Economic Sanctions and Domestic Debt:

Burundi's Fiscal Response to the Suspension of Budget Support

by

Roel Dom

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Abstract

Economic sanctions, and the suspension of budget support in particular, are supposed to pressure target governments to comply with donors' demands by putting spending commitments at risk. We argue that this is too simplistic since governments have more fiscal levers at their disposal. The case of Burundi illustrates this argument. Following Burundi's 2015 political crisis, donors imposed economic sanctions on the country and suspended all budget support to the national government. Using monthly data on the government's fiscal position between 2005 and 2017, we present evidence from a time series analysis showing that aid does not affect spending and that aid shortfalls are instead systematically compensated with domestic borrowing. It appears that the Burundian government has been able to withstand the sanctions and to fulfill its spending commitments by substituting domestic debt for aid. Thus, the economic costs of sanctions do not necessarily translate directly into political costs but are mitigated by the government's fiscal response.

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1   Introduction

On April 25th, 2015 Pierre Nkurunziza officially launched his bid for a controversial third presidential term. His announcement marked the beginning of prolonged popular demonstrations across Burundi's capital which were met with violent and deadly repression by the security forces. Months of political unrest followed, during which the government violently cracked down on dissidents, further reducing the already constrained political space. In the wake of this political crisis Burundi's international development partners imposed economic sanctions on the country. Donors slapped sanctions on key individuals of the regime and scaled down their "regime reinforcing" project support. In addition, they completely suspended budget support. These sanctions were intended to force the government to curtail its efforts to limit the political space (EU, 2016). However, at the time of writing the sanctions had only had limited impact. The political situation stabilised, but not around the equilibrium desired by the international community. Instead, much of the opposition went into exile as Nkurunziza consolidated his grip on power (EIU, 2018).

The existing scholarly literature on the effectiveness of economic sanctions is not well placed to explain the Burundian case. According to the conventional wisdom economic sanctions are meant to impose a cost on a target government in order to make it comply with international demands. The likelihood of the success of the sanctions is higher, the greater their cost is to the target country (Drury, 1998). The suspension of budget aid, which will be the focus of this paper, should therefore be especially costly for countries which are highly aid-dependent. By reducing budget support the target government's budget constraint should come under pressure making it harder to fulfill spending commitments (Escriba-Folch and Wright, 2010). This should be particularly costly for neopatrimonial regimes which rely on spending to maintain a broad patronage network to stay in power (Bratton and van de Walle, 1994). Yet, although aid makes up about 30 percent of Burundi's national budget (Jones, 2013, p.3) and although the regime is considered to be neopatrimonial (Vandeginste, 2015, p.633), the country has so far managed to weather the sanctions.

We argue that the assumption underlying the traditional sanctions literature is too simplistic and ignores the agency of the target country. Recently, research on economic sanctions has started to look at the interaction between the externally imposed sanctions and the domestic political context in the target countries. It shows that sanctions can bolster instead of cripple a regime when the regime manages to exploit the sanctions to make the population rally around the flag (Galtung, 1967). For example, Grauvogel (2015) documents how the Burundian government managed to use regional sanctions in the 1990s to rally domestic support. While this

Figure 1: Evolution Cash Grants and Domestic Debt
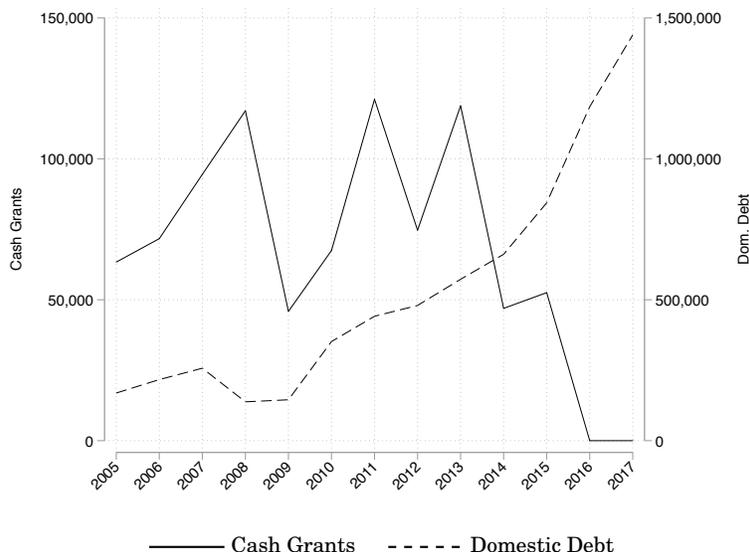
Notes: Figure 1 shows the evolution of cash grants and domestic debt from 2005 to 2017. All amounts are expressed in local currency units in millions. The yearly series were constructed from monthly data.

literature recognises the agency of the target country, it has its limitations. It does not address how countries deal with the economic consequences of sanctions, such as the suspension of aid. Much of the literature, including the influential work of Hufbauer et al. (2007, p.101), assumes that a reduction in aid results in one-for-one reduction in spending as aid cannot easily be substituted. We challenge this assumption. The fiscal response literature shows that the effect of aid on the government's fiscal behaviour is complex and highly country-specific (Morrissey, 2015). Aid is only one of the revenue components of the government's budget constraint. The effect of the suspension of budget support will therefore depend on the other fiscal levers available to the target government.

This paper analyses the fiscal response of the Burundian government to shortfalls in aid inflows, and in particular to the complete suspension of budget support in the wake of the 2015 political crisis. Particularly important for this study is the possible interaction between aid and domestic borrowing, and between aid and recurrent expenditure. Anticipating the results, Figure 1 illustrates the intuition of this paper. After 2015 budget support (cash grants) to Burundi dropped to zero, while the pace of accumulation of domestic debt increased. Using detailed, high-quality monthly data from the Burundian Central Bank (BRB), we test two hypotheses; (1) do cash grants affect recurrent spending, and (2) are cash grants and domestic borrowing substitutes. We show that the Burundian regime managed to offset the impact

of the aid shortfall on its spending commitments by substituting domestic borrowing for aid. We do not present evidence on the direct impact of the suspension of budget aid. Instead, we rely on time series analyses to identify patterns in the government's fiscal behaviour supporting this interpretation. Relying on both an autoregressive distributed lag (ARDL) model and a vector autoregressive (VAR) approach, we show that aid has no impact on recurrent expenditure, but show that there exists a one-for-one substitution between budget support and domestic borrowing. We also discuss the implications of this strategy for donors and for Burundi, highlighting its potential costs to the country over the medium to long term.

The contribution of this paper is fourfold. First, at the theoretical level we go beyond the existing sanctions literature by connecting it with the fiscal response literature. In doing so we provide new insights into the interaction between domestic and international factors determining the effectiveness of economic sanctions, and the suspension of budget support in particular. We highlight the importance of the agency of the target country, especially with respect to its fiscal policy strategies. Second, we present new empirical evidence showing that the suspension of budget support is unlikely to put the intended pressure on the target government's budget constraint when that government can substitute the shortfall in aid revenue with domestic borrowing. Third, we contribute to an emerging literature on the drivers of domestic debt in low-income countries (Bua et al., 2014; Christensen, 2005; Essers et al., 2016). Finally, this paper speaks to the growing country-specific literature on Burundi and contributes to our understanding of its fiscal and economic policy (Girukwigomba, 2010; Ndoricimpa, 2017; Nkurunziza et al., 2012) and their interaction with aid in particular (Nielsen and Madani, 2010), as well as of its international relations (Grauvogel, 2015), especially in the wake of its 2015 political crisis (Grauvogel, 2016; Molenaers et al., 2017; Reyntjens, 2015; Vandeginste, 2015).

This paper continues as follows. We start by briefly summarising and reviewing the literature on economic sanctions and link it with the fiscal response literature in section 2. Section 3 provides more detail on the backdrop of the Burundian case. The data is presented in section 4, while the methodological framework is introduced in section 5. Section 6 presents the results. Before we conclude in section 8, we discuss the implications of this substitution of aid for domestic debt in section 7.

2 The effectiveness of economic sanctions

In this section we review the literature on the effectiveness of economic sanctions paying particular attention to the suspension of development aid. We will identify a deficiency of the sanctions literature. It fails to recognise that the impact of the suspension of aid to a target

country is influenced by that government's fiscal behaviour. We draw on ideas from the international relations literature on economic sanctions and combine it with findings from the fiscal response literature on the impact of aid. This review forms the background for our discussion of the events in Burundi in the next section and the econometric analysis in the subsequent sections.

2.1 Economic Sanctions

Sanctions are one of the foreign policy tools available to governments and take many forms: diplomatic, cultural, military, political or economic. In this article we focus on economic sanctions. Economic sanctions are commonly defined as "the deliberate, government-inspired withdrawal, or threat of withdrawal, of customary trade or financial relations" (Hufbauer et al., 2007, p.3). There are different types of economic sanctions, ranging from trade boycotts or restrictions, over communication and transportation restrictions or prohibitions, to financial sanctions limiting the target's access to capital markets. The target can be an entire economy, a sector, or an individual. In the context of international development, the suspension of development aid by donors is one of the most common forms of economic sanctions (Hansen and Borchgrevink, 2006). The suspension of aid to a developing country usually follows transgressions related to democratic practice and is intended to punish the country or to signal that its behaviour is unacceptable by international norms (Hayman, 2011).

According to *instrumentalist* theories, sanctions force target countries to comply with demands made by senders by raising the cost of the unacceptable behaviour (Dashti-Gibson et al., 1997; Drury, 1998). Game-theoretic models of coercion, rooted in (non-cooperative) bargaining models assuming rational unitary actors with full information, predict that the *threat* of sanctions should have a 100 percent success rate (Drezner, 2003; Rubinstein, 1982). However, it is generally agreed that the track record of economic sanctions, and of aid suspension in particular, is disappointing (Barber, 1979; Crawford, 1997; Doxey, 1971; Galtung, 1967; Pape, 1997). This has given rise to alternative models of sanctions originating in the public choice literature. *Expressive* or *symbolic* theories depart from the unitary state assumption and examine the role of domestic politics (Barber, 1979; Kaempfer and Lowenberg, 1988). They argue that sanctions are less about achieving change in the target country than they are about satisfying domestic political objectives in the sender country (McLean and Whang, 2014). While instrumental and expressive theories are not necessarily incompatible, expressive theories do force researchers to be more explicit about the politics behind sanctions (Molenaers et al., 2015, p.64). Yet, when sanctions are effective, as they are in an estimated 30 percent of cases (Huf-

bauer et al., 1990), expressive theories are of little help in understanding why (Lektzian and Souva, 2007). Moreover, they disregard the agency of target countries in avoiding the impact of sanctions.

A vast theoretical and empirical literature explores the conditions which render sanctions (in)effective. At the bilateral level, it stresses the importance of the threat stage (Drezner, 2003), information asymmetries (Hovi et al., 2005), common interests (Whang et al., 2013), and the pre-sanction power balance between the two countries (e.g. trade relations) (Dashti-Gibson et al., 1997; Morgan and Schwebach, 1997). Also, sanctions on allied countries appear to be more effective than on adversaries (Drezner, 1998; Whang, 2011). At the multilateral level, there is evidence that sanctions are more likely to succeed if they enjoy wide multilateral support (Bapat and Morgan, 2009). However, multilateral coordination might be difficult (Doxey, 1971; Early and Spice, 2015), and third-party states might actively undermine sanctions (Early, 2015). From the point of view of the sender, sanctions are more likely to be effectively pursued if their cost is low and their salience is high (Ang and Peksen, 2007; Hufbauer et al., 2007), and when the sender is a democracy (Hart, 2000). But, sanctions could also alienate business interests at home which could undermine their credibility and therefore effectiveness (Hufbauer et al., 2007).

Increasingly attention is being paid to the domestic situation of the target countries. According to Blanchard and Ripsman (1999) target countries compare the costs of compliance with the costs of non-compliance with sanctions, and minimize accordingly. The compliance cost decreases if the domestic salience of the sanction issue is lower (Ang and Peksen, 2007). On the other hand, the political cost of sanctions increases when they fuel popular discontent with the incumbent government (Grauvogel et al., 2017). Yet, sanctions might also bolster patriotic support for the incumbent government if it manages to incorporate these patriotic feelings into its legitimation strategy (Galtung, 1967; Grauvogel and von Soest, 2014; Naghavi and Pignataro, 2015). Grauvogel (2015) documents how the Burundian government initially managed to withstand regional sanctions in 1990s by rallying domestic support by blaming Tanzania and stressing the high humanitarian cost of the sanctions. Yet, while this emphasis on domestic politics is welcome since it recognises the agency of target countries, it also has limitations. As Green puts it: "self-reinforcement cannot grow food, although, when there is food, people can be, even in the face of an implacable foe, unified and integrated" (1983, p.82-83).

