WORKING PAPER / 2026.01

Fiscal response in the presence of aid heterogeneity under political regime change

New evidence from Pakistan

Imran **Farooq**
George **Mavrotas**
Danny **Cassimon**

University of Antwerp
IOB | Institute of Development Policy

The IOB Working Paper Series seeks to stimulate the timely exchange of ideas about development issues, by offering a forum to get findings out quickly, even in a less than fully polished form. The IOB Working Papers are vetted by the chair of the IOB Research Commission. The findings and views expressed in the IOB Working Papers are those of the authors. They do not necessarily represent the views of IOB.

Institute of Development Policy

Postal address:
Prinsstraat 13
B-2000 Antwerpen
Belgium

Visiting address:
Lange Sint-Annastraat 7
B-2000 Antwerpen
Belgium

Tel: +32 (0)3 265 57 70
Fax: +32 (0)3 265 57 71
e-mail: iob@uantwerp.be
http://www.uantwerp.be/iob

FISCAL RESPONSE IN THE PRESENCE OF AID HETEROGENEITY UNDER POLITICAL REGIME CHANGE: NEW EVIDENCE FROM PAKISTAN

By

Imran Farooq[1], George Mavrotas[2] and Danny Cassimon[3]

1- PhD Candidate, Faculty of Business and Economics, University of Antwerp, Belgium
2- Guest Full Professor, Institute of Development Policy, University of Antwerp, Belgium; Senior Fellow FERDI, Clermont-Ferrand, France; Associate Research Fellow, UNU-CRIS, Bruges, Belgium; Associate Professorial Fellow, IEDL, Department of Economics, University of Athens, Greece
3- Full Professor, Institute of Development Policy, University of Antwerp, Belgium.

Abstract

This paper explores the effects of temporary and permanent components of foreign aid grants and loans on fiscal decisions amid changes in Pakistan's political regime over the period 1973-2020. The results show that political regimes change leads to higher government current expenditures driven by political polarization, resulting in increased foreign loans. In contrast, foreign grants are mainly influenced by donor interests and intentions in aid recipient countries, but political regimes change are irrelevant. The response of fiscal variables to political regimes change reflect conditionalities linked to foreign aid inflows, particularly via the IMF, such as increased revenue and debt service to reduce average debt maturity, thereby reducing domestic borrowing. However, current expenditures increase, thereby reducing capital expenditures due to political polarization for foreign loans and, vice versa, for foreign grants. Moreover, it affects only temporary aid components as temporary loans do not significantly affect fiscal decisions; conversely, temporary grants support revenue-based fiscal adjustments by boosting revenue and domestic borrowing to cover increased debt service payments and current expenditures, thereby reducing public investment. Permanent loans promote investment and domestic borrowing but reduce current spending, without affecting tax revenues and debt service payments. Permanent grants, on the other hand, increase government borrowing, revenue, and overall government size. The findings suggest that aid donors should focus on grants rather than loans for heavily indebted countries and implement debt relief initiatives to prevent aid from being used solely for debt service repayment. Conditional aid should be provided to strengthen political institutions in order to reduce government size through expenditure-based fiscal adjustments. Additionally, temporary aid grants should be used for revenue-led fiscal adjustments, and permanent aid should target investment in countries with low GDP growth.

Keywords: Foreign aid, aid heterogeneity, political instability, fiscal response

JEL classification: D72, F35, O11, O23

1. Introduction and Background

Foreign aid has received a lot of attention over the years, with often extreme views regarding its effectiveness, particularly regarding how the a priori benefits of various aid programs may (or may not) contribute to the economic development and welfare of aid-recipient countries.[1] A significant limitation of the voluminous aid effectiveness literature for many years is the neglect of the aid heterogeneity nature of aid thus causing bias to the empirical results reported on the effectiveness of aid. More precisely, the central premise of the aid heterogeneity approach—and hence the rationale for disaggregating aid in empirical analysis—is that reliance on a single, aggregated aid variable, a common practice in most of the aid-effectiveness literature, fails to capture the underlying diversity of aid flows. This omission leads to aggregation bias, thereby compromising the reliability of empirical findings (see Cassen 1994; Mavrotas 2002a, 2002b, 2009 for further discussion). The persistent neglect of aid disaggregation in much of the extensive aid-effectiveness literature motivated the development of the model proposed by Mavrotas (2002a). Using time-series data for Kenya and India, the author provides robust empirical evidence underscoring the importance of distinguishing among different aid categories in order to derive meaningful conclusions about aid's impact on the fiscal sector. It is notable that over the past two decades, the aid heterogeneity approach has gained considerable momentum, reflected in an expanding body of research. Notable contributions include Mavrotas (2005), Ouattara (2006a, 2006b), Mavrotas and Ouattara (2006a, 2006b, 2007), Mavrotas and Nunnenkamp (2007), Fielding and Mavrotas (2008), and Clemens et al. (2012).[2] In the context of the aid heterogeneity approach, a few studies have also focused on the important distinction between permanent and transitory effectiveness of foreign aid (see Chatterjee and Turnovsky 2005; Carter 2017, and more recently, Abdelwahed (2021, 2023)

Another important strand of the aid effectiveness literature deals with the overall nexus between aid flows and the fiscal response of the aid-recipient government in the presence of

[1] It is beyond the scope of the present paper to provide here a discussion of the voluminous literature on aid effectiveness. The interested reader can see Cassen (1986), Mosley (1987), Riddell (1987), World Bank (1998) for earlier evaluations, and Guillaumont and Chauvet (2001), Sachs (2005), Easterly (2006, 2007), Riddell (2007), Lahiri (2007), Collier (2007), Moyo (2008), Doucouliagos and Paldam (2009), Mavrotas (2010, 2015), Banerjee and Duflo (2011), Ramalingam (2013), Akame and Mavrotas (2024) and Farooq, Mavrotas & Cassimon (2025), among others for more recent assessments.

[2] See also the special issue of the Review of World Economics (*Weltwirtschaftliches* Archiv) published in December 2007 (Mavrotas and Nunnenkamp 2007), which features several important papers in this research area.

aid, following the publication of the seminal paper by Heller (1975). Earlier contributions to this literature include Gang and Khan (1991), Khan and Hoshino (1992), and Otim (1996), with a rather growing empirical literature in more recent years on this front (see Franco-Rodriguez et al. (1998), Franco-Rodriguez (2000), Mavrotas (2002a, 2005), Gupta et al. (2004), Mavrotas and Ouattara (2006a, 2006b), Ouattara (2006a, 2006b), and Mavrotas and Ouattara (2007)). Another body of the fiscal response literature turned its attention to the fiscal response and debt service nexus with contributions including McGillivray and Ouattara (2005), Cassimon and Van Campenhout (2007, 2008), Claessens et al. (2009) and Cassimon et al. (2015).

Finally, a substantial part of the aid effectiveness literature deals with the role of governance and political institutions in enhancing or undermining the effectiveness of aid. Two extreme cases can be described here. At one extreme, aid may contribute to a virtuous circle of economic growth and poverty reduction by fostering desirable policy change, building effective institutions, relieving constraints on funds for investment, and leveraging in private resources. At the other extreme, however, aid may contribute to a vicious circle where the provision of external finance may delay policy reforms, undermine the effectiveness of institutions and contribute to conflict over the distribution of economic rents. The state of political institutions is developed through continuous political processes and ultimately may mitigate the adverse effects of foreign aid (see Barro, 1994; and Kosack, 2003 - with several more detailed assessments complementing this body of work - see Boone 1996; Knack 2001, 2004; Alesina & Dollar 2000; Guillaumont and Chauvet 2001; Neumayer 2003; Dollar and Levin 2006; Kosack and Tobin 2006; Morrison 2007, 2009; Easterly and Pfutze 2008; Kono and Montinola 2009; Wright 2009; Bueno de Mesquita & Smith 2009; Fleck & Kilby 2010; Bader & Faust 2014; John & Tarp , 2016; Whang et al., 2019; Nieto-Matiz and Schenoni 2020; and Abbas, et al. 2024).

It is also worth mentioning that political instability effects are also discussed in the context of a broader literature beyond foreign aid. For example, Cukierman et al. (1992), Edwards and Tabellini (1991) and Roubini (1991) provide evidence supporting the influence of political instability on seigniorage, inflation, deficits and debt. Similarly, Agnello and Sousa (2013) proposed that political instability results in heightened deficit volatility, which they observe is generally associated with high inflation and substantial deficits. Furthermore, Bohn's (2002, 2019) findings indicate that political instability leads to myopic government behavior by raising external debt to meet excessive current expenditures driven by political polarization or

rent-seeking. However, it does not lead to increased inflation taxation, as demonstrated in Cukierman et al. (1992). Bohn's results also show that debt conditionality aimed at maintaining monetary stability is particularly effective in heterogeneous societies experiencing governmental instability; and that IMF policies requiring debtor countries to achieve both monetary and fiscal stability are less effective. Additionally, Boz (2011) emphasizes the importance of a country's choice between commercial debt and IMF loans. Finally, Bohn (2019) discusses the negative correlation between IMF loans and seigniorage. The possible trade-offs between IMF debt and seigniorage depend on a situation in which a country cannot access financial markets but still receives credit from the IMF, with debt conditionalities in place.

Bulir and Hamann (2008) and Celasun and Walliser (2008) also state that foreign aid is often unpredictable for aid-recipient countries due to discrepancies between aid commitments and actual donor disbursement volumes. Variations also arise from differences between donor development agencies and aid recipient countries for several reasons, leading to a mismatch between the aid disbursement and commitment amounts. The second contributing factor is excessive administration, which impedes the aid processes on the bureaucratic side (Bulir & Hamann, 2008). Furthermore, Eifert and Gelb (2008) and Hudson (2013) assert that donors should incorporate sound policy conditions into aid commitments. Thus, aid should be disbursed upon implementing the policies outlined in the aid commitment. Eifert and Gelb (2008) also state that 4% of the aid commitments are not disbursed due to political problems on the donor's side. In the case of Pakistan, US aid inflows in particular are also allocated on the basis of political interests as various studies seem to suggest (see Abbas et al, 2024; Epstein and Kronstadt, 2011; and Zaidi 2011, for further details).

Turning to the case of Pakistan, USA's bilateral aid to Pakistan is politically driven and the aid amount is determined by factors such as business interests and ethnic lobbying by the USA donor (Anwar & Michaelowa, 2006). More recently, Abbas et al. (2024) examined US aid to Pakistan in the context of South Asian geopolitics using the ARDL method from 1971 to 2016 and found that US economic aid increases during regional wars in Afghanistan and during the Russian-Indian relationship. The authors also found that better India-Pakistan relations increase US aid in the short term but reduce it in the long run; and that the economic connection between Pakistan and Iran reduces US aid in the short term, but it has a positive, although not statistically significant, impact in the long run.

Finally, the World Bank's (2015) study of Worldwide Governance Indicators (WGI) shows that Tanzania and Ecuador ranked in the lowest 20-26 percentiles in "political stability and absence of violence/terrorism" when they lost market access. Russia experienced five government changes between March 1998 and August 1999 during the Russian financial crisis, with political unrest and an 84% inflation rate, leading to default on GKO bonds in 1998 (Mavrotas & Vinogradov 2007). The IMF provided a loan that reduced inflation the following year. Ecuador lost market access in 2000, but an IMF aid package lowered inflation. In Tanzania, IMF loans in 2003 preceded a 2004 market-access loss, yet inflation continued to decrease. Kar (2023) states that Pakistan's governance indicators driving capital flight are "political stability and absence of violence/terrorism" and "control of corruption," and that Pakistan scored -1.9 in "political stability," ranking in the 6.64^{th} percentile of the WGI. Moreover, no Pakistani prime minister completed their premiership tenure, and three forms of government exist like democracy, autocracy and hybrid regimes. Pakistan's 25^{th} IMF program is underway, with conditionalities attached.

Against this background, this paper explores the effects of temporary and permanent components of foreign aid grants and loans on fiscal decisions amid changes in Pakistan's political regime from 1973 to 2020. The results show that political regimes change lead to higher government current expenditures driven by political polarization, resulting in increased foreign loans. In contrast, foreign grants are mainly influenced by donor interests and intentions in aid recipient countries, but political regimes change are irrelevant. The response of fiscal variables to political regimes change reflect conditionalities linked to foreign aid inflows, particularly via the IMF, such as increased revenue and debt service to reduce average debt maturity, thereby reducing domestic borrowing. However, current expenditures increase, thereby reducing capital expenditures due to political polarization for foreign loans and, vice versa, for foreign grants. Furthermore, we found that it affects only temporary aid components, as temporary loans do not significantly affect fiscal decisions; conversely, temporary grants support revenue-based fiscal adjustments by boosting revenue and domestic borrowing to cover increased debt service payments and current expenditures, thereby reducing public investment. Permanent loans promote investment and domestic borrowing but reduce current spending and tax revenues, without affecting debt service payments. Permanent grants, on the other hand, increase government borrowing, revenue, and overall government size. Foreign grants play a more significant role in fiscal decisions, as reflected in the magnitude of the fiscal variables,

than foreign loans do. The findings seem to suggest that aid donors should focus on grants rather than loans for heavily indebted countries and implement debt relief initiatives to prevent aid from being used solely for debt service repayment. Conditional aid should be provided to strengthen political institutions in order to reduce government size through expenditure-based fiscal adjustments. Finally, temporary grants should be used for revenue-led fiscal adjustments, and permanent aid should target investment in countries with low GDP growth.

The remainder of the paper is structured as follows. Section 2 outlines the empirical model and discusses the empirical methodology employed in the paper and section 3 provides a discussion of data issues. Section 4 presents and discusses the empirical results emanating from the empirical analysis; the final section concludes the paper.

2. Empirical Methodology

The effects of the permanent and temporary components of foreign grants and loans on Pakistan's fiscal decisions are examined using a vector autoregression (VAR) model.

$$X_t = \alpha_0 + \beta_1 X_t + \mathrm{u}_t \quad (1)$$

In the first specification case, $X_t$the vector comprised foreign aid, government borrowing, government revenue including taxes and nontaxes, debt servicing, and public investment.

Budget Constraint

$$\mathrm{CEX}_t + \mathrm{DSP}_t + \mathrm{KEX}_t = \mathrm{GRY}_t + \mathrm{FGT}_t + \mathrm{FLN}_t \quad (2)$$

Foreign grants (FGT_t)and loans (FLN_t) are treated as explanatory variables, while rest of variables are the dependent variables are government borrowing (BDY), revenue (GRY), current expenditure(CEX), debt servicing (DSP), and public investment (KCA). All variables are taken as percentages of GDP.

The Markov Two-State Switching Model determines the active (sustainable) and passive (unsustainable) fiscal regimes, and is denoted by (S_t) but does not incorporate political instability to assess whether the results are consistent with the model with or without it.

$$BDY_t = \beta_0(S_t) + \beta_1(S_t)\mathrm{GRY}_t + \beta_2(S_t)\,\mathrm{CEX}_t + \beta_3(S_t)\mathrm{KEX}_t + \beta_4(S_t)\mathrm{DSP}_t + \beta_5(S_t)\mathrm{FGT}_t + \beta_6(S_t)\mathrm{FLN}_t + (S_t)\mu_t \quad (3)$$

First, in the exogenous political instability model, the transition from the current government (one party) to the future government (another party) is considered (Bohn, 2019), with foreign loans from the IMF and World Bank, but domestic borrowing and seignorage depend on their debt conditionalities (Ray, 1998). Cukierman, Edwards and Tabellini (1992), Svensson (1998), Devereux and Wen (1998), and Bohn (2000) state that the Markov chain approach also enables the incorporation of the exogenous degree of political polarization in the budget constraint function. Although there are still two types of governments, their goals are essentially the same, differing only in the public goods they provide or the interest groups they support. Government behavior is influenced more by political instability itself than by variations in preferences.

Budget Constraint With The Exogenous Political Instability Model

Political regimes changes (PRCI_t) added into equation 2 as an explanatory variable.

$$\mathrm{CEX}_t + \mathrm{DSP}_t + \mathrm{KEX}_t = \mathrm{GRY}_t + \mathrm{FGT}_t + \mathrm{FLN}_t + \mathrm{PRCI}_t \quad (4)$$

In the continuation of the above equation 3, here the Markov Two-State Switching Model determines government regimes like the current regime, and the future regimes and is denoted by (S_t) for the political regimes change.[3]

$$BDY_t = \beta_0(S_t) + \beta_1(S_t)\mathrm{GRY}_t + \beta_2(S_t)\,\mathrm{CEX}_t + \beta_3(S_t)\mathrm{KEX}_t + \beta_4(S_t)\mathrm{DSP}_t + \beta_5(S_t)\mathrm{FGT}_t + \beta_6(S_t)\mathrm{FLN}_t + \beta_7(S_t)\mathrm{PRCI}_t + (S_t)\mu_t \quad (5)$$

First, we created a political index by employing Principal Components Analysis (PCA) on the Boix-Miller-Rosato (BMR) dichotomous coding of democracy from Harvard University.

$$BMR = 0.5499\ (\text{Democracy}) + 0.1817\ (\text{Democracy Transition}) + 0.1446\ (\text{Democracy Breakdown}) + 0.1238\ (\text{Democracy Duration No of the years}) \quad (6)$$

The Polity Index (PI), used to ensure robustness. [4]

$$PI = 0.60117\ (\text{Democracy}) + 0.3913\ (\text{Democracy Duration No of the years}) \quad (7)$$

[3] The Markov Two-State Switching Model for equations 3 and 5 reported in Table 1 in Appendix A.1.

[4] For further details and a comparison among the political indices see Zarazua et al. (2020) and Gründler and Krieger (2021). The PCA results of both political indices are also available upon request.

Second, it is important to stress here that Pakistan's fiscal reports do not distinguish between foreign aid and other forms of assistance, thus failing to differentiate between permanent and temporary aid. In view of this problem, we have followed Abdelwahed (2023) and Jones and Tarp (2016) regarding their data-driven approach, using time-series filters to separate permanent and temporary trends in foreign grants and loans. The trend component of the aid series is characterized by low frequency due to the shocks, but it does not disappear quickly and persists over a long time horizon; thus, we refer to this aid series as permanent aid. The deviation around the trend component of the aid series is high-frequency due to shocks and disappears quickly; thus, we refer to this aid series as temporary or transitory aid. The permanent and temporary components of grants and loans are separated using the Ravn-Uhlig rule, with a smoothing parameter of 6.25 for annual data and the HP filter. Therefore, we have chosen the minimum stochastic cyclic period of 2 years and the maximum period of more than 8 years when extracting permanent and temporary grants and loans using the CF and BK filters. Following the splitting of foreign grants and loans into temporary and permanent components, the political index interacts with foreign aid and its components to accurately capture its effect.

$$\beta_0 + \beta_1 \mathrm{GRY}_t + \beta_2\, \mathrm{CEX}_t + \beta_3\, \mathrm{KEX}_t + \beta_4 \mathrm{DSP}_t + \beta_5 BDY_t + \mu_t = \beta_6 \mathrm{FGT}_t + \beta_7 \mathrm{FLN}_t + \beta_8 \mathrm{PRCI}_t \quad (8)$$

We estimated the fiscal response to foreign loans and grants, and then separately to their temporary and permanent components. The political index is also taken to capture the effects of political regimes change in the fiscal decisions in the foreign loans and grants equations:[5]

Third, the Phillips-Perron and Augmented Dickey-Fuller tests are employed to check the stationarity of the fiscal variables. Many variables, such as domestic borrowing, public investment, and the temporary components of grants and loans, are stationary at the level; the permanent component of grants and loans, revenue, and current and debt servicing expenditures become stationary at the first difference.[6] According to Sims et al. (1990), many macroeconomic variables are interdependent and exhibit less exogeneity among themselves.

[5] The fiscal response to the political regime change is presented in the Appendix A.1.2.

[6] Due to econometric issues, the ARDL Model fails to comply with the fiscal response model as we consider aid as a whole, and then a multicollinearity problem may arise. In the case of the ARDL short-run parameters, attaining the stationarity of the permanent component of aid (loans and grants) through its differentiation thus causes the loss of the low-frequency observations, as we need to estimate the responses from temporary aid shocks to permanent aid shocks differently. The unit root tests and ARDL model results are available by the authors upon request.

In addition, the criticism of unit root tests is that they accept the unit root as a biased estimator. Thus, failing to reject the false null hypothesis of a unit root and achieving stationarity could lead to incorrect estimators due to data differentiation. The attainment of stationarity of the permanent component of aid (loans and grants) through differentiation thus causes the loss of low-frequency observations, as we need to estimate responses to temporary aid shocks differently from those to permanent aid shocks. Therefore, the VAR model is chosen for the disaggregated components of foreign aid.

Fourth, we used three popular information criteria in order to select the appropriate lag structure: the AIC, SIC, and HQ. As the information criteria suggested, one lag was optimal.[7] Fifth, the purpose of generating the impulse response function is to explain how fiscal variables such as government revenue, capital expenditure, debt servicing, and current expenditure respond to shocks to aid, while holding other shocks constant, thereby isolating the effect of shocks to one variable in the system. The restrictions are to be imposed on the system so that the residuals can be orthogonal. For identification of the impulse response function, the lower-triangular Cholesky decomposition imposes the ordering of the recursive residuals in a way that shocks of the variables come first to affect the system's other variables contemporaneously. In contrast, earlier variables with a lag are affected by the shocks to the later variables. The order of entering variables for foreign grants is as follows: permanent grants, temporary grants, political index, government taxes, current expenditure, investment, domestic financing, and debt servicing. A similar order of variables was followed, with grant components replaced by loan components. In this model, we must identify which other fiscal variables contemporaneously affect the temporary and permanent components of grants and loans. Notably, we focus on the responses of the fiscal variables to foreign aid shocks in line with the fiscal response literature. After placing the permanent and temporary aid, the variable order does not influence the impulse responses (Christiano et al., 1999). Moreover, the relative ordering of temporary and permanent aid does not affect the results in the Cholesky decomposition.

Finally, the stability of the VAR model's estimated coefficients is also tested. The modulus of each estimated eigenvalue in the estimated model is computed. This is done to verify that all

[7] The lag selection criteria results of the baseline and robustness results are available by the authors upon request.

moduli are strictly smaller than one, which guarantees that the VAR is invertible into a Vector Moving Average process (Abrigo & Love, 2016).[8]

3. Data Issues

Foreign Aid

Aid disbursement data have been collected from the State Bank of Pakistan and the OECD DAC for the period 1973 to 2022 on foreign grants and loans, but the data from both sources do not reconcile.[9] The State Bank of Pakistan has data on project and non-project aid from 1960 to 2022, but program aid for Pakistan is available from the OECD DAC for 1995 to 2022. Therefore, we need a long time series to conduct a sensitivity analysis of results using grants vs. loans. The Pakistan Economic Affairs Division records foreign loans, but the OECD DAC reports net foreign loans. Pakistan's official data includes market-based loans from 2013 to 2020. The country records foreign loans as gross loans and records interest and principal payments separately.[10] Therefore, the OECD DAC excluded borrowing from private creditors who are not members. First, loans from private creditors are subtracted. The second reason for the difference between foreign loan data from OECD DAC and Pakistan's official sources is that OECD DAC reports foreign loans as net foreign loans (by subtracting the principal amount repayments from the foreign loans). The principal payments are deducted from foreign loan inflows to normalize the data in line with OECD DAC standards and obtain the net foreign loan.

Government Fiscal Variables

Fiscal operations data, including government revenue, current expenditures, capital expenditures, debt service, and budget deficits, are collected from the State Bank of Pakistan and the Pakistan Economic Survey over the period 1973-2020. Pakistan's fiscal operations data is unavailable in the IMF's Head of Government Finance Statistics (GFS) and the World Bank's World Development Indicators (WDI) for disaggregated budgetary data.[11] The debt servicing

[8] The stability of the VAR model's results are also available upon request.

