



Prospects for aid at times of crisis

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Key messages

- Quantitative analyses showed that in the past bilateral official development assistance (ODA) tended to be pro-cyclical, meaning it increased (or fell) as the donor economy and its public finances expanded (or contracted).
- After the 2008/2009 global financial crisis (GFC), aid was predicted to fall sharply. Instead, ODA rose by 2.1% between 2008 and 2012 with most bilateral donors maintaining their ODA to gross national income (GNI) ratio, despite the pressures on their government budgets.
- During the current pandemic, the response of the largest bilateral and multilateral donors has not been as bad as often portrayed. Among the largest donors, the UK is alone in cutting back its ODA budget significantly, while others have announced no major cuts in 2020 and 2021.
- If donors maintain their 2019 ODA:GNI ratio until 2021, i.e. do not cut their aid budgets more than the fall in their GNI, the projected decline in aid over the coming period will be reasonably contained. Under this scenario, we estimate that bilateral aid will decline between 2.5% and 2.9% depending on growth forecasts.
- However, if the relationship between donor countries' ODA and economic growth remains constant and no action is taken to ringfence aid budgets, we predict a much larger fall in ODA. The exact amount clearly remains uncertain, depending on the long-term economic impacts of the crisis and decisions taken by donor governments on the size of the aid budget in relation to GNI.

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Acronyms

ACT	access to Covid-19 tools
AFD	Agence Française de Développement
AfDB	African Development Bank
ADB	Asian Development Bank
ADF	Asian Development Fund
AfDF	African Development Fund
BMZ	German Federal Ministry of Economic Cooperation and Development
CDB	Chinese Development Bank
DAC	Development Assistance Committee
DFID	UK Department for International Development
EBRD	European Bank for Reconstruction and Development
EZC	Euro-zone crisis
FCDO	UK Foreign, Commonwealth and Development Office
FRED	Federal Reserve Economic Data
FTS	Financial Tracking Service
GAVI	Gavi, the Vaccine Alliance (formerly Global Alliance for Vaccines and Immunization)
GDP	gross domestic product
GFC	global financial crisis
GMM	generalised method of moments
GNI	gross national income
GPG	global public good
IATI	International Aid Transparency Initiative
IBRD	International Bank for Reconstruction and Development
IDA	International Development Association
IDB	InterAmerican Development Bank
IFC	International Finance Corporation
IMF	International Monetary Fund
LIC	low-income country
LMIC	lower-middle-income country
MDB	multilateral development bank
MIC	middle-income country
MIGA	Multilateral Investment Guarantee Agency
NORAD	Norwegian Agency for Development Cooperation
OCHA	United Nations Office for the Coordination of Humanitarian Affairs

OCR	ordinary capital resources
ODA	official development assistance
OECD	Organisation for Economic Co-operation and Development
OOF	other official flows
Sida	Swedish International Development Cooperation Agency
SME	small and medium-sized enterprise
UK	United Kingdom
UMIC	upper-middle-income country
UN	United Nations
US	United States
USAID	United States Agency for International Development
WBG	World Bank Group
WEO	World Economic Outlook

Executive summary

The depth of the global economic crisis triggered by the Covid-19 pandemic is placing enormous pressure on government budgets. In all countries, simultaneously tackling the public health emergency, funding growing social protection programmes, and investing in recovery plans is becoming increasingly costly. Official development assistance (ODA) may be one of the first items axed from donor government budgets. Bilateral cooperation does not bring immediate, visible benefits to domestic taxpayers, and certain elements of the general public challenge the rationale for aid. At the same time, many countries, especially in Africa and Asia, count on development aid as one of the few financing options available when the volume of other sources fall but fiscal needs expand at times of crisis. ODA could play a critical role both in supporting individual governments and also helping finance and achieve shared goals when the world is facing a major health challenge and needs to boost economic recovery.

The quantitative literature found that aid budgets in the past tended to be pro-cyclical, i.e. increased (or fell) as the donor economy (and its public finances) expanded (or contracted). During the most severe global economic recession since the second world war, if previous relations between ODA and economic growth in donor countries hold, what are the potential scenarios for bilateral aid in 2021? How have the bilateral and multilateral donors responded so far to help aid-recipient countries deal with the health emergency prompted by the Covid-19 pandemic as well as to fund economic recovery? The depth and length of global recession triggered by the Covid-19 pandemic will be far more severe and longer than the Global

Financial Crisis (GFC) and Euro Zone Crisis (EZC), but what can we learn from those events in analysing the current outlook for aid flows?

To answer these questions, this working paper reviews the relevant academic and policy literature, data drawn from donors' policy documents and media reports, descriptive data analyses and econometric methods.

Lessons for aid flows at the time of the global financial crisis and Euro zone crisis: early predictions proved wrong

At the onset of the 2008/2009 financial and economic crisis, several commentators and international organisations (for example the Organisation for Economic Co-operation (OECD) and the United Nations (UN)) were concerned about the potential drop in aid flows as a result of the fiscal and credit crunch in most member countries of the OECD Development Assistance Committee (DAC). At that time, estimates suggested cuts up to 25% of aid commitments. As a whole, however, actual Gross Domestic Product (GDP) growth rates were far higher than early assessments predicted. Most donors remained committed to maintaining their existing ratio of ODA to Gross National Income (GNI); only a few cut their aid commitment. Throughout the whole crisis period (2008–2012), aid disbursements from all DAC members increased by 2.1%, despite the fall in GDP. Total aid flows rose by over 10% in three of the largest donor countries by volume – France, the United Kingdom (UK) and the United States (US) – in spite of the pressure on their government budgets at that time.

A preliminary assessment of aid flows during the Covid-19 crisis: most donors kept their aid budgets constant in 2020

The responses of donor countries are changing rapidly but we have been able to make some early reflections.

First, the Covid-19 crisis has made some projects (temporarily) unfeasible to implement, legitimising reallocations within aid budgets. This was not the case in previous crises.

Second, in the current crisis, the response of the largest bilateral and multilateral donors has to date not been as bad as often portrayed. Almost all of the top-10 DAC members have committed new aid funding for the Covid-19 response and largely maintained their existing budgets. The UK is the only donor to date that has announced sharp cuts in its development aid in 2020 and 2021. There is no sign, however, of increased commitments among the other largest donors to address future shortfalls.

Third, early analysis on the multilateral development banks (MDBs) shows that, taken together, the volume of project approvals rose by 35% across the World Bank Group (WBG), African Development Bank (AfDB), Asian Development Bank (ADB), European Bank for Reconstruction and Development (EBRD) and the Inter-American Development Bank (IDB) between 2019 and 2020. In the case of the International Development Association (IDA) figures doubled and quadrupled for the Asian Development Fund (ADF). In the absence of increased capital or additional resources for the concessional windows, however, lending from the MDBs could tail off in 2021 and 2022.

A commitment to the 2019 ODA:GNI ratio would contain the negative outlook for aid flows in 2020–2021

GDP is expected to decline on average by around 2.6–2.7% between 2019 to 2021 across the top-10 OECD DAC members, depending on GDP growth forecasts (IMF, 2020a; OECD; 2020c, respectively).

If DAC members maintain their 2019 ODI:GNI ratios (i.e. not cutting aid more than the percentage of their GNI fall) until 2021, the drop in aid budgets would be reasonably contained: real aid disbursements would decrease by 2.5% or 2.9% depending on International Monetary Fund (IMF) or OECD growth projections.

If past relations between ODA and economic growth in donor countries between 2000 and 2018 hold and no action is taken to ringfence aid budgets, we predict the fall in aid flows would be much more severe, up to 9.5% from the end of 2019 to 2021 depending on the sources of growth projections and the econometric model.

The rationale for external assistance at times of crisis

Counter-cyclical external finance will still be much needed in recovering from the crisis prompted by the Covid-19 pandemic. Many reasons justify it. First, in countries in sub-Saharan Africa (SSA) alone, the IMF estimates additional financing of \$30 billion to avoid governments making difficult fiscal adjustments: the funding gap is already estimated at \$290 billion between 2020 and 2023 (IMF, 2020b).

Second many governments, especially in Africa and Asia, have a narrower set of financing options than advanced economies, and this shrinks at times of crisis. Development aid is one of the few financing sources available when the volume of others – such as borrowing from global capital markets and tax revenues – fall but fiscal needs expand. This situation makes ODA all the more necessary and it would also have a greater impact now than when donor countries might have recovered from the crisis in the medium term.

Third, solidarity regarding certain basic rights and poverty alleviation were among the main motivations for the rise in ODA at the end of the Cold War. Similar arguments should apply now, so that each country can be in a position to respond to the health emergency, restore economic growth and access global public goods (GPGs) (including vaccine development).

Finally, development aid is not only about solidarity. Development cooperation could serve donors' self-interest to accelerate global recovery, including in lower-income countries. Addressing the Covid-19 pandemic in one country depends on addressing it everywhere. Future outbreaks anywhere in the world could spark new waves of the virus. In addition, development aid can help stimulate aggregate demand in lower-income

countries and, in turn, have direct effects on exports and job creation in advanced economies (Mendez-Parra and te Velde, 2017).

Development assistance is one of few financing options available to support lower-income countries to deal with the health emergency and support economic recovery from the Covid-19 crisis. Now, more than ever, is the time to protect – if not increase – aid budgets.

1 Introduction

In global economic and fiscal crises, international aid may be the first area of donor government budgets to be sacrificed under mounting pressure to cut public spending. At the same time, many countries are experiencing greater funding needs in order to cope with major emergencies and undertake economic recovery measures when other financing options – government tax revenues and borrowing from international capital markets – might sharply fall or simply dry up. The economic crisis prompted by the Covid-19 pandemic will be no exception, with an expected drop in the supply of aid and rising demand, widening the gap between them.

Based on literature reviews, descriptive data analyses and econometric methods, this working paper addresses three questions:

- What lessons could be drawn from the donor response to the global financial and economic crisis in 2008/2009? How did the initial assessments for aid flows compare with actual aid disbursements?
- What are the initial responses of bilateral and multilateral donors in terms of volumes and allocation of aid to help recipient countries deal with the health emergency prompted by the Covid-19 pandemic as well as to fund economic recovery?
- If the past is a good predictor and government policies and their prioritisation do not change, how severe could we expect the drop in the supply of aid to be until 2021 as a result of the economic recession in donor economies triggered by the Covid-19 pandemic? First, we model it assuming that the past relation between growth and development assistance budgets hold as they have done since 2000. Second, we consider the most recent IMF projections of GDP in

donor countries (in October 2020) and the OECD (in December 2020).

This working paper is structured as follows:

- **The past.** Chapter 2 analyses the impact of economic growth and financial crisis on aid flows before the Covid-19 crisis. We do so first by summarising the evidence and findings from the quantitative literature. Second, we compare the outlook for aid flows outlined at the early stages of the 2008/2009 global financial and economic crisis with the donor responses and aid figures recorded. We conclude this chapter by assessing the econometric relation between growth and aid flows from DAC members, expanding the analysis and considering data from 2000 to 2018.
- **The present.** Chapter 3 offers a preliminary analysis of the early commitments made by selected donors in response to the Covid-19 crisis – the 10 largest DAC members by volume, the World Bank and four regional development banks. We review whether they increased, maintained or cut their aid budgets, whether additional resources have been announced, and whether the funding allocation (countries and sectors) shifted from the pre-crisis trends, where data are available.
- **The future.** Chapter 4 charts the outlook for bilateral aid flows assuming these respond to changes in GDP growth in donor countries as much as they did in the past, as estimated in Chapter 2. We consider economic forecasts by the IMF and the OECD made in October and December 2020, respectively.
- **Conclusion.** Chapter 5 concludes by summarising the findings and outlining the main recommendations for donors.

2 The past: implications of economic and financial crises on aid flows

This chapter summarises the literature analysing and assessing whether and how previous financial crises affected donor behaviour and aid supply, focusing mainly on the 2008/2009 Global Financial Crisis (GFC). We begin with a review of quantitative studies evaluating how economic and financial crises affected the supply of aid. Second, we summarise qualitative studies outlining responses by bilateral donors as well as the multilateral development banks (MDBs) at the time of the GFC. Third, we assess and measure once again to what extent economic growth in DAC members affected their aid disbursements, taking data from the past 20 years into account – including during the GFC and Euro-zone crisis (EZC).

2.1 Economic performance and aid flows: a review of quantitative studies

The first models on the determinants of aid flows date from the early 1980s (Beenstock, 1980; Mosley, 1985). Since then academics have suggested and tested various structural, political, economic and institutional factors. The number of studies on how donors' macroeconomic conditions influence aid supply has grown, especially following the GFC. Table 1 summarises the main contributions and their findings.

2.1.1 Aid and economic growth

In general, quantitative studies found that aid supply from donors is pro-cyclical – i.e. stronger economic growth in the donor country is associated with higher disbursements of

aid. This is largely to be expected: stronger economic performance usually means greater tax revenues, meaning that donor governments have more resources available and some flexibility in their allocation.

The extent to which GDP growth is a determinant is not clear, however. Analysing business cycles in both donor and recipient countries for the period 1969–1995, Pallage and Robe (2001) concluded that net ODA disbursements were pro-cyclical for 72% of donors. Frot (2009) estimated that aid falls by an average of 13% (when estimated as a level effect) or 5% per year for a period after the onset of the crisis (estimated in volume terms) when comparing countries with and without an economic crisis over the period 1986–2000. Dang et al. (2013) estimated that net ODA disbursements from crisis-affected countries fell on average by at least 28% (over the period 1977–2010). Furthermore, their results showed aid disbursements were 17% lower than total disbursements five years after the onset of a banking crisis. Dang et al. (2013) estimated an elasticity of GDP per capita to aid disbursement of around 3, meaning that a 1% drop in GDP per capita is associated with a 3% fall in aid flows.

Dabla-Norris et al. (2015) showed that aid supply was on average pro-cyclical (both donor and recipient output cycles), with donors reducing aid budgets significantly during periods of crisis. More specifically, the authors estimated that a 1% increase in the donor output gap meant greater real aid disbursements of between 8% and 11%. In years when a country had a large negative output gap, it was

Table 1 The relation between aid, growth and fiscal spending/balances: a review of the literature

Authors	Panel data	Main finding
Pallage and Robe (2001)	1969–1995	Net ODA disbursements pro-cyclical for 72% of donors
Round and Odekun (2004)	1970–1999	No effect of changes in fiscal balance on aid flows
Faini (2006)	1990–2004	A 10% increase in the ratio of public-sector debt to GDP was associated with a fall of 0.012% in ODA:GDP ratio in the short run and 0.023% in the long run Gross debt is a significant determinant of aid flow
Bertoli et al. (2008)	1970–2004	Aid positively and significantly correlated with output gap and fiscal variables (i.e. pro-cyclical). A rise in budget deficit would increase the supply of aid.
Frot (2009)	1986–2000	Aid falls by an average of 13% (when estimated as a level effect) or 5% per year for a period after the onset of the crisis (estimated in volume terms)
Hallet (2009)	1971–2008	Weak correlation between economic growth and aid; in 16 cases where donors' GDP fell by more than 2%, eight donors cut their aid disbursements in the year of a downturn, six did so the following year and nine countries two years later
Dang et al. (2013)	1977–2010	Net ODA disbursements from crisis-affected countries on average fell by at least 28%; five years after the onset of a banking crisis aid disbursements were 17% lower than total disbursements The elasticity of GDP per capita to aid disbursement was estimated at around 3, that is, a 1% drop in GDP per capita is associated with a 3% fall in aid flows
Fuchs et al. (2014)	1976–2011	None of the independent variables surveyed (GDP growth, output gap, unemployment, business cycle and current account balance) were robust determinants of aid effort, except for a donor country's debt burden
Dabla-Norris et al. (2015)	1960–2010	Aid supply is on average pro-cyclical (both donor and recipient output cycles), with donors reducing aid budgets significantly during periods of crisis; a one-percentage-point increase in the donor output gap raised real aid disbursements by between 8% and 11%. In years when a country had a large negative output gap, it was estimated that aid fell by between 32% and 89%. Economic recessions were found associated with a 12% fall in aid disbursements.
Jones (2015)	1960–2009	Domestic macroeconomic conditions had a short-term effect on aid supplies in a pro-cyclical manner, but found no evidence of systematic banking crises leading to additional or independent reductions in expected aid supply

estimated that aid fell by between 32% and 89%. Economic recessions (fall in GDP growth) were found to be associated with a 12% fall in aid disbursements.

Jones (2015) added additional layers of complexity by addressing five areas: differentiating between long-run and short-run factors, heterogeneity between donors and over time, the time-series properties of aid supplies and common factors/bandwagon effects, and changing donor behaviour and motivations, especially since 2000. Jones confirmed that domestic macroeconomic conditions had a short-term effect on aid in a pro-cyclical manner, but found no evidence for systematic banking crises leading to additional or independent reductions in expected aid levels.

On the other hand, following up on Roodman's (2008) case study on the severe negative impact of financial crises on ODA in four countries, Hallet (2009) expanded the analysis to all OECD donor crises in the period 1971–2008. Analysing 16 cases when donors' GDP fell by more than 2%, in eight cases aid disbursements were cut in the year of a downturn, in six cases they were cut the following year, and in nine cases they were cut two years later. In their review, Fuchs et al. (2014) concluded that, while there is empirical support for pro-cyclical behaviour of aid budgets, none of the independent variables included (GDP growth, output gap, unemployment, business cycle and current account balance) was a robust determinant of aid levels across studies. In their fixed-effects regression (1976–2011), neither

these variables nor a binary variable for the financial crisis were found to be significant across specifications, except for the donor country's debt burden.

In addition to these short-term effects, the nature of political policy-making could in some cases delay the negative effects of the crisis on aid budgets. Bhushan and Hadley (2020b) argued that while increased aid is accompanied with big announcements, 'aid is cut by stealth'. They outlined the example of how Canada's aid changed in the years after the GFC in three different stages: (1) 'preservation' of announced levels; (2) 'freezing' of budgets; and (3) announcement of formal cuts. While aid initially increased after the GFC, it declined significantly from 2011 to 2012. Their main conclusion was that while immediate donor responses appear adaptive, the consequences of the financial impact on donors show up in aid levels only after a long period of time.

2.1.2 Aid and fiscal balances

Evidence on how aid supply is influenced by donor budget constraints is mixed. Looking at the period 1970–1999, Round and Odekun (2004) found no effect of fiscal balance on 'aid generosity'. Faini (2006) concluded that gross debt was a significant determinant of aid flows; his analysis of the period 1980–2004 showed that a 10% increase in the ratio of public-sector debt to GDP was associated with a fall of 0.012% in the ODA:GDP ratio in the short run and 0.023% in the long run. Faini's result thus supports the hypothesis that a worse fiscal position means less generous aid budgets. For the period 1970–2004, Bertoli et al. (2008) showed that aid supply was positively and significantly correlated with the output gap and fiscal variables, but also found that a rise in fiscal deficits increased aid supply. This result could indicate that countries in a worse fiscal position are less conservative and thus more generous in their aid budgets. These opposing results have also been discussed in a review by

Mold et al. (2009), highlighting the difficulty of measuring the fiscal balance and its effect on budgeting decisions.