There is thus a need to understand how governments grapple with the economic consequences of aid suspensions. The political economy literature on the impact of aid on regime stability provides a useful starting point. Marinov (2005) argues that sanctions are only likely

to be effective if they generate political costs for the leadership, such as increasing the probability that they will be forced out of office. The political costs generated by these sanctions depend on the regime type in the target country (Allen, 2005; Lektzian and Souva, 2007; Nooruddin, 2002). While all regimes are based on a coalition of some sort, authoritarian regimes often rely on coalitions held together through a mix of repression and loyalty based on patronage resources and policy concessions (Gandhi and Przeworski, 2006; Smith et al., 2003; Wintrobe, 1990). As opposed to military regimes, neopatrimonial regimes particularly depend on extensive patronage networks and are thus reliant on the availability of resources to buy the loyalty of their supporting coalitions (Bratton and van de Walle, 1994). These resources often come from natural resource rents, tax and non-tax revenue, but also from aid. The suspension of aid should therefore put pressure on the target government by tightening its budget constraint. This should make it more difficult for it to maintain the level of spending needed to satisfy its supporting coalition and secure its survival (Escriba-Folch and Wright, 2010).

2.2 Fiscal Response to Aid

However, aid is only one of the components of that budget constraint. This becomes clear if one considers a simple government budget identity. This budget constraint states that all revenues, including borrowing, must equal all expenditures:

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\begin{aligned}
CapExp + RecExp \quad = \quad & FiscRevenue + CashGrants + CapGrants + \\
& DomBorrow + ExtBorrow
\end{aligned}
$$

where $CapExp$ denotes capital expenditure which together with recurrent expenditure ($RecExp$) constitutes total expenditure. $FiscRevenue$ includes both total tax and non-tax revenue. Budget support can be separated into cash and capital grants, respectively $CashGrants$ and $CapGrants$. Finally, governments can also borrow either domestically ($DomBorrow$) or externally ($ExtBorrow$). The latter is defined as aid if it includes a concessional element. Intuitively, it is therefore not clear that a reduction in aid flows automatically leads to reductions in spending, as the target government might try to shift other parameters of its budget constraint to offset the impact of aid cuts. Although the sanctions literature mentions that fiscal policy can be used to mitigate some of the effects of economic sanctions, we are unaware of studies examining this possibility in depth.[1] The effect of aid on the government's fiscal behaviour is, however, something that comes up in the fiscal response literature.

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[1]This is, however, discussed in some of the more policy-oriented literature, see for example Cassimon et al. (2016).

This literature explicitly models how the impact of aid is mediated by the public sector. It analyses the linkages between aid, tax, spending and borrowing (McGillivray and Morrissey, 2004; Morrissey, 2015). Theoretical work based on Heller (1975) models the governments' budget process as setting targets for these fiscal variables. Utility is maximised if these targets are achieved. In earlier studies aid was treated as exogenous, that is aid was considered an external resource that entered the budget constraint (Gang and Ali Khan, 1990; Mosley et al., 1987). However, later research endogenised aid in the sense that recipient governments have a target for aid as well, which enters into their budget planning decisions (Franco-Rodriguez et al., 1998; McGillivray and Ahmed, 1999). A priori, the predictions from these models are not clear and have to be identified empirically.

The empirical literature on the fiscal effects of aid is, however, small as the data requirements are relatively demanding. Good quality time series data on fiscal variables for developing countries is often hard to come by. Early quantitative studies were constrained by short data series and had to impose restrictions on the estimations, leading to questions about the robustness of their results (McGillivray and Morrissey, 2004). Yet, more recently, thanks to the availability of more and better-quality data, the empirical fiscal response literature has been growing. Most of these studies focus on the effect of aid on spending and revenue. The conclusion emerging from this literature is that the fiscal effects of aid are not straightforward and are highly country-specific. In his review of the literature, Morrissey (2015) concludes that, overall, aid does influence the other fiscal variables. Governments thus seem to take aid into account when making budgetary decisions. However, while aid appears to increase spending, it does not increase spending by the full amount. The effect on tax is more ambiguous; aid may reduce, not affect or even increase tax efforts.

While foreign borrowing is usually taken into consideration, domestic borrowing is often excluded and treated as a residual in these studies (e.g. Mascagni and Timmis, 2017). Again, data limitations play a role. Foreign borrowing is usually better recorded due to its importance for international financial institutions. Moreover, it could be the case that domestic borrowing is not part of the long-run budget balance and can thus be treated as a residual since it is only resorted to as a short-run adjustment. Whether domestic borrowing features in the government's budget constraint is an empirical question. The evidence coming from the small number of existing studies again suggests that the relationships are very country-specific. Franco-Rodriguez et al. (1998) find that aid increases domestic borrowing in Pakistan, indicating that aid increases the fiscal deficit and hence more needs to be borrowed to make up for this. Alternatively, aid could increase the capacity to service debt leading to higher borrowing (McGillivray and Ouattara, 2005; Ouattara, 2006). Yet, most of the evidence is consistent with

a negative correlation between the aid and borrowing (Bwire et al., 2017a,b; Franco-Rodriguez et al., 1998; McGillivray and Ahmed, 1999; Osei et al., 2005). This negative correlation is often interpreted as evidence for effective conditionality (McGillivray and Morrissey, 2004). Donor conditions, specifically under IMF programmes, often include a cap on domestic borrowing as part of broader macroeconomic management reforms. Recipient countries are rewarded with aid money if they adhere to these reforms.

However, aid and domestic borrowing could also be substitutes. That is, it could be that reductions in aid lead to increases in domestic debt as the government seeks alternative ways to finance its spending, which is especially relevant if aid finances spending which is difficult to cut. This could be particularly important for neopatrimonial regimes which rely on spending to maintain a broad patronage network to stay in power. These governments might thus view domestic borrowing as an alternative to aid. If this is the case, this could have implications for the effectiveness of the suspension of aid. The existing sanctions literature assumes that cutting budget support will put pressure on the government's budget constraint making it harder for it to fulfill its spending commitments. However, if aid is indeed substituted for domestic debt, then suspending budget support will not put the intended pressure on the target government's spending commitments, weakening the effectiveness of the economic sanction, at least in the short run.

In the long run this higher debt will have to be repaid, possibly affecting future spending commitments. When this debt burden will bite is hard to say as it depends on a number of factors, such as the maturity of the debt, the possibilities to roll it over and the government's future fiscal space. By focussing on the short run, we assume that governments have a high discount rate. That is, they have short-term objectives as ultimately they care about staying in power now. Increasing debt might therefore not be irrational if the costs are not borne by their supporting coalitions, or if the sanctions are lifted or the economy has recovered by the time that the debt burden starts to bite.

Table 1 summarises all possible reactions of the Burundian government to shortfalls in budget support and maps them to statistical hypotheses within the systems we will introduce in section 5. Leaving the details for later, we effectively test whether, as a reaction to a decrease in aid revenues, the Burundian government reduces its spending, which is the reaction sanctions are aiming for ($\mathcal{H}_1$); compensates by increasing domestic borrowing, therefore mitigating the consequences of the sanctions ($\mathcal{H}_2$); reacts by increasing its revenues, for instance via increased tax collection efforts ($\mathcal{H}_3$). For either of these possibilities, we define as the null hypothesis the idea that the respective reaction does not take place, and conclude that it does if the null hypothesis is rejected in favour of an alternative with the corresponding sign. In

Table 1: Summary of Hypotheses

Hypothesis	ARDL	VAR
$\mathcal{H}_1$: Government compensates shortfalls in budget support with cuts to spending.	$H_0 : \sum \beta_q^{exp} = 0$ $H_a : \sum \beta_q^{exp} < 0$	$H_0 : \Phi_6^{exp} = 0$ $H_a : \Phi_6^{exp} > 0$
$\mathcal{H}_2$: Government compensates shortfalls in budget support with increased borrowing.	$H_0 : \sum \beta_q^{bor} = 0$ $H_a : \sum \beta_q^{bor} < 0$	$H_0 : \Phi_6^{bor} = 0$ $H_a : \Phi_6^{bor} > 0$
$\mathcal{H}_3$: Government compensates shortfalls in budget support with increased revenue efforts.		$H_0 : \Phi_6^{rev} = 0$ $H_a : \Phi_6^{rev} > 0$
$\mathcal{H}_4$: Budget support is fully substituted with borrowing.	$H_0 : \sum \beta_q^{bor} = -1$ $H_a : \sum \beta_q^{bor} > -1$	$H_0 : \Phi_6^{bor} = 1$ $H_a : \Phi_6^{bor} < 1$

Notes: β and Φ refer to the OLS parameters and impulse response functions respectively, see section 5 for further explanation. We do not estimate the ARDL model with revenue as a dependent variable, and therefore only test $\mathcal{H}_3$ in the VAR, where revenue is included to account for potential dynamics between the variables. The signs are inverted between the ARDL results and the IRFs obtained from the VAR as we compute IRFs for a negative shock to aid.

addition, we investigate a more radical hypothesis, namely the possibility that the Burundian government compensates shortfalls in aid *entirely* by increasing domestic debt, one for one ($\mathcal{H}_4$). In a sense, this represents a worst case scenario: from the donors side, it strongly undermines the potential effectiveness of sanctions (as cuts to spending can be avoided), and from a Burundian perspective, it risks to quickly deteriorate the government's fiscal position. The remainder of this paper is devoted to testing these hypotheses.

3 Background

Burundi's post-colonial history is a troubled one and marked by ethnic rivalries and violence (Uvin, 1999). Until 1993 most positions of importance were monopolised by the Tutsi minority which relied on the backing of the Tutsi-dominated army. The Hutu majority was violently repressed and largely excluded from power. In 1972 the Tutsi regime struck down a Hutu rebellion and killed an estimated hundred to two hundred thousand people and many more fled the country (Lemarchand, 1996). More violent episodes followed in the late 1980s. However, from 1988 onwards Tutsi president Buyoya began a gradual process of democratisation. Elections were held in 1993 and were won by the Hutu candidate Ndadaye. While Buyoya accepted the election outcome, Ndadaye was assassinated four months later by elements from the Tutsi-led army sparking renewed ethnic violence across the country. This ultimately culminated in a prolonged civil war which pitted the Tutsi-dominated minority regime against Hutu rebel movements of which the largest was the National Council for the Defense of Democracy – Forces for the Defense of Democracy (CNDD-FDD).

In 2000, a regionally mediated peace agreement, known as the Arusha Peace and Reconciliation Agreement was signed. Two additional peace agreements with the main Hutu rebel movements, signed in 2003 and 2006, put an end to the war. These agreements were based on two types of power sharing. Political and military positions were to be shared between incumbents and insurgents, and state institutions were to be re-engineered on the basis of ethnic-power sharing (Reyntjens, 2006). A guaranteed representation of Hutu and Tutsi was introduced in the army as well as across all levels of government. This was enshrined in a new constitution which served as the basis for the first post-conflict elections in 2005. As expected these elections were won by the CNDD-FDD and brought Pierre Nkurunziza to power. Ethnic cohabitation has largely been considered a success since (Reyntjens, 2016; Samii, 2013). Yet, this power sharing also has its drawbacks (Vandeginste, 2015). Burundi evolved from a militaristic regime to a neopatrimonial state, as political stability under CNDD-FDD rule now rests on an informal distribution of power, state resources, and privileges (Brosig, 2017; Chemouni, 2016; Rufyikiri, 2016).