[9] The foreign aid grants recorded in the Pakistan official data are smaller than OECD DAC aid data because Pakistan reflects the grants and loans directly considered in its budget.

[10] The Pakistan Economic Survey recorded only the public and publicly guaranteed external debt (official creditors) and its principal and interest payments. However, the reporting of external debt from private creditors started only in 2013. The terms and conditions associated with the foreign loans' interest rate and maturity period are also explained in the Pakistan Economic Survey. Furthermore, the segregated components with respect to interest and principal amount are recorded based on each creditor category.

[11] According to Prichard (2016), GFS comprises 65% of the country's government finance yearly statistics, with observations missing between 1990 and 2010.

on Pakistan's external debt is available in the Country Debt Table of the Global Development Finance (GDF). However, no international database records the country's domestic debt or its servicing. Therefore, we had to rely on Pakistan's official sources for these variables.

Regimes Change in Pakistan

The political regimes change data for Pakistan are sourced from the Boix-Miller-Rosato dichotomous coding of the democracy Index at Harvard University, covering the years 1947 to 2020, used as the baseline, and from the Polity Index data from 1947 to 2018, provided by the Center for Systemic Peace, used for robustness.

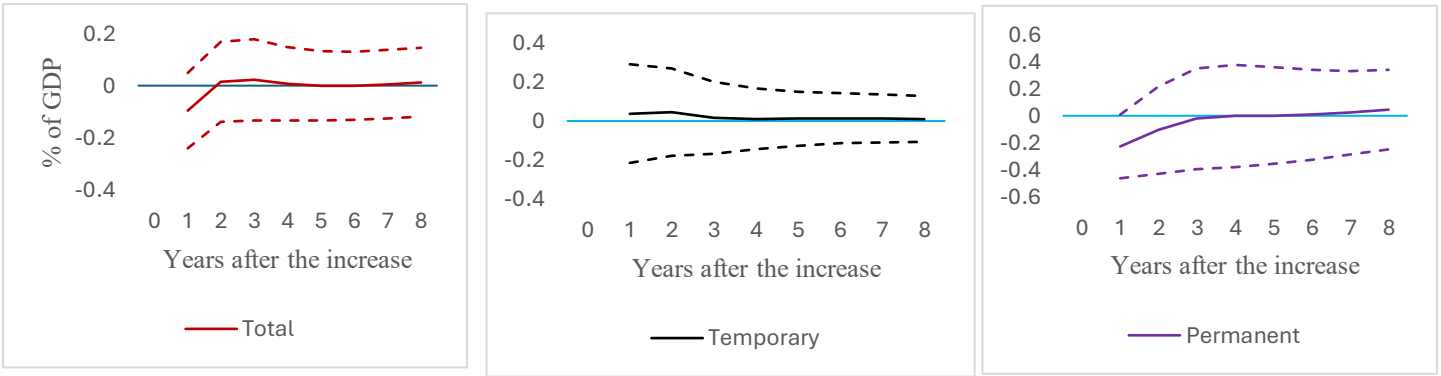
4. Empirical Results and Discussion

i. Baseline Results

The size of the orthogonalized shocks is 1% of GDP; the impulse response functions can be interpreted as the impact of increases or decreases in loans and grants as a percentage of GDP. The dotted lines in the figures show the estimated upper and lower standard errors computed through Monte Carlo simulations.

a) Fiscal Responses to Foreign Loans

It is crucial to note that political regimes changes' influence on foreign aid is primarily short-term (Abbas et al., 2024). This is further underscored by the unidirectional effect of political instability on short-term foreign aid and growth (Abu & Karim, 2015). Moreover, Cuddington (1986) states that short-term financial instruments respond quickly to financial crises, political instability, higher taxes, currency devaluation, and hyperinflation. In our study, temporary loans do not sway fiscal decisions under political regimes change.



. **Figure 1. Response of Government Revenue to Foreign Loans**

Permanent foreign loans do not affect government revenue, as it is difficult to distinguish the upper estimated standard error around the IRF from zero in the initial shock. The finding is in line with Crivelli et al. (2012), which states that grants reduce government revenue, whereas foreign loans have a positive or no significant effect due to their repayment nature.

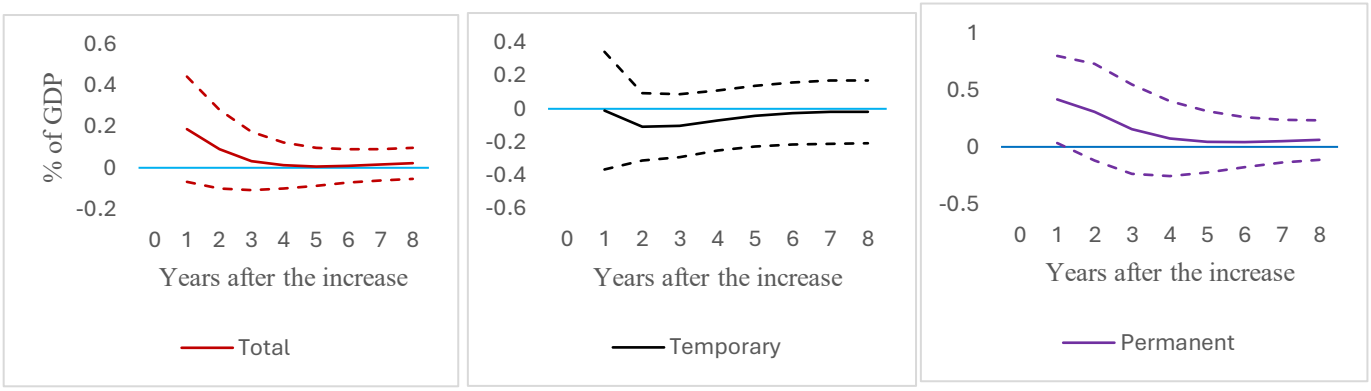


Figure 2. Response of Domestic Borrowing to Foreign Loans

The shock in permanent loans is 1% and domestic borrowing increases by 0.42%. It is difficult to tell apart the lower estimated standard error around the IRF from zero after the initial shock. The finding aligns with Feeny and McGillivray (2003), who stated that a reduction in government revenue leads to an increase in domestic borrowing.

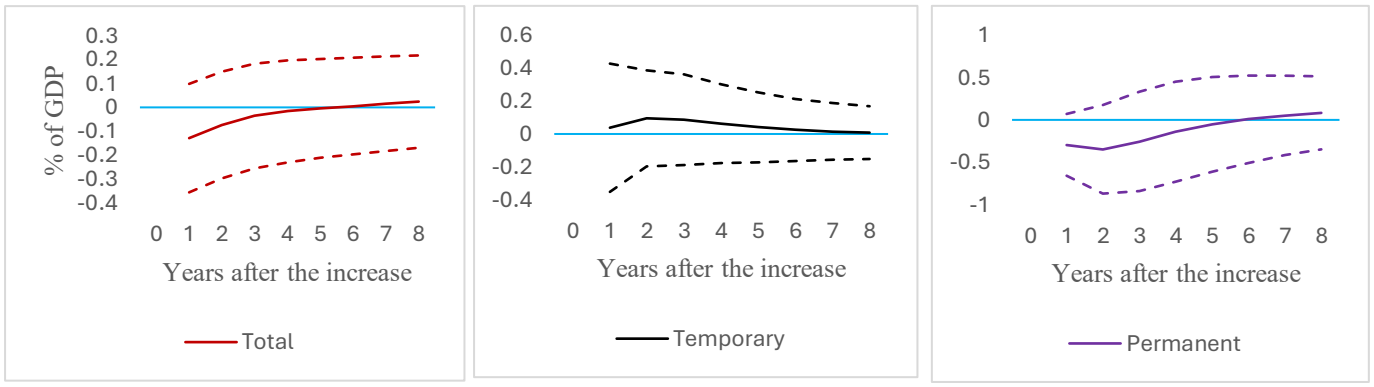


Figure 3. Response of the Government's Current Expenditure to Foreign Loans

The 1% shock in permanent loans reduces the government's current expenditure by 0.296% of GDP. The response of government spending to foreign loans is positively contemporaneous, then converges to zero in the 6th year. The findings are consistent with those of Heller (1975), Khan & Hoshino (1992), Otim (1996), McGillivray (2000), Ouattara (2006b), Martins (2010), Senbet & Senbeta (2007), and Feeny & McGillivray (2010). Findings are consistent with Chishti and Hasan (1992), Iqbal (1997), and Franco-Rodriguez et al. (1998) in Pakistan's context.

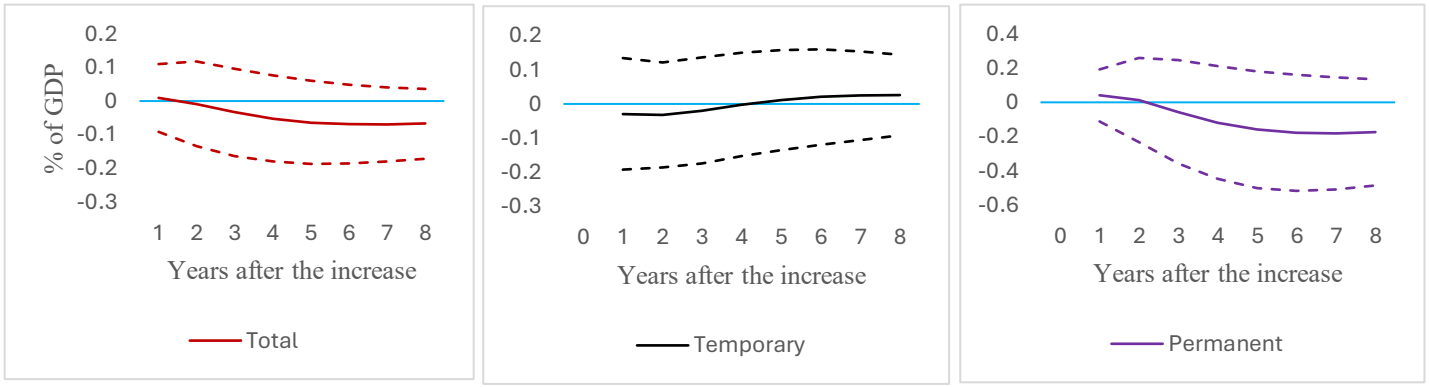


Figure 4. Response of Debt Servicing Payment to Foreign Loans

Debt servicing payments do not respond to temporary and permanent loans. According to Lerrick and Meltzer (2002) and Radelet (2005), foreign grants are preferred over foreign loans due to the "perverse effect" that loans are associated with debt management and debt sustainability. Additionally, Nunnenkamp et al. (2006) and Cordella and Ulku (2007) contend that grants are more effective in fostering growth in countries with weak policies, heavy indebtedness, and low income levels, as loans tend to exacerbate debt sustainability. Conversely, countries with sound policies and strong institutions are better equipped to manage larger debt service, and concessional loans facilitate development.

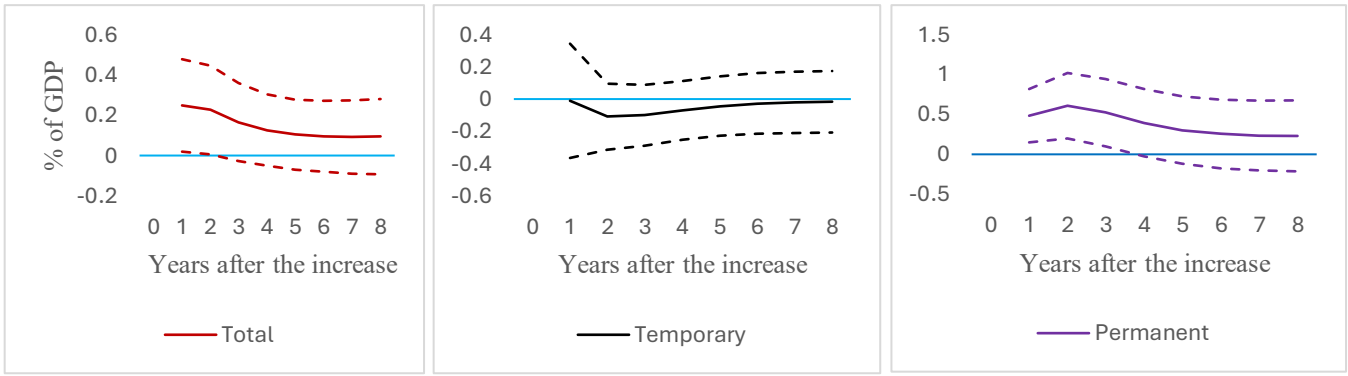


Figure 5. Response of Public Investment to Foreign Loans

A shock to permanent loans equal to 1% of GDP causes a contemporaneous increase in government investment of 0.48%. However, the government's investment persists positively but decreases in the following years. It is difficult to distinguish the estimated lower standard error around IRF from zero in the 4th year due to the foreign-loans shock. The findings are akin to those of Heller (1975), Khan & Hoshino (1992), Otim (1996), McGillivray (2000), Ouattara (2006b), Martins (2010), Senbet & Senbeta (2007), Feeny & McGillivray (2010). Therefore, the loan amount is spent on projects to generate returns and repay the loan with interest.

b). Fiscal Responses to Foreign Grants

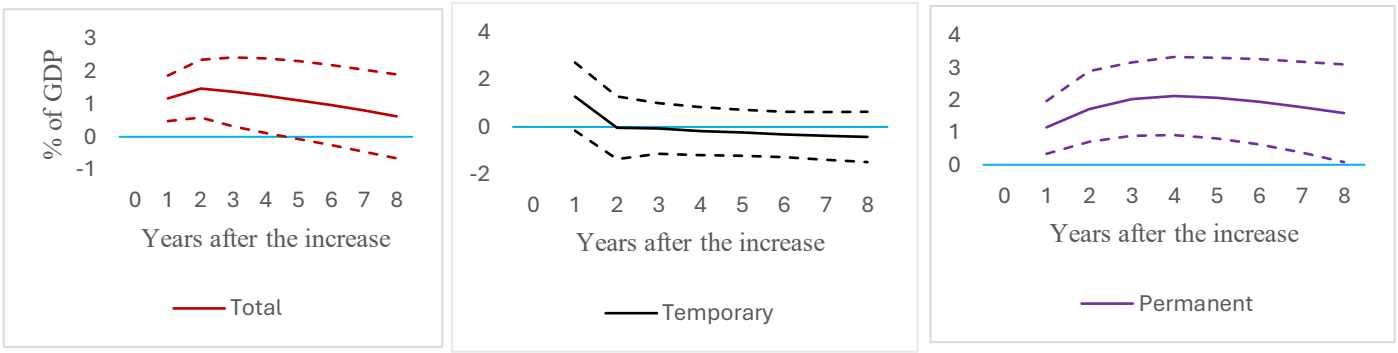


Figure 6. Response of Government Revenue to Foreign Grants

The 1% shock in temporary grants is associated with a 1.28% increase in government revenue, which is short-lived and disappears in the 2nd year. Similarly, the shock to permanent grants is 1% of GDP, and government revenue to GDP increases by 1.15%. The effect of the shock is persistent and even lasts positively until the 8th year. The finding is in line with Crivelli and Gupta (2017) and Abdelwaheed (2023). The conditions from donors for the aid recipient country to increase its revenue sources. IMF programs are associated with increased tax revenue, as Pakistan has been in the 25th IMF program.

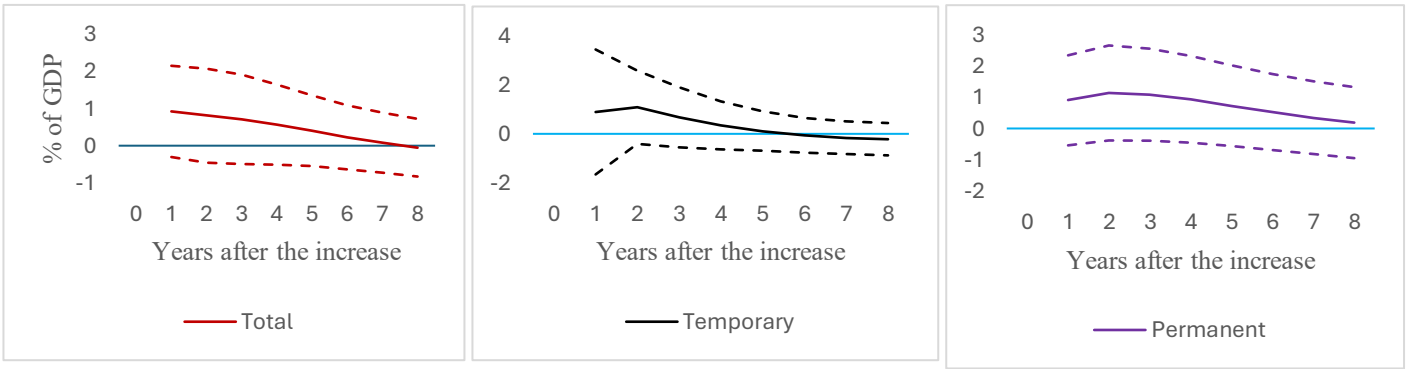


Figure 7. Response of Domestic Debt to Foreign Grants

The 1% shock in temporary grants to GDP is associated with an increase in domestic debt issuance to a GDP share of 0.89%, which decreases and converges to zero in the 6th year. Furthermore, the shock in permanent grants is 1% of the GDP, and domestic debt issuance to GDP increases by 0.89%. The effect of the shock decreases but remains positive until the 8th year. According to Ozler and Tabellini (1991) and Alesina, Prati and Tabellini (1990), political instability increases political polarization, leading to higher government consumption preferences in the present than in the future—both political instability and political polarization cause government myopia. Thus, government expenditures are much higher than the aid the

country receives. Therefore, the aid recipient country turns to domestic borrowing. This finding is consistent with Abdelwahed (2021, 2023) and Chishti and Hasan (1992).

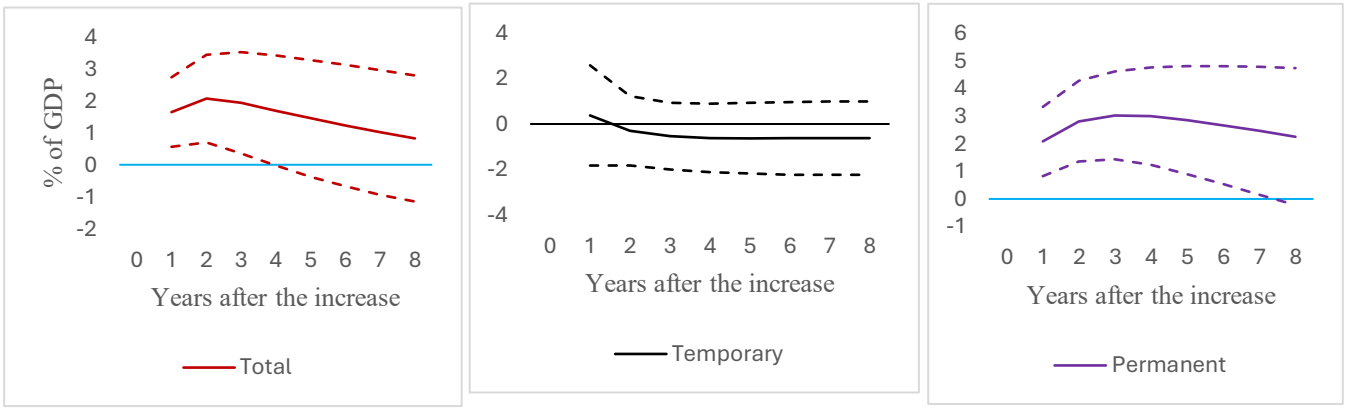


Figure 8. Response of Government Current Expenditure to Foreign Grants

The 1% shock in temporary grants is associated with a 0.375% increase in government expenditures, which is short-lived and disappears in the 2nd year. Likewise, the 1% shock in foreign grants increases government expenditures by 2.08%. Government expenditure responds positively to foreign grants until the 7th year. The findings align with Chishti and Hasan (1992), Iqbal (1997), and Franco-Rodriguez et al. (1998) regarding Pakistan.

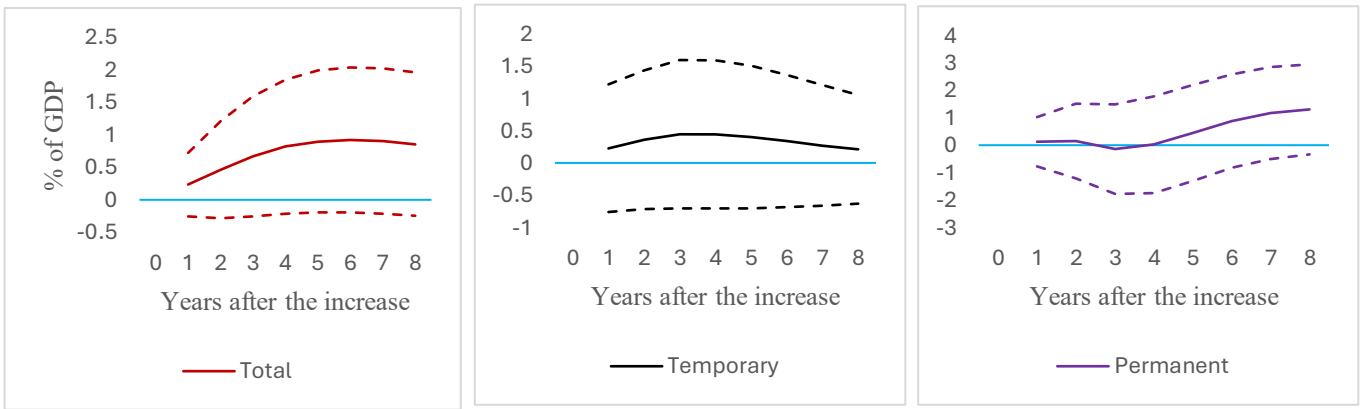


Figure 9. Response of Debt Servicing to Foreign Grants

The 1% shock in temporary grants is associated with an increase in debt servicing payments to 0.22% which remains positive and persistent until the 8th year. Similarly, a 1% shock in permanent grants increases debt servicing payments by 0.12% of GDP. The debt servicing payments disappeared contemporaneously in the following year in response to foreign grants. This means that a fraction of foreign grants is used to finance debt service payments, particularly for temporary grants, compared to permanent grants. The finding is in line with McGillivary and Ouattara (2005) and Pack and Pack (1993). It indicates the fungibility of

foreign aid, in which aid funds are diverted to debt service payments, thereby increasing the public debt burden.