2.2 Aid flows at the time of the 2008/2009 global financial crisis

Previous discussion has shown that over the long term, aid flows are associated with GDP fluctuations in donor countries, but donor responses to the GFC and EZC serve as a reminder that budgetary allocations are political decisions. In this chapter we review what researchers and international organisations projected for aid flows at that time and how bilateral and multilateral donor responses materialised. The short answer is that cuts were less severe for aid than initially predicted, because certain donors significantly increased aid spending as a share of GDP despite pressure on their public budgets and the fall in growth rates was less negative than initially forecast.

2.2.1 Aid flows: early projections

As the GFC unfolded, there were rising concerns about its impact on low- and middle-income countries (LICs and MICs), including the level of ODA. In November 2008 the OECD urged all member states to confirm their existing aid pledges (OECD, 2008). The outcome document of the December 2008 Doha International Conference on Financing for Development stated, 'We are deeply concerned by the impact of the current financial crisis and global economic slowdown on the ability of developing countries to access the necessary financing for their development objectives' (United Nations, 2009: 29). Although the G20 members affirmed their pledge to increase financial resources to LICs and MICs in April 2009, there was considerable uncertainty about donor reactions and future aid budgets. At times of fiscal retrenchment, aid was viewed as one of the first items to be cut.

Most of the early commentaries predicted large falls in ODA (OECD, 2009;¹ Cali et al.,

1 In its 2009 annual report, the OECD acknowledged the general fear that the financial crisis would result in aid budgets being slashed. It cited the example of the recession in the early 1990s, where between 1992 and 1997, total ODA from DAC donors fell from 0.33% to 0.22% of GNI (OECD 2009b: 81).

2008) of up to 25%, while a few pointed to inconclusive evidence from previous crises.²

2.2.2 Aid flows: actual disbursements

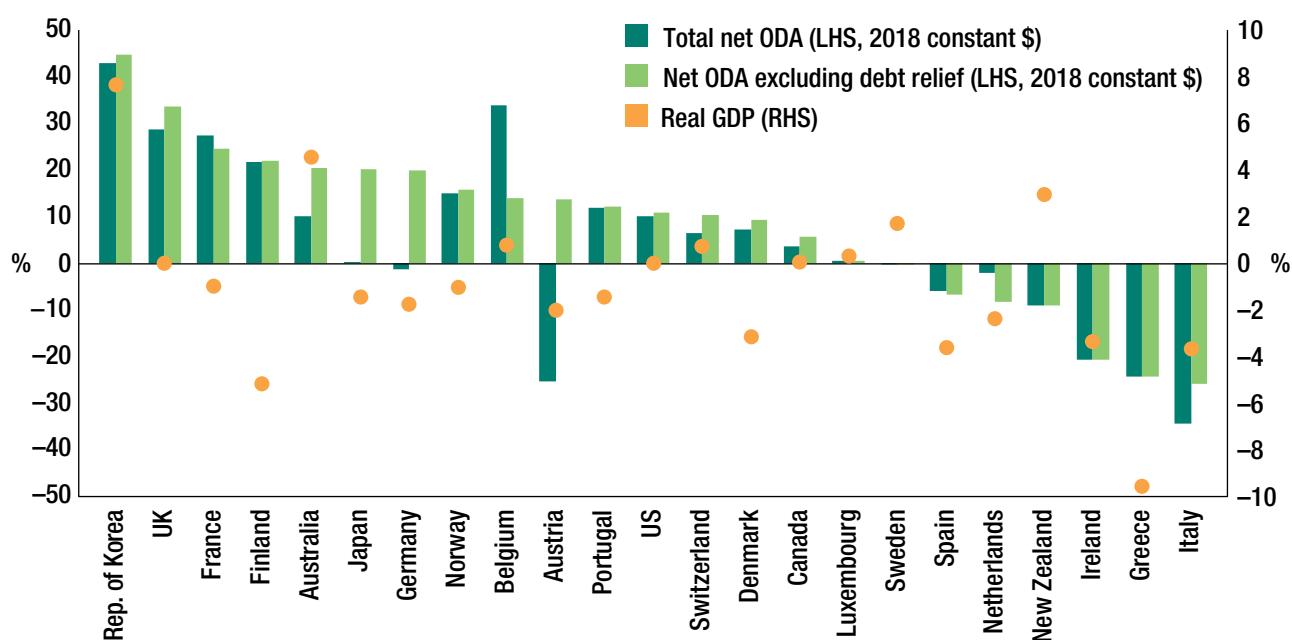
Overall trends across bilateral donors show that total ODA disbursements rose during the GFC: between 2008 and 2010 they increased by 7.2% in real terms. This is in contrast with the early assessments of the impact of the GFC on aid flows we have just described. Total aid flows rose by more than 10% over this period in several donor countries, including three of the largest – France, the United Kingdom (UK) and the United States (US). If debt relief is stripped out of the data, all five of the largest DAC donors at the time of the crisis – France, Germany, Japan, the UK and the US – recorded an increase in real disbursements of over 10% during this period. Figure 1 shows the change in real aid

disbursements between 2008 and 2010 for the 23 donors in our sample.³ Aid disbursements rose even in countries experiencing economic recession, to various extents including the largest donor countries by volume.

Between 2010 and 2012 aid disbursements fell, probably reflecting the ensuing EZC. Real total aid flows from the Eurozone dropped by 13.5% between 2010 and 2012, compared to a rise of 0.5% for disbursements from DAC members outside the Eurozone.

The key point, however, is that throughout the whole crisis period (2008–2012), there was a small rise of 2.1% in aid disbursements from DAC members.⁴ This confounded fears at the start of the crisis that the economic slump and resulting sharp deterioration in fiscal positions would trigger a precipitous fall in ODA disbursements.

Figure 1 Percentage change in GDP and net ODA disbursements, bilateral donors, 2008–2010



Note: Ordered by change in net ODA excluding debt relief. RHS, right-hand side; LHS, left-hand side.

Source: Authors' elaboration based on OECD (2020a) and OECD (2020b).

2 Gottschalk and Bolton (2009) highlighted three issues in assessing aid flows dedicated to alleviating the GFC though: (1) lack of clarity on whether the resources were entirely new and the form these resources would have taken; (2) unclear timeframe for disbursement; and (3) lack of clarity on which institutions and mechanisms would have been used for disbursement. In its December 2009 initial stocktake on donor responses, te Velde and Massa (2009) found that donor decisions on aid were difficult to attribute directly to the GFC since there was no counterfactual with which to compare.

3 We focus on all the DAC members in 2010.

4 Constant prices, and this goes up to 7.5% excluding debt.

Bilateral development partners. The majority of donors remained committed to maintaining their existing ODA:GNI ratio.⁵ Before the GFC, many donors committed to gradually increase their ODA:GNI ratio over several years to come closer to the agreed 0.7% target, but some donors adjusted these aims after the GFC.

Increased ODA volume/increased ODA:GNI ratio. In December 2008, the Swiss parliament requested that the Federal Council prepare a proposal for a growth path towards 0.5% ODA:GNI ratio in 2015, up from 0.37% in 2007 (OECD, 2010a). This measure was at least in part due to pressure from civil society organisations (CSOs) (Malach, 2009).

Reduced ODA volume but maintained ODA:GNI ratio. Those donors already meeting the 0.7% target at that time (Denmark, the Netherlands, Norway and Sweden) remained committed to it. In addition, Australia, Spain and the UK all indicated a continued commitment to their aid targets despite the GFC (McCulloch and Sumner, 2009).

Reduced ODA volume/reduced ODA:GNI ratio. The Irish Minister for Overseas Development stated that the country would continue to work towards meeting the 0.7% ODA/GNI target (OECD, 2010b), but Ireland's aid budget was reportedly reduced on four occasions.⁶ These cuts were criticised for being larger than justified by the projected reduction in GNI (te Velde and Massa, 2009). An even larger decrease of 56% was proposed in Italy's 2009 budget, with additional aid cuts planned for 2010. This meant that ODA as a share of GNI fell from 0.22% in 2008 to 0.16% in 2009 and 0.15% in 2010 (OECD, 2010c).

Most donors changed their aid programmes in response to the GFC, although transparency diverged considerably. Many actively reconsidered their aid allocations based on an assessment of the vulnerability of their recipients (e.g. Denmark, Germany, Sweden and

the UK), both internally and through externally commissioned research.

- Germany did not make major changes to its overall aid programme but introduced various response mechanisms, including budget support, accelerating the implementation of planned programmes and adjusting/strengthening programmes in crisis-relevant sectors (OECD, 2011a).
- The Netherlands outlined that the €600 million reduction to align with revised 2009 GNI projections was to be taken from education and water programmes, larger cuts in bilateral programmes than multilateral programmes, with reallocations across recipient countries according to their relative vulnerability (te Velde and Massa, 2009).
- Sweden published a paper on the implications of the GFC on grant allocations, recommending a greater focus on safeguarding bilateral cooperation by, among other initiatives, increasing country programme predictability and additional measures to provide fiscal space. Sweden indicated that the cuts necessary due to the drop in GNI would be made to research programmes (te Velde and Massa, 2009).
- In the United Kingdom, the former Department for International Development (DFID) published a White Paper in July 2009 outlining its response, and reaffirming the promise to increase ODA and reach 0.7% by 2013 (para 5.13). Regarding responses to the GFC, the White Paper explained that DFID released funds to countries in SSA in its bilateral programmes (para 2.32) as well as undertaking inter-programme reallocation to mitigate risks identified in vulnerability assessments. These were small amounts as the existing programmes already focused on poverty reduction (DFID, 2009; te Velde and Massa,

5 It was not possible to ascertain all DAC donors' reactions. This analysis relies heavily on te Velde and Massa (2009) because many of the original sources are no longer available.

6 The first time in July 2008 and the last in February 2009, when the Irish government announced an 11% reduction of the total overseas development budget for 2009.

2009). The 2010 DAC review praised the UK for its leadership in the financial crisis (OECD, 2011b).

Multilateral development banks

MDBs responded to the GFC by enhancing their financial capacity through the use of their balance sheets, providing fast-track facilities and trade credits, in addition to releasing resources. In their April 2009 summit communiqué, G20 members committed to supporting recapitalisation of the MDBs to enable total increased lending of \$100 billion. In April 2009, the Board of Governors of the capital-strained AfDB approved a 200% increase in capital, from \$55 billion to \$165 billion (AfDB, 2009c). Examples of balance-sheet initiatives to enhance financial capacity included an interpretation change allowing operating asset growth in the EBRD, a change in the debt to Usable Capital Ratio in the AfDB and addition of temporary callable capital in IDB (G20, 2009).

In the case of the WBG, resources increased by \$100 million for the International Bank for Reconstruction and Development (IBRD), its non-concessional arm, \$42 billion for IDA, its concessional arm, and \$36 billion for the International Finance Corporation (IFC).⁷ Among a long list of initiatives under these

headings, the WBG launched a new Financial Crisis Response Fast Track Facility, releasing \$2 billion from the IDA15 replenishment (te Velde and Massa, 2009).⁸

In its review of the WBG response to the GFC, the Independent Evaluation Group (IEG) found that it increased lending commitments to ‘unprecedented levels’, from \$38.2 billion in 2008 to \$58.8 billion in 2009 and \$72.2 billion in 2010. Most of the crisis-related resources were directed to economic policy, social protection and the financial sector. Funding increased more in MICs than in LICs, partly due to the IBRD’s larger financing than IDA (World Bank, 2011). Calls for additional support from bilateral donors were largely unsuccessful, with only a few earmarked contributions. Therefore, the World Bank’s crisis lending packages consisted mainly of relabelling existing funding from IDA and IBRD (Woods, 2009).⁹

2.3 Updated estimates of the relationship between aid and growth

Between 2000 and 2018 the correlation between GDP growth and aid disbursements was weak but positive (Figure 2), with a correlation coefficient of 1.6%.¹⁰ This chapter examines this relationship and its determinants in more detail.

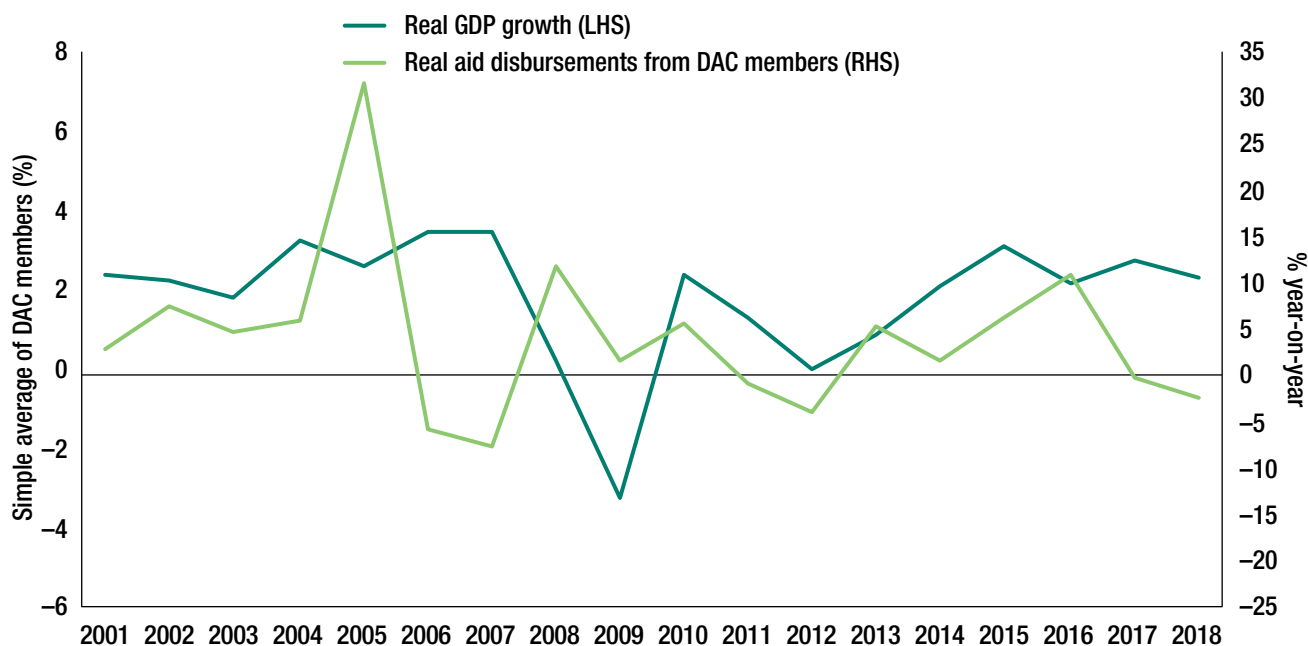
7 The response was implemented through a three-pillar structure aiming to: (1) protect the most vulnerable through safety-net programmes via the existing Global Food Program and a new Rapid Social Response Program; (2) maintain long-term investments in infrastructure through the existing Infrastructure Recovery and Assets Platform; and (3) support the private sector (small and medium-size enterprises (SMEs) and microfinance) through the IFC (World Bank, 2011).

8 For a detailed review of the WBG’s response to the GFC, see the IEG reports (World Bank, 2011a; 2011b).

9 Regional Development Banks implemented a mix of new initiatives and scaling up of existing instruments. The AfDB response comprised four initiatives: (1) an ‘Emergency Liquidity Facility’ at a provisional \$1.5 billion; (2) a \$1 billion ‘Trade Finance Initiative’; (3) a ‘Framework for Accelerated Resource Transfer’ of African Development Fund, the AfDB’s concessional arm; and (4) enhanced policy advisory support. The AfDB also allowed front-loading up to 100% for all ADF-eligible countries in 2009 (AfDB, 2009a; 2009b). The IDB increased lending focusing on safety nets, increased trade support from \$400 million to \$1 billion, and established a \$6 billion emergency ‘Liquidity Programme for Growth Sustainability Facility’ in October 2009 (IDB, 2009; te Velde and Massa, 2009). The ADB initiative consisted of \$1 billion for trade finance and \$6 billion for infrastructure loans, and set up the ‘Countercyclical Support Facility’ worth \$3 billion in June 2009, intended to provide support for public expenditure (ADB, 2009). In February 2009, the EBRD announced the provision of up to \$6 billion for the financial sector in 2009/10. This assistance would have been in the form of equity and debt finance, for banks and SMEs, and trade finance (European Commission, 2009).

10 The correlation coefficient is 19.5% when debt relief is stripped out of the analysis (this also reflects the fact that debt-relief commitments are made over a longer period and are less prone to changes in GDP). The correlation coefficients are significant at the 1% confidence interval.

Figure 2 DAC aid disbursements and GDP growth



Note: DAC, Development Assistance Committee; GDP, gross domestic product; LHS, left-hand side; RHS, right-hand side. Source: OECD (2020a).

We assess whether and how much economic growth in DAC members affected the supply of ODA between 2000 and 2018. We build on the models and methods of the contributions reviewed in Section 2.1 by expanding the time period up to 2018 and considering 23 country members of the DAC.¹¹ (Annex 1 lists the data sources used, Annex 2 the econometric model and the estimator, Annex 3 the econometric results and Annex 4 the robustness tests of our estimates.) Here we concentrate on the main results, which will also be used to model future trajectories for aid flows in Chapter 4.

Our results show that the extent of pro-cyclicality differs depending on the estimator (first difference, fixed effects or generalised method of moments (GMM) and variables used in the model (e.g. current GDP or GDP in the previous year). The impact of GDP growth on aid flows is, however, positive and significant in all the estimations, suggesting that aid flows are pro-cyclical. The elasticities of aid

disbursements to changes in GDP derived from our estimations are illustrated in Table 2 and are explained in Annex 3.¹²

In a nutshell, the results from our estimations are consistent with the literature in finding that aid flows are pro-cyclical – stronger economic growth in donor countries is correlated and associated with higher ODA disbursements. Our results suggest that aid flows have risen and fallen with changes in the size of the economy on average across OECD donors over the past 20 years.

Our results are much smaller than those reported by Dang et al. (2013), who found that a 1% fall in GDP per capita is associated with a 3.2% drop in aid disbursements. Their estimates would suggest that aid budgets were subject to more targeted cuts in the period they reviewed (1977–2007), which is a central reason why our results likely differ. Dang et al. (2013) do not cover the GFC period, when aid flows held up far better than had generally been anticipated given the deterioration in economic conditions.

¹¹ These are the countries for which ODA data are available since 2010.

¹² As a test of robustness, as well as using total aid disbursements from DAC members as the dependent variable, we also use a measure of aid disbursements which excludes debt relief. The results from these estimations (shown in equations (4), (5) and (6) in Table A3.2 of Annex 3) suggest that (when using the fixed-effects estimator) the degree of pro-cyclicality becomes less pronounced after debt relief has been stripped out of the data.

Table 2 Econometric results: elasticities of aid disbursements to changes in GDP

	Real GDP (current year)	Real GDP (previous year)
First-difference estimator	1.12 (0.41)	0.98 (0.30)
Fixed-effects estimator	1.71 (0.63)	1.79 (0.57)
GMM estimator	0.89 (0.35)	0.77 (0.31)

Notes: All of our results are statistically significant at (at least) the 5% level. Standard errors under parentheses.

3 The present: a preliminary review of donor commitments

In this chapter we examine the early responses of bilateral and multilateral donors to the emergency and recovery from the Covid-19 pandemic and economic crisis prompted by it. So far, we have largely focused on bilateral aid. The MDBs usually have much larger ‘firepower’ and their mandates allow them to respond more rapidly to crises than bilateral donors. Since DAC members also contribute to their capital and replenishment rounds, we include MDBs in this chapter.