The CNDD-FDD, however, faced an immense task of rebuilding a country without having any governance experience. Parallel to democratic governance reforms, Burundi launched several economic recovery initiatives, with the support of the international community, aimed at creating a peace dividend to secure stability. Following the roadmap laid out in its Poverty Reduction and Strategy Paper, later replaced by Vision 2025, Burundi joined the East African Community, launched various law reforms and established new institutions like its Investment Promotion Authority and the Burundi Revenue Authority. The donor community initially reacted favourably and rewarded the country with substantial budget support covering more than a third of total government spending of which a significant portion were cash grants (see Figure 2). However, the CNDD-FDD became increasingly authoritarian in trying to consolidate its grip on power, leading to a boycott of the 2010 elections by the opposition (Vandeginste, 2011). Economic governance also deteriorated and numerous cases of corruption came to light (Rufyikiri, 2016; World Bank, 2013). In response, many donors decreased their budget support or bypassed the Burundian government by setting up parallel implementation mechanisms (Molenaers et al., 2017). This downward trend is illustrated in Figure 2. Overall budget support decreased, but capital grants also overtook cash grants which is indicative of donors' reduced trust since recipient governments have less discretion over capital grants.

Following the 2010 elections, the CNDD-FDD continued to shrink the political space, possibly to prepare the ground for a de facto one-party state (Vandeginste, 2015). Rumours circulated about weapons being distributed to the Imbonerakure, the ruling party's youth wing known for intimidating political opponents (RFI, 2014). Political tensions escalated in 2015,

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Figure 2: Evolution of Budget Support
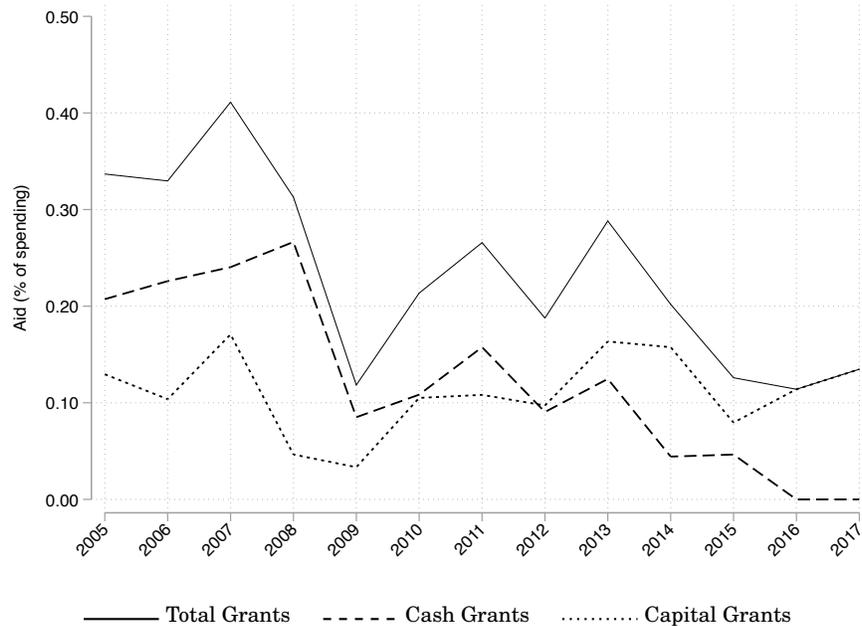
Notes: Figure 2 shows the evolution of total, cash and capital grants from 2005 to 2017. Cash grants include funds directly deposited in the government's treasury account. These do not include donor funds located in special-purpose funds. The series were constructed from monthly data on spending and revenue and are expressed as a share of total spending.

as it became increasingly clear that the ruling-party planned to nominate Nkurunziza for a new term in office despite questions about the constitutionality of a third presidential mandate (Vandeginste, 2016). Initially, these tensions manifested themselves as low-intensity and largely peaceful events. Civil society actors successfully mobilised the population in a campaign to free a well-known investigative journalist; the catholic church voiced its discontent with the regime; and a national strike was called to protest rising prices. However, on April 25th Nkurunziza finally made official his controversial candidacy. This sparked prolonged popular demonstrations across Bujumbura which were met with violent and deadly repression by the security forces. A coup attempt followed early in May but failed. In the wake of this failed coup d'état, the government violently cracked down on dissidents, closing or destroying private radio stations and forcing journalists, activists and politicians to flee the country (Frère, 2017). The demonstrations turned into urban guerrilla warfare with violence culminating in December 2015 and continuing into 2016 (Van Acker, 2018). The country was plunged into political and economic crisis.

In light of this situation many of Burundi's traditional partners imposed economic sanctions on the country. While this was not a direct response to Nkurunziza's ambition to seek

a third mandate, it was intended as a signal to prevent further instability and insecurity induced by the third term crisis (Molenaers et al., 2017). The EU, US and Switzerland imposed targeted sanctions on several government officials (Confédération Suisse, 2015; EU, 2015; US White House, 2015a). In addition, Belgium, the Netherlands, the US and Germany also suspended their "regime reinforcing" aid (Federal Republic of Germany, 2015; Kingdom of Belgium, 2015; Kingdom of the Netherlands, 2015; US White House, 2015b). The decision by the EU to suspend its financial support to the Burundian administration, including budget support is particularly important since it is one of the largest providers of cash grants to the country (EU, 2016). However, even before the EU's decision to impose sanctions in March 2016, other donors had already suspended or postponed their cash grant disbursements. The World Bank disbursed the final tranche of its development policy grant in March 2015, and decided not to consider a renewal following the suspension of support by bilateral donors and the cancellation of the IMF's article IV consultations (World Bank, 2017a). As a result, no cash grants hit the government's treasury account after April 2015 as illustrated in Figure 2.[2] The EU attached clear conditions to a renewal of its relations with Burundi which included, among other things, the reopening of the private media, improvements in the freedom to exercise the profession of journalism and the freedom and safety of civil society as well as a return to democratic principles (EU, 2016).

To date, however, these sanctions have proved ineffective in persuading the regime of improving the democratic space as demanded by, most notably, the EU (EIU, 2017). Viewed from the traditional sanctions literature this is somewhat surprising as aid is an important source of revenue for Burundi, implying that donors "can have quite some leverage" (Molenaers et al., 2017, p.5). Indeed, a "reduction of foreign aid volumes may also reduce the ability of the regime to fund and sustain its own neopatrimonial system" (Vandeginste, 2015, p.636). Yet, the Burundian regime has, thus far, proved to be resilient. The traditional literature on sanctions is unable to explain this as it assumes that there is no alternative to aid for the recipient. That is, suspending aid leads to a fall in government revenue and hence government is unable to meet its spending commitments needed to sustain its coalition. This perspective ignores the agency of the Burundian government, in the sense that it has alternative revenue levers which it can pull.

As suggested by the fiscal response literature governments can counter the impact of reduced aid flows by increasing tax and non-tax revenue or by borrowing more. Faced with the aid suspension the Burundian government has been pursuing a discourse that they do not need

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[2]However, some donors did continue their developmental programmes. In as far as these are recorded by the government they appear as capital grants in the budget.

Figure 3: Evolution of Government Revenue
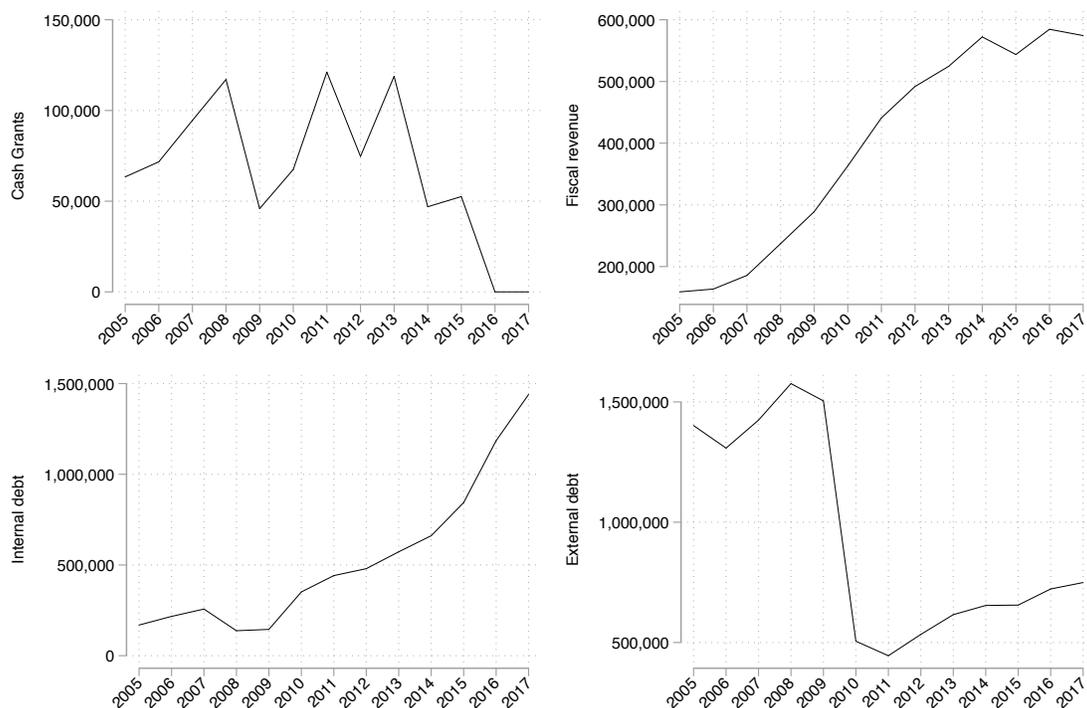
Notes: Figure 3 shows the evolution of cash grants, fiscal revenue, internal and external debt from 2005 to 2017. All amounts are expressed in local currency units (Burundian Francs) in millions. The yearly series were constructed from monthly data.

the aid and can self-finance their budget (Uwimana, 2017). Various revenue measures have been put in place ranging from tightening tax administration, over mandatory contributions to finance the next elections, to a tripling of electricity fees (EIU, 2017a,b, 2018). However, these seem to have done little to improve fiscal revenue as illustrated in Figure 3. External borrowing opportunities are also limited as most of it is concessional and linked to specific projects. Moreover, many of these loans are provided by the same donors. It is therefore not surprising that the trend in external debt was unchanged after 2015.[3] However, there does appear to be a change in the trend in the domestic debt, which seems to have accelerated after 2015. The Burundian government might thus have ramped up its borrowing on the domestic market to offset at least part of the decrease in revenue following the suspension of budget support. While these graphs are merely illustrative, the rest of this paper will statistically establish that fluctuations in budget support do not affect spending in Burundi, but instead are compensated for with domestic borrowing. As we will argue, this goes a long way in explaining

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[3]The big drop in external debt in 2009 is due to debt relief under the HIPC programme.

why the regime has been able to maintain its grip on power despite drastic sanctions.

4 Data

For the empirical sections of this paper we rely on monthly time series data from Burundi covering the period January 2005 to October 2017. This corresponds to Burundi's post-war period. The series of 154 monthly observations of aid and fiscal variables is relatively long compared to what is available for other African countries.[4] All the data was obtained from the Central Bank of the Republic of Burundi (BRB). While no data series is without issues, the Burundian data processing and collection systems were continuously improved throughout the period as part of broader public sector reforms (MPRRB, 2009). This has resulted in an above average score on the country's Statistical Capacity Rating compared to both sub-Saharan Africa and low income countries (World Bank, 2017b). Another obvious drawback of working with official data is that we are unable to discuss the implications of informal parallel revenue streams, which are likely important in Burundi. This is a limitation of this study.

As noted by Mascagni and Timmis (2017), working with data from a single national source has important advantages. First, it is the data used for government decision-making. Second, since the series come from a single source, there is no need for conversions which are often necessary when working with international datasets.[5] Third, the series represent what actually flows through the government's accounts. This is particularly important with respect to grant data, as donor and recipient data on aid flows often differ. This is also the case for Burundi as illustrated in Figure A.1 in the Appendix. Finally, the available data allows for a finer disaggregation of fiscal variables than international series. For example, the Burundian data allows us to distinguish between different types of budget support, notably cash and capital grants. Therefore, it is the most relevant data to study the government's fiscal behaviour.

When discussing aid, the fiscal response literature generally focusses on total aid, usually disaggregated into budget support, or grants, and loans (e.g. Gupta et al., 2004; Morrissey et al., 2014). Limited data availability often prevents a further disaggregation of grants. Our data, however, makes it possible to disentangle general budget support, or cash grants, from capital grants which also include project-related grants. We focus on cash grants for three reasons. Most importantly, the sanctions only led to a full suspension of cash grants not of

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[4]A part of the fiscal response literature relies on quarterly data, often because monthly data is unavailable. But sometimes also because it is argued that the relevant decisions are taken on a quarterly basis. However, given that Burundi operates a cash budget, the monthly interval seems appropriate. Additional analyses, relying on three-month moving averages and quarterly aggregations of the data, support our decision to work with the monthly data. These results are available on request.