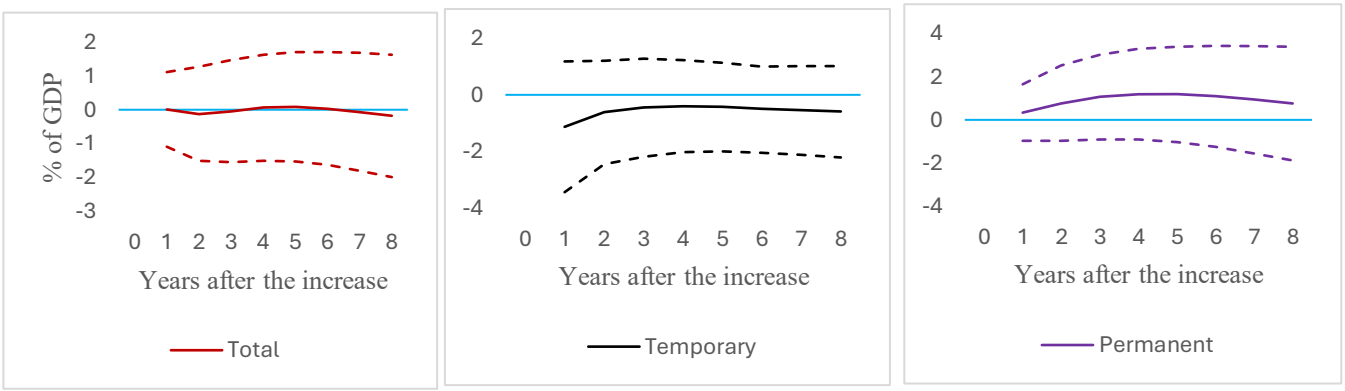


Figure 10. Response Of Capital Expenditure to Foreign Grants

The shock to temporary grants is 1% of GDP, and government capital expenditure decreases by 1.13%. The effect of the shock is persistent and even lasts negatively until the 8th year. This finding aligns with Feyzioglu et al. (1998), who note that project-related aid is diverted to government consumption or disrupted by political instability (Islam, 2005). Conversely, the 1% shock in Permanent grants is associated with an increase in public investment to 0.33% of GDP, which remains positive and persistent until the 8th year. The finding is in line with Heller (1975), Khan and Hoshino (1992), Otim (1996), McGillivray (2000), Ouattara (2006a), Martins (2007), Senbet and Senbeta (2007) and Feeny and McGillivray (2010).

ii. Results Discussion

First, the exogenous political instability shapes government behavior more than variations in preferences do. It is the transition of the government from the current government (one party) to the future government (another party) (Bohn, 2002). Changes in political regime affect fiscal decisions through foreign loans rather than grants. It causes political polarization, which increases the government's current financing through foreign loans due to government myopic behavior (Ozler & Tabellini, 1991; Grechyna, 2012). In addition, Bermeo (2011) states that a source of financing matters because of donors' intents and preferences, but political regimes change are irrelevant. Notably, the major aid donor of Pakistan has been the USA for many years, and its aid was associated with political motives (Anwar & Michaelowa, 2006). These aid inflows were observed in three autocratic regimes when Pakistan was a member of USA defense pacts like CENTO and SEATO, the Afghan war, and the War on Terror (Abbas et al., 2024).

Second, the impact of conditionalities associated with foreign loans under the exogenous political instability model is based on the government's myopic behavior (higher current expenditures are financed through foreign loans), which is moderated by international financial institutions, particularly the IMF lending constraints. Despite government's myopic behavior, these foreign loans conditionalities are complied with to get monetary stability and maintain its access to international financial markets. Pakistan is currently participating in the 25th IMF program, particularly the three conditionalities associated with each program, such as budget deficit reduction and investment-related conditionalities, aimed at achieving fiscal sustainability and reducing seigniorage conditionality via the independence of the central (State) bank of Pakistan to achieve monetary sustainability concurrently (Bohn, 2002). The response of fiscal variables to political regimes change reflect conditionalities linked to aid inflows, particularly via the IMF, such as increased revenue and debt service to reduce average debt maturity, thereby reducing domestic borrowing. However, current expenditures increase, thereby reducing capital expenditures due to political polarization for foreign loans and, vice versa, for foreign grants. As political regimes change are irrelevant for grants inflows, fiscal variables reflect the exact conditionalities associated with IMF programs. It increases the government's current expenditure for foreign loans; consequently, it is reflected in current expenditure, thereby decreasing capital expenditures. At the same time, the remaining fiscal variables reflect the exact conditionalities associated with IMF programs.

According to Cuddington (1986) states that short-term funds respond quickly to changes in their returns or risks, such as political and financial crises and higher taxes. Moreover, Abu and Karim (2015), political instability has a unidirectional effect on short-term foreign aid and growth. Furthermore, changes in political regime influence foreign aid only in the short run (Abbas et al., 2024). It impacts on the temporary aid as temporary loans are not considered when a country is experiencing severe political, economic, and financial crises; therefore, temporary loans do not affect fiscal decisions. Conversely, temporary grants increase government revenue, borrowing, debt servicing, and current expenditures but decrease public investment. The revenue-based fiscal adjustment is due to IMF conditionality and to a rise in domestic borrowing to meet increased current expenditures resulting from political instability, which creates uncertainty, disrupts aid-related projects, and diverts funds to nonproductive consumption (Islam, 2005).

Permanent loans have no significant effect on government revenue and debt service payments but increase domestic borrowing. This shows that the government is substituting for low tax

revenue by increasing domestic borrowing to cover higher capital expenditures while decreasing current spending. This means the government is substituting current expenditures with increased capital spending to repay the loan. They also increase the overall size of the government, including debt service, capital expenditures, and current expenditures.

Finally, we have also tested the robustness of our results in five different ways. First, robustness is tested by adding a controlling variable, as baseline results are presented without one. Second, and more importantly, the data's robustness is checked by comparing Pakistan's official foreign aid data with OECD-DAC aid data. Third, robustness is checked by using the Polity index rather than BMR in terms of governance indicators. Fourth, we have tested the robustness of the filter using alternative business cycle filters, such as the HP and BK filters, compared with the CF filter used in the baseline results reported above. And fifth, the robustness of the results is tested by using various time lag lengths (1-2). The robustness results are presented in detail in the Appendix at the end of the paper.

5. Concluding Remarks

The existing literature regarding the fiscal response of an aid-recipient government in the presence of foreign aid examines various modalities, including grants versus loans and project-based versus non-project aid flows. This paper contributes to the fiscal response and aid heterogeneity literature by analyzing the fiscal response to both temporary and permanent components of foreign loans and grants under political regimes change, and to the differences between these modalities in the context of Pakistan. We have argued that the failure to differentiate between the temporary and permanent components of foreign loans and grants in a country's political environment may have led to biased outcomes and incorrect policy implications. Data on fiscal variables from Pakistan are used to investigate the responses of the temporary and permanent components of foreign aid grants and loans under political regimes change over the period 1973 to 2020. First, political regimes change affects fiscal decisions through foreign loans rather than grants. It causes political polarization, which increases the government's current financing through foreign loans. It does not affect foreign grants, as they depend on the donor’s intentions and the political interests in the aid recipient countries. The response of fiscal variables to political regimes change reflect conditionalities linked to foreign aid inflows, such as increased revenue and debt service to reduce average debt maturity, thereby reducing domestic borrowing. However, current expenditures increase, thereby reducing

capital expenditures due to political polarization for foreign loans and, vice versa, for foreign grants. Second, temporary loans do not affect fiscal decisions. However, the temporary grants cause a revenue-based fiscal adjustment by increasing revenue and domestic borrowing to finance increased debt servicing and government current expenditures, while reducing public investment due to political instability. Finally, permanent grants increase government borrowing, revenue, and size. Permanent loans increase investment and domestic borrowing but reduce current spending without significantly affecting tax revenue and debt servicing payments.

The policy implications yield positive outcomes when aid donors and recipient countries endeavor to implement fiscal adjustments, such as reducing domestic borrowing. Temporary grants should be allocated to aid-recipient countries facing unsustainable fiscal situations and political instability. Aid donors may need to provide these conditional grants to aid-recipient countries on the condition that they increase their tax and non-tax revenues while simultaneously reducing domestic borrowing. At the same time, aid packages and aid programs should be strategically designed for countries with persistent low growth rates. Permanent aid increases public investment in the economic and social sectors, thereby facilitating capital accumulation and job creation. Consequently, foreign aid donors should initiate debt relief efforts for heavily indebted recipient countries, offering conditional loans to reduce recipient countries' current expenditures and strengthen the political institutions to mitigate the risk of aid fungibility; thus, expenditure-based fiscal adjustments can be achieved amid political instability. Another promising area for future research may involve examining project and non-project foreign aid, along with the distinction between categorizing temporary vis-a-vis permanent to assess fiscal responses of the aid-recipient country, and incorporating changes in political regimes, along with governance indicators, democratic measures, and public sector management.

References

Abbas, S. A., Syed, S. H., Campbell, N., & Kumar, K. (2024). A dynamic modelling of the regional and international political economy of US aid to Pakistan. *Journal of the Asia Pacific Economy*, 1-22.

Abdelwahed, L. (2021). The fiscal management of permanent and temporary foreign aid: Evidence from sub-Saharan Africa. *Journal of International Development*, 33(4), 685-716.

Abdelwahed, L. (2023). Fiscal Responses to Foreign Aid: Does the Permanence of Aid Matter? *Journal of African Economies*, 32(1), 26-51.

Abrigo, M. R., & Love, I. (2016). Estimation of panel vector autoregression in Stata. *The Stata Journal*, 16(3), 778-804.

Abu, N., & Karim, M. Z. A. (2015). The Causal Relationships Among Corruption, Political Instability, Economic Development, And Foreign Aid: Evidence From The Economic Community Of West African States. *Journal of Applied Economic Sciences*, 10(1).

Agnello, L., & Sousa, R. M. (2014). The determinants of the volatility of fiscal policy discretion. *Fiscal Studies*, 35(1), 91-115.

Akame, A. & G. Mavrotas (2024). The differential effects of foreign aid to SSA, *IOB Discussion Paper No. 2024.01*, Jan.

Alesina, A., & Dollar, D. (2000). Who gives foreign aid to whom and why? *Journal of Economic Growth*, 5, 33-63.

Alesina, A., & Prati, A. and G. Tabellini (1990). *Public Debt Management: Theory and History*, 94.

Anwar, M., & Michaelowa, K. (2006). The political economy of US aid to Pakistan. *Review of Development Economics*, 10(2), 195-209.

Asongu, S. A., & Nwachukwu, J. C. (2017). Foreign aid and inclusive development: Updated evidence from Africa, 2005–2012. *Social Science Quarterly*, 98(1), 282-298.

Bader, J., and J. Faust. (2014). Foreign Aid, Democratization, and Autocratic Survival. *International Studies Review* 16(4), 575–595.

Banerjee, A. and E. Duflo (2011). *Poor Economics: A Radical Rethinking of the Way to Fight Global Poverty*. Public Affairs Publisher.

Barro, R. J., & Lee, J. W. (1994). Sources of Economic Growth. In *Carnegie-Rochester conference series on public policy* (40, 1-46). North-Holland.

Benedek, D., Crivelli, E., Gupta, S., & Muthoora, P. (2014). Foreign aid and revenue: Still a crowding-out effect?. *FinanzArchiv/public finance analysis*, 67-96.

Bermeo, S. B. (2011). Foreign aid and regime change: A role for donor intent. *World Development*, 39(11), 2021-2031.

Bohn, F. (2000). The Rationale for Seigniorage in Russia—A Model-Theoretic Approach. In Restructuring, Stabilizing and Modernizing the New Russia: Economic and Institutional Issues. *Springer Berlin Heidelberg*, 243–266.

Bohn, F. (2019). Political instability and seigniorage: An inseparable couple—or a threesome with debt?. *Review of International Economics*, *27*(1), 347-366.

Bohn, F. (2002) . Public Finance under Political Instability and Debt Conditionality. *University of Essex, Department of Economics, Economics Discussion Papers, Colchester*.

Boix, C., Miller, M., & Rosato, S. (2013). A complete data set of political regimes, 1800–2007. *Comparative political studies*, 46(12), 1523-1554.

Boone, P. (1996). Politics and the effectiveness of foreign aid. *European Economic Review*, 40(2), 289-329.

Boz, E. (2011). Sovereign default, private sector creditors, and the IFIs. *Journal of International Economics*, 83, 70–82.

Bräutigan, D. (2000). Aid dependence and governance (Vol. 1). Stockholm: Almqvist & Wiksell International.

Bueno de Mesquita, B., & Smith, A. (2016). Competition and collaboration in aid-for-policy deals. *International Studies Quarterly*, 60(3), 413-426.

Bulíř, A., & Hamann, A. J. (2008). Volatility of development aid: From the frying pan into the fire? *World Development*, 36(10), 2048-2066.

Carter P. (2017). Aid Econometrics: Lessons from a Stochastic Growth Model. *Journal of International Money and Finance*, 77, 216–32.

Cassen, R. (1986), Does Aid Work? Oxford: Clarendon Press.

Cassen, R. (1994). Does Aid Work? Oxford University Press: Oxford, 2nd edition.

Cassimon, D., & Van Campenhout, B. (2007). Aid effectiveness, debt relief and public finance response: evidence from a panel of HIPC countries. *Review of World Economics*, 143, 742-763.

Cassimon, D., & Van Campenhout, B. (2008). Comparative fiscal response effects of debt relief: an application to African HIPCs. *South African Journal of Economics*, 76(3), 427–442.

Cassimon, D., Van Campenhout, B., Ferry, M., & Raffinot, M. (2015). Africa: Out of debt, into fiscal space? Dynamic fiscal impact of the debt relief initiatives on African Heavily Indebted Poor Countries (HIPCs). *International Economics*, 144, 29-52.

Celasun, O., & Walliser, J. (2008). Managing aid surprises. *Finance and Development*, 45(3), 34-37.

Chatterjee, S., & Turnovsky, S. (2005). Foreign Aid and Economic Growth: The Role of Flexible Labor Supply, *Journal of Development Economics*, 84(1), 507-533.

Chatterjee, S., Giuliano, P., & Kaya, I. (2012). Where has all the money gone? Foreign aid and the composition of government spending. *The BE Journal of Macroeconomics*, *12*(1).

Chishti, S., Hasan, M. A., & Khan, A. H. (1992). Foreign Aid, Defense Expenditure and Public Investment in Pakistan. *The Pakistan Development Review*, 31(4), 895-908.

Christiano, L. J. (1999). Monetary Policy Shocks: What Have We Learned and to What End? *Handbook of Macroeconomics*, Part 1.

Claessens, S., D. Cassimon, and B. Van Campenhout (2009). Evidence on changes in aid allocation criteria. *World Bank Economic Review* 23(2), 185-208.

Clemens, M., S. Radelet, R. Bhavnani and S. Bazzi (2012). Counting chickens when they hatch: the short-term effect of aid on growth, *Economic Journal*, 122 (561), 590–617.

Collier, P. (2007), The Bottom Billion: Why the Poorest Countries are Failing and What Can Be Done About It, Oxford: Oxford University Press.

Cordella, T., & Ulku, H. (2007). Grants vs. Loans. *IMF Staff Papers*, 54, 139-162.

Crivelli, E., & Gupta, S. (2017). Does conditionality mitigate the potential negative effect of aid on revenues?. *The Journal of Development Studies*, 53(7), 1057-1074.

Cuddington, J. T. (1986). *Capital flight: Estimates, issues, and explanations* (Vol. 58). Princeton, NJ: International Finance Section, Department of Economics, Princeton University.

Cukierman, A., Edwards, S., & Tabellini, G. (1992). Seigniorage and political instability. *American Economic Review*, 82, 537–555.

De Mesquita, B. B., & Smith, A. (2009). A political economy of aid. *International Organizations*, 63(2), 309-340.

Devereux, M. B., & Wen, J. F. (1998). Political instability, capital taxation, and growth. *European Economic Review*, 42(9), 1635-1651.

Dollar, D., & Levin, V. (2006). The increasing selectivity of foreign aid, 1984–2003. *World Development*, 34(12), 2034-2046.

Doucouliagos, H. and M. Paldam (2009). The aid effectiveness literature: the sad results of 40 years of research, *Journal of Economic Surveys*, 23(3), 433–61.

Easterly, W. (2006). The White Man's Burden: Why the West's Efforts to Aid the Rest Have Done So Much Ill and So Little Good. New York: Penguin Press.

Easterly, W. (2007). Was development assistance a mistake?. *American Economic Review*, 97 (2), 328–32.

Easterly, W., & Pfutze, T. (2008). Where does the money go? Best and worst practices in foreign aid. *Journal of Economic Perspectives*, *22*(2), 29-52.

Edwards, S., & Tabellini, G. (1991). Explaining fiscal policies and inflation in developing countries. *Journal of International Money and Finance*, 10, S16-S48.

Eifert, B., & Gelb, A. (2008). Reforming aid: Toward more predictable, performance-based financing for development. *World Development*, 36(10), 2067-2081.

Epstein, S. B., & Kronstadt, K. A. (2011). *Pakistan: US foreign assistance* (No. R41856). Washington, DC: Congressional Research Service.

Farooq, I., G. Mavrotas & D. Cassimon (2025). Aid heterogeneity and fiscal response: The case of Pakistan, *IOB Working Paper No. 2025.13*.

Feeny, S., & McGillivray, M. (2003). Aid and public sector borrowing in developing countries. *Journal of International Development*, 15(8), 989-998.

Feeny, S., & McGillivray, M. (2010). Aid and public sector fiscal behavior in failing states. *Economic Modelling*, 27(5), 1006-1016.

Feyzioglu, T., Swaroop, V., & Zhu, M. (1998). A panel data analysis of the fungibility of foreign aid. *The World Bank Economic Review*, 12(1), 29-58.

Fielding, D. and G. Mavrotas (2008). Aid volatility and donor-recipient characteristics in "difficult partnership countries". *Economica*, 75 (299), 481–94.

Fleck, R. K., and C. Kilby (2010). Changing Aid Regimes? US Foreign Aid from the Cold War to the War on Terror. *Journal of Development Economics*, 91(2), 185–197.

Franco-Rodriguez, S. (2000). Recent advances in fiscal response models with an application to Costa Rica, *Journal of International Development*, 12(3), 429–42.

Franco-Rodriguez, S., Morrissey, O., & McGillivray, M. (1998). Aid and the public sector in Pakistan: evidence with endogenous aid. *World Development*, 26(7), 1241-1250.

G. W., & McCubbins, M. D. (2005). *Setting the agenda: Responsible party government in the US House of Representatives*. Cambridge University Press.

Gang, I. and H. Khan (1991). Foreign aid, taxes and public investment, *Journal of Development Economics*, 34(2), 355–69.

Grechyna, D. (2016). Political frictions and public policy outcomes. *Journal of Comparative Economics*, *44*(3), 484-495.

Griffin, K. (1970). Foreign capital, domestic savings and economic development', *Bulletin of the Oxford University Institute of Economics and Statistics*, 32(2), 99–112.

Gründler, K., & Krieger, T. (2021). Using Machine Learning for measuring democracy: A practitioners guide and a new updated dataset for 186 countries from 1919 to 2019. *European Journal of Political Economy*, 70, 102047.

Guillaumont, P. and L. Chauvet (2001). Aid and performance: a reassessment, *Journal of Development Studies*, 37(5), 66–87.

Gupta, S., B. Clements, A. Pivovarsky and E.R. Tiongson (2004). Foreign aid and revenue response: does the composition of aid matter?, in S. Gupta, B. Clements and G. Inchauste (eds), Helping Countries Develop: The Role of Fiscal Policy, Washington, DC: IMF.

Guscina, A. (2008). Impact of macroeconomic, political, and institutional factors on the structure of government debt in emerging market countries. *IMF Working Papers, 205*.

Hallerberg, M., Strauch, R., & Von Hagen, J. (2007). The design of fiscal rules and forms of governance in European Union countries. *European Journal of Political Economy*, 23(2), 338-359.

Heller, P. (1975). A Model of Public Fiscal Behavior in Developing Countries: Aid, Investment, and Taxation, *The American Economic Review*, 65(3), 429–45.

Hudson, J. (2013). Promises kept, promises broken? The relationship between aid commitments and disbursements. *Review of Development Finance*, 3(3), 109–120.

Iqbal, Z. (1997). Foreign aid and the public sector: a model of fiscal behavior in Pakistan. *The Pakistan Development Review*, 115–129.

Islam, M. N. (2005). Regime changes, economic policies and the effect of aid on growth. *The Journal of Development Studies*, 41(8), 1467-1492.

Jones S. and Tarp F. (2016). Does Foreign Aid Harm Political Institutions? *Journal of Development Economics*, 118, 266–81.

Kalyvitis, S., & Vlachaki, I. (2012). When does more aid imply less democracy? An empirical examination. *European Journal of Political Economy*, 28(1), 132-146.

Kar, D. (2023). Pakistan's Poor Governance and Capital Flight. *World Economics*, 24(2), 91-102.

Khan, H. A., & Hoshino, E. (1992). Impact of foreign aid on the fiscal behavior of LDC governments. *World Development*, 20(10), 1481–1488.

Knack, S. (2001). Aid dependence and the quality of governance: Cross-country empirical tests. *Southern Economic Journal*, 68(2), 310-329.

Knack, S. (2004). Does foreign aid promote democracy?. *International Studies Quarterly*, 48(1), 251-266.

Kosack, S. (2003). Effective aid: How democracy allows development aid to improve the quality of life. *World Development*, 31(1), 1-22.

Kosack, S., & Tobin, J. (2006). Funding self-sustaining development: The role of aid, FDI and government in economic success. *International Organizations*, 60(1), 205-243.

Lahiri, S. (ed.) (2007). Theory and Practice of Foreign Aid, Amsterdam: Elsevier.

Lerrick, A., & Meltzer, A. (2002). Grants: A better way to deliver aid. *Quarterly International Economics Report*, *1*.

MacIntyre, A. (2001). Institutions and investors: The politics of the economic crisis in Southeast Asia. *International Organizations*, 55(1), 81-122.

Marć, Ł. (2017). The impact of aid on total government expenditures: New evidence on fungibility. *Review of Development Economics*, 21(3), 627–663.

Martins, P. M. G. (2010). *Essays on the macroeconomic management of foreign aid flows in Africa* (Doctoral dissertation, University of Sussex).

Mavrotas, G. (2002a). Foreign aid and fiscal response: Does aid disaggregation matter?, *Weltwirtschaftliches Archiv*, 138(3), 534–59.

Mavrotas, G. (2002b). Aid and growth in India: some evidence from disaggregated aid data, *South Asia Economic Journal*, 3(1), 19–49.

Mavrotas, G. (2005). Aid heterogeneity: Looking at aid effectiveness from a different angle, *Journal of International Development*, 17(8), 1019–36.

Mavrotas, G. (2009). Foreign aid: theory, policies and performance, *Review of Development Economics*, 13(3), special issue.

Mavrotas, G. (2015). The Macroeconomic Impact of Aid in Recipient Countries: Old Wine in New Bottles?, in M. Arvin and B. Lew (eds.), *Handbook on the Economics of Foreign Aid*, Edward Elgar Publishing, Cheltenham UK and Northampton MA, USA.

Mavrotas, G. (ed.) (2010). Foreign Aid for Development: Issues, Challenges and Agenda, Oxford: Oxford University Press.

Mavrotas, G., & Ouattara, B. (2006a). Aid Disaggregation and the Public Sector in Aid-Recipient Economies: Some Evidence from Cote D'Ivoire. *Review of Development Economics*, 10(3), 434-451.

Mavrotas, G. and B. Ouattara (2006b). Public fiscal behavior and aid heterogeneity in aid-recipient economies, *Journal of Developing Areas*, 39(2), 1–15.

Mavrotas, G. and P. Nunnenkamp (2007). Foreign aid heterogeneity: issues and agenda, *Review of World Economics*, 143(4), 585–95.

Mavrotas, G., & Ouattara, B. (2007). Aid modalities and budgetary response: Panel data evidence. *Review of World Economics*, 143(4), 720-741.

Mavrotas, G. & Vinogradov, D. (2007). Financial sector structure and financial crisis burden, *Journal of Financial Stability*, Elsevier, 3(4), 295-323.

McGillivray M. (2000). Aid and Public Sector Behavior in Developing Countries, *Review of Development Economics*, 4(2), 156–63.

McGillivray, M., & Ouattara, B. (2005). Aid, debt burden and government fiscal behavior in Côte d'Ivoire*, Journal of African Economies,* 14(2), 247-269.