Mapping the responses of bilateral and multilateral donors to the Covid-19 crisis to date is not straightforward. The lack of data and the changing situation as programmes and projects are currently being approved or implemented have constrained our ability to provide a comprehensive or up-to-date analysis. The review of the evidence so far aims to provide a snapshot of the progress since the start of the pandemic. Box 1 summarises the methodology used in Section 3.1. The data gathered and their analysis reflect information available in October 2020 unless otherwise stated.

3.1 Bilateral donors

Among the top-10 largest bilateral DAC members, the vast majority committed new (non-reallocated) ODA funding to support the Covid-19 response in LICs and MICs or kept their existing budgets, on the basis of a preliminary analysis. The UK is the only major donor to date that has announced large budget cuts. Details of donor interventions

are included in Annex 5. Sources were verified as of October 2020, unless otherwise specified.

3.1.1 Volumes of development assistance: trends

- **Canada:** Canada’s Finance Minister released the *Economic and Fiscal Snapshot 2020* on 8 July 2020, which includes an overview of the country’s Covid-19 economic response (Government of Canada, 2020).¹³ According to this, the international response was expected to be funded from the International Assistance Crisis Pool, reallocating funding as well as receiving CA\$50 million from the ‘Covid-19 Response Fund’ (the whole-of-government support package) (PMC, 2020). At the time of writing at the end of 2020, the government of Canada announced over CA\$1.6 billion, CA\$1.2 billion of which was for new international assistance.
- **France:** The Foreign Affairs Minister, Jean-Yves Le Drian, in a discussion with the French NGO umbrella organisation ‘Coordination SUD’ on 26 May 2020, said that France remained committed to its ODA budget for 2020 as well as the planned increase in ODA for 2021 (Coordination Sud, 2020). France’s development budget for 2021 is set to rise to €17.2 billion (\$20.2 billion) (Donor Tracker, n.d.a). It was \$12.2 billion in 2019.
- **Germany:** In June 2020, the German Ministry of Finance (BMF) published a second

¹³ The Canadian federal budget for FY2020 (1 April 2020 to 31 March 2021) was meant to be presented on 30 March, but was delayed due to the Covid-19 outbreak.

Box 1 Methodology for tracking early donor responses to the Covid-19 crisis

Beneficiaries and development partners. We consider flows to LICs and MICs as those classified as ODA (concessional) and other official flows (OOFs – non-concessional), though so far in Chapter 2 we have focused solely on ODA. We analyse the 10 largest bilateral DAC donors by volume (Canada, France, Germany, Italy, Japan, the Netherlands, Norway, Sweden, UK and US).

Sources. Three real-time databases estimate funding for Covid-19: (1) the Devex Funding Database (Devex, n.d.); (2) the United Nations Office for the Coordination of Humanitarian Affairs (OCHA) Financial Tracking Service (FTS) (FTS, 2020); and (3) the International Aid Transparency Initiative (IATI) platform (IATI, n.d.). The databases rely on different sources and use different definitions (for example, the FTS only covers humanitarian grants). For more details, Anderson (2020) outlines the differences and similarities between these databases. To improve tracking of donor flows in response to the Covid-19 pandemic, the WBG and the Dutch government launched a new Covid-19 data visualisation prototype (see Development Initiatives, 2020). This combines funding data from IATI and OCHA FTS, but it is still being developed.

None of these four databases provides a full picture of Covid-19 funding commitments, so the analysis in this chapter is complemented by media reports and policy documents, e.g. press releases from donors (government agencies and departments etc.), news agencies (e.g. Devex) and the Policy Updates collated by SEEK Development.ⁱ For the most part, gathering time data required piecing together different sources of information and news (and in some cases, funding is still under negotiation).

For countries for which data on a quarterly basis are available, we included a preliminary trend analysis comparing Q1–Q3 figures for 2019 with the same period in 2020 for their largest development agency (Canada, the Netherlands, UK and US).

Methodological challenges. For some donors, identifying the total amount of Covid-19-related funding was straightforward, as all ODA funding and international Covid-19 initiatives are handled by one agency.ⁱⁱ For other donors, it was difficult to provide a comprehensive overview owing to the involvement of multiple government authorities and the split budget lines.ⁱⁱⁱ This is also reflected in the different coverage of information across donors.

In their stocktake of donor responses to the GFC, te Velde and Massa (2009) grappled with how changes to aid flows could be associated with a crisis given the lack of a counterfactual. This is less of an issue in our investigation, as donors have mostly labelled the funding as Covid-19 support. Furthermore, regular updates of growth projections influence the budgeting processes, including the allocation for aid in countries that aim for a specific ODA to GNI ratio.

Another issue is that not all international donor initiatives can be classified as ODA. For example, the UK committed to using its aid budget to address Covid-19, including support to develop new vaccines, tests and treatments in addition to conventional development and humanitarian assistance, but under OECD rules, vaccine-related research does not count as ODA (Worley, 2020).

i To be found here (Donor Tracker, n.d.b). For some bilateral donors, (national) organisations have provided useful commentaries on responses; examples include Bond, the UK network for organisations working in international development, and Canada’s International Development Platform (CIDP).

ii For example, Sweden and Norway.

iii An example is Germany, where the Federal Foreign Office coordinates the humanitarian budget, the Federal Ministry for Economic Cooperation and Development managed the development assistance budget, implemented by the two government agencies, GIZ and KfW. Another complex donor is the United States: identifying all the ODA-related components of global funding was complicated by their placement in different budget lines (Congress.gov, 2019; 2020).

supplementary budget for 2020 to finance Germany's Covid-19 response. The proposal includes €3.15 billion requested by the Development Minister, Gerd Müller, divided into €1.55 billion for 2020 and another €1.55 billion for 2021.¹⁴ The last tranche for 2020 was approved in late September 2020. The second supplementary budget also includes €560 million for 'Humanitarian Assistance and Crisis Prevention' in 2020, implemented by the Federal Foreign Office.¹⁵

- **Italy:** The budget proposal submitted to parliament in November 2020 would indicate a rise in the ODA budget up to €5.3 billion in 2021 (Camera dei deputati, 2020), slightly over its 2020 figures (Gavas, 2020).
- **Japan:** On 30 April 2020, Japan passed its first supplementary budget for FY2020 (April 2020–March 2021) with an increase of 136.9 billion yen (¥) for ODA. In April the cabinet approved a Covid-19 Crisis Response Emergency Support Loan Scheme, of up to ¥500 billion over two years. The government has also announced a doubling of its contribution to the IMF Poverty Reduction and Growth Trust (IMF, 2020c). Additional funding for ODA (¥144.4 billion) was made available in the third supplementary budget in December 2020. Japanese ODA is set to increase in FY2021 (¥568 billion) compared with the initial allocation for FY2020 (¥561 billion).
- **Norway:** On 12 May 2020 the government announced an adjusted development budget with the Revised National Budget (Government of Norway, 2020), reallocating a total of NOK 900 million to Covid-19 efforts, although there was no mention of a change in the overall ODA volume. The ODA budget for 2020 is therefore tentatively maintained at absolute levels.
- **Sweden:** Sweden has clearly stated that its Covid-19 funding is made up of reallocated funds. The Spring Amending Budget for 2020, totalling SEK 100 billion, presented on 15 April 2020 made no mention of ODA (Ministry of Finance, Sweden, 2020). The ODA budget for 2020 is therefore tentatively maintained at absolute levels. Despite expectations that Sweden's ODA may be reduced in 2021, when the Budget Bill was presented to parliament on 21 September, ODA slightly increased. Sweden's ODA is tied to its GNI and a contraction was earlier anticipated, which has now been revised (CONCORD, 2020).
- **The Netherlands:** On 26 March 2020, a motion to maintain existing ODA won the majority vote in parliament (NHOR, 2020a). On 10 July, the cabinet decided to provide €500 million from the general budget towards ODA, of which €350 million partially offsets the falling aid budget for 2020 – resulting from the decline in GDP – and €150 million in new funding for Covid-19 support, meaning that total ODA will increase in 2020 (Donor Tracker, 2020a). The Dutch government decided to front-load €464 million from future years to maintain the budget for 2020 and 2021, although the impact on future budgets is still uncertain.
- **United States:** On 5 March and 27 March 2020, the US Congress approved two emergency spending packages – the *Coronavirus Preparedness and Response Supplemental Appropriations Act, 2020* and the *Coronavirus Aid, Relief and Economic Security (CARES) Act* (for FY2020, 1 October 2019 to 30 September 2020), both of which included additional funding for Covid-19 international assistance totalling \$2.56 billion (Saldinger, 2020a; Saldinger and Igoe, 2020). At the time of writing (December

14 The supplementary budget was adopted by the Federal Cabinet on 26 June and approved by parliament on 1 July 2020 (Donor Tracker, 2020c). The budgetary process for 2021 is still in preparation (and will be subject to parliamentary approval).

15 On 23 September 2020, the German Cabinet adopted the government draft bill for the 2021 federal budget, as well as the mid-term financial plan until 2024. According to the mid-term financial planning, funding for BMZ will decline over the coming years, with the BMZ budget set at €9.4 billion (\$10.8 billion) in 2022, and at €9.3 billion (\$10.7 billion) in 2023 and 2024. Therefore, according to the draft budget, the mid-term financial planning for the BMZ budget will drop below the 2020 pre-Covid-19 levels of €10.9 billion (\$12.5 billion). However, mid-term financial planning has been equally conservative over the past years, with actual increases in the respective budget years (Donor Tracker, 2020d).

2020), the budget bill included a small increase for foreign aid (Saldinger, 2019).

- **UK:** On 6 July 2020 the former Secretary of State for International Development, Anne-Marie Trevelyan, confirmed to MPs that the UK ODA budget would be cut in 2020 and probably also in 2021 (Donor Tracker, 2020b). On 22 July 2020, First Secretary of State and Secretary of State for the new Foreign, Commonwealth and Development Affairs, Dominic Raab, officially announced that the 2020 spending cut for the aid budget would amount to £2.9 billion, while still meeting the 0.7% ODA:GNI ratio (Government of the UK, 2020). By the end of November 2020, it was announced that the ratio was temporarily suspended, reducing the ODA budget to just over £10 billion.

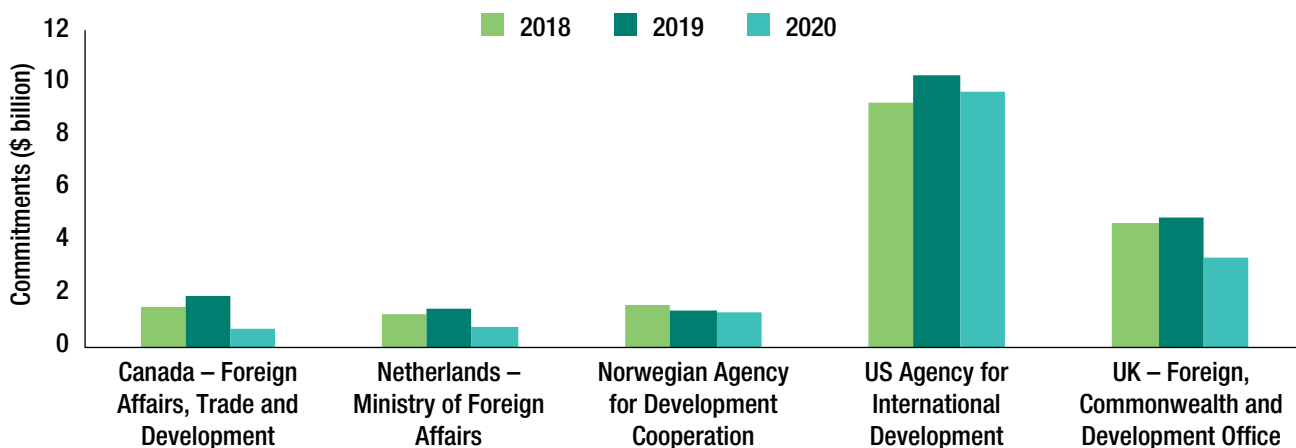
Additional initiatives sparked by the Covid-19 crisis include new task forces and reports, in Italy,¹⁶ the Netherlands,¹⁷ Norway¹⁸ and Sweden.

Donors legitimised the reallocations by the temporary impossibility of carrying out some

planned activities due to the crisis, as well as reduced spending on aid for refugees. This is the main difference from previous economic crises, where the distribution of aid budget cuts was not based on feasibility of implementation, but rather on political priorities. Another difference is that the Covid-19 crisis has reduced expenditure for refugees/first-year asylum seekers, freeing up funding for other activities in the ODA budget (as noted by the Netherlands and Norway) (Government of Norway, 2020; NHOR, 2020b).

Albeit preliminary, Figure 3 compares the volume of commitments between 2018 and 2020 – in the first three quarters of each year to ensure comparability over time – across agencies that report their data to IATI. These data are limited to agencies in five donor countries analysed in this working paper. It is worth noting that all of them have seen a fall in the level of commitments in the first three quarters of 2020 compared with the same period in 2019. This trend is most likely related to slower implementation of planned activities or reprogramming as the result of international and national travel restrictions.

Figure 3 Official development assistance commitments Q1–Q3 – selected agencies



Note: Selected agencies based on data availability and if included in the top-10 DAC members by volume. Only the largest development agency considered for each country.

Source: IATI data downloaded in October 2020.

16 In Italy, an inter-institutional working group commissioned to coordinate responses to the Covid-19 crisis held its first meeting on 30 June 2020.

17 In the Netherlands, the government published an extensive Q&A note on the impact of the Covid-19 crisis on Dutch ODA, while Dutch MPs have engaged on the matter of international assistance, including a five-hour debate addressing 76 different questions held on 18 May 2020.

18 The Norwegian Development Agency NORAD published the report ‘Development Assistance in the aftermath of the corona pandemic’ on 27 July 2020, indicating how international partners can best respond to the Covid-19 crisis.

3.1.2 Sector allocation

Bilateral donors are mainly funding health programmes (especially vaccines, tests and treatments) and humanitarian assistance. The Netherlands is an exception, given that half of its funding goes to socio-economic resilience.¹⁹

- France focused its early interventions almost exclusively on health through its ‘Covid-19 Health in Common’ initiative and commitment to the ‘Access to Covid-19 Tools’ (ACT) Accelerator, a global collaboration based on four pillars: diagnostics, therapeutics, vaccines and health systems (WHO, 2020). About 65% of Norway’s funding was directed to health efforts, with the remainder going to humanitarian assistance and debt relief. As mentioned, these sources are obtained by reducing commitments to education and climate-related initiatives (in the international cooperation budgets), as well as for the IFC and MDBs.
- Germany outlined seven thematic areas and different initiatives. Their two main budget lines are health and food security. Projects highlighted by Sweden focused on health (maternal health and care for the elderly), democracy and human rights as well as social protection.

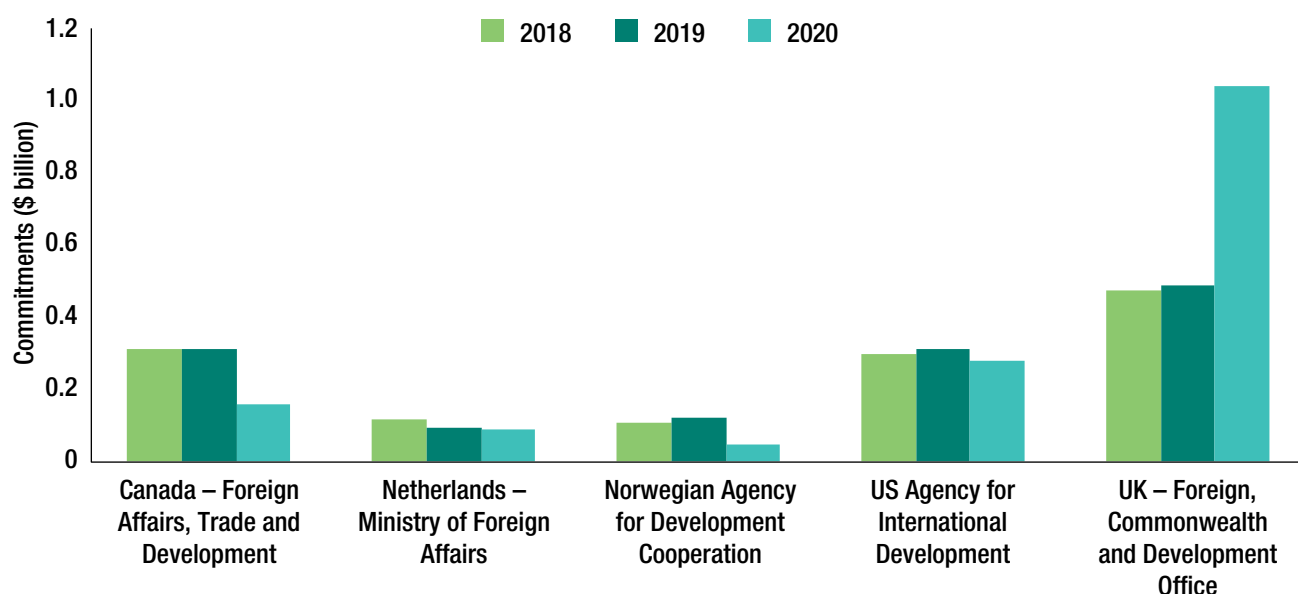
- In a congressional hearing on 31 July 2020, Chris Maloney, acting assistant administrator at USAID’s Africa bureau, stated that about 70% of US Covid-19 funding was then going to humanitarian response, 20% to global health and 10% to so-called ‘second- and third-order effects’ (Saldinger, 2020b). Canada²⁰ was directing about 40% of its funding to health, 20% to humanitarian support, and the remainder to second-order effects on food security, nutrition and education initiatives.
- The Netherlands is shifting funding from civil society, the private sector and security to multilateral organisations, providing 17% of funding to prevention, 32% to humanitarian assistance and 50% to socio-economic resilience. Of Japan’s total commitments, \$2.45 billion has been paid into the IMF Poverty Reduction and Growth Trust fund and \$2.22 billion is being provided as part of the ‘Covid-19 Crisis Response Emergency Loan Support’ programme that aims to maintain and revitalise economic activities. Thus, while the country still commits a substantial amount to health, this is dwarfed by the huge support for economic activities.

Looking at the data for the health sector based on the IATI database and the first three quarters of 2018, 2019 and 2020, changes in the volume

19 As of October 2020, Italy had only officially announced funding for health, but on 20 July 2020, the Italian National Council for Development Cooperation (NCDC), the principal advisory body of the Italian development cooperation system, met and validated the Italian Covid-19 aid response guidelines with the following priorities: strengthening health systems, water sanitation, ensuring access to food, gender equality and supporting research, production and fair distribution of drugs/vaccines. Germany’s initial support package consisted of €1.150 million in the form of reallocations, but the German Development Minister Gerd Müller said he hopes to direct 10% of the bilateral country portfolio to programmes combating the pandemic (BMZ, 2020; Süddeutsche Zeitung, 2020). In its latest update Sweden writes that Sida has allocated about SEK 1.25 billion to 85 new initiatives aimed at combating the crisis, while 250 out of more than 2,000 ongoing collaborations have been adapted. Examples of these new and adapted projects are provided on the website, but Sweden does not outline where the funding for the ‘new’ projects is coming from. Canada also mentions that some of the funding comes from reallocations without stating the source (Government of Canada, 2020). Norway has identified specific budget lines within its ODA budget (education and climate initiatives) from which to reduce funding, without mentioning the specific projects or recipient countries affected (Government of Norway, 2020). The Netherlands provides the most detailed information on how it has freed up funding from different budget lines in its supplemental budget (NHOR, 2020b). It presents both an overview of redistribution across 12 different themes, as well as specific mentions in the accompanying text. The main budget lines with reduced funding are the private sector, food security, civil society, security and rule of law. Most funding has been directed towards humanitarian aid and multilateral cooperation.