[5]This can be a source of measurement error if, for instance, dataset providers make transformations to establish comparability across countries, such as purchasing power adjustments that are based on unreliable price data.

capital grants (e.g. Kingdom of Belgium, 2015). Second, the quality of the capital grant data is lower as it relies on donors' compliance with the government's reporting framework, whereas cash grants are recorded by the BRB when they are transferred to the Treasury. Finally, Burundi has not, thus far, accessed international capital markets for liquidity. All external (concessional) borrowing is project-related. Cash grants are therefore most likely the closest substitute for other sources of domestic revenue and are therefore the most relevant component for our analysis.

Our measure of domestic borrowing includes all types of domestic debt: debt to the central bank, debt to commercial banks and debt to non-banks. Total revenue includes both tax and non-tax revenue (e.g. fees or dividends). Public spending was disaggregated. Only recurrent expenditure was retained because most capital spending is directly financed by either capital grants or external loans and thus imports the problems related to the accounting of capital grants. Moreover, given donor influence over the allocation of donor-financed capital spending, it can be argued that the recipient government has more control over recurrent expenditure (for example wages or transfers) making it more relevant as a tool for the maintenance of the neopatrimonial system of patronage and clientelism. Hence, our focus rests on recurrent expenditure.

Figure 4 plots all variables. The dashed line corresponds to April 2015 which we take as the beginning of the crisis. As discussed in the previous section, cash grant disbursements continued until March 2015 and completely dried up afterwards.[6] Domestic borrowing, on the other hand, oscillated around zero before April 2015, while afterwards there is a longer period of sustained positive borrowing. Noteworthy are the two episodes of extreme negative borrowing in January 2008 and 2012. These correspond to write-offs of debt owed to the Central Bank. We will account for these in the empirical analysis. Revenue and expenditure steadily increased throughout the period, but revenue fell sharply in the months after the announcement which is indicative of the economic situation. Spending did not fall as sharply but plateaued instead, suggesting that the fall in budget support and fiscal revenue did not fully translate into a decrease in spending.

In contrast to the bulk of the time series literature, we do not log-transform our series. This is frequently done in order to normalise distributions where the data has a very skewed distribution, and so coefficients can be interpreted in terms of elasticities (percentage changes). We use the data in native units for two reasons. First, many of our data points have the value zero (cash grants in months where no aid has been disbursed) or negative values (domestic borrow-

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[6]Note, however, that the 2009 debt relief still has effects similar to cash grants as it continues to increase the government's fiscal space because it no longer needs to repay the interest and the fallen debt stock might have lowered its financing cost.

Figure 4: Plots of Variables (Monthly Frequency)
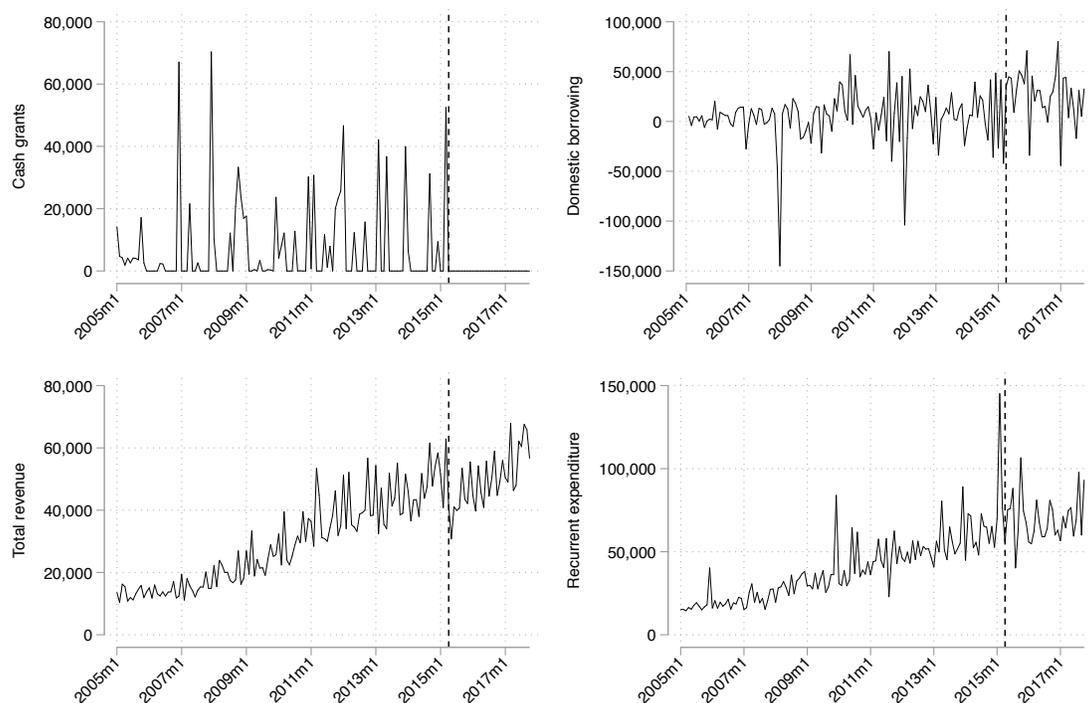
Notes: Figure 4 shows the evolution of cash grants, domestic borrowing, total revenue and recurrent expenditure from 2005 to 2017. All variables are expressed in local currency units (Burundian Francs) in millions. The vertical dashed line corresponds to April 2015 when Nkurunziza formally announced his controversial bid for a third mandate.

ing in months where repayments have exceeded borrowing). As the logarithm is not defined for these values, incisive and ad-hoc transformations would be necessary in order to take logarithms, such as adding a constant to all values to shift them to the positive domain. Second, we are not interested in elasticities, but in changes in absolute terms. By keeping our series in native units, our results can be interpreted as budgetary rules: for every Burundian franc of aid that is removed, by how many centimes will domestic borrowing increase? From visual inspection (Figure 4), all series except for cash grants, resemble non-stationary series. The differenced series of domestic debt, however, does seem stationary and corresponds to net domestic borrowing. The revenue and spending series appear to move around a linear trend, and once this is controlled for, the series are stationary. This is confirmed by Augmented Dickey-Fuller tests reported in Table A.2 in the Appendix. The fact that all series are stationary (and, in particular, do not contain a unit root) excludes the possibility of cointegration to be detected in the data, which would be indicative of long-run equilibrium relations. We therefore focus on the short-run dynamics in our analysis. Summary statistics for these variables can be found

in the Appendix in Table A.1.

5 Methodology

In order to test the hypotheses stated in Table 1, we pursue two approaches which we present in turn. The first is an Autoregressive Distributed Lag (ARDL) model, the second is a Vector Autoregressive (VAR) model. Both have their advantages and disadvantages. The main advantage of the ARDL is that it is comparatively straightforward in its interpretation, as it resembles a standard regression more closely than the VAR approach. Moreover, it allows us to examine contemporaneous effects without further modifications, whereas the VAR in its basic form only includes the effects of lagged variables. Finally, the ARDL approach allows for a more flexible temporal structure: different numbers of lags can be included for each variable, and unlike the VAR, the inclusion of additional lags leads to a less rapid increase in the number of parameters to be estimated (and the resulting loss of degrees of freedom). An ARDL model is less constrained on this front, provided we make assumptions about the exogeneity of these additional variables. This exogeneity assumption is also the ARDL's most important drawback. Unlike the ARDL model, the VAR model treats all variables as endogenous and allows for rich interactions between them. While this can complicate the interpretation of the results, it can arguably offer a more accurate picture of the complex dynamics between the included variables. Because of these trade-offs, we present results from both methods. Anticipating section 6, the results obtained from each of the models are largely consistent with each other.

5.1 Autoregressive Distributed Lag Model

We start by estimating the fiscal dynamics of interest in a single equation dynamic linear regression, in an autoregressive distributed lag (ARDL) model. An ARDL(p, q) model contains p lagged dependent and q independent variables and can be written as:

$$y_t = c + \theta_1 y_{t-1} + ... + \theta_p y_{t-p} + \beta_0 x_t + \beta_1 x_{t-1} + ... + \beta_q x_{t-q} + \alpha t + \delta_t + D_t + \epsilon_t \qquad (1)$$

where y_t is the relevant dependent variable in period t, x_t is a vector of independent variables at time t and ϵ_t is the error term. Following the hypotheses identified before, we estimate two ARDL models, one with recurrent expenditure as the dependent variable and another one with domestic borrowing. In addition to cash grants, the vector x includes total revenue and expenditure or domestic borrowing. The lagged dependent variable is included since borrow-

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ing and spending in previous periods may affect current borrowing or spending, either because of persistence (habits in spending) or because of substitution effects (high borrowing in one period reduces the need to borrow in the next period). To facilitate discussion, we single out the coefficients on aid as β_q^{bor} where the dependent variable is domestic borrowing, and β_q^{exp} where the dependent variable is expenditure. The hypotheses stated in Table 1 are defined in terms of the sum of these coefficients over all included lags.

The constant, c, accounts for a baseline level of monthly borrowing or spending. A linear time trend t is also included because most variables are trend-stationary as discussed in section 4. For instance, it accounts for gradual changes in levels of borrowing and spending. Furthermore, monthly dummies δ_t are included in order to account for seasonal patterns in spending or borrowing, such as regular spending or lending patterns at the beginning or end of the fiscal year, quarter etc. Finally, a set of deterministic variables D_t includes dummy variables that account for major political or economic events that may temporarily or permanently affect levels of spending. Specifically, we include two dummy variables that take the value 1 during the debt write-offs in January 2008 and 2012 respectively and 0 otherwise, as well as a "crisis" dummy that takes the value 1 in all periods following April 2015, when Nkurunziza announced his candidacy triggering the unrest.

Note that in practice, the number of lags q included for each independent variable can differ for each of the variables in x. We identify the number of lags to be included by estimating the full model using all possible lag structures with up to six lags of both the dependent and independent variables. For each of the models, we collect the Akaike Information Criterion (AIC) and Bayesian Information Criterion (BIC). These serve to compare model specifications, and in particular to resolve the trade-off between a parsimonious specification that preserves many degrees of freedom and a rich specification than contains a maximum of information. We also compute the Breusch-Godfrey test statistic for serial autocorrelation and Engle's Lagrange multiplier test for autocorrelated conditional heteroscedasticity (ARCH) in the error term for each model. Conditional on these tests indicating the absence of serial correlation and ARCH respectively, we then choose the model suggested by the lowest AIC and BIC (in case of disagreement, between the two, we use BIC as a tie breaker).[7]

In the model with borrowing as a dependent variable, we include as an additional independent variable the (lagged) squared value of borrowing. This is because without this additional variable, we could not obtain a model that would not exhibit serially correlated errors accord-

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[7]We therefore effectively compare several thousand models; a complete summary of the models and the respective test statistics and information criteria can be downloaded at `https://www.dropbox.com/s/x14eg6mbf53q7su/ARDL_Borrowing_TestStatistics.pdf?dl=0` (**borrowing**) and `https://www.dropbox.com/s/ijlvlsxgf2n2gvt/ARDL_Spending_TestStatistics.pdf?dl=0` (**spending**).

ing to the Breusch-Godfrey test. In fact, the squared term lends itself to an intuitive interpretation: not only is borrowing in any given period affected by borrowing in the last period (via habit formation or intertemporal substitution), but it will also react more strongly to unusually large fluctuations in borrowing in past periods (there are non-linearities). This could arise if, for instance, excessive borrowing in one period disproportionately catches policymakers' attention, leading to more radical reductions in later periods.

For borrowing, the information criteria then agree on a specification with 3 lags for the lagged dependent variable, 6 lags of the squared lagged dependent variable and 1 lag for the other variables. For spending, the inclusion of a quadratic term does not appear to be warranted. Here, AIC suggests more lags than BIC. This is not surprising, since it is known that AIC asymptotically overestimates the lag order with positive probability (Lutkepohl, 2004). Hence, we follow the BIC criterion to limit the number of parameters to be estimated. We thus include 6 lags for borrowing and revenue and 1 lag for grants, spending and revenue. The absence of autocorrelation in both specifications is confirmed by the Breush-Godfrey test (with $p = 0.34$ and $p = 0.30$ respectively), and Engle's Lagrange multiplier test fails to reject the null-hypothesis of no ARCH effects ($p = 0.87$ and $p = 0.97$).