Mian, A., Sufi, A., & Trebbi, F. (2014). Resolving debt overhang: Political constraints in the aftermath of financial crises. *American Economic Journal: Macroeconomics*, 6(2), 1-28.

Morrison, K. M. (2007). Natural resources, aid, and democratization: A best-case scenario. *Public Choice*, 131, 365-386.

Mosley, P. (1987), Overseas Aid: Its Defense and Reform, Brighton: Wheatsheaf Press.

Moyo, D. (2008). Dead Aid. Why Aid Is Not Working and How There Is Another Way for Africa, New York: Penguin.

Neumayer, E. (2003). What factors determine the allocation of aid by Arab countries and multilateral agencies?. *Journal of Development Studies*, 39(4), 134-147.

Nieto-Matiz, C., and L. L. Schenoni (2020). Backing Despots? Foreign Aid and the Survival of Autocratic Regimes. *Democracy and Security* 16(1), 36–58.

Niño-Zarazúa, M., Gisselquist, R. M., Horigoshi, A., Samarin, M., & Sen, K. (2020). Effects of Swedish and international democracy aid. Expertgruppen för biståndsanalys (EBA).

Nunnenkamp, P., & Thiele, R. (2006). Targeting aid to the needy and deserving: nothing but promises?. *World Economy*, 29(9), 1177-1201.

OECD (2023). DAC Aid Statistics Database. OECD: Paris

Otim, S. (1996). Foreign aid and government fiscal behavior in low-income South Asian countries. *Applied Economics*, 28(8), 927-933.

Ouattara, B. (2006a). Aid, debt and fiscal policies in Senegal. *Journal of International Development. Journal of Development Studies*, 18(8), 1105–1122.

Ouattara, B. (2006b). Foreign aid and government fiscal behavior in developing countries: Panel data evidence. *Economic Modelling*, 23(3), 506-514.

Ozler, S., & Tabellini, G. (1991). External debt and political instability. *NBER Working Paper No. 3772*.

Pack, H., & Pack, J. R. (1993). Foreign aid and the question of fungibility. *The Review of Economics and Statistics*, 258-265.

Pakistan Economic Survey (2022-2023). Fiscal Variables Data. Ministry of Finance, Islamabad

Prichard, W. (2016). Reassessing tax and development research: a new dataset, new findings, and lessons for research. *World Development*, 80, 48-60.

Radelet, S., Clemens, M., & Bhavnani, R. (2005). Aid and growth. *Finance and Development*, 42(3), 1-10.

Ramalingam, B. (2013). *Aid on the Edge of Chaos: Rethinking International Cooperation in a Complex World*, Oxford: Oxford University Press.

Ray, D. (1998), *Development Economics*, Princeton: Princeton University Press

Riddell, R. (1987). *Foreign Aid Reconsidered*. Baltimore, MD: Johns Hopkins University Press.

Riddell, R. (2007). *Does Foreign Aid Really Work?* Oxford: Oxford University Press.

Roubini, N. (1991). Economic and political determinants of budget deficits in developing countries. *Journal of International Money and Finance*, 10, S49-S72.

Sachs, J.D. (2005). *The End of Poverty: Economic Possibilities for Our Time*, London: Penguin.

Senbet, D., & Senbeta, A. (2007). Fiscal Response to External Finance: The Case of Sub-Saharan Africa. Western Michigan University.

Sims, C. A., Stock, J. H., & Watson, M. W. (1990). Inference in linear time series models with some unit roots. *Econometrica*, 113-144.

State Bank of Pakistan (2023). *Handbook of Statistics on Pakistan Economy 2020.* Pakistan.

Svensson, J. (1998). Investment, property rights and political instability: Theory and evidence. *European Economic Review*, 42(7), 1317-1341.

Syed, K., & Mukhtar, T. (2021). Aid Disaggregation And The Public Sector In Aid-Recipient Economies: Evidence From Pakistan. *Pakistan Economic and Social Review*, 59(1).

Von Hagen, J., Hallett, A. H., & Strauch, R. (2001). Budgetary consolidation in EMU (Vol. 148). Directorate-General for Economic and Financial Affairs, Commission of the European Communities.

Whang, T., Y. Kim, J. T. Han, and H. J. Kim. (2019). US Foreign Aid and Economic Policy Concessions. *Policy Studies* 40(1), 58–79.

World Bank (1998). *Assessing Aid: What Works, What Doesn't, and Why*, Oxford and New York, and Washington, DC: Oxford University Press and World Bank.

World Bank. (2015). *Worldwide Governance Indicators*, Washington, DC.: World Bank. Retrieved from www.govin dicators.org

Wright, J. (2009). How Foreign Aid Can Foster Democratization in Authoritarian Regimes. *American Journal of Political Science* 53(3), 552–571.

Yuichi, K. D., and G. R. Montinola (2009). Does Foreign Aid Support Autocrats, Democrats, or Both? *The Journal of Politics* 71(2), 704–718.

Zaidi, S. A. (2011). Who Benefits from US Aid to Pakistan? Outlook: Washington, D.C.: Policy Press. Carnegie Endowment for International Peace, Washington, DC.

Appendix

A.1. Fiscal Response to Political Regimes Change

First, we determine that political regimes change is exogenous to fiscal decisions using a Markov-switching model based on equations 3 and 5.

Table 1: Results of Markov Switching Model

Variables	Fiscal decisions under political regimes change. (5)		Fiscal decisions without political instability (3)	
	Current Regime	Future Regime	Active Regime	Passive Regime
	Coefficient and Std. Err.	Coefficient and Std. Err.	Coefficient and Std. Err.	Coefficient and Std. Err.
GRY	.3163825 (.2006113)	1.474496 * (.2837777)	.1576833 (.2005135)	1.573283 * (.3309664)
CEX	-.5969298* (.1385385)	.1513019 (.1217155)	-.4737008* (.1439868)	-.0029861 (.1432)
KEX	-.5415872* (.1090762)	-.5946246* (.2490595)	-.5194359* (.1190756)	-.7662525* .2946267)
DSP	.6031585* (.1237189)	-.503209 (.3812115)	.6495858* (.1370123)	-.6719133 .4279979)
FGT	1.276159* (.5595152)	-9.002269* (1.791393)	1.170731 (.6261518)	-6.371086 * (2.386133)
FLN	-.2315611 (.185703)	.6141434* (.2001471)	-.3239651 (.1970339)	.5516877 * (.2287222)
PRCI	-.5258984 (.3966493)	1.641152* (.4502547)	--------	--------
Cons	1.01542 (1.603109)	-19.09435* (3.698031)	1.348337 (1.743766)	-16.53435 * (3.997102)
Diagnostic Test				
Sigma	.7831868 (.0818434)	--------	.877525 (.0920819)	--------
Log likelihood	-64.945088	--------	-70.157097	--------
Transition Probability				
p11	.9528609 (.0365397)	--------	.9519728 (.0375445)	--------
p21	--------	.0350593 (.0391464)	--------	.0385906 (.0439377)
Expected Duration				
Regime 1.	21.2138 (16.44381)	--------	20.82154 (16.27689)	--------
Regime 2.	--------	28.52314 (31.84832)	--------	25.91307 (29.50361)
Note: The bracket shows the standard error, and * indicates the significance level at 5%				

The result shows the transition of the government from the current government (one party) to the future government (another party). However, its electoral response to government policy remains independent in its fiscal decisions. The results are consistent with budgetary decisions under political instability and, in its absence, show that Government behavior is shaped more by political instability itself than by variations in preferences (Bohn, 2019).

Fiscal Responses to Political Regime's Change

Whether the fiscal decisions respond similarly or differently to political regimes change for foreign loans and grants. The left graph shows the fiscal responses to political regimes change for aid; the middle graph depicts foreign loans; and the right graph shows foreign grants.

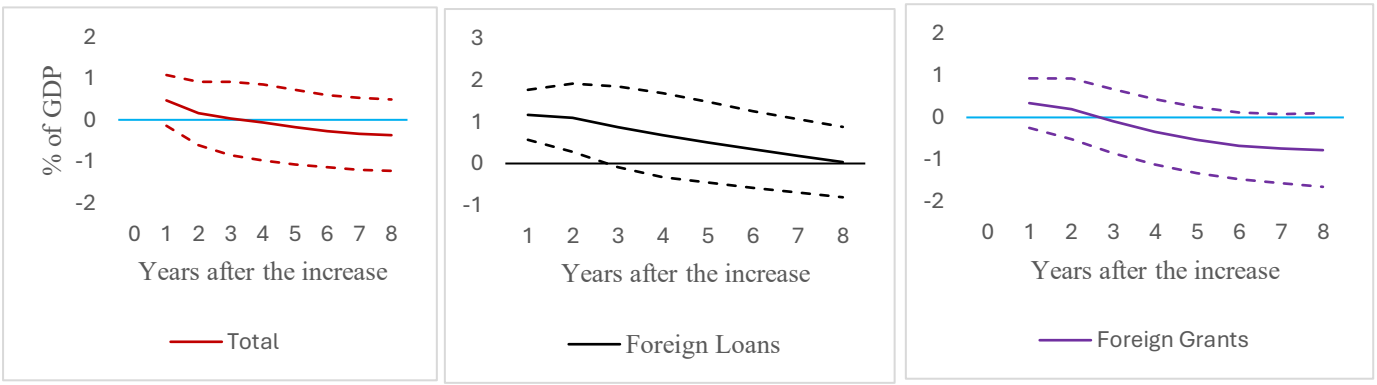


Figure A.1.1. Response of Government Revenue to Political Regime's Change

Political regime's change increases government revenue for both foreign loans and grants. In the case of foreign loans, a one-unit change in the political regime's change index is associated with a 1.16% increase in government revenue. It is difficult to distinguish the estimated standard error around the IRF from zero in the 3rd year following the initial shock. Similarly, when the political regime's change index increases by 1 unit, government revenue rises by 0.341% for foreign grants, with the shock decaying to zero by the 3rd year. This finding aligns with Crivelli and Gupta (2017), who state that IMF conditionalities associated with increased government revenue help overcome domestic political obstacles to implementing tax reforms in developing countries where tax revenue collection is meager. Thus, these conditionalities are maintained, even if there is a change in government.

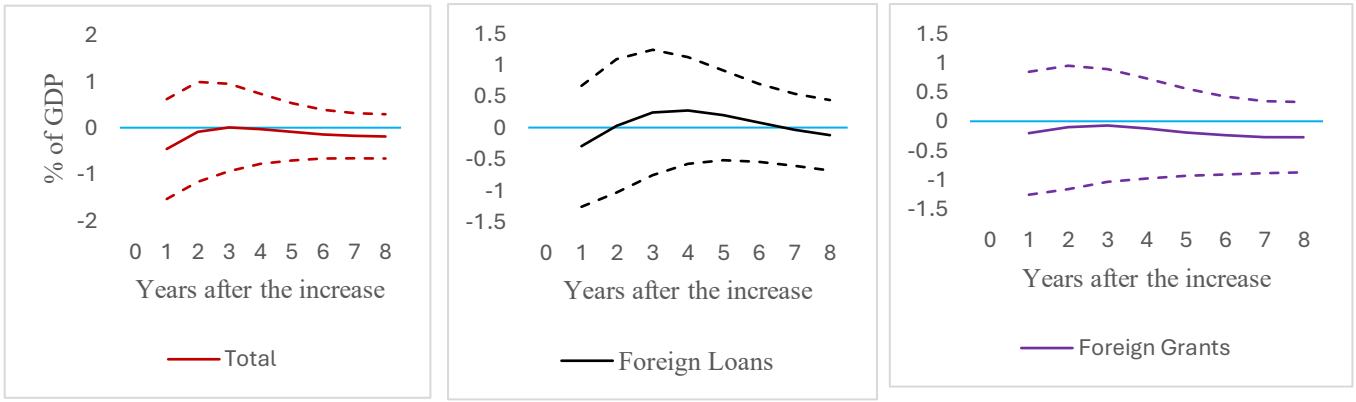


Figure A.1.1.2. Response of Domestic Borrowing to Political Regime's Change

A change in political regimes decreases government borrowing for both foreign loans and grants; a one-unit change in the political regime's change index results in a 0.30% decrease in the government's current expenditure, which disappears in the 2nd year for foreign loans. A unit change in the political regime's change index also reduces domestic debt issuance to 0.20% and persists for 8th years for foreign grants. The findings are supported by MacIntyre (2001), Cox and McCubbins (2005), and Mian et al. (2014). Political polarization and veto players cause disagreements over policy and public debt levels. The Fiscal Responsibility and Public Debt Limitation Act 2005 states Pakistan's public debt should not exceed 60% of GDP.

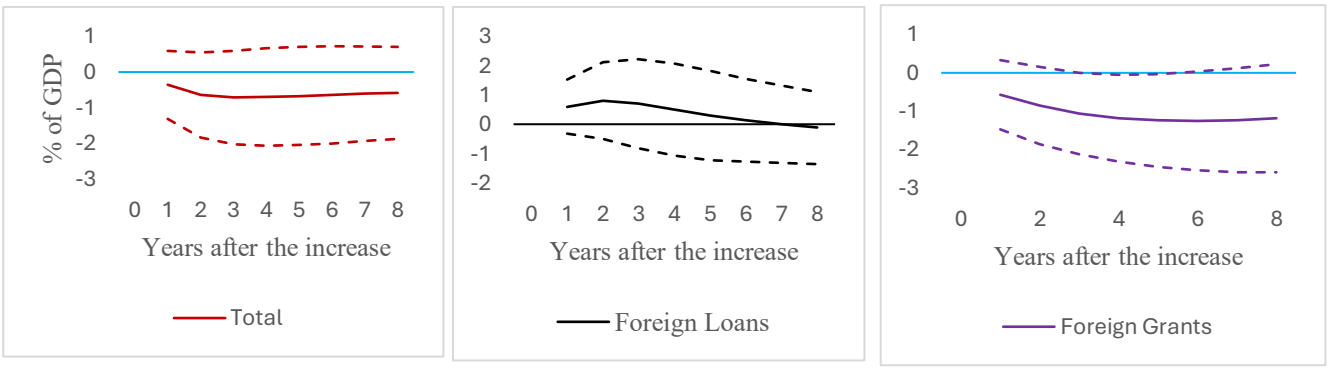


Figure A.1.1.3. Response of the Current Expenditures to Political Regime's Change

Political regime's change index reduces the current expenditures for foreign loans, and vice versa for foreign grants. For loans, a unit change in the political regime's change index increases the government's current expenditure by 0.603% and converges to zero in the 7th year. The finding is in line with Ozler and Tabellini (1991) and Alesina and Tabellini (1990), who suggest that external debt accumulates due to domestic political polarization and incentives that lead to increased current government expenditures. For grants, a one-point change in the political regime's change index also reduces current expenditure to 0.571%, and the shock's effect decreases and lasts until the 8th year. According to Brautigan (2000), donors impose conditions on the government's recurrent expenditures and provide uncontrolled investment aid.

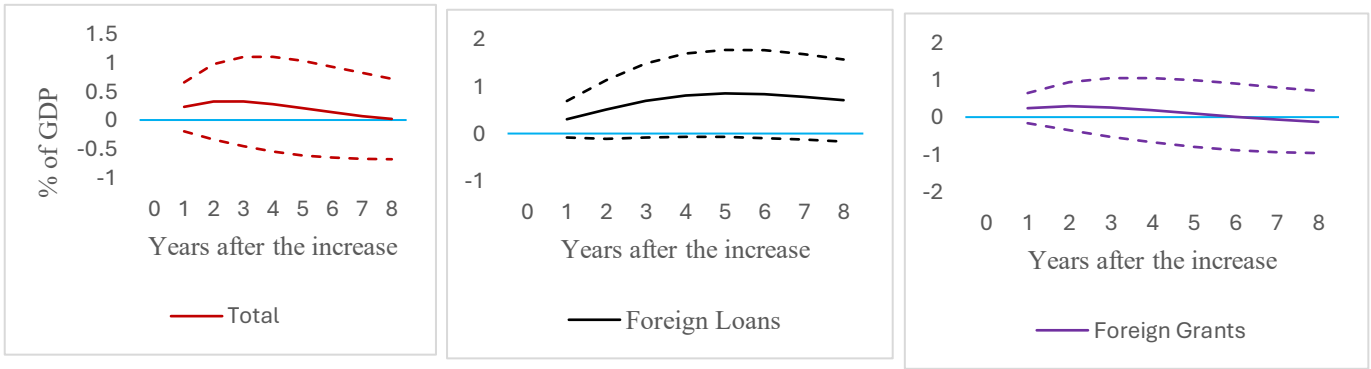


Figure A.1.1.4. Response of Debt Servicing Payments to Political Regime's Change

The change in political regime's index increases the debt service payments in the case of foreign loans and grants. If the political regimes changes index increases by 1 unit, and debt service payments on foreign loans increase by 0.30%. A 1-unit change in the political regime's change index increases debt servicing payments by 0.24%, and this shock converges to zero in the 6th year before it becomes negative for foreign grants. According to Ozler and Tabellini (1991) and Grechyna (2012), external debt accumulates due to domestic political polarization and incentives, leading to increased government expenditures. Hence, accumulated external debt increases debt service payments. In addition, Guscina (2008) states that the expected cost of debt servicing increased due to political instability, which reduced the average debt maturity.

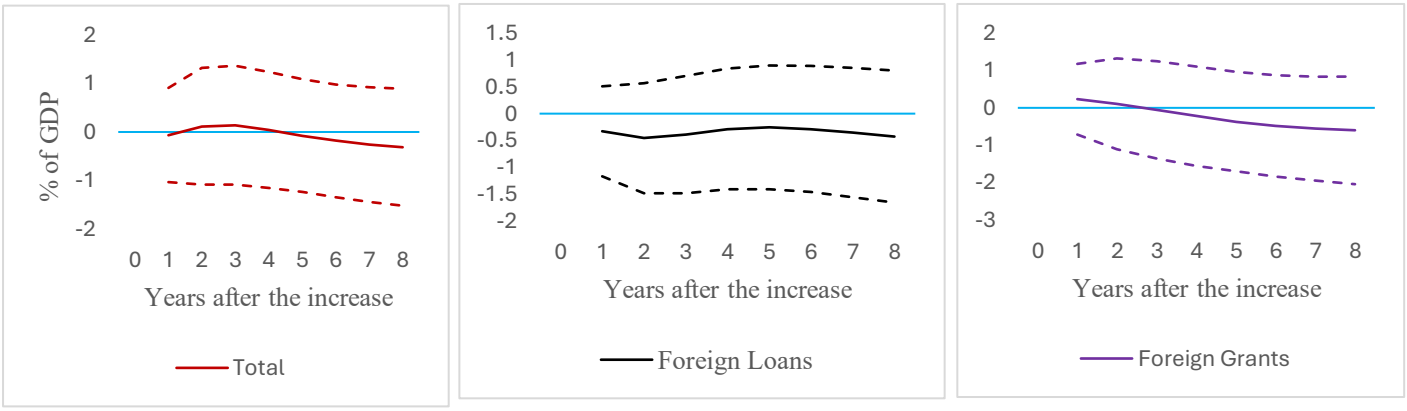


Figure A.1.15. Response of Public Investment to Political Regime's Change

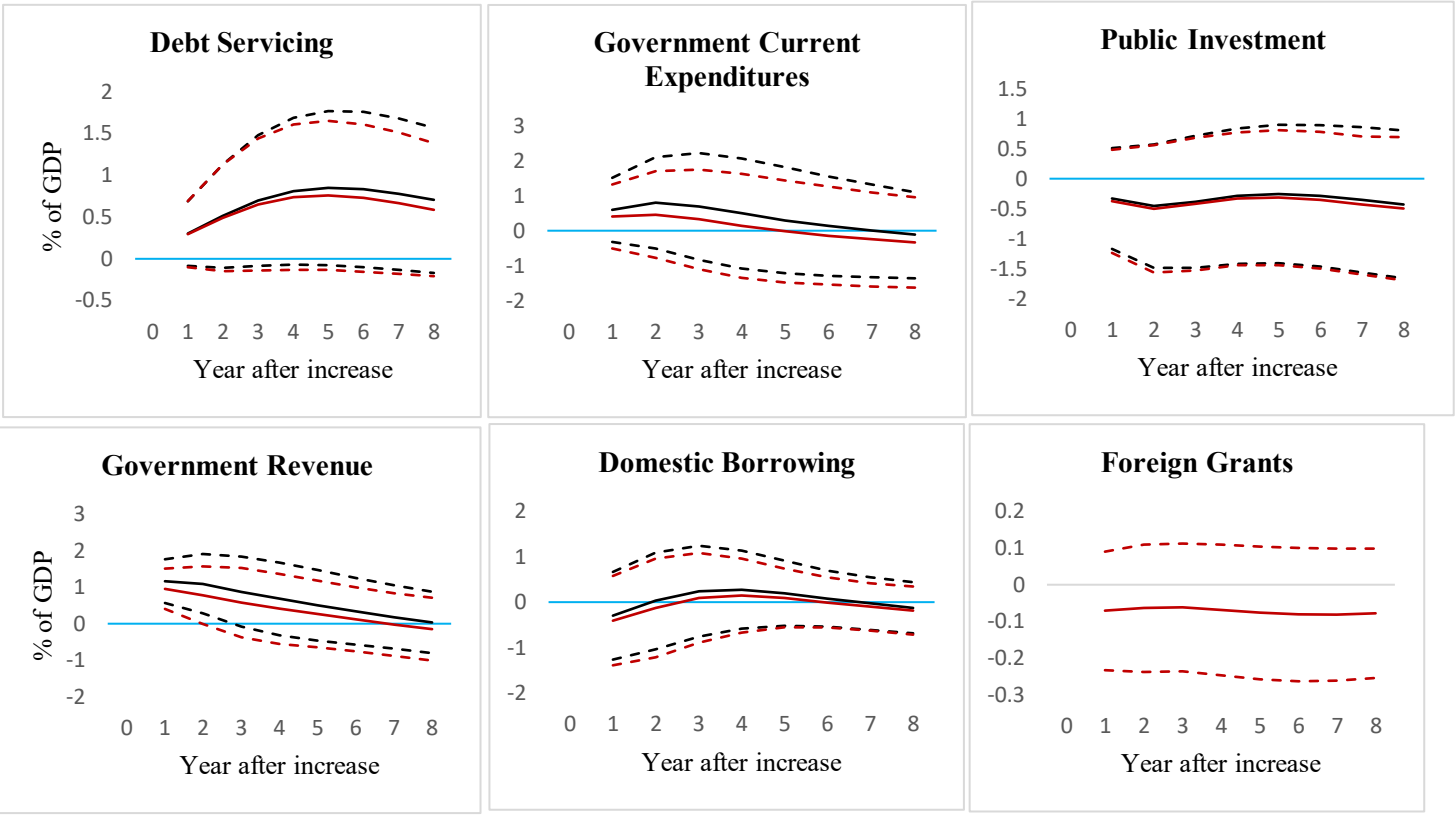
Political regime's change index reduces the government's investment in case of foreign loans, and vice versa in the foreign grants case. A one-unit change in the political regime's change index reduces the government's investment to 0.33% of GDP and persists until the 8th year. For the foreign loans. According to Hallerberg and von Hagen (1997), von Hagen et al. (2001), and Hallerberg et al. (1997, 2007), when the government does not hold a majority and operates as a coalition, disagreements among legislators and noncooperation with the finance ministry lead to increased recurrent expenditure and low investment. Regarding foreign grants, a one-point change in the political regime's change index also increases capital spending to 0.23% of GDP and brings it back to zero in the 3rd year. Furthermore, foreign grants are conditioned on investment in the agreed projects and are not associated with political regimes change as they depend on the donor's preferences and intentions (Asongu & Nwachukwu, 2015).