20 COVID-19 Response Fund, 11 March 2020 and Announcements, 4 April and 24 June 2020.

Figure 4 Official development assistance commitments for health Q1–Q3 – selected agencies



Note: Selected agencies based on data availability and if included in the top-10 DAC members by volume. Only the largest development agency considered for each country.

Source: IATI data downloaded in October 2020.

of assistance towards the health sector are mixed (Figure 4). In the UK, there is a sharp increase for the Foreign, Commonwealth and Development Office (FCDO) (which replaced DFID in September 2020), doubling the share from 10% of total commitments to health in 2019 to 21% in 2020. Assistance aimed at the health sector fell in the cases of Canada DFATD, the Dutch Ministry of Foreign Affairs, NORAD and USAID.

3.2 Multilateral development banks

The MDBs have shared commitments and plans to scale up their response to the health emergency and economic recovery arising from the Covid-19 pandemic and socio-economic crisis. With different time spans and data breakdown, plans for future commitments and disbursements are of \$160 billion for the WBG, \$10 billion targeted by the AfDB, a \$20 billion support package by the ADB,²¹ \$7 billion by the IDB and \$21 billion by the EBRD. Table A5.3 in

Annex 5 outlines the main sources considered for the MDB response and the detailed description.

- The WBG President Malpass explained that the \$160 billion programmes are being financed with existing resources, fully leveraged and brought forward (up to \$35 billion of IDA19 will be front-loaded for the next financial year). The response is possible due to the recent IBRD and IFC capital increases and the IDA19 replenishment (World Bank, 2020b).
- For the initial package, the ADB planned to reprogramme 20% of the 2020 portfolio for sovereign operations, reallocate resources within ongoing projects, use freed-up funding from cancellations and ongoing projects, and make available existing grant resources (ADB, 2020a: 3–4). To fund the additional \$13 billion, new resources were mobilised as ordinary capital resources (OCR).²² On 16 September 2020, donors agreed to

21 \$7 billion of co-financing for Covid-19 operations mobilised. The ADB is spending up to \$13 billion of its response through the newly established ‘Covid-19 Pandemic Response Option’ under ADB’s Countercyclical Support Facility.

22 The ADB finances its OCR lending operations by issuing debt securities in the international and domestic capital markets.

a replenishment in excess of \$4 billion, corresponding to a 7% increase, for the ADB's grant funds (Asian Development Fund and Technical Assistance Fund) for the period from 2021 to 2024.

- In April, the AfDB announced that it would target \$10 billion in lending this year in response to Covid-19.²³
- The bulk of IDB funding comes from re-programming the existing portfolio of health projects to address the crisis. \$3.2 billion of the \$12 billion sovereign operations are additional resources to the lending programme initially planned for 2020 (IDB, 2020). The IDB has launched a series of Sustainable Development Bonds (SDBs),²⁴ issued following the funding announcement. IDB member governments can request reallocating resources from ongoing projects in other sectors to focus on the Covid-19 response, which IDB estimates could total up to \$1.35 billion across countries.²⁵
- The EBRD has devoted its whole 2020/2021 portfolio to the Covid-19 response through its 'Solidarity Package' (EBRD, n.da.; Williams, 2021). This approach recognises that the crisis and recovery phases overlap, and the different trajectories of different sectors and countries. Given the breadth of the ongoing crisis across its clients, the EBRD is not specifically classifying projects as Covid-19 response or 'normal' business.

All MDBs highlight economic resilience, liquidity and trade facilitation as the main areas of intervention,²⁶ while the commitment to making a specific health-related response is more varied. The WBG and the IDB outlined specific frameworks, which include health, while the

AfDB and ADB have made broader statements of support to health and economic impacts. The WBG programme is based on (1) protecting the poorest and most vulnerable households; (2) supporting business and saving jobs; and (3) helping lower-middle-income countries (LMICs) implement emergency health operations and strengthen economic resilience (World Bank, 2020a). The IDB also announced four focus areas: (1) the immediate public health response; (2) safety nets for vulnerable populations; (3) economic productivity and employment, directed to SMEs; and (4) fiscal policies for the amelioration of economic impacts (IDB, 2020). The AfDB and ADB support alleviation of (macro) economic consequences, health and social impacts, trade finance and risk mitigation (AfDB, 2020; ADB, 2020b; 2020c). The EBRD stated that it is addressing the economic impact of the crisis, focusing on sectors hardest hit, and using its full range of finance and policy tools to support clients and countries (Williams, 2021). The EBRD does not explicitly focus on health, although it has invested in selected health-sector projects.

To what extent have MDBs expanded their programmes and projects in 2020 compared with those approved in 2019? Figure 5 shows the total volume of project approvals in 2019 against those in 2020. We are aware that MDBs operate on the basis of different fiscal years (for instance, the WBG's fiscal year runs from June to July) and have different timelines for project approval, which could have been affected by the logistical challenges brought about by Covid-19. Using the calendar year for this analysis does, however, allow for a preliminary glance at MDBs' response to the pandemic. Box 2 illustrates the methodology used to compile the data in Figures 5, 6 and 7 as well as Table 3.

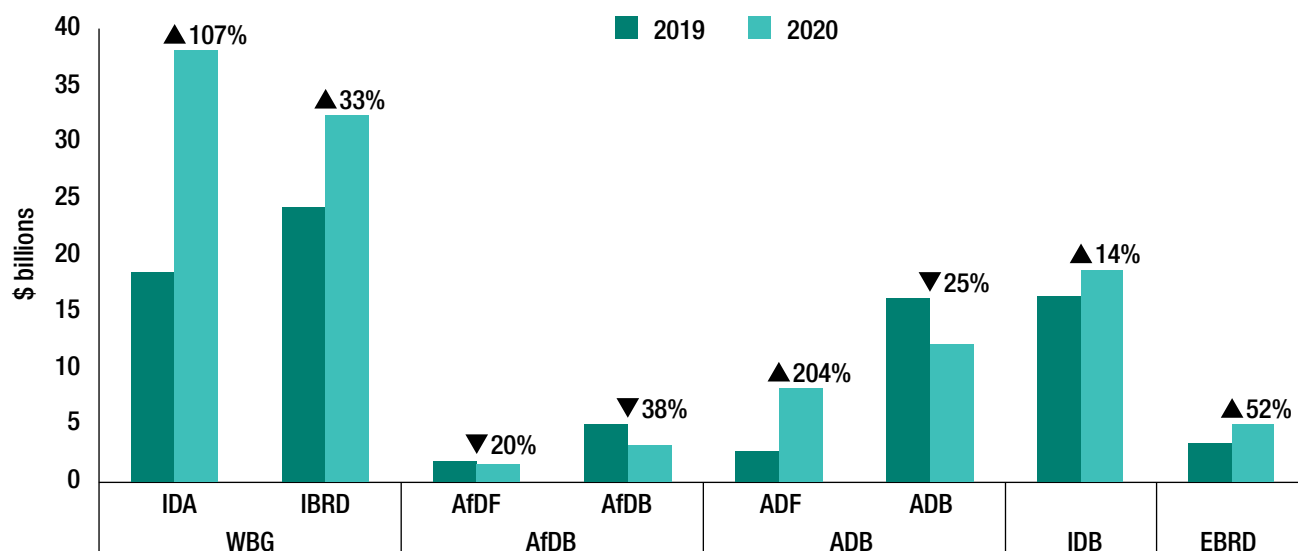
23 On 27 March 2020, the AfDB announced a \$3 billion 3-year 'Fight Covid-19 Social Bond' with the stated purpose of alleviating the economic and social impact of the Covid-19 crisis.

24 The first \$2 billion five-year SDB was launched on 30 March 2020. The second \$4.35 billion three-year SDB was launched on 21 April 2020.

25 Further \$5 billion are meant for non-sovereign operations from IDB Invest, the private-sector institution, of which \$4.5 is from the investment programme.

26 On 1 July 2020, the World Trade Organization and MDBs made a Joint Statement on supporting trade finance (2020d).

Figure 5 Project approvals 2019 vs 2020 – by multilateral development bank



Note: See Box 2 on methodology. ADB, Asian Development Bank; ADF, Asian Development Fund; AfDB, African Development Bank; AfDF, African Development Fund; EBRD, European Bank for Reconstruction and Development; IBRD, International Bank for Reconstruction and Development; IDA, International Development Association; IDB, Inter-American Development Bank; WBG, World Bank Group.

Source: Authors' elaboration.

Table 3 Project approvals by MDB, 2019 vs 2020

Multilateral development bank	2019 (\$ billion)	2020 (\$ billion)	Year-on-year growth (%)
WBG			
IDA	18.5	38.2	▲107
IBRD	24.3	32.3	▲33
AfDB			
AfDF	1.9	1.5	▼20
AfDB	5.1	3.1	▼38
ADB			
ADF	2.7	8.2	▲204
ADB	16.1	12.1	▼25
IDB	16.4	18.7	▲14
EBRD	3.3	5.0	▲52
Total	88.2	119.2	▲35

Note: See Box 2 on methodology. ADB, Asian Development Bank; ADF, Asian Development Fund; AfDB, African Development Bank; AfDF, African Development Fund; EBRD, European Bank for Reconstruction and Development; IBRD, International Bank for Reconstruction and Development; IDA, International Development Association; IDB, Inter-American Development Bank; WBG, World Bank Group.

Source: Authors' elaboration.

Overall, the volume of project approvals by these MDBs rose by 35% between 2019 and 2020. Taken individually, except for the AfDB,²⁷

the volume of project approvals in response to the pandemic rose in all the MDBs we have analysed, although rates vary considerably.

²⁷ The latest available project data for AfDB is from 13 November; the missing data towards the end of the year may explain this perceived decline in project approvals for AfDB from 2019 to 2020.

Box 2 Methodology for compiling project approvals data by multilateral development banks

There is no single source of data providing comprehensive and comparable real-time data on MDB projects (pipeline and approved). We rely on official figures for the relevant MDBs in our analysis covering the period between January 2019 and December 2020. We focused on the projects approved by the WBG and four regional banks, AfDB, ADB, EBRD and IDB for this analysis.

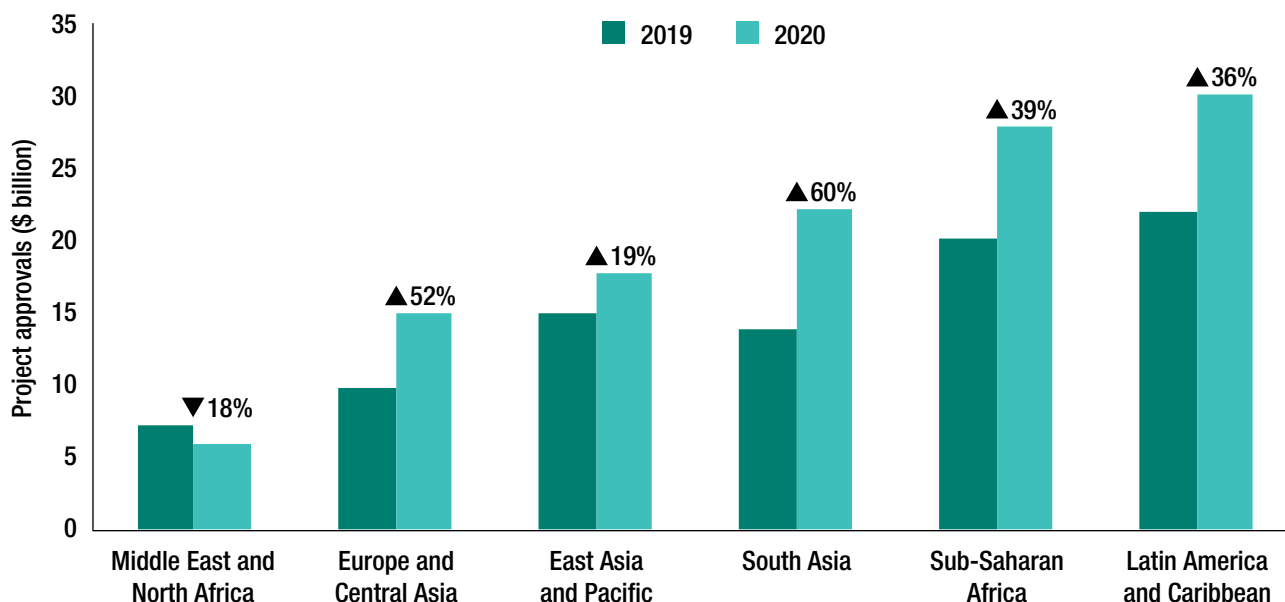
The public can download project data from the WBG's data application programming interface, IDB and the AfDB's projects database (World Bank, n.d.; IDB, n.d.; AfDB, n.d.).

While the ADB makes it possible to download data, a new series is uploaded annually and has not been updated since March 2020 and had to be scrapedⁱ directly from the projects' portal to compile the outstanding months; similarly, the EBRD's projects database was scraped from the projects' web page as it is not possible to download data (ADB, n.d.; EBRD, n.d.b).

The data were downloaded in the currency used for the relevant projects, converted to billions of dollars using the relevant average monthly exchange rates. The project approvals data used in our analysis are as comprehensive as the publicly available project data portals for the various MDBs by 1 January 2021; any omissions in this analysis may be due to delays in updating these databases and therefore may not reflect all commitments over the relevant time period.

i Web scraping is an automated way of copying data available on a website. It is a tool used to essentially 'scrape' information off a webpage.

Figure 6 Project approvals 2019 vs 2020 – by region



Note: See Box 2 on methodology.

Source: Authors' elaboration.

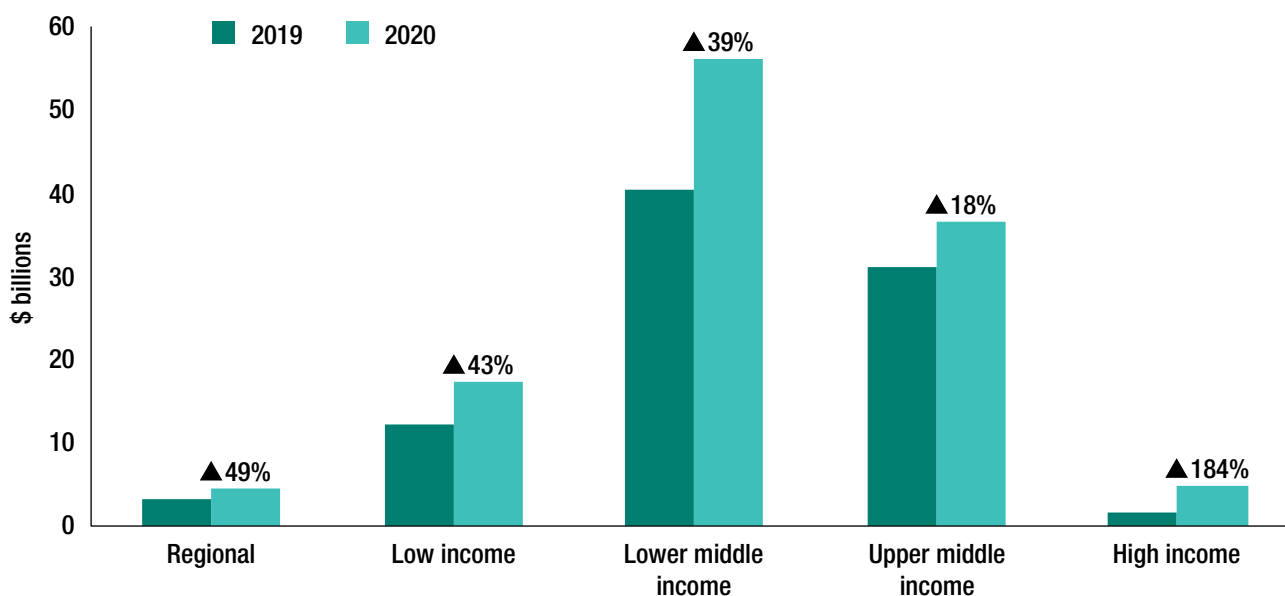
IDA doubled the volume of project approvals compared to the same period in 2019 and ADF quadrupled it.²⁸ Project approvals by the EBRD grew by 52%, 33% for the IBRD and 14% for the IDB. The increase in IDA project approvals is greater than the sum of the other MDBs that saw rising figures (ADF, IBRD, IDB and EBRD).

Project approvals have increased in all regions, except for the Middle East and North Africa (MENA). The largest rise is recorded in South Asia, an increase of \$8.4 billion, approximately 60% higher than project approvals in 2019 (Figure 6). Overall, project approvals rose across all country income categories. The largest increase in volumes of project approvals by income group was recorded in LMICs, from \$40.4 billion in 2019 and to \$56.2 billion in 2020, or a 39% rise (Figure 7).

We have concentrated on responses to past and current economic crises of donor countries that are members of the DAC (and of MDBs). This is simply because of the availability and comparability of ODA data reported to the

OECD DAC over time and because most of the literature focuses on those donor countries. Among sovereign donors, however, Chinese development finance has gradually expanded and contributed to what Prizzon et al. (2016) defined as an ‘age of choice’ for development finance in many recipient countries. In particular in the aftermath of the GFC in 2009 and 2010, lending from the Chinese Development Bank (CDB) and the Chinese Ex-Im Bank outstripped the World Bank’s (although the terms and conditions of CDB loans are non-concessional and largely so in the case of the Chinese Ex-Im Bank) (FT, 2011). As Ray and Simmons (2020) showed, China’s sovereign development lending has, however, been falling sharply since 2016, and was close to zero in 2019 before the Covid-19 crisis struck. How Chinese development finance has responded to the crisis abroad so far has yet to be mapped, but the early indications are that Chinese development banks and authorities will focus on renegotiating debt rather than on expanding their portfolio abroad (Tanjungco et al., 2020).

Figure 7 Project approvals 2019 vs 2020 – by income group



Note: See Box 2 on methodology.
Source: Authors’ elaboration.

28 The case for the ADB is mixed. While its total approvals have increased by approximately 8% in 2020 in comparison to the same period in 2019, there has been a markedly different response between the two windows. Project approvals within the concessional window – ADF – has gone up by around 204%, as mentioned above, while non-concessional ADB project approvals fell by 25%.