5.2 Vector autoregressive Model

As discussed, the vector autoregressive (VAR) model has a number of advantages over the ARDL model. Most importantly, it allows for complex dynamics between the variables included in the system. Instead of individual equations such as those specified in the ARDL models, all equations are encompassed in one common framework. Thus, it does not assume a simple unidirectional relationship between the variables but recognises that all variables can influence each other, and explicitly models this endogeneity. Moreover, a host of analytical tools surrounding the VAR framework can be employed for an in-depth description of the complex dynamics between the variables. Most importantly in the context of our study, it allows us to compute impulse response functions (IRFs) that trace the overall impact of a shock to a given variable (e.g. a unit change in budget support) over the periods that follow this shock.

For a vector of K time series variables $y_t = (y_{1t}, ..., y_{Kt})$, the basic $VAR(p)$ model takes the form:

$$y_t = A_1 y_{t-1} + ... + A_p y_{t-p} + u_t \tag{2}$$

where the A_i's are $(K \times K)$ coefficient matrices and $u_t = (u_{1t}, ..., u_{Kt})$ is an unobservable error term. It is assumed that this error term has a time-invariant mean, variance and covariance structure. In our specific application, the vector y_t is comprised of 4 endogenous

variables: cash grants, domestic borrowing, recurrent expenditure and total revenue. In addition, we include the same set of deterministic elements as in the ARDL specifications, namely a constant, a trend term, two dummy variables to account for the debt write-offs in January 2008 and 2012, and a dummy variable for the period after April 2015. As we established in section 4, all variables in this system are stationary around either a constant mean or a trend. While this facilitates our analysis in the sense that standard inferential procedures can be applied without further modifications to the data, it also precludes the possibility of cointegration. Hence, our analysis does not touch on any potential long-run equilibria between the variables but focusses on short-run dynamics.

As for the ARDL models, we need to determine the appropriate number of lagged terms p. The general trade-off here is the same. On the one hand, it is necessary to include a sufficient number of lags in order to account for the temporal dynamics between the variables. On the other hand, the inclusion of additional lags comes with a loss of degrees of freedom and can reduce the precision of our estimates. Compared to the single-equation ARDL models, this problem is however exacerbated as the inclusion of every additional lag increases the number of parameters to be estimated by $p \times p$. Note also that the vector of endogenous variables is now treated as a compact unit, effectively meaning that we impose the same number of lags on all variables. The basic procedure for lag-selection resembles the one we used for the ARDL model. We compute the AIC and BIC for the model with up to six lags and choose the model which is favoured by these information criteria, conditional on showing no signs of substantial autocorrelation in the residual.

This leads us to a specification that includes two lags. While both information criteria favour the inclusion of a single lag, the resulting specification exhibits autocorrelation in the residuals according to the Portmanteau test ($p = 0.045$), while this is not the case at conventional significance levels after the inclusion of one additional lag ($p = 0.12$). We also compute the multivariate version of the Breusch-Godfrey test and the Edgerton-Shukur F test. In fact, all compared specifications appear to exhibit autocorrelation according to at least one of the tests, based on a significance level of 5 percent. As with the ARDL model of domestic debt, including squared borrowing as an exogenous variable eliminates this according to all tests except Breusch-Godfrey. However, the interpretation of this exogenous squared borrowing term becomes more problematic in the VAR setup, and we therefore do not include it in our main specification. We note that our key results are robust to the choice of lag-length and the inclusion of squared domestic debt (Appendix A.3 reports the test statistics and key results for different lag-lengths).

We also test for ARCH effects as well as for non-normality of the residuals. The absence of

ARCH effects is not rejected by Engle's Lagrange multiplier test ($p = 0.25$). It should be noted that, according to the Jarque-Bera test, the residuals are non-normal. This is most likely linked to the slightly odd distribution of cash grants, where there is a bunching at the value of 0 (meaning that no budget support was disbursed in that particular month). While this does not violate the key assumptions of the estimator (the VAR parameters are obtained using least squares), this can be problematic when computing confidence intervals and p-values. For our output of interest, the IRFs, we therefore bootstrap confidence intervals instead of relying on asymptotic computations that rely on the assumption of normal residuals. In addition, some commonly used post-estimation routines rely on the normality of the residuals, notably the Johansen tests for cointegration. However, this has no bearing on our analysis as all considered variables are stationary (see section 4), excluding the possibility of cointegration altogether.

Once the VAR system has been estimated, we use it to derive impulse response functions (IRF). These describe the effects of a shock to any given variable on the remaining endogenous variables included in the system, taking into account also any potential feedback loops through other variables. For instance, if aid affected borrowing and revenue, and revenue in turn affected borrowing in subsequent periods, this would be reflected in the impulse response function of aid on borrowing. In the present context, this will serve to track the impact of a unit change (that is, one Franc) in budget support onto the other fiscal variables, and domestic borrowing in particular. A crucial step in this context is the identification of exogenous shocks. In many cases, a shock to one variable may translate into a change in other variables of the system almost simultaneously, which makes it difficult to identify which was the variable that took the initial shock. Under further assumptions, however, shocks to aid can be identified by imposing some structure on the contemporaneous interaction of the variables, and hence on the error terms of the respective equations. The identification scheme links the error term u_t from equation 2 to structural shocks ϵ_t in the following way:

$$u_t = \Omega \epsilon_t \tag{3}$$

where Ω is a $K \times K$ matrix describing the instantaneous relationships between the variables and hence structural shocks and the VAR errors.

For the specific structure of Ω, we choose a basic Cholesky decomposition as proposed by Sims (1980). This method has been extensively used in macro-econometric applications over the last three decades. Although (like alternative identification schemes) it has attracted criticism for often requiring unrealistic assumptions. In our setup, the crucial assumptions (in

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particular the ordering) can be justified. Effectively, the Cholesky decomposition restricts $\frac{K \times (K-1)}{2}$ contemporaneous interactions in Ω to be equal to zero, while leaving $\frac{K \times (K+1)}{2}$ parameters unrestricted. The ordering of the variables then determines which shocks are assumed to affect the other variables, within the period. For the case of aid inflows – which is our shock of interest – the assumption that it is contemporaneously (within the month) unaffected by the other fiscal variables has a straightforward justification. This is because the government has little influence on the precise month of aid disbursements by donor institutions, and the latter are only predictable to a limited degree (Bulir and Hamann, 2001). Even if donor institutions were reactive to, for instance, shortfalls in tax receipts, they will normally not have sufficient contemporaneous information to react within the month (that is, they do not know the government's fiscal position before the government does).[8] Note that by adopting a Cholesky decomposition, we implicitly make analogous assumptions about the contemporaneous interactions of the other variables. However, the results of interest (regarding the impact of aid inflows) are invariant to the specific order of the remaining variables (Christiano et al., 1999).

6 Results

In this section we present the results from the ARDL and VAR models. To briefly reiterate Table 1, we test whether in Burundi cash grants affect total recurrent expenditure ($\mathcal{H}_1$), domestic borrowing ($\mathcal{H}_2$), and government revenues ($\mathcal{H}_3$), and further whether cash grants and domestic borrowing are perfect substitutes, in the sense that shortfalls in cash grants are fully offset by increases in domestic borrowing ($\mathcal{H}_4$). Of course, the equivalent of $\mathcal{H}_4$ could also be formulated for the other variables, but, anticipating the remainder of this section, $\mathcal{H}_2$ and $\mathcal{H}_3$ cannot be rejected (i.e. aid has no significant effect on either spending or revenues). Testing whether they fully compensate for shortfalls in aid, as $\mathcal{H}_4$ does for borrowing, would therefore be redundant. Taken together, $\mathcal{H}_1$ (if null is accepted), $\mathcal{H}_2$ (if null is rejected) and $\mathcal{H}_4$ (if null is accepted) support the narrative that following the suspension of budget support Burundi has managed to avoid a direct hit to its public spending by substituting aid for domestic debt, partly explaining the ineffectiveness of the sanctions.

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[8]Based on a two variable VAR, we ran a Granger causality test to check if Burundi is rewarded by donors for prudent fiscal policy, i.e. does aid increase following a reduction in the debt burden. This does not appear to be the case, neither causes the other in the Granger sense. As we will see, this is not surprising given the importance of the contemporaneous reaction. Nevertheless, given this result, the "reward for fiscal discipline" story seems implausible, further strengthening our assumption that aid moves first in the very short run.

6.1 ARDL Results

We start with the results from the autoregressive distributed lag models presented in section 5.1. For $\mathcal{H}_1$ to be confirmed, the sum of the coefficients on the cash grants measures need to be indistinguishable from zero. $\mathcal{H}_2$ is confirmed when there exists a negative relationship between cash grants and domestic borrowing; that is when cash grants decrease, domestic borrowing increases or vice versa. The results are presented in Table 2 and Table 3, respectively for recurrent expenditure and domestic borrowing. We run both models on two different samples. The first four columns correspond to the pre-crisis sample, while the last four columns take into account the full sample. Since we are aiming to find evidence for a behavioural rule in the government's fiscal response, we start by looking at the "normal" times, that is before the crisis. Only looking at the full sample would risk biasing our results as the crisis might have changed the dynamics.[9] Reassuringly, our results are similar before and after. Within each sample the first column represents the most parsimonious model, including none of the deterministic terms such as the trend or seasonal dummies. The specifications become more demanding as we move to the fourth column. Newey-West standard errors are included in parentheses and account for heteroskedasticity and possible autocorrelation to the sixth lag.

Table 2 presents the results for the ARDL model of recurrent expenditure on the fiscal variables. The results are relatively stable across the different specifications. Only in model 4 is the coefficient on cash grants no longer statistically significant at conventional levels. Though overall, cash grants and total recurrent expenditure appear to be positively and significantly related contemporaneously, suggesting that aid inflows increase spending within the period (or that decreases in aid induce lower spending). The coefficient estimates range between 0.176 and 0.229. A one franc increase in cash grants, therefore, does not translate one for one into an additional franc of spending. Prima facie this is, nevertheless, evidence in favour of the hypothesis that aid does affect spending ($\mathcal{H}_2$). However, the first lag of cash grants appears to be negatively related with spending and roughly has the same magnitude as the contemporaneous coefficient. Moreover, it is significant in most models. When we test the corresponding null hypothesis that their sum is equal to zero, we fail to reject it in all specifications. This implies that, once we take into account the dynamics of cash grants and spending in an ARDL model, they do not have an impact on spending; an indication that sanctions that consist in cutting cash grants will prove ineffective in the sense that the government manages to keep up its spending regardless.

With respect to the other fiscal variables, it appears that spending is mostly financed with

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[9]Note that a dummy accounting for the crisis does not suffice as it only accounts for level effects, but not for changes in parameters.