A.2. The Robustness Related to Adding a Controlling Variable

The baseline foreign loans equation is re-estimated by adding foreign grants to examine the response of grants to a shock in loans, and vice versa. The brown and black lines represent the responses of the fiscal variables with and without a controlling variable.

A.2.1. Responses of the Budgetary Variables to Political Regimes Change

The responses of the budgetary variables to political regimes change are highly robust for the foreign loans equation using foreign grants as a controlling variable.



A.2.1. Response of Fiscal Variables to Political Regime's Change for the Loans

Grants as the controlling ——— **without a controlling Variable**

The increase in the political regimes change index led to a 0.07% decrease in foreign grants, which persisted until the 8th year. It fluctuates by only 0.07%, despite political regimes changing like democratic, autocratic and hybrid forms of government. According to Bermeo (2011), this supports the finding that the source of financing matters due to the donors' intents and preferences. Furthermore, Kalyvitis and Vlachaki (2012), US aid does not significantly impact the political regimes change of the aid-recipient countries. The major donor of Pakistan was the USA; its aid was associated with political motives (Anwar & Michaelowa, 2006). These aid inflows were observed in three autocratic regimes when Pakistan was a member of USA defense pacts like CENTO and SEATO, the Afghan war, and the War on Terror (Abbas et al., 2024).

The responses of the budgetary variables to political regimes change are highly robust for the foreign grants equation using foreign loans as a controlling variable.

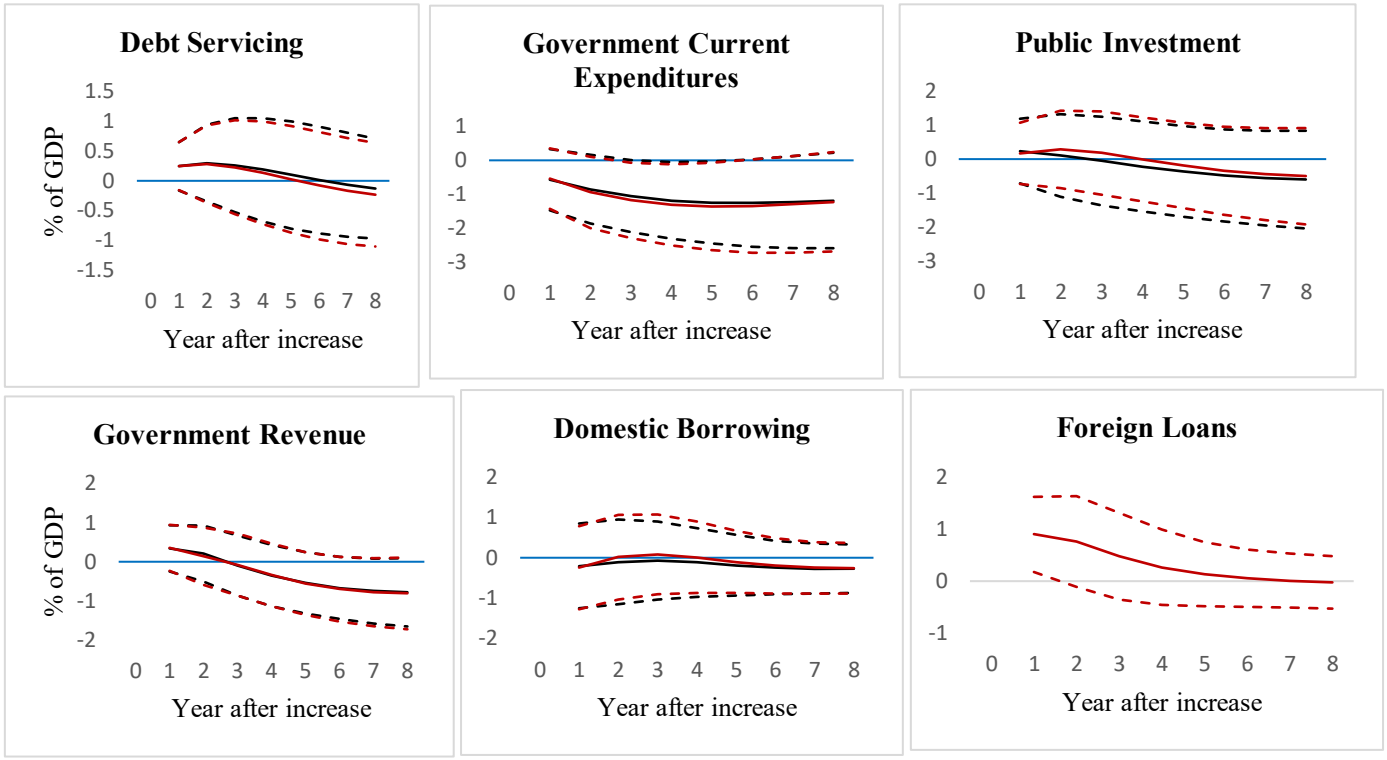
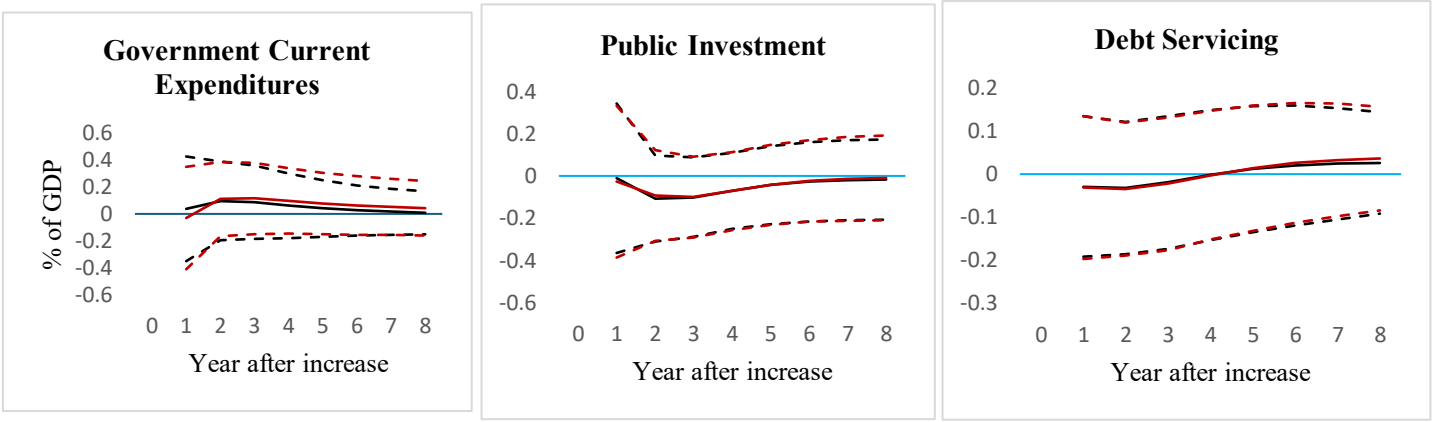


Figure A.2.2. Response of Fiscal Variables to Political Regime's Change for the Grants

Grants as the controlling **without a controlling Variable**

A 1-point increase in the political regimes change index is associated with a 0.90% increase in foreign loans. However, its positive effect gradually decreases and converges to zero in the 7th year. This finding is in line with Ozler and Tabellini (1991) and Alesina and Tabellini (1990). Political instability increases political polarization, leading to higher government consumption preferences now than in the future—both political instability and polarization (rent seeking) cause government myopia; thus, recurrent government expenditures increase that are financed through foreign loans.

A.2.2. Response of the Budgetary Variables to Foreign Loans



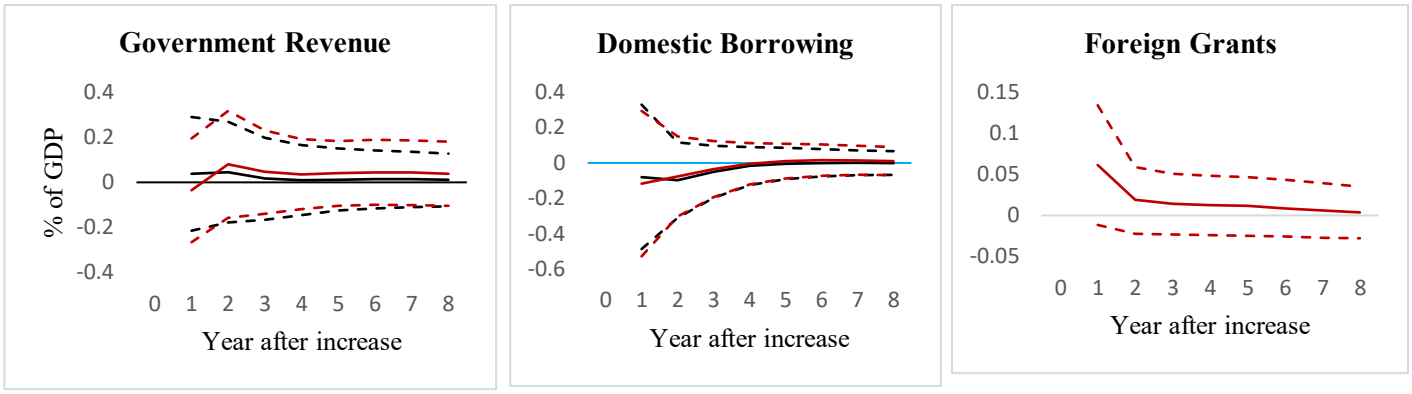


Figure A.2.3. Responses of the Fiscal Variables to Temporary Loans

The shock in the temporary loans affects the foreign grants inflow, which is insignificant.

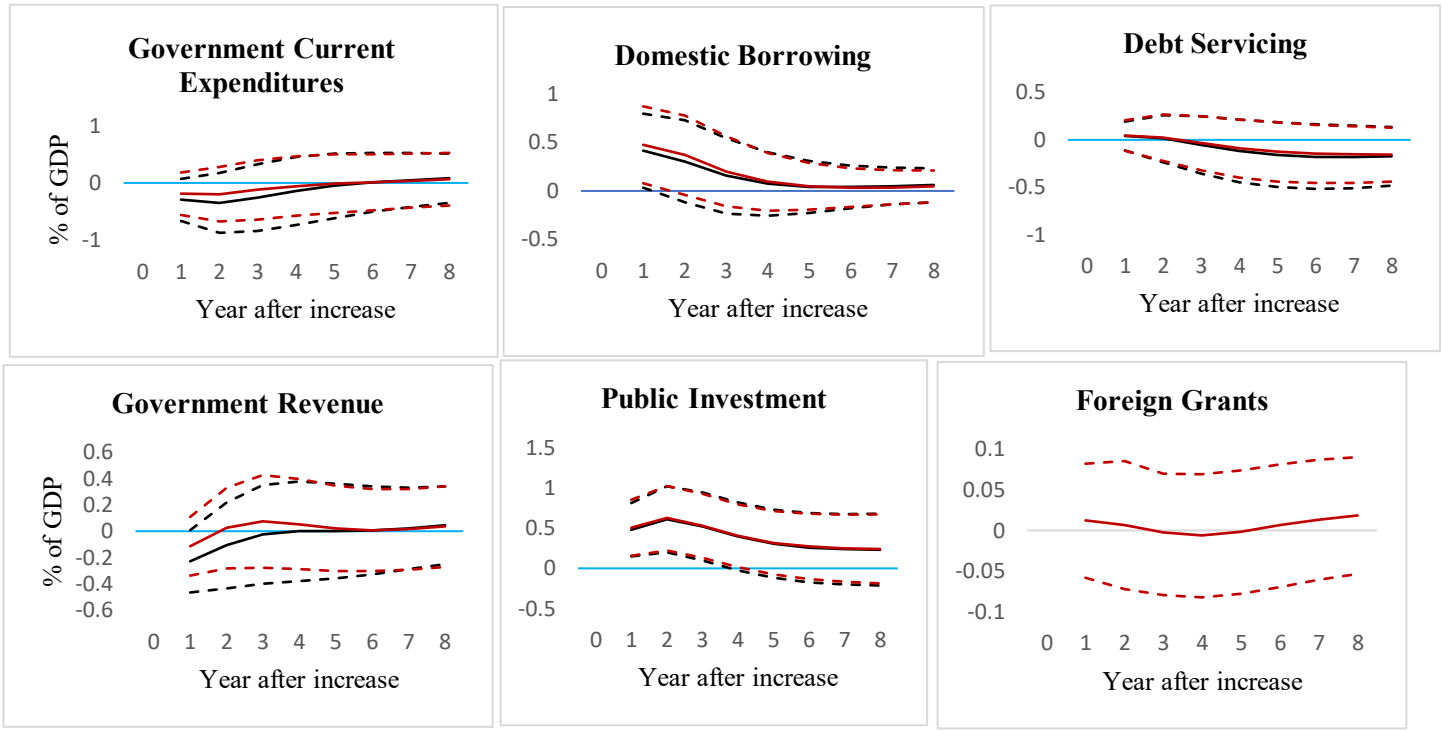


Figure A.2.4. Response of the fiscal variables to Permanent Loans

Grants as the controlling **without a controlling Variable**

The shock in the permanent loans affects the foreign grants inflow, which is insignificant.

A.2.3. Response of the Budgetary Variables to Foreign Grants

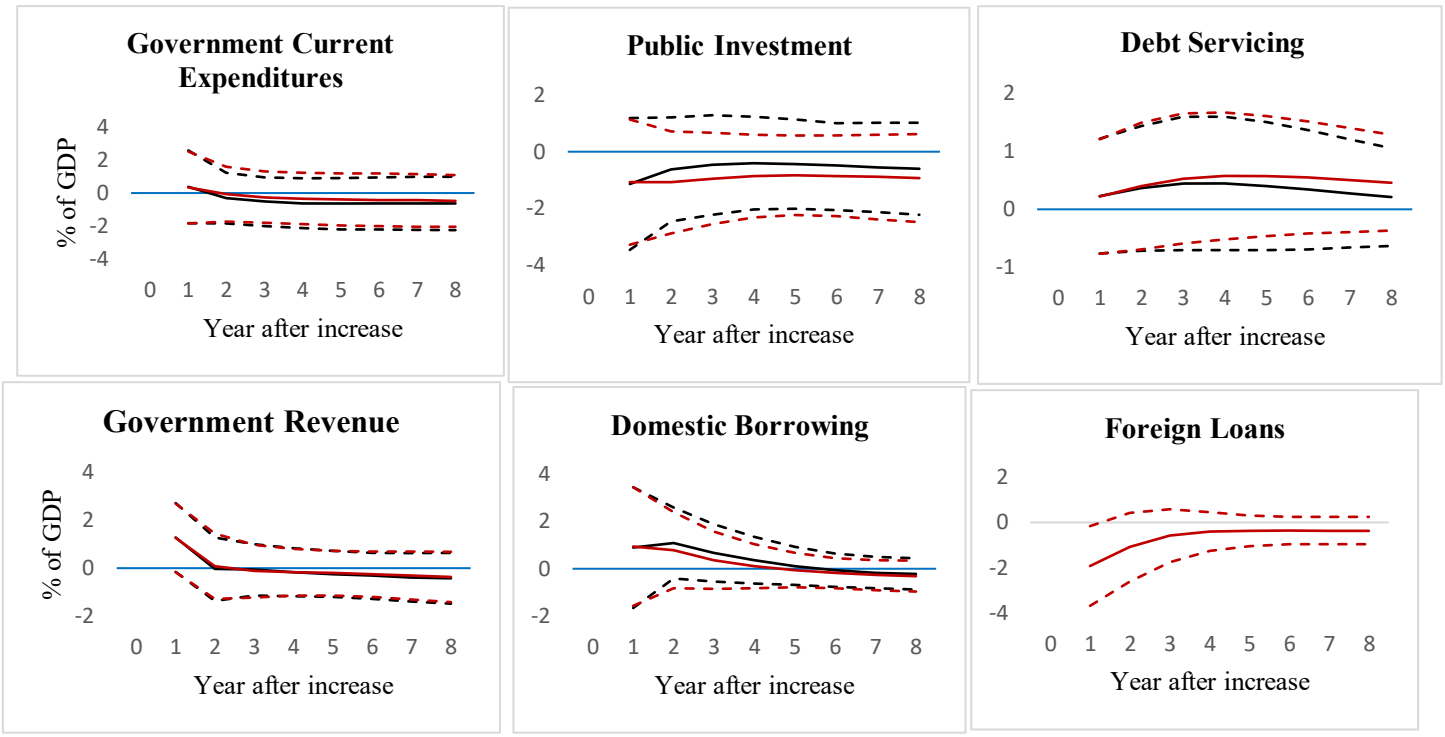


Figure A.2.5. Response of Fiscal Variables to Temporary Grants

Foreign loans decreased to 1.9% due to a 1% shock in temporary grants. The increase in the magnitude of domestic borrowing and government revenue is 0.9%, and the decrease in the magnitude of foreign loans is approximately 1.2% of GDP. Simply, it indicates that Pakistan is substituting external borrowing with domestic financing due to a loss of access to the market.

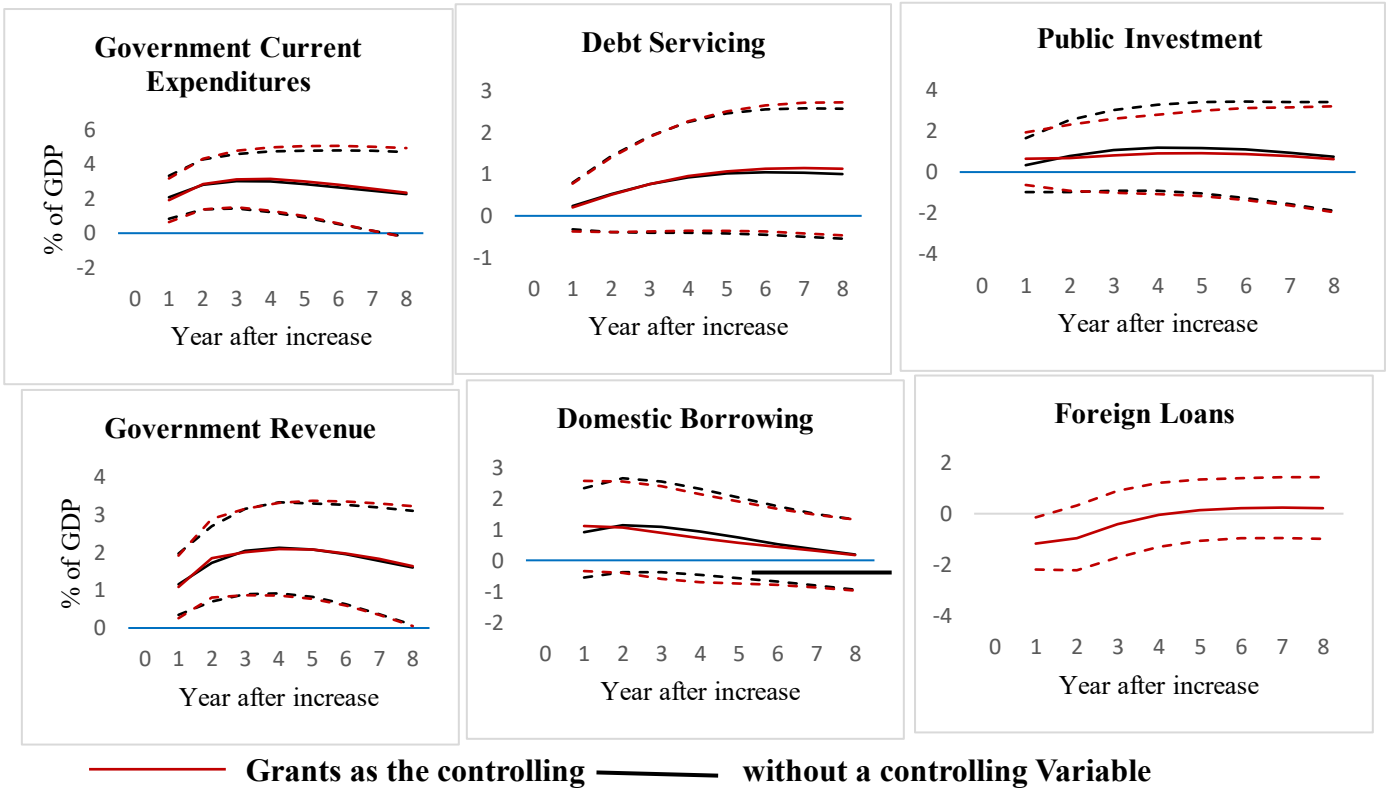


Figure A.2.6. Response of Fiscal Variables to Permanent Grants

Foreign loans decreased to 1.1% of the GDP due to a 1% shock in permanent foreign grants, which increased the size of the GDP. The increase in domestic borrowing is the same as the decrease in foreign loans, indicating that Pakistan is substituting external borrowing with domestic borrowing due to a loss of access to the market.

A.3. Robustness Related to Using Alternative Data Sources

Figure A.3.1 shows that the budgetary variables' responses are highly robust to using foreign loan data from both sources. Debt servicing does not respond to foreign loans in Pakistan's official data sources, but does so negatively in OECD DAC data.

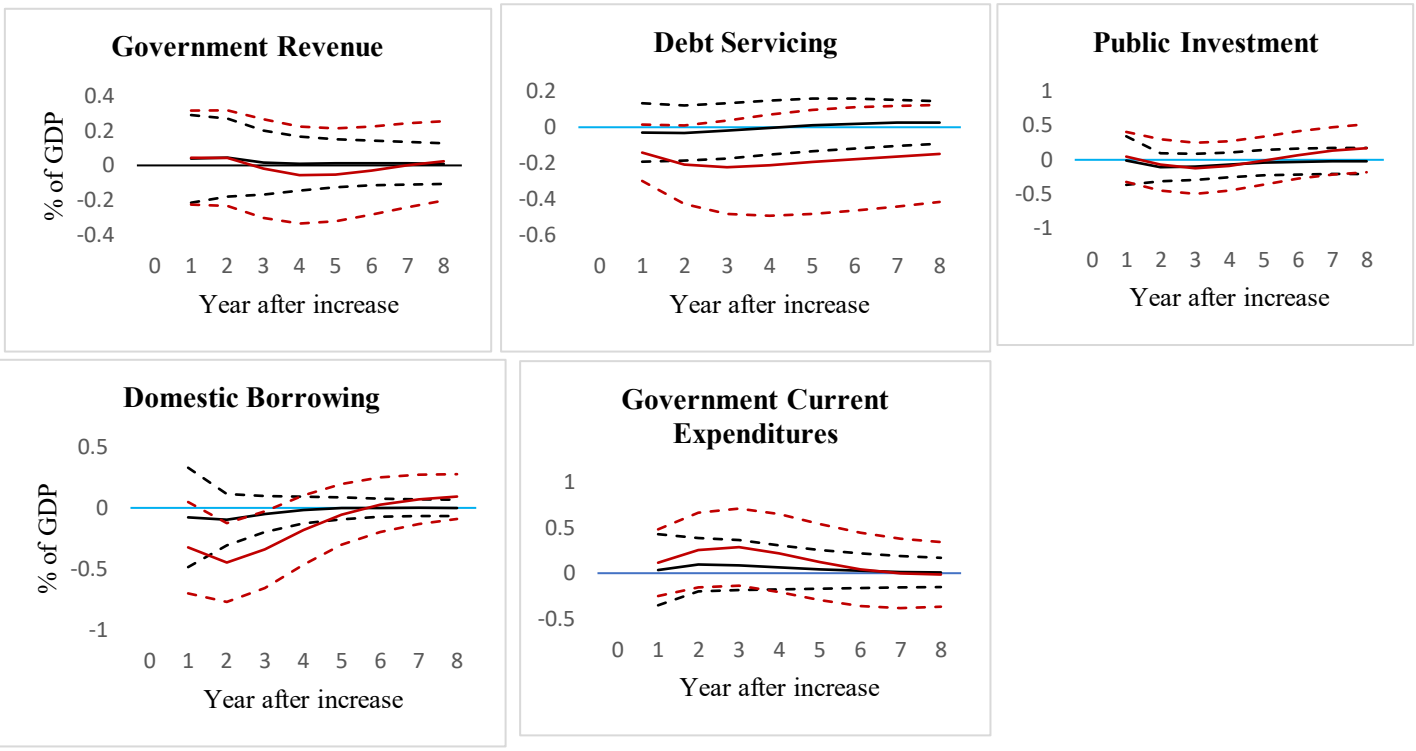


Figure A.3.1. Response of Budgetary Variables to Temporary Loans

Pakistan's Official Data **OECD DAC Data**

Figure A.3.2. shows that both data sources' results are highly robust in direction and magnitude. Debt servicing is less robust because, after 3 years, the shock from permanent loans based on OECD DAC converged to zero. In contrast, the shock from permanent loans based on Pakistan's Official data negatively impacts debt servicing payments.