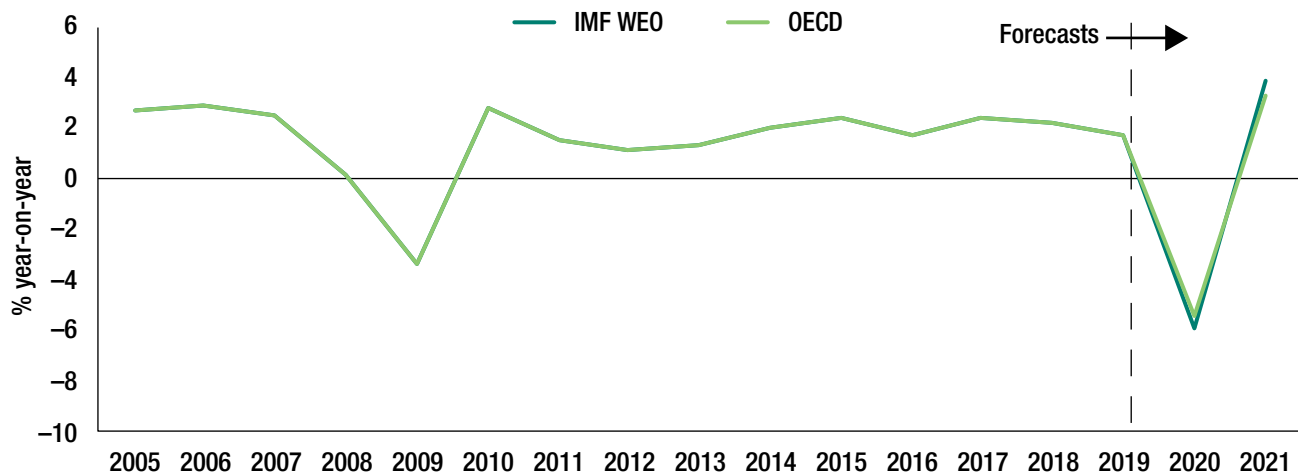
4 The future: potential scenarios for aid flows

This chapter projects future aid from DAC countries, building on existing forecasts of our explanatory variables. We assume two scenarios: first, that donor countries maintain their ODA as a share of their GNI until 2021, much as they did in 2019; second, that the relation between aid flows and GDP growth we estimated between 2000 and 2018 holds up to 2021.²⁹

The scale of the likely economic impact of the current crisis is expected to be far worse than that experienced in 2008/2009. IMF and OECD forecasts for 2020 and 2021 estimate a much

deeper decline in economic growth than occurred in the GFC on average across 23 members of the DAC (Figure 8). Between the end of 2008 and the end of 2010, real GDP fell by an average of 1.2% among the 10 largest donor countries.³⁰ According to the IMF and OECD forecasts, the drop in real GDP between the end of 2019 and 2021 is expected to be twice as much: it is estimated that it will average between 2.6% and 2.7% in the 10 largest DAC donor countries by ODA volume. The impact on GDP will be far more severe as a result of the Covid-19 crisis compared with the GFC

Figure 8 Aggregate real gross domestic product in Development Assistance Committee members



Note: DAC members refers to the 23 members at the end of 2010. IMF WEO, International Monetary Fund World Economic Outlook; OECD, Organisation for Economic Co-operation and Development.

Source: IMF (2020a) and OECD (2020c). Past data are taken from OECD (2020b).

²⁹ We estimated 36 sets of forecasts. This should allow us to generate a robust range of estimates of the potential impact of the Covid-19 pandemic on aid flows up to 2021. We did so separately, including GDP, lagged GDP, and both GDP and lagged GDP as our primary explanatory variable(s) of interest; considering both total net ODA and net ODA, excluding debt relief as the independent variable and using both the fixed-effects and first-difference estimators for three different sets of economic projections from external sources. Although we estimated the model using a GMM estimator, this was designed as a test of robustness. For our forecasts, we will use only the results of the first-difference and fixed-effects estimators.

³⁰ Ten largest donors in 2018.

in several DAC member countries, e.g. France, Germany, Japan and the UK (Table 4).

If all DAC members manage to keep their 2019 ODA:GNI/GDP ratios³¹ constant, total real aid disbursements from these countries would be reasonably contained. Under this scenario, using the IMF GDP forecasts, real aid disbursements would decrease by 2.5% between 2019 and 2021. Using OECD data on GDP growth rates, disbursements would fall by 2.9% over the same period. (See Table 5 for details.)

This scenario – i.e. that countries maintain their ODA:GNI/GDP ratios – would share similarities with the trajectories during and after

the GFC. At that time, aid disbursements held up better than many expected despite the collapse in global economic activity and the deterioration in the fiscal positions of donor countries. In Section 2.2 we discussed how aid disbursement from DAC members rose by 2.1% between the end of 2008 and the end of 2010.

If earlier relations between development assistance and economic growth over the period 2000–2018 hold, as we estimated in Section 2.3, and donors do not keep their aid commitments as a share of GNI as they did in 2019, the fall in aid flows will be larger, although the exact amount clearly remains uncertain, and depends on growth

Table 4 Change in GDP during the global financial crisis and forecast change in GDP during the Covid-19 crisis

	Actual data		Forecasts	
	Global financial crisis	IMF World Economic Outlook	OECD	
	End-2008 to end-2010	End-2019 to end-2021	End-2019 to end-2021	
US	-0.04	-1.33	-0.63	
Germany	-1.76	-2.05	-2.89	
UK	-2.38	-4.42	-7.52	
France	-0.98	-4.32	-3.63	
Japan	-1.45	-3.07	-3.10	
Sweden	1.69	-1.41	-0.05	
Netherlands	-2.37	-1.57	-3.77	
Italy	-3.66	-5.96	-5.15	
Canada	0.07	-2.33	-2.10	
Norway	-1.04	0.62	2.02	
Simple average	-1.19	-2.58	-2.68	

Note: Top 10 donors in 2018, ordered by size of aid disbursements. GDP, gross domestic product; IMF, International Monetary Fund; OECD, Organisation for Economic Co-operation and Development.

Source: OECD National Accounts Statistics (OECD, 2020b), IMF World Economic Outlook (October 2020 Update), OECD Economic Outlook (December 2020 Update).

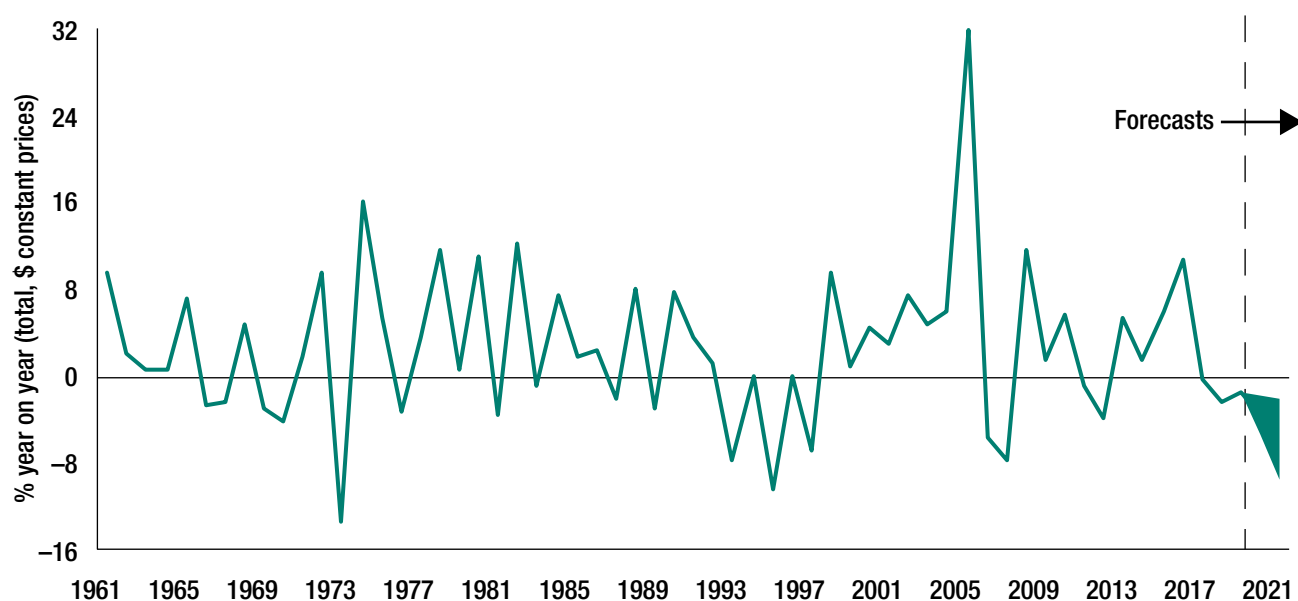
Table 5 Projected change in aid disbursements from Development Assistance Committee members assuming ODA:GNI ratios remain the same as in 2019 (total, \$ constant prices)

	2020 (%)	2021 (%)	2019–2021 (%)
IMF World Economic Outlook	-6.41	4.23	-2.47
OECD	-6.01	3.35	-2.88

Note: GNI, gross national income; IMF, International Monetary Fund; ODA, official development assistance; OECD, Organisation for Economic Co-operation and Development.

31 We did not have projections for GNI so we used GDP projected figures, as a second-best proxy.

Figure 9 Total aid disbursements from Development Assistance Committee members



Note: Figures are for 23 DAC members covered in the quantitative assessment we have used.
 Source: Authors' elaboration, depicting changes in ODA flows recorded up to 2018 in OECD (2020a) and showing the range of trajectories based on our assessments, using different econometric methods.

projections and econometric methods. The fan chart at the extreme right-hand side of Figure 9 illustrates the full range of the projections for aid disbursements from the various estimations, with a fall of up to 9.5% between 2019 and 2021. The methodology, data sources and detailed results are included in Annex 6.

Based on the IMF forecasts, the results from the first-difference estimator yield a range of forecasts varying from a 2.2% to a 5.6% fall between the end of 2019 and the end of 2021 (depending on which dependent and independent variables are included). The fixed-effects estimator points to a fall of between 5.7% and 9.5% in real aid disbursements over this period.

Under the OECD projections released in December 2020 (thus including the implications of the second wave of infections in most donor countries), our model suggests that real aid disbursements will fall by between 3.2% to 8.3% between the end of 2019 and the end of 2021 (depending on the estimator, explanatory variables and dependent variable used). (See Annex 6 for details.)

One question that arises is why some of the projected drops in aid are larger than those

in GDP would imply, given the elasticities estimated in Section 2.3. A key part of the reason is that our model also incorporates general government debt, which is generally found to have a strong negative impact on aid disbursements even after taking the hit to GDP into account. Forecasts from the IMF and the OECD anticipate a surge in government debt in 2020 and 2021 following a sharp fall in revenues and an increase in spending to stimulate economies and support health systems hit hard by the pandemic.

Other studies also anticipate a fall in aid flow between the end of 2019 and the end of 2021. A briefing note produced by Development Initiatives projects that constant price net ODA flows will fall by between 2.6% and 16.3% between the end of 2019 and the end of 2021 – slightly more negative than our forecasts. They have also assumed that countries will retain the same ODA:GNI ratio as before the pandemic, but their analysis is also based on GDP forecasts made at an earlier stage of the crisis, which turned out to be more pessimistic than the reality (Dodd et al., 2020). They use two sets of forecasts – the OECD ‘single-hit’ and ‘double-hit’ (assuming two waves of the pandemic) scenarios

– that have been revised upwards given quicker recovery from the crisis than initially forecast, despite a second wave of the pandemic in most donor countries in late 2020, along with the spread of new variants of the virus.

The ONE Campaign (2020) estimates that, in a worst-case scenario, net ODA could fall by 9.9% throughout 2020.³² Our own worst-case scenario for aid flows over the course of 2020 as a whole also point to a 9.5% decrease in net ODA.

Econometric modelling can make forecasts based on past trends, but these are only estimates. Lessons from the GFC suggest that it is likely that the future trajectory of aid flows will be influenced by political choices. To date, most donors seem to be maintaining their pre-pandemic levels of aid, but if the proposed cuts to UK aid budget of about £5 billion (\$6.8 billion) take effect in 2021, this would be the equivalent of a reduction of 4.5% of total ODA from 2019 levels.

³² The methodology used in The ONE Campaign's estimations has not been published.

5 Conclusions

The 2008/2009 GFC shows that the impact of economic crises on ODA depends ultimately on political decisions made in donor countries. Despite early warnings and concerns in late 2008 of a potentially substantial drop in the volume of aid, there was in fact a small rise (2.1%) in aid disbursements from DAC members throughout the whole crisis period (2008–2012). Most bilateral agencies maintained their ODA:GNI targets or budgets allocated in previous years.

Indeed, in light of the current crisis prompted by the Covid-19 pandemic, if donors commit to keeping their 2019 ODA:GNI ratio until 2021 (i.e. not cutting aid more than a percentage of the fall in their GDP or GNI), the decline in ODA flows in the coming years could be mitigated to around 2.5% or 2.9%, depending on projections of GDP growth (IMF and OECD respectively).

If donors are either unable or unwilling to maintain their 2019 ODA:GNI ratio in the future, and if past relations between development assistance and economic growth in donor countries between 2000 and 2018 hold, we predict a much bigger decline in aid flows. This could be potentially up to 9.5% from the end of 2019 to the end of 2021, depending on the source of GDP growth projections, the econometric model and the estimator considered in our analysis.

So far, the major DAC members have not indicated significant cuts to their aid budgets. The only exception is the UK, one of the largest donors, announcing sharp cuts in 2020 and 2021, reducing the target of 0.7% ODA to GNI to 0.5%. There is no sign of increased commitments to address future shortfalls among the other major donors.

The response of the MDBs has been at scale, front-loading resources for the Covid-19 response so far, highlighting economic resilience,

liquidity and trade facilitation as the main areas of intervention. Overall, the WBG and the regional development banks increased their project approval by 35% between 2019 and 2020, with IDA and ADF doubling it or even quadrupling it. In the absence of increased capital or additional resources for the concessional windows, however, lending from the MDBs could tail off in 2021 and 2022.

Although we have focused on bilateral donors that are members of the DAC, the CDB and the Chinese Ex-Im Bank have substantially scaled back their foreign lending since 2016, being close to zero in 2019 before Covid-19 struck (with no sign of a reversal of this trend). This means that they will not be a key source of counter-cyclical finance as they were for the recovery from the GFC.

Counter-cyclical external finance will, however, be much needed in the recovery from the crisis prompted by the Covid-19 pandemic. Many reasons justify it.

First, in SSA countries alone, the IMF estimates additional financing of \$30 billion to avoid governments making tough fiscal adjustments: the funding gap is already estimated at \$290 billion between 2020 and 2023 (IMF, 2020b).

Second, many governments, especially in Africa and Asia, have a narrow set of financing options, which have shrunk further during the crisis, with mounting pressure on their government budgets to address the health emergency and support their fiscal stimulus packages as economic activity slowed down. These countries cannot borrow in international capital markets at reasonable rates, because of their poor credit rating, and they cannot print currency to avoid inflation spikes, or raise taxes from a diminished tax base. That leaves development aid as one of the few financing options available when the volume of other revenue sources fall but fiscal needs expand at times of crisis. This situation

increases the need for aid more right now, rather than waiting until donor countries might have recovered from the crisis in the medium term.

Third, solidarity regarding basic rights and poverty alleviation were among the main motivations for the rise in development assistance at the end of the Cold War. Similar arguments should apply now, so that each country is in a position to respond to the health emergency, restore economic growth and access GPGs (including the benefits of vaccine development).

Finally, development aid is not only about solidarity. Development cooperation could serve donors' self-interest in accelerating

global recovery, including in poorer countries. Addressing the Covid-19 pandemic depends on addressing it everywhere. Future outbreaks anywhere in the world could spark new waves of the virus. In addition, development aid can help stimulate aggregate demand in poorer countries and, in turn, have direct effects in donor countries on exports and job creation (Mendez-Parra and te Velde, 2017).

Development assistance is one of few financing options available to support lower-income countries to deal with the health emergency and support economic recovery from the Covid-19 crisis. Now, more than ever, is the time to protect – if not increase – aid budgets.

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Annex 1 Data sources

Data	For estimation using past data or forecasting	Sources
Aid variable		
Net ODA	Estimation using past data	DAC databases; OECD (2020)
Economic growth variables		
GDP (constant prices, national base year)	Estimation using past data	OECD (2020b)
GDP growth	Forecasting	World Economic Outlook, IMF (October 2020)
Control variables in main model		
Population	Estimation using past data and forecasting	World Economic Outlook, IMF (October 2020)
General government gross debt, percent of GDP	Estimation using past data	World Economic Outlook, IMF (October 2020)
General government gross debt / gross public debt (Maastricht Criterion), percent of GDP, forecast	Forecasting	OECD Economic Outlook, December 2020 for EU countries, For non-EU countries, forecasts estimated from budget balance forecasts included in the same database.
Exchange rates (vs. USD)	Estimation using past data	OECD (2020)
Exchange rates (vs. USD), forecast	Forecasting	Focus Economics Consensus Forecast Euro Area – May 2020; Focus Economics Consensus Forecast Major Economies – May 2020; Focus Economics Consensus Forecast Australia & New Zealand – June 2020; Focus Economics Consensus Forecast Nordic Economies – May 2020
Long-term government bond yields: 10-Year: main (including benchmark)	Estimation using past data	Federal Reserve Economic Data (FRED)
10-Year government bond yields, forecast	Forecasting	Focus Economics Consensus Forecast Euro Area – May 2020; Focus Economics Consensus Forecast Major Economies – May 2020; Focus Economics Consensus Forecast Australia & New Zealand – June 2020; Focus Economics Consensus Forecast Nordic Economies – May 2020
Other control variables		
GDP per capita (current prices, USD)	Estimation using past data	World Economic Outlook, IMF (October 2019)
General government net lending/ borrowing, percent of GDP	Estimation using past data	World Economic Outlook, IMF (April 2020)
Unemployment rate, percentage of total labour force	Estimation using past data	World Economic Outlook, IMF (April 2020)
Party orientation with respect to economic policy	Estimation using past data	Database of Political Institutions 2017, World Bank
Gini coefficient	Estimation using past data	World Bank World Development Indicators
Government expenditure (% of GDP)	Estimation using past data	World Economic Outlook, IMF (October 2019)
Banking crisis in donor country	Estimation using past data	Systematic Banking Crises Revisited, Laevan and Valencia, IMF (2018)

Annex 2 Estimates of the relationship between aid and economic growth in OECD countries 2000–2018

Econometric model

To assess the relations between aid flows and economic growth for bilateral donors, we estimate the following model (Equation 1):

$$Aid_{it} = \alpha GDP_{it} + \beta (XR)_{it} + \beta \delta X_{i,t-1} + \gamma Z_{it} + \mu_i + \eta_t + \varepsilon_{it} \quad (1)$$

where i indexes the donor country.

Aid_{it} is the log of total net ODA disbursements in constant 2018 US dollars from country i at time t .

The variable of interest (GDP_{it}) is the log of real GDP. Ideally, we would include both GDP and lagged GDP in our model. Aid commitments by donor countries are budgeted in the fiscal year before they are disbursed, meaning that economic conditions in the previous year may be as – if not more – important than conditions in the current year. In practice, it is likely that aid disbursements are influenced by GDP growth in both the year of disbursement and the year before.³³ For this reason, we model the impact of GDP and lagged GDP on aid disbursements separately.

$(XR)_{it}$ is the exchange rate for country i at time t . As the aid data are in constant price US dollar terms and the GDP data are in constant price local currency terms, we need to control for exchange rate movements. After all, one would expect that (all else equal) a stronger (weaker) domestic currency would result in higher (lower) aid flows in US dollar terms. Aid allocations in donor countries are calculated in local currency terms, not in US dollars.

33 As GDP and lagged GDP will be highly correlated, including both variables in the model may result in collinearity, affecting the coefficients and explanatory power of the individual variables. Accordingly, in most of our estimations, we model the impact of GDP and lagged GDP on aid disbursements separately. If GDP and lagged GDP are included in the model outlined above (with no other control variables), neither variable appears to be statistically significant but an F-Test strongly suggests that the variables are jointly significant in determining aid flows. Accordingly, we also run estimations including both variables in our model. While this will mean that we must be cautious in using the results of these estimations to interpret the elasticity of aid disbursements to changes in GDP, these results can be used when we attempt to forecast the impact of the Covid-19 pandemic on disbursements. If we are simply interested in creating the most accurate forecasts, we do not need to be too concerned about collinearity.