Table 2: ARDL Model of Recurrent Expenditure on Grants

	Pre-Crisis Sample				Full Sample			
	1	2	3	4	5	6	7	8
CG	0.223**	0.212**	0.225**	0.130	0.211**	0.251***	0.229**	0.176*
	(0.101)	(0.101)	(0.101)	(0.094)	(0.09)	(0.089)	(0.092)	(0.093)
L.CG	-0.179*	-0.128	-0.172*	-0.176	-0.170*	-0.160*	-0.159*	-0.151
	(0.091)	(0.082)	(0.089)	(0.116)	(0.093)	(0.09)	(0.085)	(0.093)
Rev	0.359*	-0.092	-0.120	-0.089	0.326**	-0.053	-0.136	-0.183
	(0.193)	(0.253)	(0.266)	(0.265)	(0.145)	(0.161)	(0.212)	(0.192)
L.Rev	0.589***	0.101	0.121	0.134	0.587***	0.236**	0.168	0.235
	(0.125)	(0.141)	(0.137)	(0.183)	(0.092)	(0.099)	(0.122)	(0.147)
L.Exp	0.113	-0.022	-0.005	0.0154	0.133	-0.003	-0.011	0.014
	(0.129)	(0.126)	(0.132)	(0.113)	(0.095)	(0.098)	(0.094)	(0.09)
DB	0.085*	0.088**	0.143**	0.124**	0.121**	0.146***	0.155***	0.136**
	(0.049)	(0.044)	(0.056)	(0.061)	(0.048)	(0.048)	(0.046)	(0.054)
L.DB	-0.059	-0.051	-0.046	-0.013	-0.019	-0.027	-0.018	0.002
	(0.039)	(0.041)	(0.039)	(0.047)	(0.047)	(0.044)	(0.043)	(0.055)
L2.DB	0.047	0.017	0.017	0.0473	0.053*	0.004	0.009	0.022
	(0.04)	(0.036)	(0.034)	(0.044)	(0.029)	(0.03)	(0.027)	(0.031)
L3.DB	-0.048	-0.052	-0.058	-0.047	-0.053	-0.088*	-0.081*	-0.092
	(0.046)	(0.042)	(0.042)	(0.057)	(0.044)	(0.045)	(0.043)	(0.06)
L4.DB	0.022	0.009	0.011	-0.011	-0.003	-0.026	-0.016	-0.040
	(0.046)	(0.036)	(0.035)	(0.035)	(0.032)	(0.029)	(0.032)	(0.037)
L5.DB	0.011	0.013	0.020	0.006	0.071*	0.052	0.061*	0.070
	(0.036)	(0.031)	(0.029)	(0.035)	(0.037)	(0.035)	(0.032)	(0.042)
L6.DB	-0.043	-0.016	-0.020	-0.007	-0.030	-0.035	-0.024	-0.011
	(0.029)	(0.023)	(0.023)	(0.03)	(0.036)	(0.034)	(0.028)	(0.031)
Adj. R^2	0.649	0.695	0.703	0.723	0.699	0.743	0.747	0.758
CG=0	0.747	0.520	0.692	0.757	0.742	0.462	0.585	0.850
Obs.	116	116	116	116	147	147	147	147
Trend	No	Yes	Yes	Yes	No	Yes	Yes	Yes
DB '08	No	No	Yes	Yes	No	Yes	Yes	Yes
DB '12	No	No	Yes	Yes	No	Yes	Yes	Yes
Crisis	No	No	No	No	No	No	Yes	Yes
Months	No	No	No	Yes	No	No	No	Yes

Notes: The table reports the estimates of the effect of cash grants on recurrent expenditure. Newey-West standard errors in parentheses, robust to heteroskedasticity and serial correlation. Also included but suppressed: a constant, a linear trend, dummies for debt write-offs in 2008 and 2012, a post-2015 crisis dummy and monthly dummies. ***$p \leq 0.01$, **$p \leq 0.05$, *$p \leq 0.1$.

domestic resources. Fiscal revenue (including tax and non-tax) contributes most. Models 1 and 5 even suggests that all incremental spending is financed with fiscal revenue as we cannot reject the null hypothesis that the sum of both revenue lags is equal to one. This is consistent with "good" fiscal practice, i.e. using current (tax) revenue to finance recurrent spending. However, the sign and significance of the revenue coefficient is not stable across all specifications. Domestic borrowing and spending do seem to be systematically related within the period. Holding everything else constant, the result is consistent with a story where extra spending is financed with increased borrowing. Some of the coefficients on the deeper lags of borrowing are noteworthy. The coefficients on lags three and six are consistently negative, but not always significant. Their sign, however, could be due to repayments of treasury bills. Their maturity is either 3, 6 or 12 months.

Table 3 presents the results for the ARDL model of domestic borrowing on the fiscal variables as specified above. Again, the results are relatively stable across the different specifications. All models show a negative and significant correlation between cash grants and

Table 3: ARDL Model of Domestic Borrowing on Grants

	Pre-Crisis Sample				Full Sample			
	1	2	3	4	5	6	7	8
CG	-0.759***	-0.759***	-0.649***	-0.716***	-0.870***	-0.746***	-0.702***	-0.886***
	(0.100)	(0.103)	(0.107)	(0.224)	(0.118)	(0.117)	(0.120)	(0.228)
L.CG	-0.754*	-0.757*	-0.240	-0.162	-0.640*	-0.153	-0.161	-0.029
	(0.401)	(0.404)	(0.152)	(0.134)	(0.373)	(0.152)	(0.147)	(0.132)
Rev	-0.231	-0.161	-0.105	-0.0620	-0.208	-0.253	-0.069	-0.007
	(0.383)	(0.422)	(0.363)	(0.443)	(0.300)	(0.268)	(0.313)	(0.383)
L.Rev	-0.012	0.061	-0.065	-0.394	-0.306	-0.523**	-0.371*	-0.634***
	(0.192)	(0.282)	(0.187)	(0.264)	(0.243)	(0.234)	(0.209)	(0.187)
Exp.	0.302*	0.321*	0.317**	0.265*	0.468***	0.433***	0.481***	0.369***
	(0.170)	(0.175)	(0.144)	(0.141)	(0.160)	(0.149)	(0.141)	(0.114)
L.Exp	-0.004	0.013	0.016	0.038	0.047	0.016	0.073	0.107
	(0.138)	(0.154)	(0.137)	(0.174)	(0.100)	(0.119)	(0.112)	(0.141)
L.DB	-0.357***	-0.355***	-0.319***	-0.301**	-0.297***	-0.266***	-0.295***	-0.248***
	(0.123)	(0.124)	(0.118)	(0.118)	(0.076)	(0.0755)	(0.0785)	(0.0795)
L2.DB	0.108	0.112	0.0968	0.135	0.105*	0.0838	0.0571	0.0406
	(0.089)	(0.092)	(0.087)	(0.089)	(0.060)	(0.064)	(0.062)	(0.065)
L3.DB	0.136	0.135	0.176*	0.214*	0.142**	0.162**	0.141*	0.202**
	(0.104)	(0.105)	(0.089)	(0.110)	(0.068)	(0.067)	(0.075)	(0.099)
Adj. R^2	0.361	0.356	0.597	0.617	0.393	0.569	0.585	0.628
CG=-1	0.239	0.239	0.502	0.598	0.190	0.502	0.383	0.692
Obs.	116	116	116	116	147	147	147	147
Trend	No	Yes	Yes	Yes	No	Yes	Yes	Yes
DB '08	No	No	Yes	Yes	No	Yes	Yes	Yes
DB '12	No	No	Yes	Yes	No	Yes	Yes	Yes
Crisis	No	No	No	No	No	No	Yes	Yes
Months	No	No	No	Yes	No	No	No	Yes

Notes: The table reports the estimates of the effect of cash grants on domestic borrowing. Newey-West standard errors in parentheses, robust to heteroskedasticity and serial correlation. Included but supressed: 6 lags of squared lagged dependent variable, a constant, a linear trend, dummies for debt write-offs in 2008 and 2012, a post-2015 crisis dummy and monthly dummies. ***$p \leq 0.01$, **$p \leq 0.05$, *$p \leq 0.1$.

domestic borrowing. The point estimates suggest a short-term effect ranging between -0.649 and -0.866. That is a one franc increase in cash grants is accompanied by a 0.65 franc drop in domestic borrowing. The first lag on cash grants is also negative, but significant in only a subset of the models. When we test whether the sum of these two equals minus one ($\mathcal{H}_4$), we fail to reject it in all specifications. This implies that cash grants and domestic borrowing can be considered (full) substitutes in the short term, again supporting the idea that the government avoids the consequences of shortfalls in aid by compensating it with increased domestic borrowing, undermining the effectiveness of sanctions. Note that the actual long-run effect of a unit change in cash grants might differ because of feedback effects, as our system includes lagged values of domestic borrowing. However, these turn out to be negligible as the sum of the autoregressive coefficients sums up to values near zero, implying very moderate feedback effects.[10] We will come back to this when we turn to the VAR results.

The results for the other variables are in line with general expectations. We note that there does not seem to exist a contemporaneous relation between revenue and borrowing. However,

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[10]For example, the long-run parameter in our preferred specification (8) would be $\frac{-0.886-0.029}{1-(-0.248+0.041+0.202)} = -0.910$, as opposed to the direct effect of $-0.886 - 0.029 = -0.915$. For the simplicity of exposition, we focus on the direct effects and leave the discussion of potential dynamic effects for the VAR, which is the more appropriate framework for this kind of question.

higher past revenue does appear to reduce the need for domestic borrowing in the next period, but this relationship only appears in the full sample implying that it is driven by events after the 2015 crisis. Given the temporary drop in revenue following April 2015 as illustrated in Figure 4, this suggests that this shortfall was partly offset by increased borrowing as well. Finally, holding all else equal an increase in spending seems to be financed by an increase in borrowing in line with previous results.

Overall, the results of both ARDL models are consistent with a narrative where the government manages to keep up its spending commitments despite shortfalls in cash grants by ramping up domestic borrowing. First, there is no evidence that cash grants affect recurrent spending ($\mathcal{H}_1$ is not confirmed). The suspension of budget aid was therefore unlikely to put much pressure on the government's spending patterns. Second, domestic borrowing and aid are negatively linked ($\mathcal{H}_2$ is confirmed), and the substitution happens pretty much one for one ($\mathcal{H}_4$ is confirmed). These behavioural patterns appear to be consistent before and after the suspension of budget support in 2015, suggesting that Burundian policymakers reacted to the crisis in very much the same way as they had been reacting to shortfalls in aid all along, that is, not by reducing spending but by increasing their reliance on domestic borrowing. However, the ARDL models do not take into account potentially complex interactions between all variables as they make strong assumptions about the exogeneity of the fiscal variables. Therefore, the next subsection presents the VAR analysis which treats all variable as potentially endogenous.

6.2 VAR Results

In our discussion of the VAR approach, our main focus will be on the impulse response functions (IRFs) of shocks to cash grants, which we will label Φ_q^i, where q designates the number of periods (months) after the shock, and i the responding variable (all hypotheses in Table 1 are formulated with respect to the IRF 6 months after the shock, but our discussion will consider the entire timeline). The IRFs describe the response of the fiscal variables to a shock to cash grants over time and account for dynamic interactions between the variables included in the system. Furthermore, our previous results show that most of the substitution happens within the month – this is not modelled in the baseline VAR, but can be looked at using (orthogonalised, see section 5) impulse response functions. For completeness, the estimated VAR coefficients (for all 4 equations) are, however, reported in Table A.4, while the results for the Omega-matrix, quantifying the contemporaneous effects, are given in Table A.5 in the Appendix.

Figure 5: Impulse Response Functions
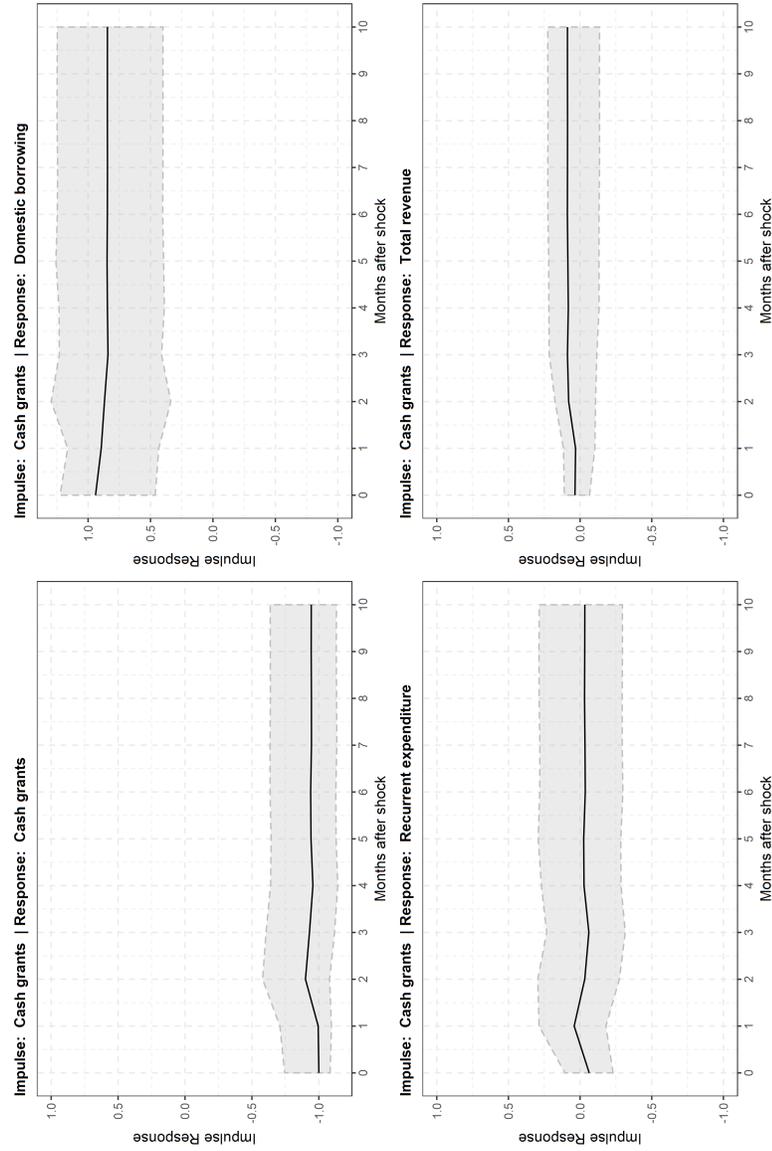
Notes: Figure 5 shows the impulse response functions of cash grants, domestic borrowing, recurrent expenditure and total revenue with respect to a one unit change in cash grants. Standard errors were bootstrapped. The reported figures are the sums of all impulse responses up until the 11th period. The advantage is that they immediately show whether effects are persistent or reverted after some time.