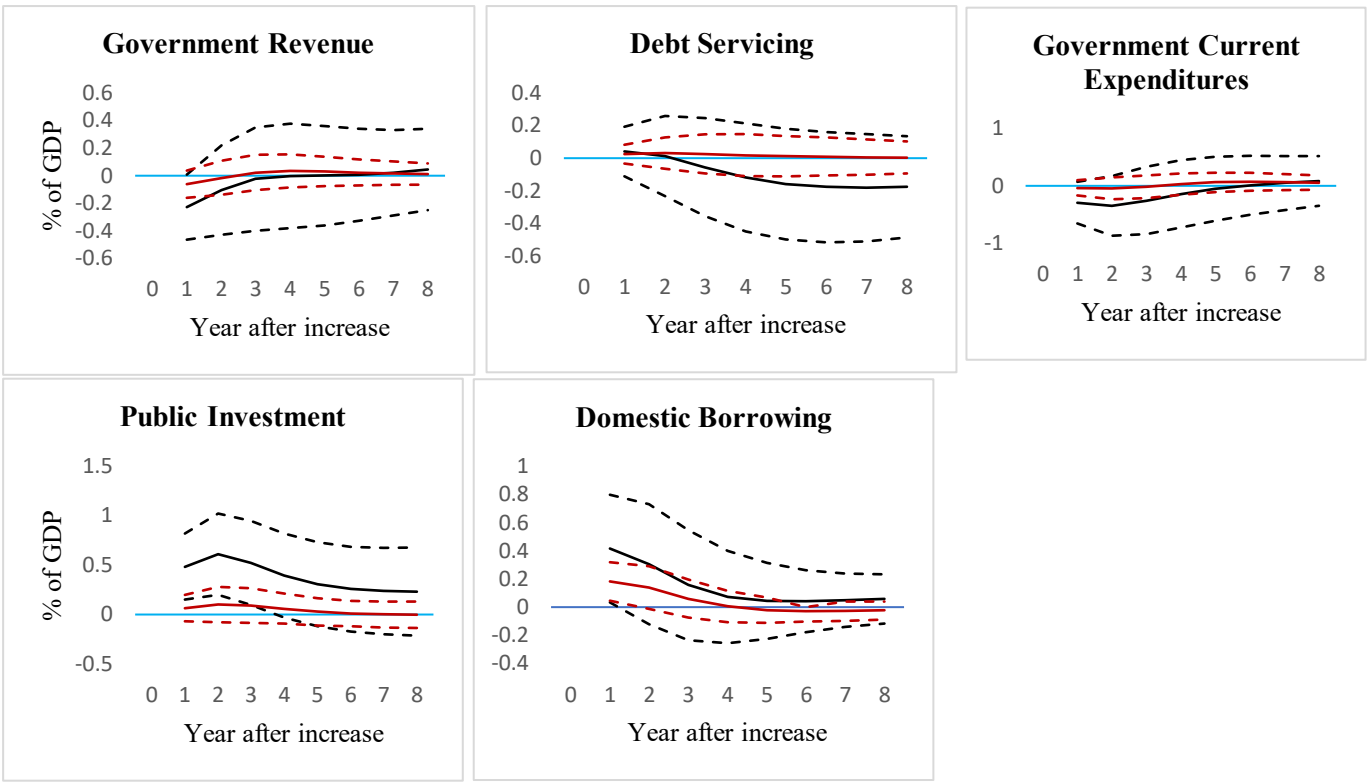
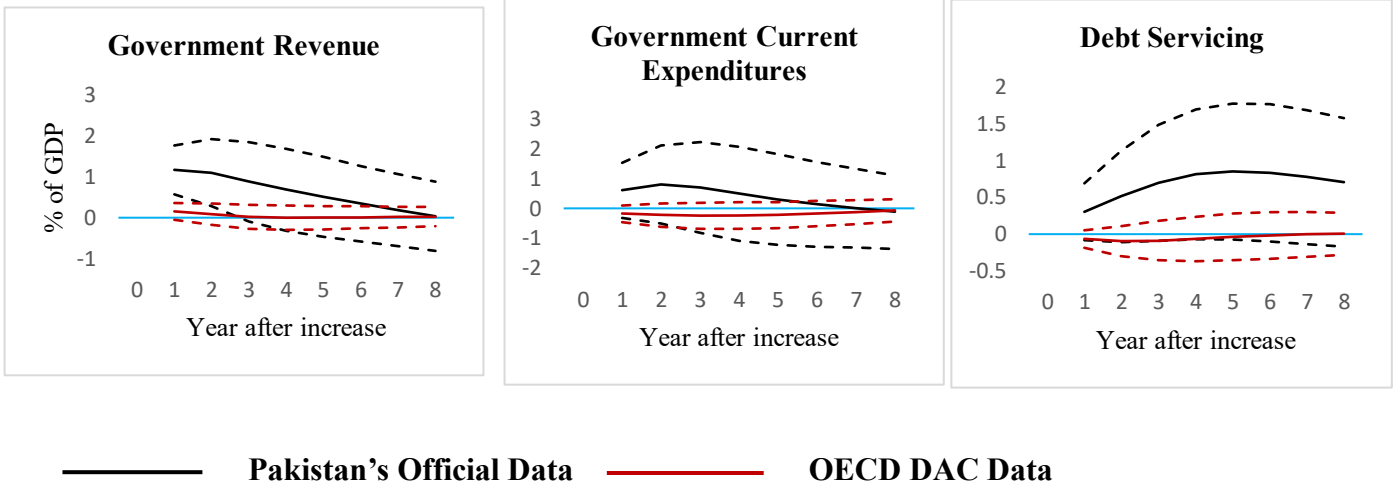


Figure A.3.2. Response of Budgetary Variables to Permanent Loans

Figure A.3.3. depicts the responses of the budgetary variables, which are highly robust to political regimes change across both sources, except for government investment. Public investment does not respond to political regimes change based on OECD DAC data. However, it responds negatively to political regimes change based on Pakistan's Official data. The government's current expenditures and debt servicing payments are partially robust. The government's current spending and debt servicing response is negative to political regimes change based on OECD DAC data but responds positively to political regimes change on Pakistan's official data.



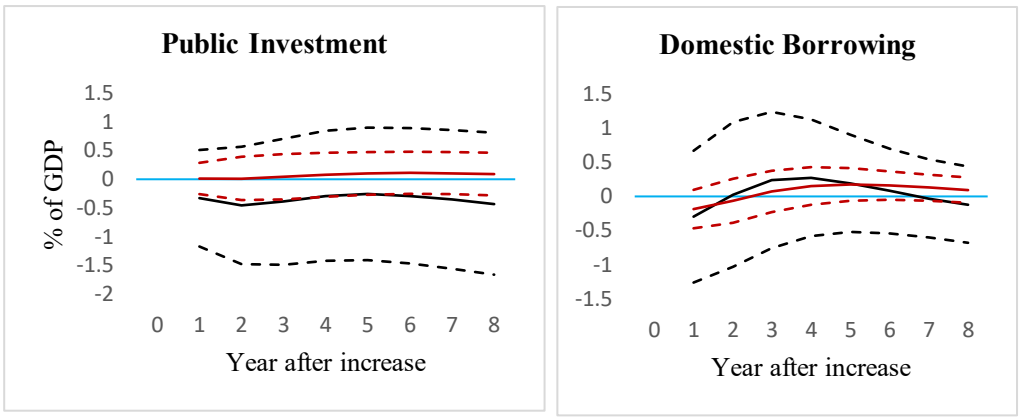


Figure A.3.3. Response of Budgetary Variables to Political Regime's Change for Loans

Figure A.3.4. depicts the response of the fiscal variables; all budgetary variables are partially robust except domestic debt issuance. Government revenue, current expenditure, public investment, and debt servicing respond negatively to temporary grants in OECD DAC data, whereas they respond positively in Pakistan's official data.

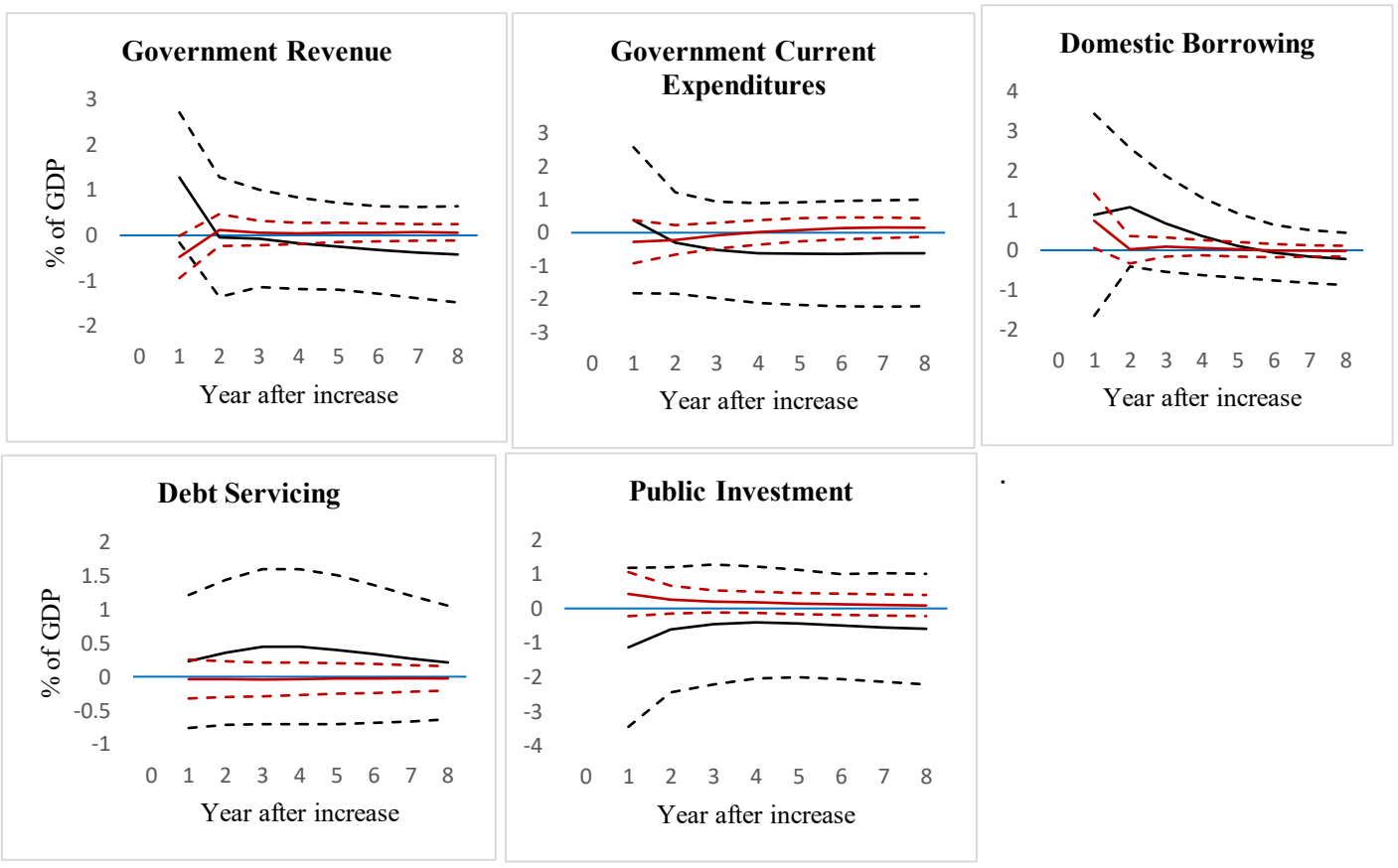


Figure A.3.4. Response of Budgetary Variables to Temporary Grants

Pakistan's Official Data **OECD DAC Data**

Figure A.3.5. depicts the response of the fiscal variables; all budgetary variables are partially robust except domestic debt issuance. Government revenue, current expenditure, public investment, and debt servicing respond negatively to Permanent grants, according to OECD DAC data, and vice versa, according to Pakistan's official data.

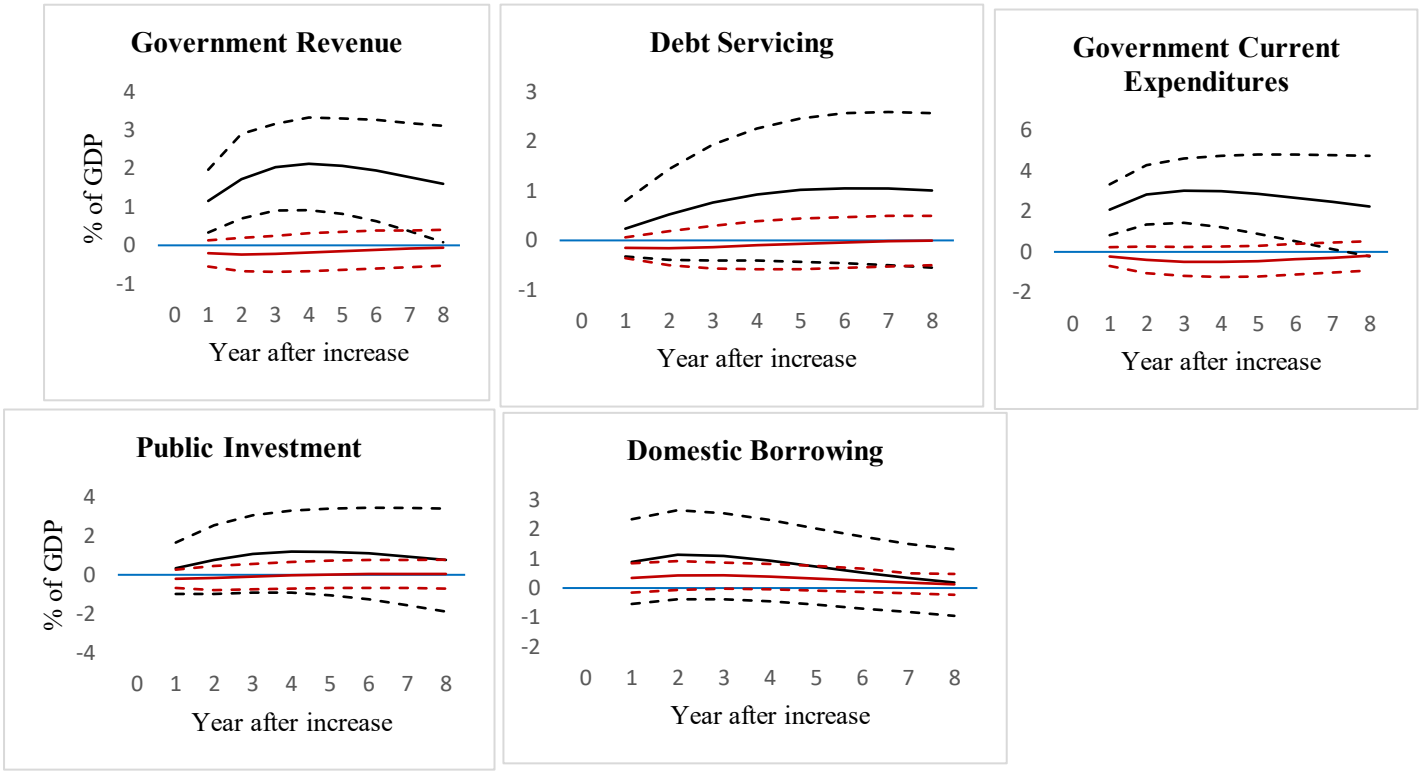


Figure A.3.5. Response of budgetary variables to Permanent grants

Pakistan's Official Data **OECD DAC Data**

Figure A.3.6. depicts the response of the budgetary variables, which is highly robust to the use of political regimes change in the foreign grant equation across both sources, except for government current expenditures. Based on OECD DAC data, it does not respond to political regimes change. However, it responds negatively to political regimes changes based on Pakistan's Official data. Government revenue and public investment are partially robust because, after the 3rd year, the government revenue and public investment respond positively to political regimes change based on OECD DAC data and vice versa for Pakistan's official data.

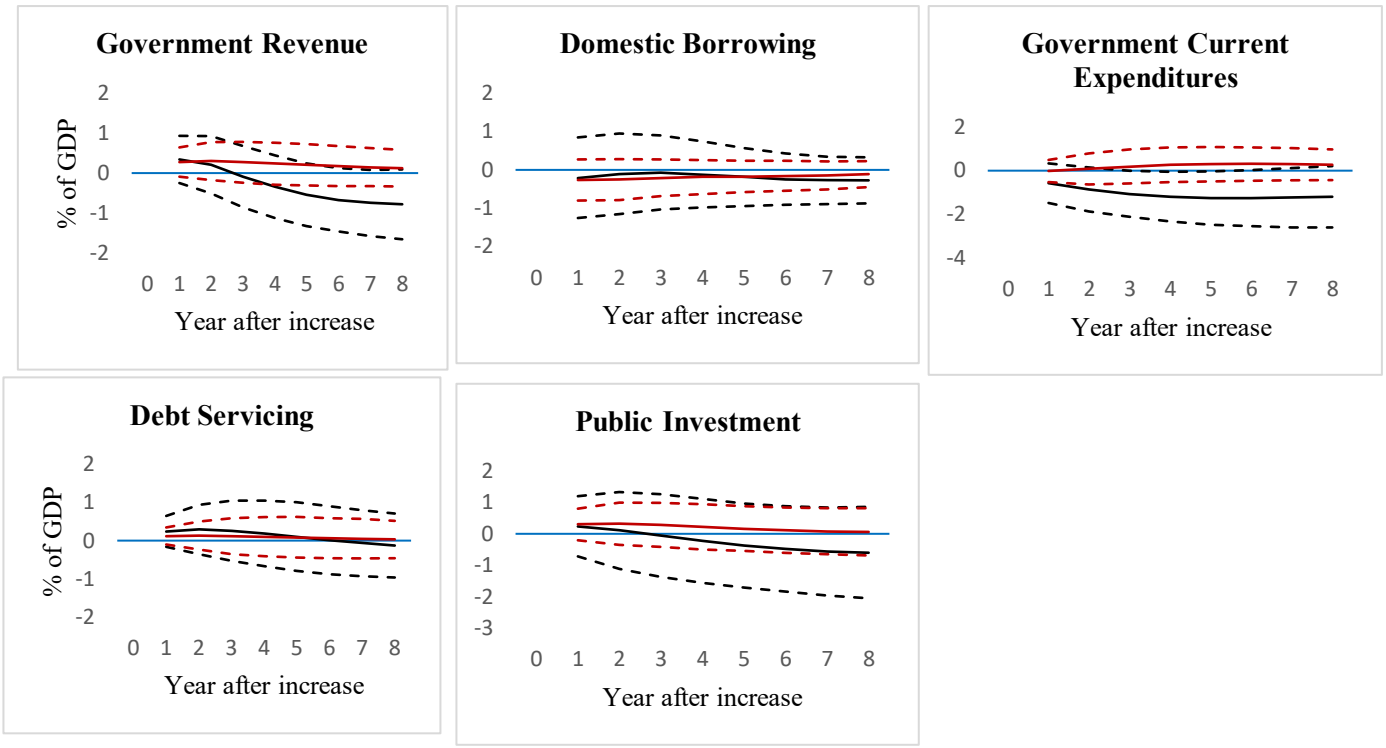


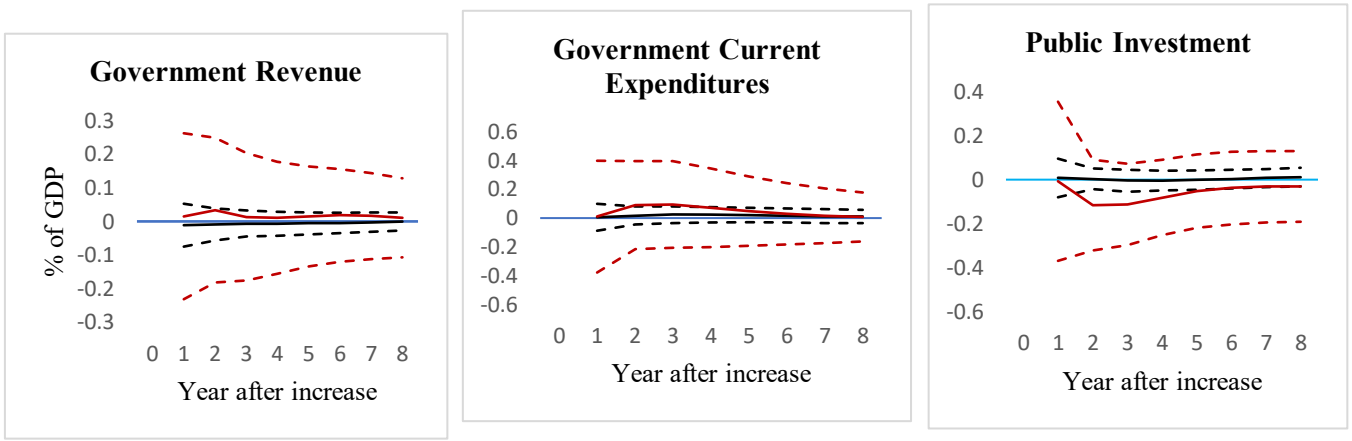
Figure A.3.6. Response of Budgetary Variables to Political Regime's Change for Grants

Pakistan's Official Data **OECD DAC Data**

A.4. Robustness of Political Regimes Change Index

In the baseline, the BMR Index is used, and the polity index is used for robustness.

Figure A.4.1. fiscal variables' responses to polity and BMR Index-based foreign loans are highly robust in direction, dynamics, and magnitude.



polity Index **Boix Miller Rosato Democracy Index**

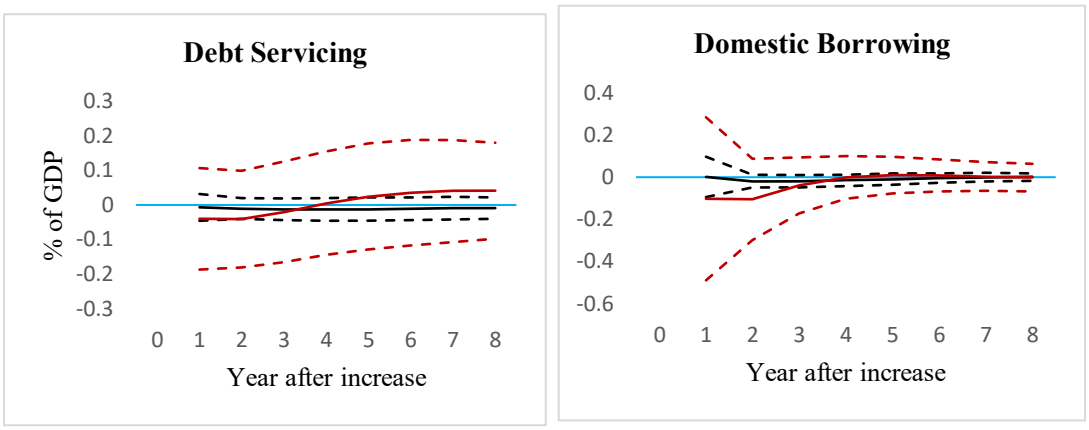


Figure A.4.1. Response of Fiscal Variables to Temporary Loans

Figure A.4.2. depicts that fiscal variables do not respond to polity-based Permanent loans. Therefore, the responses to polity and BMR Index-based foreign loans are not robust.