X_{it} is a vector of three time-varying control variables that have been lagged by one period: population, general government debt-to-GDP and ten-year local currency government bond yields. Population controls for the size of the donor economy and has been used as control variables in various studies as highlighted in Section 2.1 (Round and Odedokun, 2004; Faini, 2006; Frot, 2009; Dang et al., 2013; Dabla-Norris et al., 2015) of aid determinants.³⁴

Given that it is also probable that the health of the public finances will affect aid flows, the ratio of general government debt-to-GDP and 10-year local currency government bond yields³⁵ have also been included as control variables. The inclusion of bond yields helps to gauge the costs of debt servicing. Higher yields result in higher debt-servicing costs, reducing the fiscal space and/or willingness to disburse aid. While a measure of general government debt is common in the literature (for example, included in Faini (2006) and Bertoli et al. (2008)), local currency government bond yields have been far less widely used as a control variable. General government debt-to-GDP and local currency bond yields are all affected by GDP in any given year and would thus affect the explanatory power of our variable of interest if the current year value were to be included in the model, so these variables have been lagged.³⁶

The year dummies (η_t) allow us to account for common shocks – for instance, the global financial crisis or the G8 summit in 2005 – to the amount of aid distributed in any given year.

Z_{it} is a vector of other time-varying control variables that have typically been included in other studies on this topic (Round and Odedokun, 2004; Faini, 2006; Frot, 2009; Dang et al., 2013; Dabla-Norris et al., 2015; and refer to the literature review in the previous chapter). These variables are GDP per capita, the budget balance, unemployment, inequality, government expenditure, the political orientation of the ruling government and whether the country has suffered a banking crisis. These variables are not included in our main model to limit the likelihood that collinearity – which essentially refers to the presence of correlation between independent variables – does not reduce the explanatory power of our main explanatory variable, GDP. If the model has too many control variables that are related to the primary explanatory variable of interest, it will become more difficult to interpret the elasticity of aid disbursements with respect to changes in GDP. We do, however, undertake several robustness tests to explore the extent to which the coefficient and/or the statistical significance of the explanatory variable, GDP, is sensitive to the inclusion of these additional variables (see Annex 4). The correlations between all of the variables included in both our core model and used as robustness tests are outlined in Table A3.1 of Annex 3.

34 It is important to note that these studies have also used GDP per capita – in combination with population – to control for the size of the economy. While we would ideally include GDP per capita in our model (to account for differences in incomes across countries), this variable is highly correlated with GDP and may distort the coefficient of our main explanatory variable. The correlation coefficient between GDP and GDP per capita in our dataset between 2000 and 2018 is 55.6%. See Table A2.1 of Appendix 2.

35 Local currency 10-year government bond yields may give an incomplete picture about the debt-servicing costs faced by governments as it tells us nothing about yields on debt denoted in foreign currency.

36 Various other studies (including Faini, 2006 and Dang et al., 2013) used lagged variables in both their core estimations and/or robustness tests.

Estimators

We estimate this equation using three approaches: fixed-effects, first-difference and generalised method of moments (GMM) estimators.

The first approach follows Dang et al. (2013) by using donor country fixed effects (μ_i) to capture time-invariant country-specific influences on the disbursement of aid. While this estimator allows us to account for heterogeneity among countries that does not change over time – for instance, Canada is in North America, whereas France is in Europe – it does not allow us to account for unobservable time-variant factors or non-stationarity in the variables. Series which tend to increase over time (e.g. aid disbursed and GDP) are unlikely to be stationary. Both the mean and variance are likely to rise over time, affecting the accuracy of results derived from models using non-stationary variables.

Second, in an attempt to overcome the non-stationarity problem of aid disbursements and GDP, we also estimate the equation using a first-difference estimator. Under this estimator, the equation can be written as (Equation 2):

$$\Delta Aid_{it} = \alpha \Delta GDP_{it} + \beta \Delta (XR)_{it} + \delta \Delta X_{i,t-1} + \gamma \Delta Z_{it} + \Delta \eta_t + \varepsilon_{it} \quad (2)$$

where Δ represents the first difference change in our variable of interest, GDP and the associated control variables.

Similar to the fixed-effects estimator, the first-difference estimator can also be used to control for time-invariant unobserved heterogeneity but has the benefit of controlling for non-stationarity in the variables. This estimator also uses year dummies to account for common shocks across countries. Similar to the approach used for the fixed-effects estimator, we also estimate this equation using lagged GDP and both GDP and lagged GDP.³⁷

Finally, we also estimate the equation using a GMM technique. The inclusion of a GMM estimation in the analysis is designed as an additional robustness test – the results derived from this estimation will not be used in our forecasts of aid flows. After all, a key advantage of using GMM techniques is to control for endogeneity of the regressors. It is, however, unlikely that there will be bidirectionality between GDP growth in the donor country and aid flows from the donor country. It is far more likely that the direction of causality is that economic conditions in the donor country determine decisions about aid disbursements than vice versa.

In the regressions using the fixed-effects and first-difference estimators, we report results using standard errors clustered at the country level. This allows us to correct for heteroskedasticity and serial correlation. We also run several different unit root tests to measure whether some or all of the variables in our estimations are non-stationary, therefore justifying the use of a first-difference estimator in addition to a fixed-effects estimator.

37 The equations incorporating lagged GDP and both GDP and lagged GDP into our estimations using the first-difference estimator are expressed as follows:

$$\begin{aligned} \Delta Aid_{it} &= \alpha \Delta GDP_{i,t-1} + \beta \Delta (XR)_{it} + \delta \Delta X_{i,t-1} + \gamma \Delta Z_{it} + \Delta \eta_t + \varepsilon_{it} \\ \Delta Aid_{it} &= \alpha \Delta GDP_{it} + \alpha \Delta GDP_{i,t-1} + \beta \Delta (XR)_{it} + \delta \Delta X_{i,t-1} + \gamma \Delta Z_{it} + \Delta \eta_t + \varepsilon_{it} \end{aligned}$$

Selection of the estimator

In determining which model is likely to be the most reliable, it is important to consider whether the variables exhibit non-stationarity. The results of five-unit root tests suggest that we cannot rule out that the variables in our model exhibit non-stationarity.³⁸ (See Table A3.5 in Appendix 3.) As explained in the methodology chapter, this is likely to have a detrimental impact on the results of the fixed-effects estimator (which models variables that may exhibit non-stationarity). This supports the use of the first-difference estimator rather than the fixed effects estimator.

In terms of the goodness of fit, our results also suggest that the first-difference estimator probably has the advantage over the fixed-effects estimator. Looking again at Tables A3.2 and A3.3 in Appendix 3, the ‘within’ R^2 figures – which highlight the extent to which the model explains difference within countries from one year to the next and are therefore probably the goodness of fit statistics we care most about – are higher (ranging from 0.55 to 0.62) using the fixed-effects estimator than the first-difference estimator (ranging from 0.49 to 0.56). However, the ‘between’ R^2 statistics, which show the extent to which the model explains differences between countries, are much higher for the estimations that use the first-difference model (0.87-0.94 compared to 0.01-0.04). It is worth noting, too, that the ‘overall’ R^2 numbers – which are a weighted average of the ‘within’ and ‘between’ R^2 figures – are also far higher when the first-difference estimator is used (0.38-0.41 compared to 0.04-0.07).³⁹ It is also useful to consider that the coefficients from our GMM estimations were closer to those derived from the first-difference estimator.

As a result, we will place most emphasis on the results from the econometric analysis based on the first-difference estimator. In using our model to create forecasts of aid flows, we will take into account the results from both the fixed-effects estimator and first-difference estimator.

In deciding on which GDP variable to use, it is probably best to pay the closest attention to the results of the estimations that include both GDP and lagged GDP. Despite the collinearity issues associated with this approach, the R^2 figures are highest when both GDP variables (current and lagged) are incorporated into the estimation. This stands to reason – a severe economic crisis could both lead to an immediate curtailment of aid flows and affect planning decisions for the next fiscal year.

38 We run several panel data unit root tests to test for non-stationarity in the dependent variable, explanatory variable and control variables included in our core estimation. These include the LLC (Levin-Lin-Chu), IPS (Im-Pesaran-Shan), MW (Maddala-Wu), Hadri and Pesaran CIPS unit root tests. While the different tests yield different results, the LLC, IPS, MW, Hadri and Pesaran CIPS tests all suggest that we cannot reject that all, or at least some, of the variables in our model are non-stationary for some countries in our data. The strongest evidence of the presence of unit roots comes from the Hadri test and the Pesaran CIPS test, for which we cannot reject the null hypothesis that there are unit roots in the time series for all countries for all of the five variables included in our core estimations. (The results of all of the unit root tests are shown in Table A3.5 in Appendix 3.)

39 We also tested this regression using a ‘random effects’ estimator and then conducted a Hausman test to determine which estimator was more suitable. The Hausmann test suggested that the fixed-effects estimator was more appropriate for our model than a ‘random effects’ estimator. It told us nothing, however, about whether a fixed-effects estimator is more appropriate than a first-difference estimator.

Results

Results are summarised in Table A2.1. After controlling for the health of the public finances in the donor country and the size of the donor economy, results derived from the first-difference estimator suggest that a 1% rise in real (current year) GDP is correlated with a 1.12% increase in real aid flows (and vice versa, a fall in GDP growth by 1% is associated with a slightly greater fall in aid disbursements). Using lagged GDP in the estimation yields the result of a 0.98% rise in aid disbursements. (See results in Table A3.3 in Appendix 3.)

The results from our fixed-effects estimator would suggest a more pro-cyclical response of aid to GDP growth in donor countries, i.e. a 1% fall in real GDP (in the current period) is associated with a 1.7% decrease in real aid disbursements (and vice versa a rise in GDP of 1% indicates an increase in ODA flows of 1.7%). Using GDP lagged by one year as the variable of interest – to account for the likely reality that aid commitments are decided in the fiscal year before disbursement (and therefore affected by economic conditions in the previous fiscal year) – the results are similar. They suggest that a 1% increase in real GDP in the previous year is correlated with a 1.79% rise in real aid disbursements in the current year.⁴⁰

GDP coefficients derived from the GMM estimator are closer to the estimates of the first-difference estimator than the fixed-effects estimator. These estimates suggest that the elasticity of aid with respect to GDP ranges from between 0.77 to 0.89. (See results in Table A3.4 in Appendix 3.)

Table A2.1 Econometric results

	Real GDP (current year)	Real GDP (previous year)
First-difference estimator	1.12 (0.41)	0.98 (0.30)
Fixed-effects estimator	1.71 (0.63)	1.79 (0.57)
GMM estimator	0.89 (0.35)	0.77 (0.31)

Note: All of our results are statistically significant at (at least) the 5% level.

40 When we include both GDP and lagged GDP in the equation, the current period GDP becomes statistically insignificant and lagged GDP is only statistically significant at the 10% level. This is to be expected – these variables are highly correlated, subjecting the estimation to collinearity. Accordingly, the results from any estimations including both GDP and lagged GDP should not be used to determine the elasticity of aid disbursements to changes in GDP. These results will, however, be used when we forecast the impact of the Covid-19-related economic slump on aid disbursements. When trying to forecast what will happen to aid disbursements, the issue of collinearity becomes less relevant.

Annex 3 Econometric results – tables

Table A3.1 Correlation coefficients

	Ln total net ODA disbursements	Ln GDP (current year)	Ln gen. gov. debt (previous year, \$)	Population (previous year)	10Y gov. bond yield (previous year)	Exchange rate (vs. \$)	Political orientation (current year)	Banking crisis (current year)	Unemployment (current year)	Govt. exp. (% of GDP, current year)	Govt. bud. bal. (% of GDP, current year)	Gini index (current year)	GDP per capita (current year)
Ln total net ODA disbursements	1.000												
Ln GDP (current year)	-0.013	1.000											
Ln GDP (previous year)	0.012	0.982	1.000										
Ln general gov. debt (prev. year, \$)	0.746	-0.074	-0.038	1.000									
Population (previous year)	0.653	-0.035	-0.027	0.722	1.000								
10Y gov. bond yield (prev. year)	-0.363	-0.412	-0.390	-0.197	-0.109	1.000							
Exchange rate (vs. \$)	-0.201	0.201	0.250	-0.255	-0.373	-0.020	1.000						
Political orientation (current year)	-0.101	-0.147	-0.151	-0.104	-0.031	0.143	-0.043	1.000					
Banking crisis (current year)	0.007	-0.014	0.074	0.047	0.054	0.235	0.244	0.067	1.000				
Unemployment (current year)	-0.156	-0.203	-0.156	0.194	-0.044	0.333	0.115	-0.002	0.187	1.000			
Govt. exp. (% of GDP, current year)	0.025	-0.358	-0.291	-0.032	-0.235	0.020	0.248	0.086	0.177	0.387	1.000		
Govt. bud. bal. (% of GDP, curr. year)	-0.069	0.076	0.013	-0.427	-0.317	-0.053	-0.074	0.067	-0.369	-0.428	-0.256	1.000	
Gini index (current year)	-0.042	-0.084	-0.068	0.412	0.502	0.249	-0.103	0.062	0.151	0.366	-0.345	-0.470	1.000
GDP per capita (current year)	0.042	0.556	0.550	-0.252	-0.020	-0.518	0.227	-0.035	0.032	-0.249	-0.044	0.274	-0.176

Table A3.2 Fixed-effects estimator: results of core estimation

	(1)	(2)	(3)	(4)	(5)	(6)
	Ln total net ODA disbursements	Ln total net ODA disbursements	Ln total net ODA disbursements	Ln net ODA disbursements excl. debt relief	Ln net ODA disbursements excl. debt relief	Ln net ODA disbursements excl. debt relief
Ln GDP (current year)	1.71** (0.63)		-0.16 (0.94)	1.51** (0.61)		-0.46 (0.95)
Ln GDP (previous year)		1.79*** (0.57)	1.94* (0.94)		1.60*** (0.55)	2.03** (0.92)
Ln general govt. debt (prev. year, \$)	-0.17* (0.081)	-0.16** (0.078)	-0.16* (0.080)	-0.19* (0.096)	-0.19* (0.093)	-0.19* (0.094)
Population (previous year)	0.0072* (0.0041)	0.0068* (0.0037)	0.0068* (0.0037)	0.0070 (0.0046)	0.0066 (0.0043)	0.0066 (0.0042)
10Y govt. bond yield (previous year)	-0.016 (0.013)	-0.021* (0.011)	-0.022* (0.011)	-0.023* (0.013)	-0.027** (0.012)	-0.030** (0.012)
Exchange rate (vs. \$)	-0.0019 (0.0022)	-0.0020 (0.0022)	-0.0020 (0.0022)	-0.0019 (0.0023)	-0.0020 (0.0023)	-0.0020 (0.0023)
Constant	0.63 (2.77)	0.35 (2.52)	0.39 (2.57)	1.81 (2.72)	1.43 (2.48)	1.56 (2.52)
Period	2000–2018	2000–2018	2000–2018	2000–2018	2000–2018	2000–2018
Observations	433	433	433	433	433	433
R ² (within)	0.56	0.56	0.56	0.60	0.62	0.62
R ² (between)	0.04	0.04	0.04	0.02	0.014	0.02
R ² (overall)	0.07	0.07	0.07	0.05	0.044	0.054

Standard errors in parentheses
 * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A3.3 First-difference estimator: results of core estimation

	(1)	(2)	(3)	(4)	(5)	(6)
	D.Ln total net ODA disbursements	D.Ln total net ODA disbursements	D.Ln total net ODA disbursements	D.Ln net ODA disbursements excl. debt relief	D.Ln net ODA disbursements excl. debt relief	D.Ln net ODA disbursements excl. debt relief
D.Ln GDP (current year)	1.12*** (0.41)		0.85** (0.43)	0.78** (0.32)		0.43* (0.26)
D.Ln GDP (previous year)		0.98*** (0.30)	0.65** (0.30)		1.00*** (0.28)	0.84*** (0.24)
D.Ln general govt. debt (prev. year, \$)	-0.071 (0.085)	-0.053 (0.079)	-0.034 (0.072)	-0.084 (0.087)	-0.046 (0.077)	-0.037 (0.074)
D.Population (previous year)	0.017** (0.0075)	0.016** (0.0068)	0.016** (0.0069)	0.017** (0.0074)	0.016** (0.0065)	0.015** (0.0065)
D.10Y govt. bond yield (previous Year)	-0.0054* (0.0031)	-0.011*** (0.0033)	-0.0065** (0.0031)	-0.0065* (0.0038)	-0.010*** (0.0033)	-0.0078** (0.0035)
D.Exchange rate (vs. \$)	-0.00047 (0.00083)	-0.00038 (0.00075)	-0.00057 (0.00082)	0.000083 (0.00068)	0.000052 (0.00062)	-0.000041 (0.00066)
Constant	0.010 (0.010)	0.0098 (0.0080)	0.00097 (0.0089)	0.018* (0.0099)	0.010 (0.0092)	0.0059 (0.0099)
Period	2000–2018	2000–2018	2000–2018	2000–2018	2000–2018	2000–2018
Observations	408	408	408	408	408	408
R ² (within)	0.40	0.42	0.43	0.41	0.50	0.50
R ² (between)	0.92	0.91	0.94	0.87	0.92	0.94
R ² (overall)	0.38	0.40	0.40	0.39	0.41	0.41

Standard errors in parentheses
 * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A3.4 GMM estimator: results of core estimation

	(1)	(2)	(3)	(4)	(5)	(6)
	Ln total net ODA disbursements	Ln total net ODA disbursements	Ln total net ODA disbursements	Ln net ODA disbursements excl. debt relief	Ln net ODA disbursements excl. debt relief	Ln net ODA disbursements excl. debt relief
L.Ln total net ODA disbursements	0.45*** (0.099)	0.46*** (0.10)	0.46*** (0.095)			
Ln GDP (current year)	0.89** (0.35)		0.60 (0.58)	0.87*** (0.25)		0.61 (0.53)
Ln GDP (previous year)		0.77** (0.31)	0.30 (0.52)		0.76*** (0.23)	0.24 (0.48)
Ln general govt. debt (prev. year, \$)	-0.32*** (0.083)	-0.29*** (0.081)	-0.31*** (0.074)	-0.35*** (0.082)	-0.33*** (0.085)	-0.34*** (0.076)
Population (previous year)	0.0066 (0.0046)	0.0064 (0.0043)	0.0064 (0.0044)	0.0072 (0.0043)	0.0071* (0.0040)	0.0071* (0.0041)
10Y govt. bond yield (previous year)	-0.0026 (0.011)	-0.0078 (0.0099)	-0.0041 (0.010)	-0.0065 (0.0092)	-0.012 (0.0090)	-0.0089 (0.0086)
Exchange rate (vs. \$)	-0.00029 (0.0011)	-0.00029 (0.0011)	-0.00025 (0.0011)	-0.00021 (0.00099)	-0.00013 (0.0010)	-0.000053 (0.00096)
Period	2000–2018	2000–2018	2000–2018	2000–2018	2000–2018	2000–2018
Observations	589	589	589	589	589	589

Standard errors in parentheses
 * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A3.5 Unit root test results: p-values (2000–2018)

	(1)	(2)	(3)	(4)	(5)
	LLC	IPS	MW	Hadri	Pesaran CIPS
Null hypothesis:	Panels contain unit roots	Panels contain unit roots	All panels contain unit roots	All panels are stationary	All panels contain unit roots
Alternative hypothesis:	Panels are stationary	Panels are stationary	At least one panel is stationary	Some panels contain unit roots	At least one panel is stationary
Ln net ODA disbursements	0.00***	0.013**	0.00***	0.00***	0.60
Ln net ODA disbursements excl. debt relief	0.0019***	0.41	0.00***	0.00***	0.90
Ln real GDP (current year)	0.0012 ***	0.78	0.00***	0.00***	0.71
Ln general govt. debt (prev. year, \$)	0.62	1.00	0.003***	0.00***	1.00
Population (prev. year)	0.054*	1.00	0.002***	0.00***	1.00
10Y govt. bond yield (prev. year)	0.93	1.00	0.59	-	1.00
Exchange rate (vs. \$, current year)	0.0003***	-	0.00***	0.00***	0.75

Standard errors in parentheses
 * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Annex 4 Robustness tests

We also considered a series of robustness tests, expanding the time-series as well as checking the impact on the elasticity of aid flows to growth rates if we incorporate a different set of control variables used in the literature into the model and using sub-sets of the countries. The main finding is that results for the main model and estimators are robust to changes in the time-series, control variables and sub-sets of the countries.