Figure 5 depicts the cumulative impulse response functions for the different fiscal variables as they react to a negative unit shock in cash grants, that is, a hypothetical decrease in cash grants by one Burundian franc. The interpretation for a positive shock is symmetric. The solid line is the point estimate of the IRF, the dashed lines and the shaded area in between correspond to the bootstrapped 95% confidence interval. The precise values of the IRFs are reported in tabular form in Table A.6 in the Appendix. Reiterating, they are orthogonalised IRFs, that is, some structure has been imposed on the contemporaneous interactions of the variables. As discussed in section 5.2, aid is assumed not to be affected by the other variables within the month, but it can affect them. The IRFs are cumulative in the sense that they show the accumulated effects of the impulses over multiple periods, in order to focus on the lasting impact of the shock (for instance, if an increase in one period would be offset by an equivalent decrease in the following period, the cumulated IRF would return to zero).

The first graph of Figure 5 (top left) describes the own dynamics of cash grants as a reaction to that same variable. By construction, a negative unit shock in cash grants leads to a unit decrease in cash grants. The absence of any substantial dynamics in later periods indicates that there does not appear to be a clear pattern as to how aid is disbursed. For instance, a sudden increase on one period is not systematically followed by either a further increase or a decrease in subsequent periods.

The panel on the lower left summarises a key result with respect to our hypothesis regarding aid and spending ($\mathcal{H}_1$). The level of spending is virtually unaffected by a shock to aid throughout the period. While the IRF is initially negative (although never significantly so), the cumulative effect climbs back to zero after one month. It appears to completely peter out after four periods seemingly stabilising just below zero. This suggests that over a longer time period a one unit decrease in aid does slightly reduce spending. However, not only is this effect very small in magnitude, but looking at the confidence interval it is statistically indistinguishable from zero over the entire period. Hence, we cannot conclude, based on these IRFs, that a negative aid shock reduces spending: $\mathcal{H}_1$ finds no support.

The panel on the top right depicts another key result. Domestic borrowing reacts strongly and quickly to a decline in cash grants ($\mathcal{H}_2$ is supported). A one unit drop in aid leads to a 0.940 unit increase in domestic borrowing within the first period. But when we take into account the confidence intervals we cannot reject the hypothesis that domestic borrowing offsets aid one for one ($\mathcal{H}_4$ is supported). The overall pattern here is identical to what we discerned using the ARDL model, with the subtle difference that in the VAR, more of the overall effect is concentrated in the very month the shock to cash grants takes place, whereas in the ARDL the substitution seems to be spread over the first two periods in some specifications.

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The final graph on the lower right shows how an aid shock affects revenue ($\mathcal{H}_3$). While we do not place much emphasis on this channel in the present study (and therefore did not run the ARDL with revenue as a dependent variable), we include it as an endogenous variable in the VAR to account for its potentially prominent role in the fiscal dynamics of aid. For instance, the argument that aid often serves the purpose of promoting fiscal capacity has sometimes been put forward in the fiscal response literature (e.g. Bwire et al., 2017a). In this case, a decline in aid could be systematically exacerbated by subsequent declines in revenue. However, its role appears to be limited. The IRF line is initially positive and increases slightly after three periods, potentially indicating that aid and revenue are also treated as substitutes, though to a very limited extent. However, looking at the confidence intervals, it is clear that we cannot draw strong conclusions from this graph as they include zero over the entire period. Revenue, thus, does not seem to react to aid shocks ($\mathcal{H}_3$ is not supported).

It should be emphasised just how strikingly clear the results are, in either of the models we estimate. The government hardly takes cash grants into consideration in its decisions regarding recurrent expenditure, rendering the sanctions of donors largely toothless. Instead, it systematically recurs to domestic borrowing to fill the gaps. Moreover, this reaction is pretty much immediate. The cumulative IRFs are more or less flat after the initial reaction in the month of the aid shock, when a shortfall in aid is substituted one for one with domestic borrowing. Even in the ARDL, where (in most specifications) results indicate a drop in spending at least initially, it only takes a single month for the government to compensate for the skipped expenditure, and this appears to be entirely financed by increased domestic borrowing. In the sanctions literature, the suspension of aid is assumed to put pressure on the target government by tightening its budget constraint. This should make it more difficult to maintain the level of spending needed to maintain the regime's supporting coalition and secure its survival. However, based on the fiscal response literature and now backed by empirical evidence from Burundi, this assumption seems overly simplistic. It ignores the fiscal agency of the target government, as it can pull other levers to mitigate the effect of the suspension of aid. Particularly, it can offset the reduction in aid by increasing domestic borrowing as was the case in Burundi. In doing so the government avoids the political costs the sanctions aim to create and can withstand the demands linked to the sanctions.

7   Discussion

The preceding section presented evidence in support of the hypothesis that the economic sanctions, and the suspension of budget aid in particular, imposed on Burundi in the wake of its

Table 4: Selected Statistics (Monthly Averages)

	12 months before	12 months after
Domestic borrowing	5,202.96	33,500.75
Bank	4,883.76	11,481.01
Non-bank	229.22	3,411.45
Central bank	226.74	18,602.05
Weighted average interest rate	8.42	10.72
Inflation	3.89	6.19
Private sector lending	4,356.31	-1,658.45

Notes: All amounts in local currency units in millions, except for the market interest rate and inflation which are expressed in percentages.

2015 political crisis have largely been ineffective in part because the government has managed to offset the reduction in aid flows by increasing its domestic borrowing. While this strategy has allowed Burundi to offset some of the impacts of the sanctions in the short term, it is unlikely this will prove to be a sustainable solution. Before we conclude we therefore reflect on some of the longer-term implications of the increase in domestic borrowing.

Data from the Burundian Central Bank show that the explosion in domestic borrowing after April 2015 was accompanied by a shift in its composition. Table 4 summarises the main trends. The ballooning of domestic debt after April 2015 is clearly visible. While average monthly borrowing was 5,202 million BIF before the start of the crisis, it increased six-fold afterwards. Both borrowing from the domestic financial market and borrowing from the central bank surged. However, the main shift is a change in the relative importance of Central Bank advances. Although on average they only represented 4 percent of total monthly borrowing before April 2015, they came to make up 55 percent of total monthly borrowing in the 12 months after the start of the crisis.

This increased reliance on domestic borrowing might have provided temporary relief for the Burundian treasury, but it is very questionable whether it will be sustainable over the medium to long term, as it comes with certain costs. The expansion of the issuance of Treasury Bills has been accompanied by an increase of the interest rate payable on these bills from 8.4 to 10.7 percent. Whether this is due to demand effects, in the sense that all else equal, higher demand for financing by the government induces higher prices (that is, interest rates), or reflects an increase in the risk premium because the crisis has put into doubt the repayment capacity of the government is a priori unclear. Regardless, the government needs to pay these interest rates and repay its debt if it wants to maintain its credibility and access to future borrowing. However, already reports have emerged that the government is not repaying its loans in full or on time (OLUCOME, 2018). Higher interest rates and penalties for late repayment are likely

to further erode the government's fiscal space as more of its resources will need to go to debt repayments, putting at risk its future spending commitments.

Increased domestic lending is not necessarily undesirable if the obtained resources are used productively and generate their own repayment capacity. However, as the Burundian anti-corruption watchdog OLUCOME observes, this is not the case; economic growth is negative (OLUCOME, 2018). Instead, as argued before, these borrowed resources seem to be geared primarily to sustaining recurrent expenditure commitments necessary to maintain political support for the regime. Moreover, this strategy could well have costs for the real economy and lead to macroeconomic imbalances. The government's increased reliance on Central Bank advances is particular cause for concern if it is not neutralised. An increase in the money supply should result in an increase of the average price level (inflation). Yet, although it accelerated from 3.9% to 6.2% on average during the first twelve months after the crisis, inflation still remains relatively low by regional standards. Additionally, government borrowing is likely to crowd out private sector borrowing further reducing the already scarce resources available for investment. As shown in Table 4 credit to the private sector has indeed fallen significantly since the crisis, to the point where repayments actually exceed new private sector loans. These are but a few of the potential consequences and costs of the post-crisis increase in domestic borrowing.

A more detailed analysis of these costs is beyond the scope of this paper. However, future research would do well to further explore the economic and social consequences of this increase in domestic borrowing. It could help to shed more light on the impact of the sanctions and of the response by the government on the Burundian economy and ultimately on people's livelihoods. Anticipating an overall negative effect, questions emerge about the motivations of the Burundian government for pursuing this strategy. Either the regime has a very high discount rate and is not factoring in these future costs; the costs of its strategy are not borne by its coalition; or the regime is betting that by the time this increasing debt burden hits its fiscal space, the sanctions will have been lifted or the economy will have recovered. However, thus far there is no sign that donors are willing to reengage with the government or that the economy is recovering. Moreover, the costs linked to this increasing debt burden are likely to start biting soon. Hence, while the Burundian regime may have managed to shift the short-term political costs of sanctions away from its supporters by resorting to domestic borrowing, questions remain about how much longer they will be able to continue to do this.

The results of this study also have implications on the donor side. One important observation here is that the Burundian government's reaction to the suspension of budgetary aid was effectively a mere application of the fiscal rules that it had been applying for at least a decade

prior to the crisis. Shortfalls in cash grants, it appears, have always been compensated for with domestic borrowing, pretty much one for one. With the data employed in this study being publicly available, and donors typically monitoring the use their resources are being put to, the Burundian government's reaction could therefore well have been anticipated. This raises questions about the intentions of donors, and about the quality of the sanctions implemented. If donors correctly anticipated the fact that the government would dodge the consequences of the suspension of budgetary aid by ramping up domestic borrowing, this could be reflective of their intentions being expressive rather than instrumental in nature, in the sense that they were aimed at satisfying domestic interest groups and their values on the donor side as opposed to bringing about political change in the recipient country (see section 2). If, however, the sanctions were motivated by instrumental considerations – destabilising President Nkurunziza's coalition and enforcing the constitutional order – they have failed to achieve this objective at least up until the time of the writing of this article. Moreover, this failure was, to a large extent, to be expected, as the government's strategy thus far has been a simple continuation of the pattern with which it has always reacted to reductions in budgetary aid. Of course, donors could be pursuing a more long-term strategy, expecting the increases in domestic debt not to be sustainable for the reasons outlined earlier in this section. While this might well be the case, it should be noted that at that stage, the sanctions will likely take effect not just by destabilising a power base that is sustained with recurrent spending, but by eventually inducing a fully-fledged economic crisis, with real consequences that go far beyond the narrow coalition supporting the regime.

8 Conclusion

Why did the sanctions imposed on Burundi, and the suspension of budget aid in particular, fail to induce the government to return to democratic principles? Existing research assumes that by cutting budget aid donors can put political pressure on the target government by tightening their budget constraint. Aid-dependent and neopatrimonial regimes, like the Burundian one, are said to be most vulnerable to a decrease in aid funds, as they rely on the availability of resources to buy the loyalty of their supporting coalitions. Yet, thus far the Burundian regime appears to be able to withstand the sanctions.

