	-0.079
p		0.704	0.546	0.604	0.618	0.587

UMIC

	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)
r		-0.154	-0.193	-0.319	-0.180	-0.326
p		0.494	0.388	0.148	0.423	0.139

6 / Number of Entities

	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)
LDC		0.442	0.416	0.414	0.433	0.396
r		0.002	0.004	0.004	0.003	0.007

LMIC

	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)
r		-0.178	-0.188	-0.199	-0.183	-0.201
p		0.217	0.190	0.166	0.203	0.163

UMIC

	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)
r		-0.109	-0.135	-0.097	-0.121	-0.085
p		0.630	0.549	0.667	0.590	0.707

6 / CPA

	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)
LDC		0.274	0.244	0.274	0.266	0.258
r		0.065	0.103	0.065	0.074	0.084

LMIC

	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)
r		0.003	-0.035	-0.024	-0.015	-0.022
p		0.982	0.811	0.866	0.919	0.882

UMIC

	t	t-1	(t-2,t-1)	(t-1,t)	(t-3,t-2,t-1)	(t-2,t-1,t)
r		-0.034	-0.013	-0.035	-0.024	-0.038
p		0.879	0.953	0.877	0.915	0.866

11. The use of country PFM systems (indicator 9a) was recorded using ordinal values. Consequently, instead of linear regression, ordinal regression was performed to assess the dependency of the indicator on the P&F parameters. The regression analysis did not show any statistically significant relationship between any of the P&F parameters and the indicator 9a. Therefore, changes in the P&F parameters did not show any significant influence over the improvement or deterioration in use of country PFM systems along the ordinal scales of “negative progress,” “no change,” “progress,” and “significant progress.”
12. The results of the cross-correlation analyses for aid proliferation, fragmentation, and effectiveness indicators leave considerable room for interpretation. There were five main findings, but given the innovative nature of the analysis, these should be treated with caution. First, development partners use of country systems did appear to increase with the increase in aid channels. Second, and in the opposite direction, development partners use of or reliance on country-led results frameworks declined with the increase in aid channels. Third, the proportion of development finance going through government budgets was correlated with increased (or decreased) transactions and CPA entities for LDCs. Fourth, use of country PFM systems had no statistical relationship with volume of OFF, number of entities, or number of transactions. Fifth, annual predictability of development finance had no statistical relationship with volume of OFF, number of entities, or number of transactions.