Effects of changes in GDP on aid flows: robustness to changes in the timespan

The estimates outlined above are based on 19 years from 2000 and 2018. While there is sound logical reason to limit our data to this period – the start date coincides with the introduction of the Millennium Development Goals (MDGs) and the subsequent marked rise in aid disbursements (in the 1990s, aid disbursements had been broadly flat) – it reduces the size of the dataset and thus the explanatory power of the model. As a test of robustness, it is, therefore, worth extending the period back further to explore the sensitivity of our results.

Looking at the period between 1995 to 2018 (and using the same control variables, total aid flows as the dependent variable and current year real GDP as the explanatory variable of interest⁴¹), the fixed-effect and first-difference estimators yield results associated with a 1% rise in GDP of 1.57% and 0.95% increases in real aid disbursements respectively (as opposed to 1.72% and 1.12% rises in the core estimations). Using data from 1990 to 2018 leads to results of 1.49% and 0.83% (See Table A4.1). In all scenarios, the coefficient of real GDP remains statistically significant at (at least) the 5% level.

Effects of changes in GDP on aid flows: correlations with other economic variables

Several other possible determinants of aid have been examined in the literature. As outlined in the methodology chapter, these include GDP per capita, the budget balance, the unemployment rate, government expenditure as a share of GDP, the Gini index, the political orientation of the ruling government and whether the donor country has suffered a banking crisis.

In Tables A3.2, A3.3 and A3.4 we entered each of these determinants into our model in turn, again using total aid flows (including debt relief) as the dependent variable and current year real GDP as the explanatory variable of interest. Our particular interest is in whether any of these factors significantly reduce or increase the GDP coefficient.

In general, including these variables in our estimations does not have a particularly significant impact on the GDP coefficient. Using the fixed-effects estimator, the inclusion of these additional

41 We use only current period GDP and total aid flows – rather than previous period GDP and aid flows excluding debt relief – as our explanatory variable of interest and independent variable respectively for these robustness tests. Given that the results from our core estimations still hold when previous period GDP and aid flows excluding debt relief are substituted into the model, we would not expect the robustness tests to yield significantly different results if these alternative variables were used in the tests.

control variables largely results in estimates of the (current year) real GDP coefficient of between 1.49 to 2.08 – compared to an original estimate of 1.79. Of the new control variables added to the estimation, only government expenditure has a statistically significant impact on real aid disbursements. (See Table A4.2 for details.)

Using the first-difference estimator yields a range of GDP coefficient estimates of between 0.89 and 1.35 (for all of the variables except GDP per capita), which compares to the core result of 1.12. Including GDP per capita has a larger impact on the GDP coefficient – it rises to 2.02. We should treat this latter result with a great deal of caution, GDP and GDP per capita are (by definition) highly correlated⁴² (See Table A4.3 for details.)

Including the additional variables into our GMM estimations results in GDP coefficient estimates of between 0.53 and 1.11 (compared to a core estimate of 0.89). In these estimations, only government expenditure is found to have a statistically significant impact on aid disbursements, and this is only at the 10% level (See Table A4.3).

Crucially, irrespective of the control variables considered in our estimations, the impact of real GDP on real aid disbursements is almost always found to be statistically significant.⁴³

Effects of changes in GDP on aid flows: selecting a sub-sample of the countries

There is always a concern that a small group of countries might be driving the main results, for instance, the largest donors or those that have experienced the fastest economic growth during the sample period. To control for this, we run two sets of robustness tests – one excluding the top quartile of donors (in 2018) and another excluding the top quartile of countries with the highest average rates of GDP growth over this period.⁴⁴

We find that the GDP coefficient is fairly robust to the exclusion of these countries. Using the fixed-effects estimator, this changes from a figure of 1.72 in our core estimation to 1.68 and 1.73 when we exclude the upper-quartile of the largest donors and fastest-growing economies respectively. Using the first-difference estimator, the figure of 1.12 in our core estimation falls slightly to 1.11 when we exclude the largest donors and increases to 1.34 when the fastest-growing economies are stripped out of the analysis. Using the GMM estimator results in changes to the coefficient in the core estimation from 0.89 to 0.92 and 0.61 under the respective exclusions. (All of these results are shown in Table A4.5.)⁴⁵

42 Including both variables, therefore, subjects the estimation to collinearity.

43 In 19 out of 21 estimations undertaken to test the sensitivity of our findings to the inclusion of additional control variables, the change in real GDP is found to have a statistically significant impact on the change in aid disbursements at (at least) a 5% confidence level. In one estimation, this impact becomes statistically significant only at the 10% level. In only one estimation, GDP is not found to have a statistically significant impact on aid disbursements.

44 The countries excluded when we strip out the top quartile of donors are France, Germany, Japan, Netherlands, the UK and the US. The countries excluded when we strip out the top quartile of fastest-growing economies are Australia, Ireland, the Republic of Korea, Luxembourg, New Zealand, Spain and Sweden.

45 In five out of six of the robustness tests looking at the impact of excluding certain countries from our sample, the GDP coefficient was found to be statistically significant at the 5% level. The only exception is when we exclude the top quartile of fastest-growing economies from our GMM estimator. It is worth pointing out, however, that taking a sub-sample reduces the number of observations and, as a result, the statistical power of results.

Table A4.1 Results of robustness tests: longer timespans

	Fixed-effects estimator			First-difference estimator		
	(1)	(2)	(3)	(4)	(5)	(6)
	Ln total net ODA disbursements	Ln total net ODA disbursements	Ln total net ODA disbursements	Ln net ODA disbursements excl. debt relief	Ln net ODA disbursements excl. debt relief	Ln net ODA disbursements excl. debt relief
Ln GDP (current year)	1.71** (0.63)	1.49*** (0.32)	1.57*** (0.38)			
Ln general govt. debt (prev. year, \$)	-0.17* (0.081)	-0.092 (0.084)	-0.098 (0.080)			
Population (prev. year)	0.0072* (0.0041)	0.0028* (0.0014)	0.0082*** (0.0017)			
10Y govt. bond yield (previous year)	-0.016 (0.013)	-0.014 (0.0084)	-0.020** (0.0088)			
Exchange rate (vs. \$)	-0.0019 (0.0022)	-0.0017 (0.0019)	-0.0022 (0.0021)			
D.Ln GDP (current year)				1.12*** (0.41)	0.83*** (0.30)	0.95*** (0.31)
D. Ln general govt. debt (prev. year, \$)				-0.071 (0.085)	-0.19* (0.10)	-0.085 (0.080)
D.Population (previous year)				0.017** (0.0075)	0.0020 (0.0051)	0.013** (0.0053)
D.10Y govt. bond yield (previous year)				-0.0054* (0.0031)	-0.0038 (0.0046)	-0.0049 (0.0039)
D.Exchange rate (vs. \$)				-0.00047 (0.00083)	0.00013 (0.00057)	-0.000047 (0.00067)
Constant	0.63 (2.77)	1.48 (1.60)	0.95 (1.83)	0.010 (0.010)	0.017 (0.011)	0.010 (0.0094)
Period	2000–2018	1990–2018	1995–2018	2000–2018	1990–2018	1995–2018
Observations	433	613	537	408	588	512
R ² (within)	0.55	0.63	0.67	0.40	0.37	0.58
R ² (between)	0.04	0.01	0.21	0.92	0.82	0.93
R ² (overall)	0.07	0.02	0.26	0.38	0.29	0.36

Standard errors in parentheses
 * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A4.2 Results of robustness tests: fixed-effects estimator: additional control variables

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Ln total net ODA disbursements	Ln total net ODA disbursements	Ln total net ODA disbursements	Ln total net ODA disbursements	Ln total net ODA disbursements	Ln total net ODA disbursements	Ln total net ODA disbursements
Ln GDP (current year)	1.86*** (0.66)	1.70** (0.63)	1.65** (0.61)	1.52** (0.64)	1.90*** (0.60)	1.49** (0.54)	2.08*** (0.64)
Ln general govt. debt (prev. year, \$)	-0.17** (0.078)	-0.17* (0.084)	-0.18** (0.074)	-0.12 (0.083)	-0.19** (0.084)	-0.20** (0.088)	-0.13 (0.093)
Population (previous year)	0.0072* (0.0038)	0.0070* (0.0040)	0.039 (0.032)	0.0071 (0.0044)	0.0052 (0.0040)	0.0088* (0.0047)	0.0053 (0.0032)
10Y govt. bond yield (previous year)	-0.013 (0.013)	-0.018 (0.012)	-0.013 (0.012)	-0.0010 (0.014)	-0.016 (0.013)	-0.015 (0.011)	-0.020 (0.012)
Exchange rate (vs. \$)	-0.0018 (0.0022)	-0.0020 (0.0022)	-0.0011 (0.0021)	-0.0020 (0.0023)	-0.0017 (0.0022)	-0.0013 (0.0024)	-0.0016 (0.0021)
Political orient. (current year)	-0.012 (0.022)						
Banking crisis (current year)		0.085 (0.055)					
Govt. bud. bal. (% of GDP, curr. year)			-0.0057 (0.0076)				
Unemployment (current year)				-0.018 (0.013)			
Govt. exp. (% of GDP, current year)					0.016** (0.0061)		
Gini index (current year)						-0.015 (0.016)	
GDP per capita (current year)							-0.011 (0.0083)
Constant	-0.11 (2.94)	0.75 (2.75)	-0.099 (2.84)	1.40 (2.81)	-0.75 (2.69)	2.32 (2.39)	-0.77 (2.74)
Period	2000–2018	2000–2018	2000–2018	2000–2018	2000–2018	2000–2018	2000–2018
Observations	412	433	414	433	432	284	433
R ² (within)	0.57	0.55	0.54	0.56	0.56	0.49	0.56
R ² (between)	0.03	0.03	0.35	0.12	0.01	0.08	0.02
R ² (overall)	0.06	0.06	0.36	0.16	0.00	0.05	0.05

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A4.3 Results of robustness tests: first-difference estimator: additional control variables

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	D.Ln total net ODA disbursements	D.Ln total net ODA disbursements	D.Ln total net ODA disbursements	D.Ln total net ODA disbursements	D.Ln total net ODA disbursements	D.Ln total net ODA disbursements	D.Ln total net ODA disbursements
D.Ln GDP (current year)	1.01*** (0.38)	1.16*** (0.42)	1.30*** (0.48)	0.89** (0.43)	1.35*** (0.45)	0.92** (0.45)	2.02*** (0.42)
D.Ln general govt. debt (prev. Year, \$)	-0.091 (0.087)	-0.056 (0.084)	-0.066 (0.080)	-0.045 (0.076)	-0.068 (0.081)	-0.097 (0.10)	-0.085 (0.085)
D.Population (previous year)	0.017** (0.0073)	0.016** (0.0072)	0.069** (0.029)	0.018** (0.0089)	0.014* (0.0079)	0.094*** (0.029)	0.015** (0.0061)
D.10Y govt. bond yield (previous year)	0.0047 (0.0032)	-0.0063** (0.0029)	-0.0037 (0.0034)	-0.0032 (0.0032)	-0.0050 (0.0031)	-0.0093*** (0.0032)	-0.0047* (0.0028)
D.Exchange rate (vs. \$)	-0.00038 (0.00086)	-0.00063 (0.00082)	-0.00043 (0.00085)	-0.00050 (0.00081)	-0.00046 (0.00084)	0.000051 (0.0014)	-0.00036 (0.00080)
D.Political orient. (current year)	0.026** (0.012)						
D.Banking crisis (current year)		0.044* (0.025)					
D.Govt. bud. bal. (% of GDP, curr. year)			-0.0058 (0.0043)				
D.Unemployment (current year)				-0.011 (0.011)			
D.Govt. exp. (% of GDP, current year)					0.0064* (0.0039)		
D.Gini index						-0.018 (0.015)	
D.GDP per capita (current year)							-0.019*** (0.0052)
Constant	0.017 (0.011)	0.0094 (0.010)	0.0013 (0.010)	0.013 (0.0099)	0.0064 (0.011)	0.0069 (0.010)	0.023** (0.0097)
Period	2000–2018	2000–2018	2000–2018	2000–2018	2000–2018	2000–2018	2000–2018
Observations	386	408	390	408	407	226	408
R ² (within)	0.34	0.42	0.44	0.38	0.44	0.19	0.20
R ² (between)	0.90	0.93	0.85	0.88	0.94	0.73	0.94
R ² (overall)	0.35	0.39	0.42	0.41	0.38	0.49	0.32

Standard errors in parentheses
 * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A4.4 Results of robustness tests: GMM estimator: additional control variables

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Ln total net ODA disbursements	Ln total net ODA disbursements	Ln total net ODA disbursements	Ln total net ODA disbursements	Ln total net ODA disbursements	Ln total net ODA disbursements	Ln total net ODA disbursements
L.Ln total net ODA disbursements	0.45*** (0.10)	0.47*** (0.099)	0.49*** (0.11)	0.45*** (0.091)	0.37*** (0.12)	0.22 (0.19)	0.44*** (0.10)
Ln GDP (current year)	0.89** (0.38)	0.91** (0.34)	0.72** (0.34)	0.97** (0.37)	1.23*** (0.39)	0.53 (0.74)	1.11* (0.54)
Ln general govt. debt (prev. year, \$)	-0.29*** (0.075)	-0.34*** (0.081)	-0.25*** (0.074)	-0.40*** (0.10)	-0.33*** (0.092)	-0.18 (0.19)	-0.30*** (0.082)
Population (previous year)	0.0061 (0.0045)	0.0069 (0.0047)	0.048 (0.031)	0.0077 (0.0052)	0.0091 (0.0076)	0.068 (0.063)	0.0061 (0.0045)
10Y govt. bond yield (previous year)	-0.0023 (0.012)	-0.0049 (0.0097)	-0.0030 (0.0098)	-0.010 (0.010)	-0.0038 (0.011)	-0.015 (0.015)	-0.00092 (0.012)
Exchange rate (vs. \$)	-0.00015 (0.0012)	-0.00020 (0.0010)	0.000026 (0.00091)	0.00039 (0.0011)	0.00058 (0.00087)	-0.00058 (0.0034)	0.000096 (0.0012)
Political orient. (current year)	-0.011 (0.018)						
Banking crisis (current year)		-0.011 (0.036)					
Govt. bud. bal. (% of GDP, current year)			-0.0053 (0.0035)				
Unemployment (current year)				0.0078 (0.0094)			
Govt. exp. (% of GDP, current year)					0.0100* (0.0056)		
Gini index						-0.023 (0.024)	
GDP Per capita (current year)							-0.0054 (0.0072)
Period	2000–2018	2000–2018	2000–2018	2000–2018	2000–2018	2000–2018	2000–2018
Observations	567	589	561	589	578	231	589

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A4.5 Results of robustness tests: sub-samples of the data

	Fixed-effects estimator		First-difference estimator		GMM estimator	
	(1) Ln net ODA disbursements	(2) Ln net ODA disbursements	(3) D.Ln net ODA disbursements	(4) D.Ln net ODA disbursements	(5) Ln net ODA disbursements	(6) Ln net ODA disbursements
L.Ln total net ODA disbursements	1.68** (0.66)	1.73** (0.71)			0.44*** (0.11)	0.45*** (0.099)
Ln GDP (current year)	1.68** (0.66)	1.73** (0.71)	1.11** (0.45)	1.34*** (0.49)	0.92** (0.34)	0.61 (0.41)
Ln general govt. debt (prev. year, \$)	-0.19** (0.067)	0.035 (0.21)	-0.088 (0.085)	0.096 (0.066)	-0.19*** (0.054)	-0.36** (0.13)
Population (previous year)	0.020 (0.033)	0.0042 (0.0049)	0.085** (0.043)	0.011*** (0.0035)	0.029 (0.040)	0.0066* (0.0036)
10Y govt. bond yield (previous year)	-0.011 (0.013)	-0.016 (0.015)	-0.0050 (0.0034)	-0.0054 (0.0033)	0.0010 (0.011)	-0.016* (0.0088)
Exchange rate (vs. \$)	0.00060 (0.0023)	-0.0017 (0.0026)	0.00025 (0.00095)	-0.0011 (0.0011)	0.0016 (0.0013)	-0.00064 (0.0014)
Constant	-0.16 (2.90)	-0.28 (3.80)	0.0020 (0.011)	-0.00049 (0.0096)		
Exclusion:	Top Quartile of Donors	Top Quartile of Fastest-Growing Economies	Top Quartile of Donors	Top Quartile of Fastest-Growing Economies	Top Quartile of Donors	Top Quartile of Fastest-Growing Economies
Period	2000–2018	2000–2018	2000–2018	2000–2018	2000–2018	2000–2018
Observations	319	304	300	288	423	424
R ² (within)	0.55	0.51	0.40	0.38		
R ² (between)	0.00	0.59	0.85	0.96		
R ² (overall)	0.02	0.56	0.16	0.54		

Standard errors in parentheses
 * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Annex 5 Bilateral and multilateral responses to the Covid-19 crisis

Table A5.1 Response, resources and funding source: bilateral donors

Donor	Covid-19 ODA response	Resources for Covid-19
Canada	(a) Covid-19 Response Fund, 11 March (b) Announcements, April, June, September and December 2020	CA\$120 million (additional CA\$180M announced is from existing resources) Support for ACT-A Accelerator CA\$400 million Humanitarian and Development Response CA\$220 million COVAX Advance Market Commitment CA\$485 million additional support for the ACT-Accelerator
France	(a) Budget reallocation on 8 April 'Covid-19 Health in Common' (Press release + announcement on the first round of funded projects, April 21st) (b) Pledge at ACT conference, 4 May	(a) €1.2bn, including €1.15bn (€150m grants and €1bn concessional loans) through the 'Covid-19 Health in Common' initiative implemented by AFD (press release + announcement on the first round of funded projects, 21 April) (b) €500m
Germany	(a) Humanitarian assistance on 27 April (b) Development assistance: 'Corona Immediate Support Package' (18-page brief, April 23rd) (c) Health: additional contribution to WHO (May and 25 June) (d) Second supplementary budget approved 1 July (e) German Parliament adopted the 2021 federal budget on 11 December	(a) €300m; allocation from 2020 (b) €1.150bn (c) €366m (d) Development assistance: €1.6bn for 2020 (and €1.6bn for 2021) and humanitarian assistance: €450m; (e) Development assistance: €1.6bn for 2021 as part of BMZ's planned €3.1bn Covid-19 response
Italy	Speech at Global Response Marathon, 4 May	€20m (and €120m for Gavi over the next five years) Budget to rise by \$706m in 2021
Japanⁱ	(a) Emergency contributions to WHO and UN agencies, March (b) Approval of FY2020 1st supplementary budget on 30 April b1) Approval of FY 3rd supplementary budget on 20 December (c) Emergency Loan Scheme approved by cabinet in April (Announced at Global Response Marathon 4 May)	(a) ¥15bn; FY2019 (April–March) (b) ¥136.9bn (of which YEN 22bn for Gavi in coming years); 265bn (\$2.45bn) for IMF PRGT (additional \$2.45bn to match other contributions) b1) ¥144.4bn (c) ¥500bn over the next two years
Netherlands	(a) Budget reallocation on 14 April (b) Cabinet decision on additional funding on 10 July	(a) €11.3m; <i>emergency budget</i> , €90m; <i>reallocation of 2020 budget</i> , €10m (b) €150m
Norway	(a) Contribution from Humanitarian budget, 25 March (b) Adjusted development budget, 21 May (c) Allocation of for humanitarian assistance in 2021, 7 October	(a) NOK 100m (b) NOK 900m (c) NOK 5.5bn; allocated for humanitarian budget in 2021, with an allocation of NOK 500m to global health

ⁱ Thanks to Kiyoshi Kodera for this analysis; most of the sources were not available in English.