This paper argues that the assumption that a suspension of aid directly affects spending commitments is too simplistic. The fiscal response literature shows that governments dispose of other fiscal levers which can be used to offset the impact of volatile aid flows. Spending does not need to be reduced if revenue from other sources, such as tax or borrowing, can be

increased. Using monthly data on the fiscal position of the Burundi government, we present evidence from an autoregressive distributed lag model and from a vector autoregressive model showing that the suspension of cash grants does not affect recurrent expenditure and that shortfalls in aid are instead fully compensated with domestic borrowing.

The substitution of domestic debt for aid thus seems to have been an important strategy for the Burundian regime to maintain its spending commitments. However, as we stressed, there might very well be significant medium to long-term costs related to this approach, potentially affecting future fiscal space and economic growth. These implications are not fully addressed in this paper, and could be a fruitful topic for future research. Another limitation of this paper is that, because we are relying on official data, we are unable to say anything about informal revenue streams used by the regime to secure support. Finally, a promising avenue for further research that this article did not touch on is the role played by non-traditional donors such as China, Saudi Arabia or Russia. These are frequently suspected of further weakening the effectiveness of economic sanctions, especially where the target is to enforce 'Western' ideals of democracy, by stepping in when traditional donors pull out. These are all likely to be significant factors in Burundi and present important paths for future research.

The overall conclusion emerging from this paper is that economic sanctions, and the suspension of budget aid in particular, cannot be assumed to translate directly into political costs for target governments. Governments have economic agency and can use different strategies to offset the impact of sanctions. This paper showed that the effectiveness of economic sanctions is mitigated by the target government's fiscal response.

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A Appendix

Table A.1: Summary Statistics

	Mean	Std. Dev.	Min.	Max.	Obs.
Pre-crisis					
Domestic borrowing	4,448	26,615	-144,911	70,073	122
Cash grants	7,107	13,750	0	70,342	123
Total revenue	29,125	14,016	10,427	62,867	123
Recurrent expenditure	39,338	20,161	14,490	145,144	123
Post-crisis					
Domestic borrowing	26,384	26,644	-44,264	80,121	31
Grants	0	0	0	0	31
Total revenue	49,918	9,169	30,772	67,898	31
Recurrent expenditure	69,474	13,981	40,283	106,527	31

Notes: Amounts are expressed in Burundian Francs in millions.

Figure A.1: Comparison of Recipient and Donor Grants Data
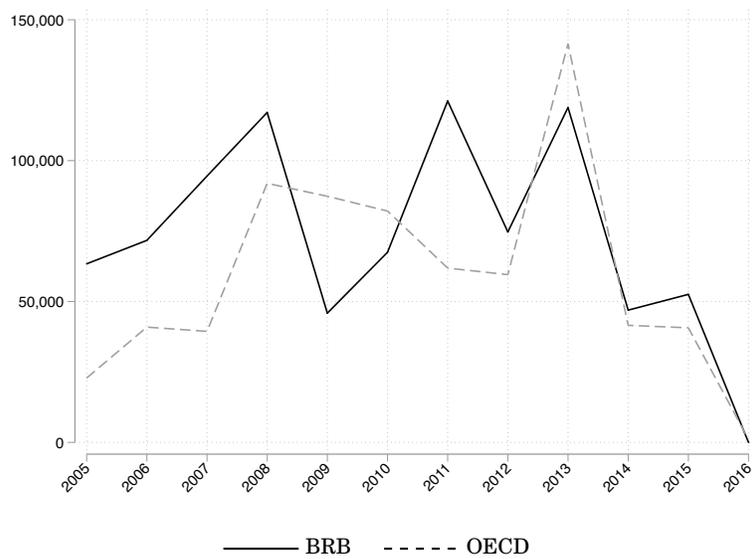
Notes: Figure A.1 compares budget support (cash grants) as recorded by the Central Bank of the Republic of Burundi (BRB) with that recorded by the OECD as found in its International Development Statistics database. All amounts are expressed in local currency units in millions.

Table A.2: Augmented Dickey-Fuller Test

	Intercept	Trend	Lags	t-stat	5% CV	p-value
Domestic debt	yes	no	2	2.86	-2.89	1.00
Domestic borrowing	yes	yes	1	-8.54	-3.44	0.00
Cash grants	yes	no	1	-8.43	-2.89	0.00
Revenue	yes	yes	3	- 4.40	-3.44	0.00
Expenditure	yes	yes	1	-8.63	-3.44	0.00

Notes: All tests have been tentatively carried out with trends and intercept, which were removed where they turned out insignificant in the Dickey-Fuller regression. Lag-lengths were chosen using the Akaike Information Criterion.

Table A.3: Key Statistics and Results of VAR at Different Lag-lengths

k	ICs		Specification tests				IRFs		
	AIC	BIC	ARCH	Port.	BG	ES	Borrow.	Spending	Revenue
1	74.82	76.45	516.13	278.19	108.32	1.22	**0.93**	-0.04	0.03
			(0.3)	(0.05)	(0.02)	(0.11)	**0.85**	0.09	0.03
2	74.91	76.86	520.80	248.85	107.59	1.16	**0.94**	-0.06	0.04
			(0.25)	(0.12)	(0.02)	(0.19)	**0.85**	-0.03	0.09
3	74.89	77.17	517.00	230.81	87.39	0.86	**0.92**	-0.08	0.04
			(0.29)	(0.13)	(0.27)	(0.79)	**0.80**	-0.03	0.10
4	75.02	77.62	515.89	220.43	84.24	0.79	**0.89**	-0.08	0.04
			(0.3)	(0.08)	(0.35)	(0.89)	**0.81**	-0.10	-0.01
5	75.05	77.98	484.26	215.21	75.17	0.67	**0.87**	-0.11	0.06
			(0.69)	(0.02)	(0.63)	(0.98)	**0.66**	0.01	0.08
6	75.17	78.43	485.67	202.02	86.31	0.74	**0.91**	-0.09	0.06
			(0.67)	(0.01)	(0.3)	(0.95)	0.62	0.04	0.16

Notes: k = lag-length, AIC = Akaike Information Criterion, BIC = Bayesian Information Criterion. ARCH reports the Lagrange-multiplier test for autoregressive conditional heteroskedasticity, Portmanteau (Port.) and Breush-Godfrey (BG) have the null hypothesis of no serial correlation in the residuals respectively, Edgerton-Shukur (ES) is the Breush-Godfrey test with a small-sample correction. All test statistics are reported on top, followed by the p-value in parentheses. The IRFs reported are the point estimates at impact (top) and after 10 months (bottom) following a negative shock to grants. IRFs in bold characters are significant in the sense that the corresponding 95% confidence interval does not include 0.

Table A.4: VAR Results

	Grants	Revenue	Expenditure	DB
	Dependent variable			
L.CG	-0.002	-0.048	-0.100	-0.219
	(0.102)	(0.053)	(0.115)	(0.203)
L2.CG	-0.116	-0.085	0.167	0.037
	(0.094)	(0.049)	(0.106)	(0.187)
L.Rev	-0.166	0.088	0.113	-0.593
	(0.164)	(0.086)	(0.186)	(0.326)
L2.Rev	-0.201	0.054	0.121	0.037
	(0.162)	(0.085)	(0.184)	(0.323)
L.Exp	0.254**	0.014	0.056	-0.012
	(0.078)	(0.041)	(0.088)	(0.155)
L2.Exp	-0.043	0.066	-0.163	0.131
	(0.082)	(0.043)	(0.093)	(0.163)
L.DB	0.026	-0.058*	0.004	-0.259**
	(0.045)	(0.023)	(0.051)	(0.089)
L2.DB	-0.046	-0.041	0.079	0.006
	(0.044)	(0.023)	(0.05)	(0.088)
Adj. R^2	0.293	0.891	0.707	0.428
Obs.	151	151	151	151
Trend	Yes	Yes	Yes	Yes
DB '08	Yes	Yes	Yes	Yes
DB '12	Yes	Yes	Yes	Yes
Crisis	Yes	Yes	Yes	Yes
Months	Yes	Yes	Yes	Yes

Notes: The table reports the results from a VAR model which includes cash grants, total revenue, recurrent expenditure and domestic borrowing. Standard errors in parentheses. Also included but suppressed: a constant, a linear trend, dummies for debt write-offs in 2008 and 2012, a post-2015 crisis dummy and monthly dummies. ***$p \leq 0.01$, **$p \leq 0.05$, *$p \leq 0.1$.

Table A.5: Omega-matrix

	Cash grants	DB	Expenditure	Revenue
CG	1.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
DB	0.940	1.000	0.000	0.000
	(0.081)	(0.000)	(0.000)	(0.000)
Exp	-0.280	-0.230	1.000	0.000
	(0.112)	(0.081)	(0.000)	(0.000)
Rev	-0.341	-0.412	-0.160	1.000
	(0.114)	(0.083)	(0.081)	(0.000)

Notes: The table presents estimates for the instantaneous correlations between the variables, and hence between the structural shocks and the VAR errors. Standard errors are given in the parentheses.

Table A.6: IRF Values

Period	Impulse	Response	IRF	Lower	Upper
0	Cash grants	Dom. Borrowing	-0.94	-1.184	-0.524
1	Cash grants	Dom. Borrowing	-0.895	-1.315	-0.392
2	Cash grants	Dom. Borrowing	-0.869	-1.182	-0.248
3	Cash grants	Dom. Borrowing	-0.841	-1.186	-0.302
4	Cash grants	Dom. Borrowing	-0.845	-1.187	-0.29
5	Cash grants	Dom. Borrowing	-0.848	-1.183	-0.266
6	Cash grants	Dom. Borrowing	-0.846	-1.185	-0.268
7	Cash grants	Dom. Borrowing	-0.845	-1.183	-0.255
8	Cash grants	Dom. Borrowing	-0.846	-1.185	-0.253
9	Cash grants	Dom. Borrowing	-0.845	-1.187	-0.253
10	Cash grants	Dom. Borrowing	-0.845	-1.186	-0.25
0	Cash grants	Recurrent expenditure	0.063	-0.08	0.248
1	Cash grants	Recurrent expenditure	-0.041	-0.234	0.25
2	Cash grants	Recurrent expenditure	0.033	-0.233	0.397
3	Cash grants	Recurrent expenditure	0.061	-0.171	0.404
4	Cash grants	Recurrent expenditure	0.027	-0.186	0.329
5	Cash grants	Recurrent expenditure	0.025	-0.194	0.355
6	Cash grants	Recurrent expenditure	0.036	-0.189	0.372
7	Cash grants	Recurrent expenditure	0.034	-0.187	0.351
8	Cash grants	Recurrent expenditure	0.031	-0.187	0.351
9	Cash grants	Recurrent expenditure	0.032	-0.188	0.36
10	Cash grants	Recurrent expenditure	0.033	-0.187	0.356
0	Cash grants	Cash grants	1	0.717	1.1
1	Cash grants	Cash grants	0.995	0.697	1.209
2	Cash grants	Cash grants	0.9	0.564	1.14
3	Cash grants	Cash grants	0.93	0.603	1.149
4	Cash grants	Cash grants	0.956	0.617	1.18
5	Cash grants	Cash grants	0.942	0.616	1.164
6	Cash grants	Cash grants	0.939	0.611	1.17
7	Cash grants	Cash grants	0.945	0.609	1.174
8	Cash grants	Cash grants	0.945	0.614	1.17
9	Cash grants	Cash grants	0.943	0.613	1.169
10	Cash grants	Cash grants	0.944	0.612	1.172
0	Cash grants	Revenue	-0.036	-0.113	0.062
1	Cash grants	Revenue	-0.032	-0.121	0.074
2	Cash grants	Revenue	-0.08	-0.217	0.074
3	Cash grants	Revenue	-0.088	-0.234	0.075
4	Cash grants	Revenue	-0.082	-0.236	0.076
5	Cash grants	Revenue	-0.085	-0.251	0.078
6	Cash grants	Revenue	-0.089	-0.263	0.077
7	Cash grants	Revenue	-0.088	-0.262	0.077
8	Cash grants	Revenue	-0.088	-0.259	0.077
9	Cash grants	Revenue	-0.088	-0.261	0.077
10	Cash grants	Revenue	-0.088	-0.263	0.077

Notes: The table presents estimates for the values of the impulse response functions from period 0 to period 10. The lower and upper bounds of the 95% confidence interval are also included.