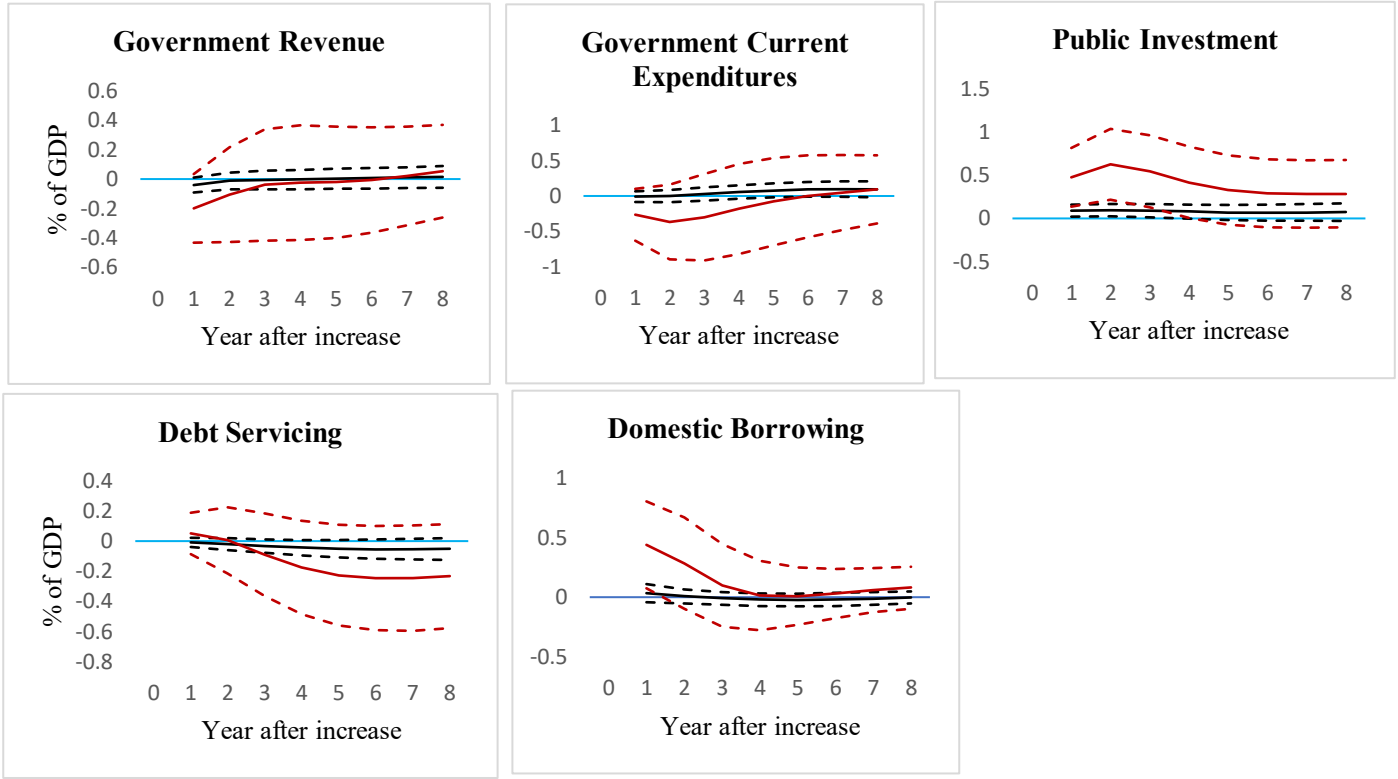


Figure A.4.2. Response of Fiscal Variables to Permanent Loans

polity Index **Boix Miller Rosato Democracy Index**

Figure A.4.3. shows that the responses of fiscal variables are robust to the polity and BMR indexes, as well as to government revenue. The government revenue response to the Polity series is less robust than the baseline BMR Index responses. Domestic borrowing is partially robust because it responds positively to temporary grants based on the polity index and vice versa, as in the case of the BMR Index. Current Expenditures are partially robust because they respond positively to temporary grants based on the BMR Index and vice versa, as in the case of the index's polity.

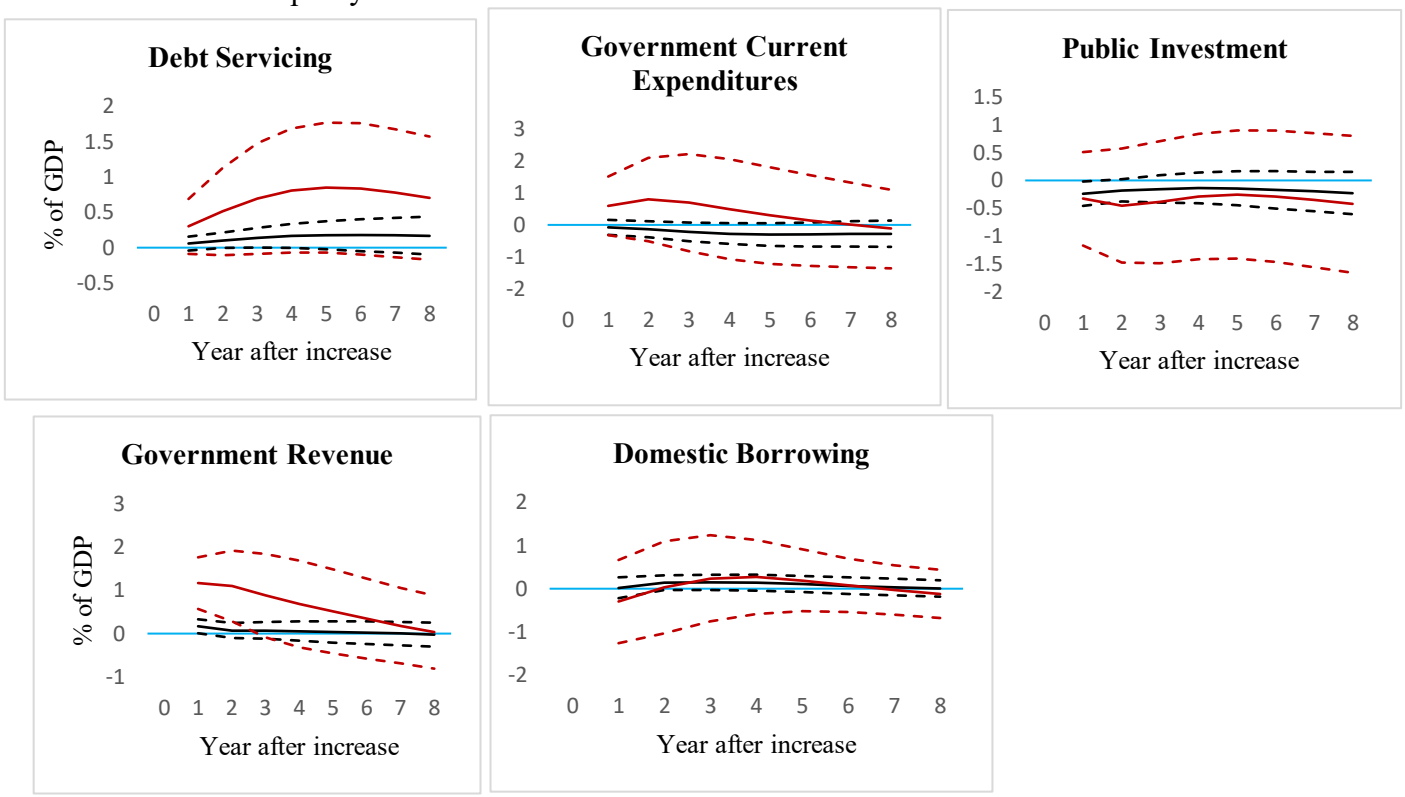


Figure A.4.3. Response of Fiscal Variables to Political Regimes Change for Loans

polity Index **Boix Miller Rosato Democracy Index**

The Figure A.4.4. shows that the responses of fiscal variables are robust to the polity and BMR Index-based foreign grants. However, BMR Index-based foreign loans have a higher magnitude than the polity index. Public investment and government current expenditures are partially robust because they respond positively to temporary foreign grants based on the polity index and vice versa, as in the case of the BMR Index .

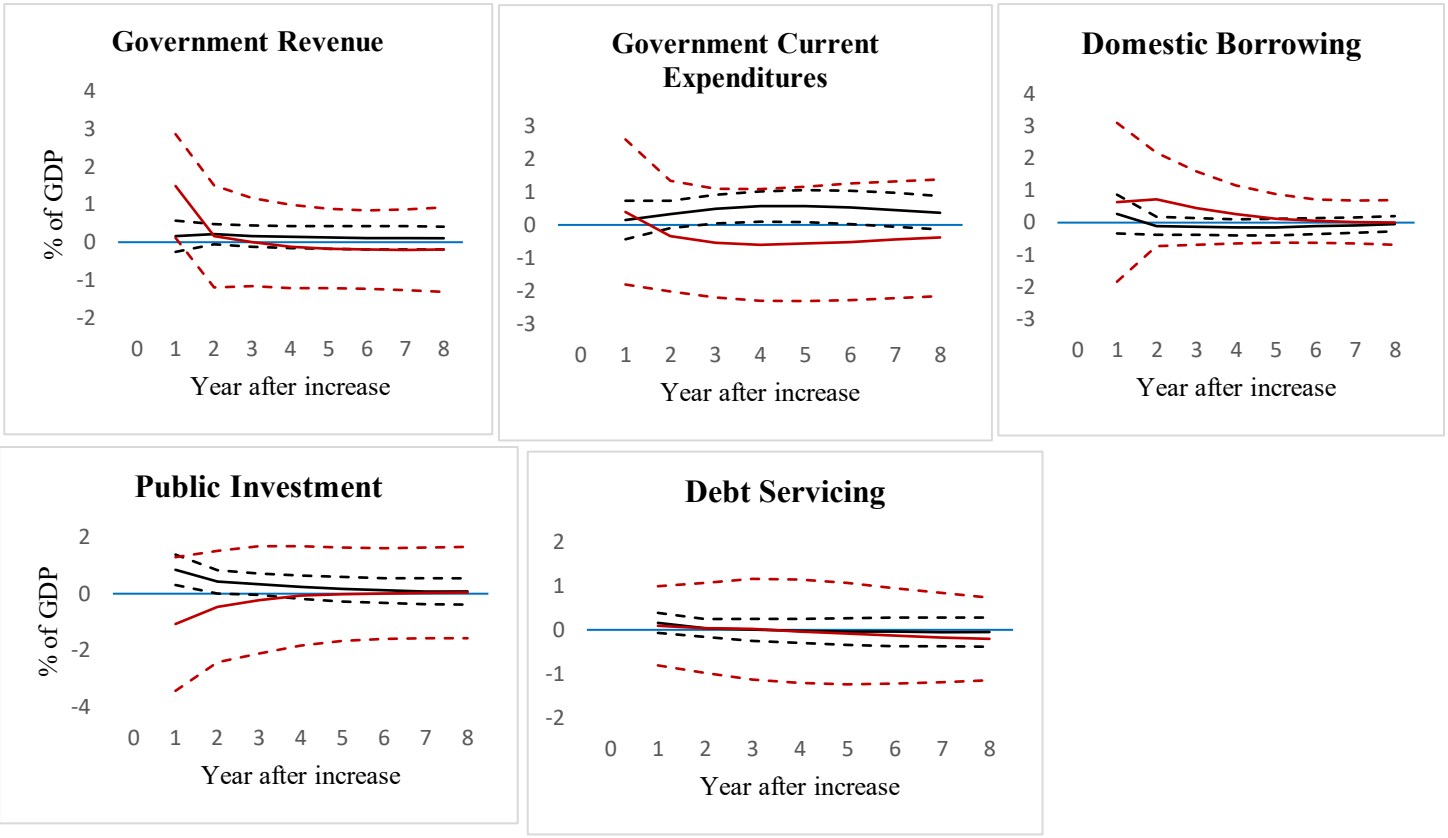
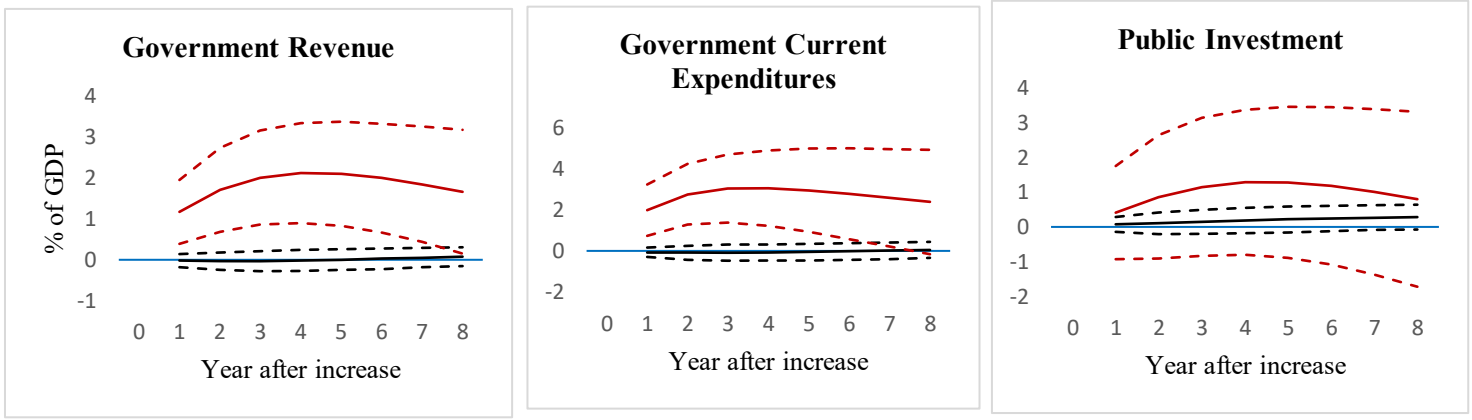


Figure A.4.4. Response of Fiscal Variables to Temporary Grants

Polity Index **Boix Miller Rosato Democracy Index**

The Figure A.4.5. shows that the responses of fiscal variables are robust to the polity and BMR Index foreign grants, as well as to government revenue and current expenditure. Similarly, domestic borrowing and debt servicing payments are partially robust because debt servicing payments respond negatively to permanent foreign grants based on the polity index and vice versa, as in the case of the BMR Index. Domestic borrowing does not respond for up to 4 years and has a positive response until the 8th year.



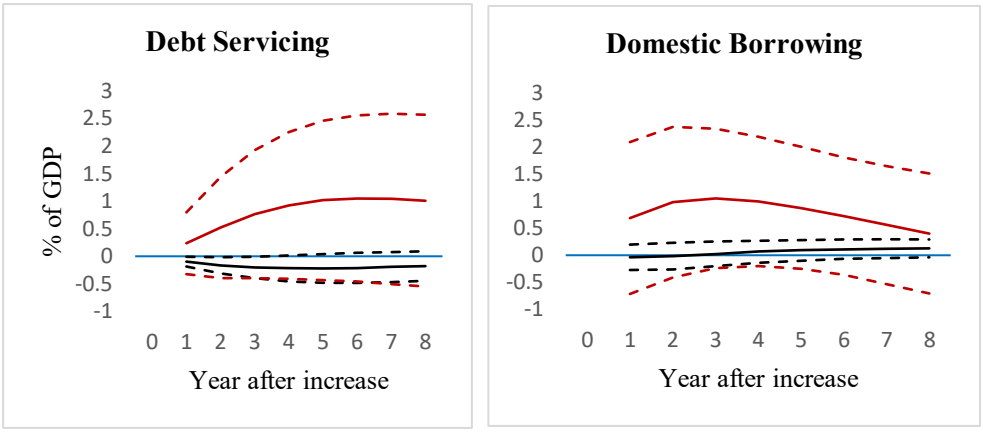


Figure A.4.5. Response of Fiscal Variables to Permanent Grants

Figure A.4.6. shows that government revenue and current expenditures do not respond to the polity index series compared to the BMR Index. Domestic borrowing is partially robust because it responds positively to the polity index and vice versa, as in the case of the BMR Index. After the third year, political regimes change based on both indexes, which negatively affects public investment and is partially robust.

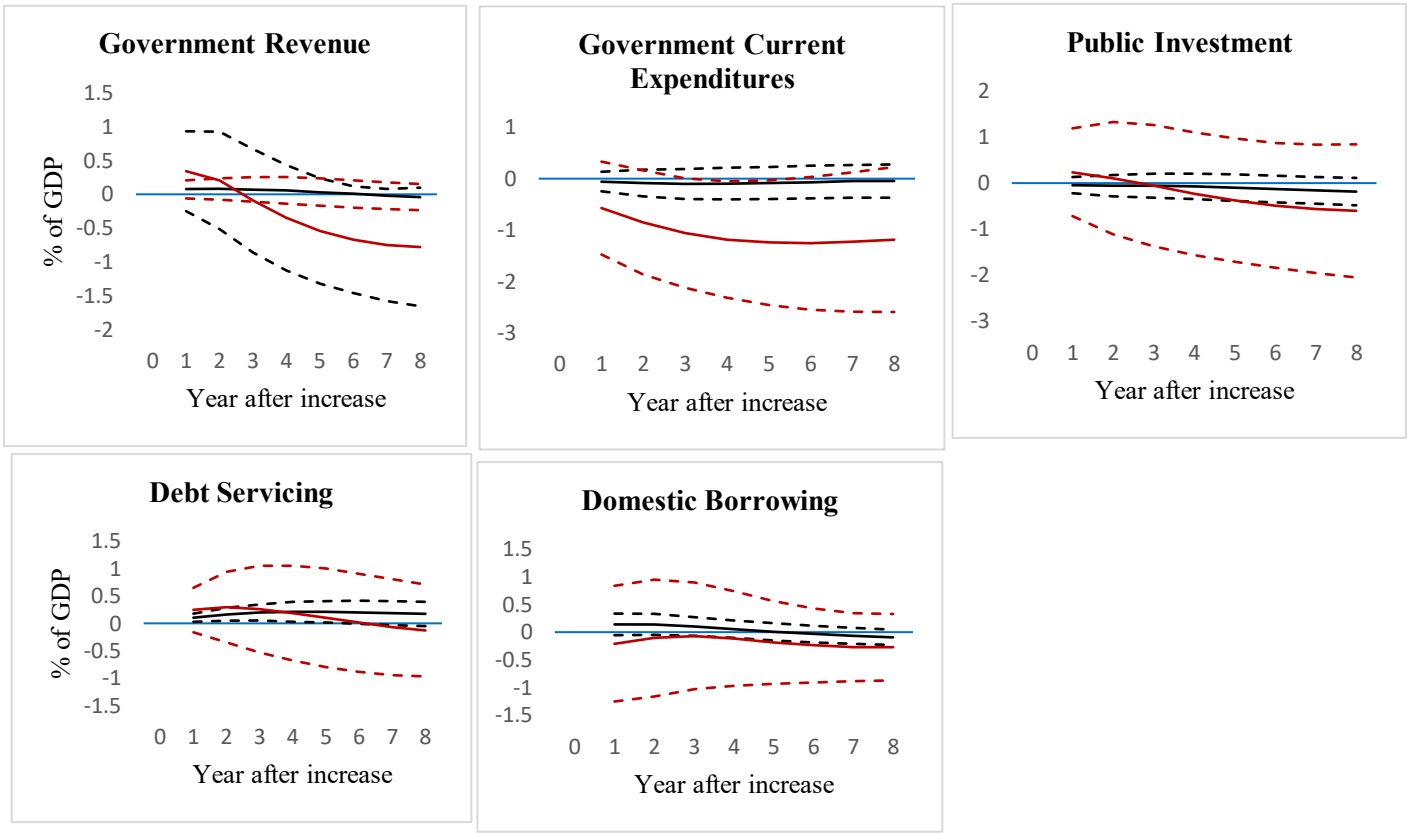


Figure A.4.6. Response of Fiscal Variables to Political Regimes Change

Polity Index **Boix Miller Rosato Democracy Index**

A.5. Robustness Related to Using Alternative Filters

The responses of the fiscal variables to the temporary and permanent components of foreign loans and grants are decomposed using CF, BK, and HP filters. Then, these components were used to interact with the political index to assess their robustness. The responses of the budgetary variables are quite robust in the short and long run in terms of direction but differ in magnitude. The brown line represents the response of the CF Filter; the black line represents the response of the HP Filter; the dark blue line represents the response of the BK Filter; and the dotted lines indicate the upper and lower standard errors of the IRF of a particular filter.