Donor	Covid-19 ODA response	Resources for Covid-19
Sweden	'Sida Response to Covid-19' (a) First announcement on 11 May (b) Additional announcement on 25 June (c) Update in August	(a) SEK 224m (b) Increased to SEK 797m (of which SEK 146.8m in humanitarian assistance) (c) Increased to SEK 1.25bn
UK	Series of press releases (major ones on 26 March, 12 April 20 May and 23 July)	£774 million
US	(a) Initial contribution (7 February) (b) Coronavirus Preparedness and Response Supplemental Appropriations Act (5 March) (c) CARES Act (27 March) (d) Supplemental budget and new appropriation bills for 2021 in range \$5–10bn being negotiated At the time of writing (December 2020), the budget bill included a small increase for foreign aid.	(a) \$100m (b) \$1.285m (c) \$1.291m

Sources: **Canada:** Government of Canada (n.d.) 'Government of Canada takes action on Covid-19'. Webpage (www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection/canadas-reponse/government-canada-takes-action-covid-19.html); Government of Canada (n.d.) 'Backgrounder – Canada provides funding to address Covid-19 pandemic'. Webpage (www.canada.ca/en/global-affairs/news/2020/04/backgrounder---canada-provides-funding-to-address-covid-19-pandemic.html); Government of Canada (2020) 'Canada announces support for equitable access to new Covid-19 medical solutions'. Webpage. Government of Canada, 27 June (www.canada.ca/en/global-affairs/news/2020/06/canada-announces-support-for-equitable-access-to-new-covid-19-medical-solutions.html); Government of Canada (2020) *Economic and fiscal snapshot 2020*. Report. 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Donor Tracker, 30 November (<https://donortracker.org/policy-updates/italys-oda-will-increase-us706-million-2021>); **Netherlands:** NHOR (2020) 'Wijziging van de begrotingsstaat van Buitenlandse Handel en Ontwikkelingssamenwerking (XVII) voor het jaar 2020 (wijziging samenhangende met de Voorjaarsnota)' (<https://zoek.officielebekendmakingen.nl/kst-35450-XVII-1.html>); Donor Tracker (2020) 'After considering AIV's US\$1.1 billion recommendation, Dutch cabinet instead announces US\$565 million for combating Covid-19 globally'. Webpage. Donor Tracker, 14 July (<https://donortracker.org/policy-updates/after-considering-aivs-us11-billion-recommendation-dutch-cabinet-indeed-announces-us565-million-for-combating-covid-19-globally>); **Norway:** Government of Norway (2020) 'Covid-19 pandemic: Government strengthens humanitarian efforts'. Webpage. 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Table A5.2 Recipient, sector focus, geographic focus: bilateral donors

Donor	Recipients	Sector focus	Geographic focus
Canada	UN agencies, CEPI, unspecified countries	(a) Health/humanitarian (b) Focus on essential food security, nutrition and education initiatives	n/a
France	(a) Governments, CSOs, (French) foundations/stakeholders dedicated to the fight against infectious diseases (Pasteur, Mérieux), public development banks (b) WHO, CEPI, GAVI, UNITAGlobal Fund	(a) Research, national response plans in Africa, supporting French actors, budget support for health care (b) Health, vaccines, research	(a) 19 priority countries in Africa (and Haïti) for grants; Africa, and the Middle East for loans (b) n/a
Germany	Existing partners; UN agencies, NGOs, Red Cross/Red Crescent, partner countries	Seven thematic areas for development assistance: health, food, stabilisation, social protection, economic support, government liquidity, international cooperation	n/a
Italy	WHO and CEPI	Health/vaccines	n/a
Japan	(a) WHO, UNICEF and other UN agencies (b) \$440m in bilateral grants and \$880m for UN agencies, CEPI, bilateral trust funds at MDBs (WB, IMF, ADB) and \$2.45bn for IMF PGRT (c) Bilateral emergency loans for general budget support	Health (vaccines, tests and treatments), humanitarian assistance and big effort in revitalising the economy through loans	Asia, Pacific and other regions for emergency loans
Netherlands	UN agencies (incl. various trust funds), Red Cross/Red Crescent, Dutch Relief Alliance, Gavi, existing partners in food/drug markets, partner countries (Ethiopia and Sudan), NATO security fund	€42m for prevention, €83m for humanitarian assistance €125m for socio-economic resilience	Unspecified, but €18m dedicated to safety nets in Ethiopia and Sudan
Norway	UN agencies, Red Cross/Crescent, NGOs	Health (55%) and humanitarian assistance	NOK 30m to Africa; NOK 7m to Syria
Sweden	UN agencies, Red Cross/Red Crescent and various NGOs	Humanitarian assistance and long-term development; focus on health (maternal, care for the elderly), democracy and human rights, social protection	Planned disbursements 2020, per DAC region: SSA countries: 55%
UK	£165m (21%) to UN agencies £50m (6%) partnership w. Unilever, £338m (43%) to Research Foundations (CEPI etc.) £150m (19%) to IMF CCRT £55m (7%) to Red Cross/Red Crescent £36m (5%) to NGOs	Health (vaccines, tests, treatments), humanitarian appeals and response, an educational campaign with Unilever	n/a
US	UN agencies, international organisations, NGOs, CSOs (small extent), Red Cross/Red Crescent	Four interrelated pillars focusing on prevention, preparation and response; bolstering health institutions; addressing humanitarian consequences; and second-order economic, security, stabilisation and governance	Africa, Asia, Latin America and the Caribbean, MENA. Agreed that Australia responsible for Timor-Leste, South Pacific and Indonesia

Sources: **Canada:** Government of Canada (n.d.) 'Government of Canada takes action on Covid-19'. Webpage (www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection/canadas-reponse/government-canada-takes-action-covid-19.html); Government of Canada (n.d.) 'Backgrounder – Canada provides funding to address Covid-19 pandemic'. Webpage (www.canada.ca/en/global-affairs/news/2020/04/backgrounder---canada-provides-funding-to-address-covid-19-pandemic.html); Government of Canada (2020) 'Canada announces support for equitable access to new Covid-19 medical solutions'. Webpage. Government of Canada, 27 June (www.canada.ca/en/global-affairs/news/2020/06/canada-announces-support-for-equitable-access-to-new-covid-19-medical-solutions.html); Government of Canada (2020) *Economic and fiscal snapshot 2020*. Report. (www.canada.ca/en/department-finance/services/publications/economic-fiscal-snapshot.html); Government of Canada (2020) *Supporting Canadians and fighting Covid-19*. Report. Government of Canada, 30 November (<https://budget.gc.ca/fes-eea/2020/report-rapport/chap1-en.html#17-Contributing-on-the-Global-Stage>); **France:** AFD (2020) 'France launches, via AFD, the "Covid-19 – health in common" initiative to support African countries'. Webpage. AFD, 9 April (www.afd.fr/en/actualites/france-lance-afd-covid-19-health-common-initiative-support-african-countries); AFD (2020) 'Initiative "Covid-19 - santé en commun": le financement des premiers projets en Afrique'. Webpage. AFD, 21 April (www.afd.fr/fr/actualites/initiative-covid-19-sante-en-commun-le-financement-des-premiers-projets-en-afrique); Government of France (2020) 'France pledges €500m against Covid-19'. Webpage. Government of France, 6 May (www.gouvernement.fr/en/france-pledges-eu500m-against-covid-19); **Germany:** Federal Foreign Office, Germany (2020) 'Aid to fight corona in humanitarian crises'. Webpage. Federal Foreign Office, Germany, 27 April (www.auswaertiges-amt.de/en/aussenpolitik/themen/humanitaerhilfe/corona-humanitarian-asistance/2337704); Federal Ministry of Economic Cooperation and Development, Germany (2020) 'Entwicklungsministerium legt "Corona-Sofortprogramm" vor'. Webpage. Federal Ministry of Economic Cooperation and Development, Germany, 23 April (www.bmz.de/de/presse/aktuelle-Meldungen/2020/april/200423-Entwicklungsministerium-legt-Corona-Sofortprogramm-vor-Die-Pandemie-besiegen-wir-nur-weltweit-oder-gar-nicht/index.html); Donor Tracker (2020) 'German Minister of Health pledges

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Table A5.3 Multilateral development banks' response to Covid-19 crisis

Donor	Funding distribution	Focus	Financing source
WBG \$12bn, 3 March \$160bn (over 15 months), 2 April +\$195m Pandemic Emergency Financing Facility, 27 April +HEPRF, 17 April	Sovereign-operations: \$50bn in <i>concessional finance</i> from the International Development Association (IDA), \$195m allocated from the Pandemic Emergency Financing Facility, new multi-donor trust fund; new Health Emergency Preparedness and Response Multi-Donor Fund (HEPRF) Non-sovereign operations: \$8bn from the International Finance Corporation (IFC) and \$6.5bn from the Multilateral Investment Guarantee Agency (MIGA)	(1) Protecting the poorest and most vulnerable households, (2) support business and save jobs, (3) Help developing countries implement emergency health operations and strengthen economic resilience IFC: supporting critical industries, keeping trade flowing, helping clients pay their bills, shoring up local banks	Front-loading \$51bn from IDA19. Additional measures include redeploying existing resources in World Bank-financed projects, use of emergency components of existing projects (CERCs), triggering of Catastrophe Deferred Drawdowns (CAT DDOs)
AfDB \$10bn, 8 April	\$5.5bn for sovereign operations \$3.1bn for sovereign and regional operations under the African Development Fund, the AfDB's concessional chapter that supports fragile states \$1.35bn for non-sovereign operations	Addressing the health, social and economic consequences non-sovereign operations: trade finance liquidity and risk mitigation support to local banks	At least partly from a \$3bn 3-year 'Fight Covid-19 Social Bond' launched on 27 March
ADB \$20bn \$6.5bn, 18 March \$13.5bn, 15 April	\$18.16bn in sovereign operations , of which \$2.5bn in <i>concessional resources</i> and \$13bn through the new 'Covid-19 Pandemic Response Option' under the Counter-cyclical Support Facility \$1.84bn in non-sovereign operations for micro, small and medium-sized enterprises, domestic and regional trade and firms \$40m in technical assistance and quick-disbursing grants	Countering severe macroeconomic and health impacts, particular focus on the poor and vulnerable. Non-sovereign operations increase existing programs (e.g. Trade Finance and Supply Chain)	Initial \$6.5bn: reprogramming 20% of the 2020 programme, reallocating resources within ongoing projects, using freed-up funding from cancellations and ongoing projects Additional \$13.5bn: new resources mobilised.
IDB \$17bn \$2bn, 11 March \$15bn, 23 March	\$12bn in sovereign operations \$5bn in non-sovereign operations from IDB Invest, the private-sector institution, of which \$4.5bn from the investment programme	Four focus areas (1) The Immediate Public Health Response (2) Safety Nets for Vulnerable Populations (3) Economic Productivity and Employment, directed to SMEs (4) Fiscal Policies for the Amelioration of Economic Impacts	\$3.2bn additional resources added to the programme for 2020, rest reprogrammed from the existing portfolio of health projects Member governments can request redirection of resources from ongoing projects in other sectors to focus on Covid-19 response (could total up to \$1.35bn)
EBRD \$21bn \$1bn, 13 March \$20bn, 23 March	Focus on non-sovereign operations in line with EBRD's private sector focus (75% private) but can also support sovereign operations. Initiatives include: €4bn 'Resilience Framework'; short-term liquidity and working capital needs of existing clients Expansion of the 'Trade Facilitation Programme' Fast-track restructuring for distressed clients Enhanced frameworks for reaching SMEs and potential new clients New 'Vital Infrastructure Support Programme' (launched 23 April) to ensure the provision of vital services. Three financing tools: (a) working capital lines to municipalities/utilities; (b) stabilisation facilities for key infrastructure providers; (c) investment financing for public-sector clients.	Focus on economic and financial resilience. Hardest hit identified as financial institutions, SMEs, and the tourism, hospitality, automotive, transport provider, agribusiness and medical supply sector In immediate crisis response, focus on debt provision. Offers also made in local currency, capital markets and equity	Comprehensive approach dedicates EBRD's entire 2020/2021 portfolio to crisis response and recovery.

Sources: World Bank (2020) 'World Bank Group announces up to \$12 billion immediate support for Covid-19 country response'. Press release, 3 March (www.worldbank.org/en/news/press-release/2020/03/03/world-bank-group-announces-up-to-12-billion-immediate-support-for-covid-19-country-response); World Bank (2020) 'How the World Bank Group is helping countries with Covid-19 (coronavirus)'. Webpage. World Bank, 11 February (www.worldbank.org/en/news/factsheet/2020/02/11/how-the-world-bank-group-is-helping-countries-with-covid-19-coronavirus); World Bank (2020) 'PEF allocates us\$195 million to more than 60 low-income countries to fight Covid-19'. Press release, 27 April (www.worldbank.org/en/news/press-release/2020/04/27/pef-allocates-us195-million-to-more-than-60-low-income-countries-to-fight-covid-19); World Bank (2020) 'World Bank Group to launch new multi-donor trust fund to help countries prepare for disease outbreaks'. Statement, 17 April (www.worldbank.org/en/news/statement/2020/04/15/world-bank-group-to-launch-new-multi-donor-trust-fund-to-help-countries-prepare-for-disease-outbreaks); IFC (n.d.) 'IFC and Covid-19 (coronavirus)' (www.ifc.org/wps/wcm/connect/news_ext_content/ifc_external_corporate_site/news+and+events/covid-19); World Bank (2020) 'World Bank Group president David Malpass: remarks at high-level event on financing for development in the era of Covid-19 and beyond'. Speech, 28 May (www.worldbank.org/en/news/speech/2020/05/28/world-bank-group-president-david-malpass-remarks-at-high-level-event-on-financing-for-development-in-the-era-of-covid-19-and-beyond); AfDB (2020) 'African Development Bank Group unveils \$10 billion response facility to curb Covid-19'. AfDB, 8 April (www.afdb.org/en/news-and-events/press-releases/african-development-bank-group-unveils-10-billion-response-facility-curb-covid-19-35174); ADB (2020) 'ADB announces \$6.5 billion

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Annex 6 Forward estimates of aid flows

Data sources

To forecast the impact of the crisis prompted by the Covid-19 outbreak on aid disbursements from DAC members using the results from our model, we need projections for the explanatory variables – GDP, population, government debt, 10-year local currency government bond yields and exchange rates.

We use two sets of GDP forecasts. The first source is the IMF World Economic Outlook released in October 2020. The other set of forecasts are from the OECD, published in December 2020.

We take population projections from the IMF World Economic Outlook. To forecast general government debt (of which the back series is taken from the IMF WEO), we use the change in gross public debt projections from the OECD Economic Outlook in December. Using these changes, we create forecasts for general government debt. We decided to not use the IMF projections for general government debt as these figures have not been adjusted since the start of the Covid-19 crisis. For countries for which there are no gross public debt projections, we create the general government debt forecasts based on the general government net lending/borrowing forecasts from the OECD Economic Outlook.

We use projections from the *Focus Economics* consensus publications to forecast 10-year local currency government bond yields and exchange rates, which take the mean forecast from the projections of private-sector analysts. These forecasts are updated monthly and will, therefore, take changes in projections triggered by the pandemic into account.

More detailed information about data sources is included in Annex 1.

Model and detailed results

We used the results of our estimations to forecast the potential impact of the Covid-19 crisis on aid disbursements from DAC member countries. Our model suggests that there are two key channels through which the outbreak will affect aid flows – a sharp fall in GDP and the overhang of an increase in public debt. (Recall that in all of our estimations, government debt was negatively associated with aid disbursements – even if this relationship was often statistically insignificant.)

Some of our projections use GDP in the current year as the primary explanatory variable of interest and other estimations use GDP in the previous year. Accordingly, some forecasts suggest that there will be a slump in aid flows in 2020 and others point to a slump in aid flows in 2021. To understand the impact of the Covid-19 crisis on aid flows, we should draw most insight from the projected change in aid disbursements between the end of 2019 and the end of 2021. Beyond 2021, forecasts from the IMF, the OECD and private-sector analysts suggest that the economic impact of the outbreak will have faded. We have hence used this as our cut-off point for understanding the impact of the Covid-19 crisis on near-term aid disbursements.

The results from the first-difference estimator are likely to be more reliable than those of the fixed-effects estimator. In addition, including both the current year and previous GDP in our estimations offers greater explanatory power than including just one of current year GDP or previous year GDP (Tables A6.1 and A6.2).

Table A6.1 Projected percentage change in aid disbursements from DAC members (total, \$ constant prices, based on IMF GDP forecasts)

		First-difference estimator	Fixed-effects estimator
Real GDP (current year)	End-2019 to end-2020	-6.78	-9.90
	End-2020 to end-2021	4.92	4.68
	End-2019 to end-2021	-2.19	-5.69
Real GDP (previous year)	End-2019 to end-2020	2.39	2.95
	End-2020 to end-2021	-6.24	-11.83
	End-2019 to end-2021	-4.00	-9.23
Real GDP (current and previous year)	End-2019 to end-2020	-4.61	4.22
	End-2020 to end-2021	-1.07	-13.15
	End-2019 to end-2021	-5.64	-9.48

Table A6.2 Projected percentage change in aid disbursements from DAC members (total, \$ constant prices, based on OECD forecasts)

		First-difference estimator	Fixed-effects estimator
Real GDP (current year)	End-2019 to end-2020	-6.06	-8.89
	End-2020 to end-2021	3.07	2.09
	End-2019 to end-2021	-3.17	-6.99
Real GDP (previous year)	End-2019 to end-2020	2.43	3.00
	End-2020 to end-2021	-5.62	-10.80
	End-2019 to end-2021	-3.32	-8.13
Real GDP (current and previous year)	End-2019 to end-2020	-4.03	4.17
	End-2020 to end-2021	-2.07	-11.84
	End-2019 to end-2021	-6.02	-8.16



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