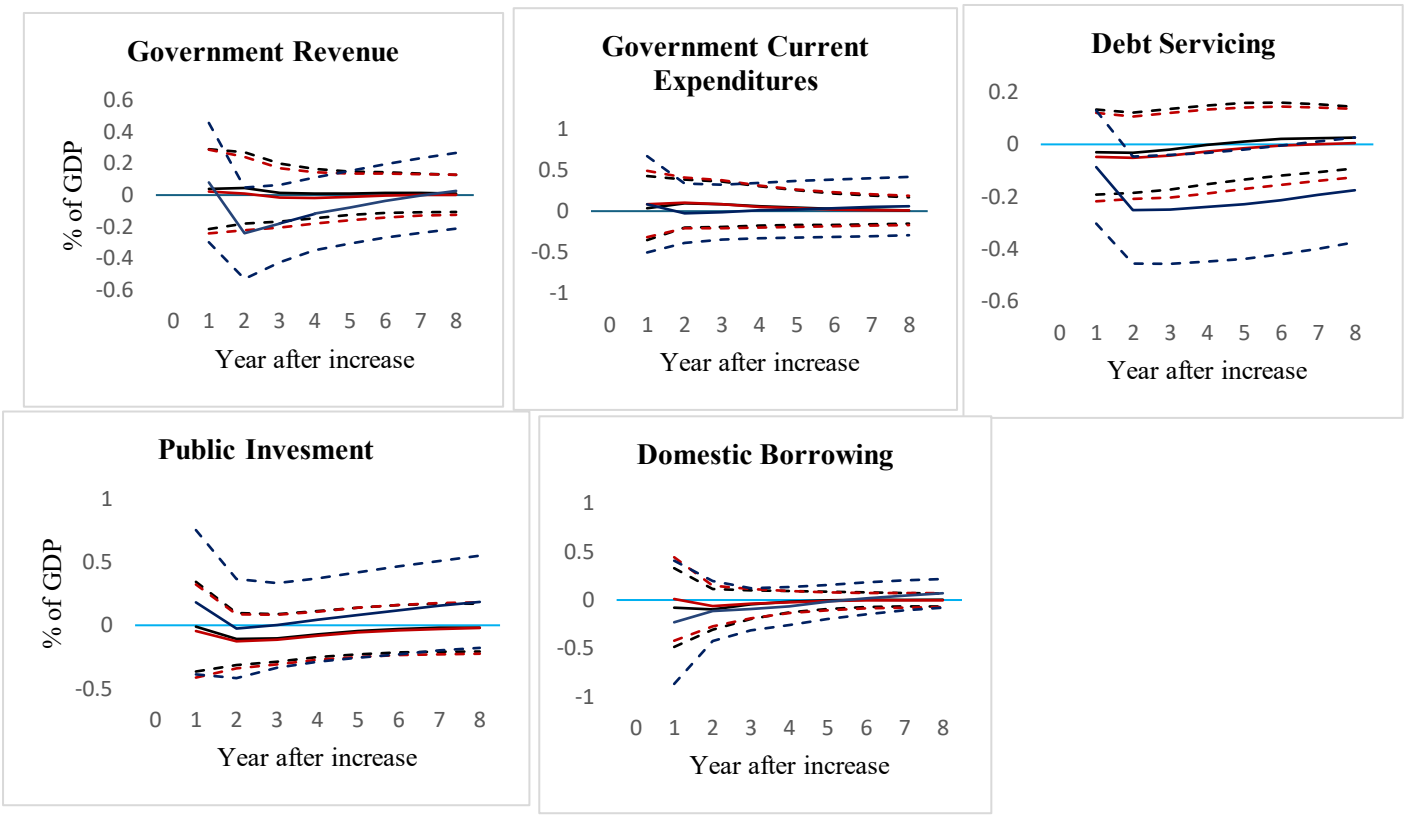
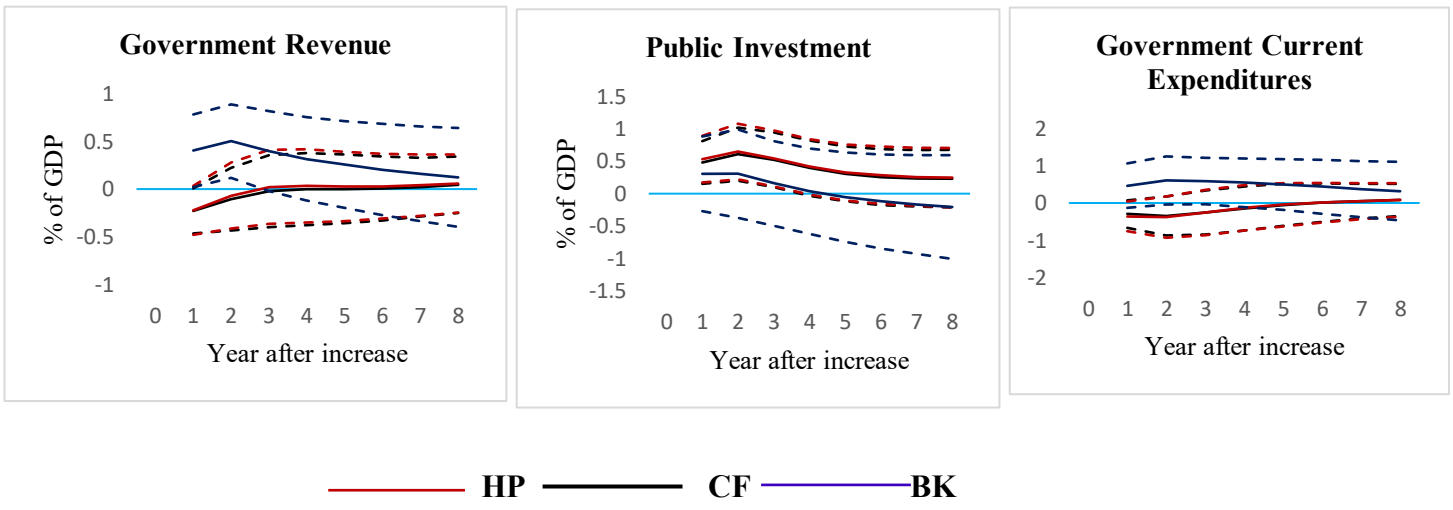


Figure A.5.1. Budgetary Variables Response to Temporary Loans



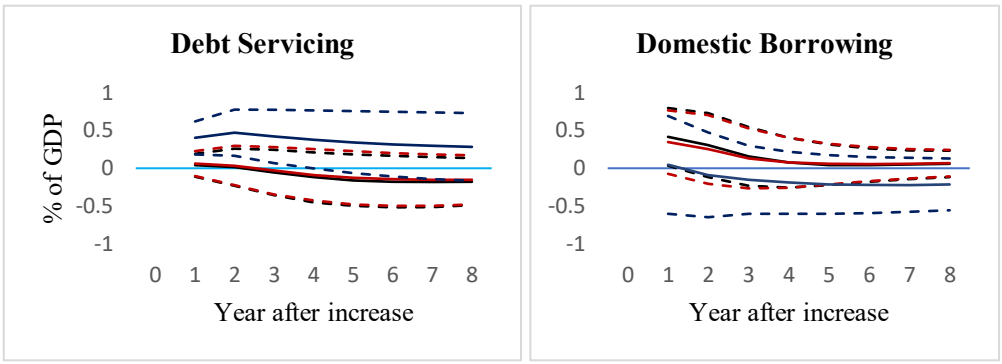


Figure A.5.2. Budgetary Variables Response to Permanent Loans

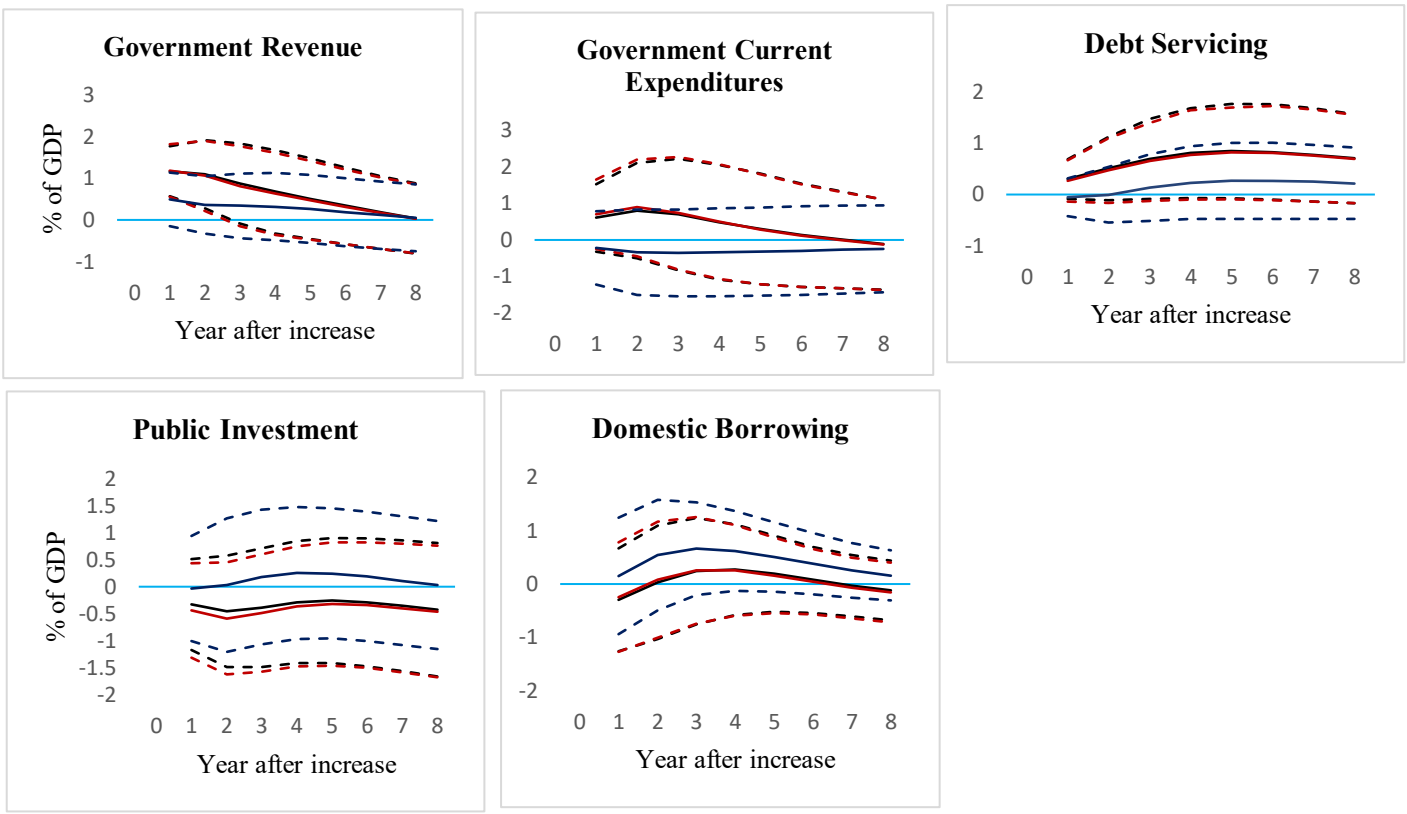
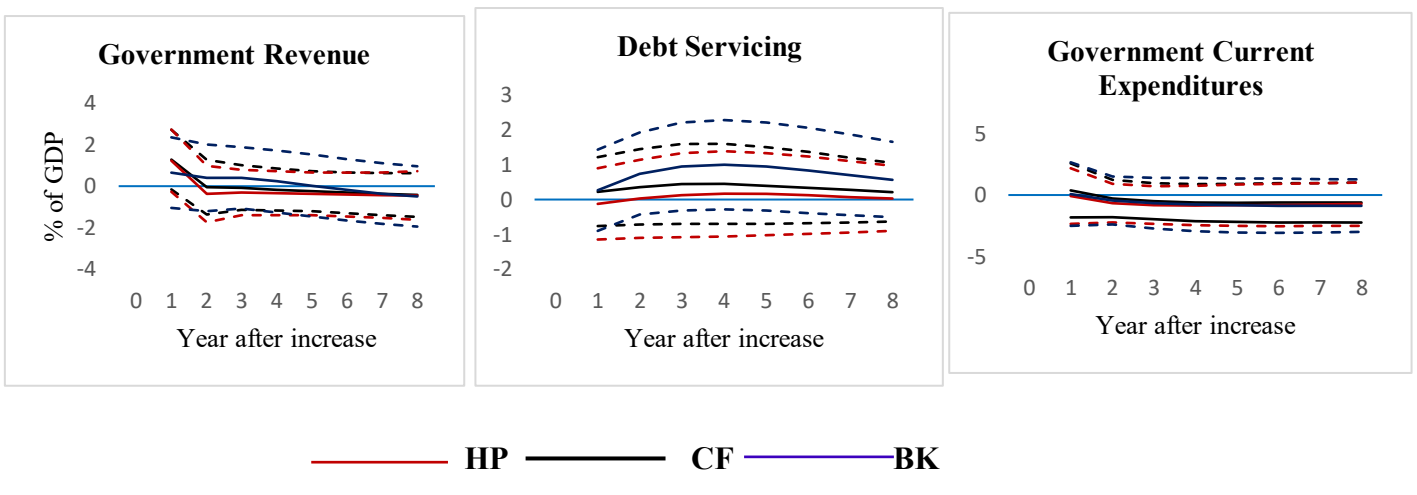


Figure A.5.3. Fiscal Variables Response to Political Regimes Change for Loans



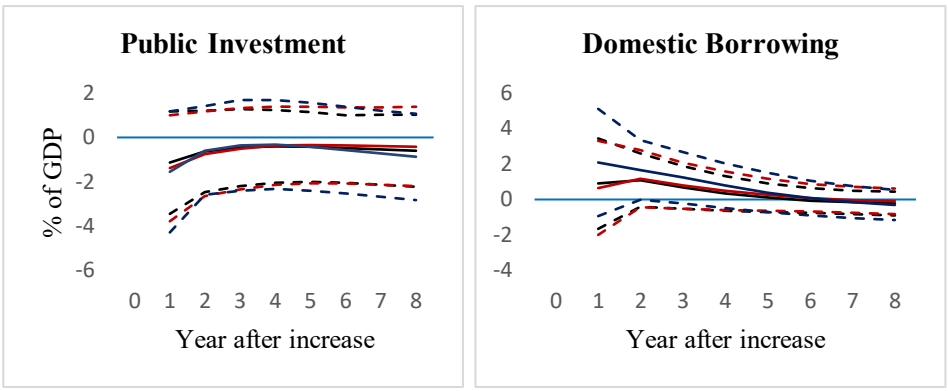


Figure A.5.4. Budgetary Variables Response to Temporary Grants

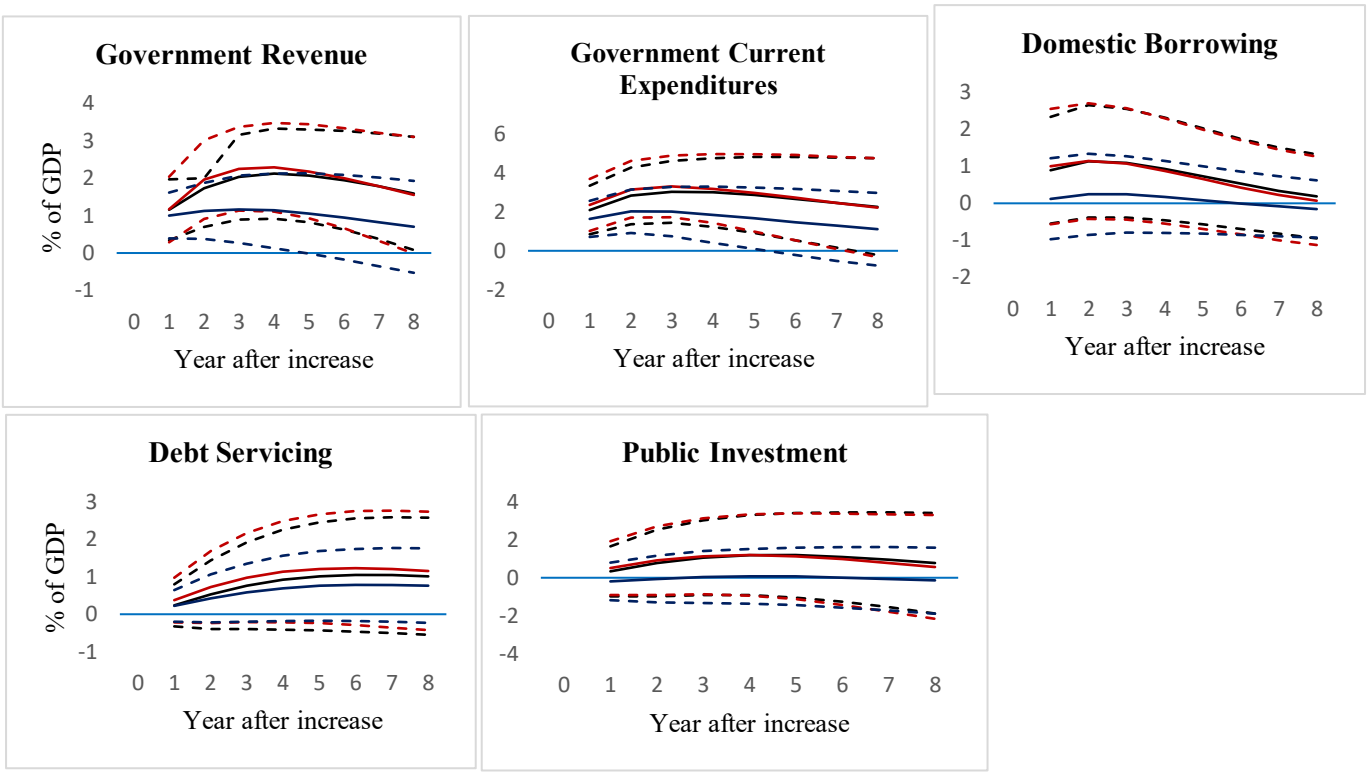
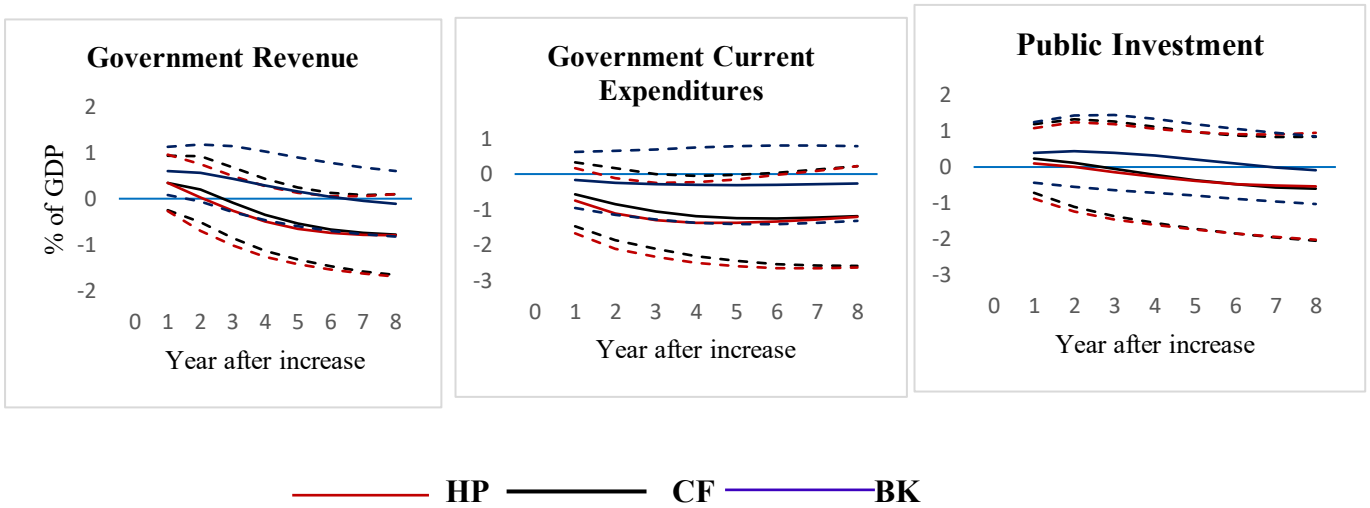


Figure A.5.5. Budgetary Variables Response to Permanent Foreign Grants



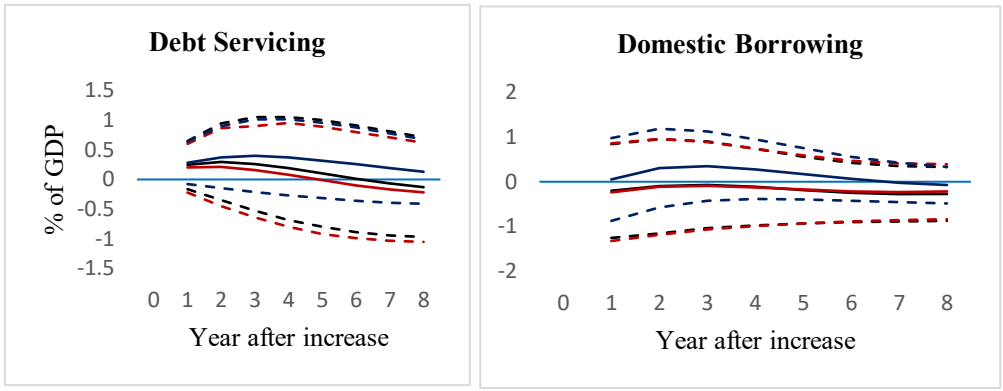
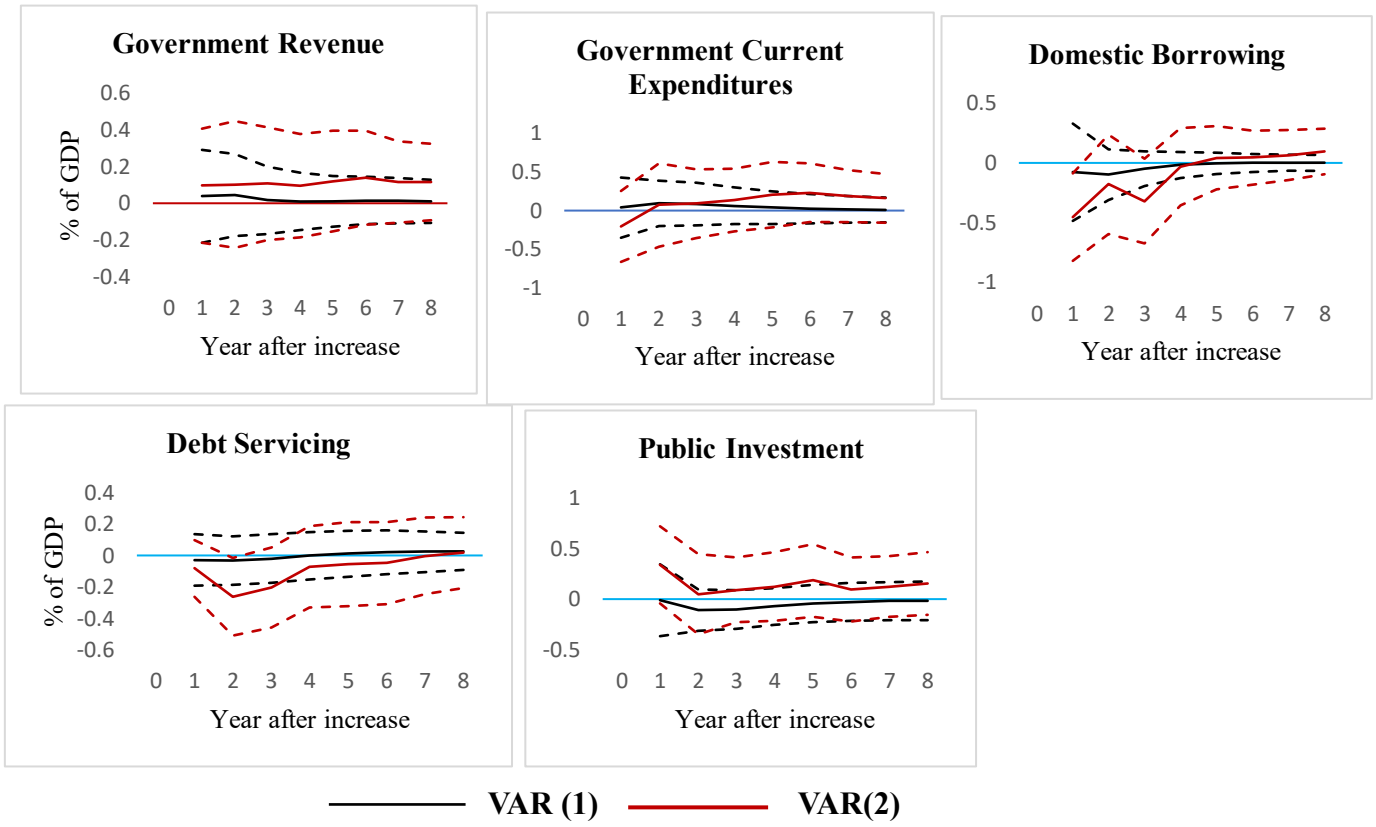


Figure A.5.6. Budgetary Variables Response to Political Regime's Change for Grants

HP **CF** **BK**

A.6. Robustness Related to Alternative Lag Structure

We increased the lag length from 1 to 3 to capture response dynamics at various lags. At lag three, responses occur only in the 3rd and 6th years, with no response at the 4th lag. The budget variables' responses to disaggregated foreign loans and grants are robust up to lag 2, but the optimal lag is 1.[12] The black and brown lines show responses at lags 1 and 2; dotted lines indicate standard errors, as shown in the figure panels



VAR (1) **VAR(2)**

[12] This finding is in line with Hudson's (2013) assertion that the aid commitments are to be fulfilled on average within 2 years.

Figure A.6.1. Fiscal Variables Response to Temporary Loans

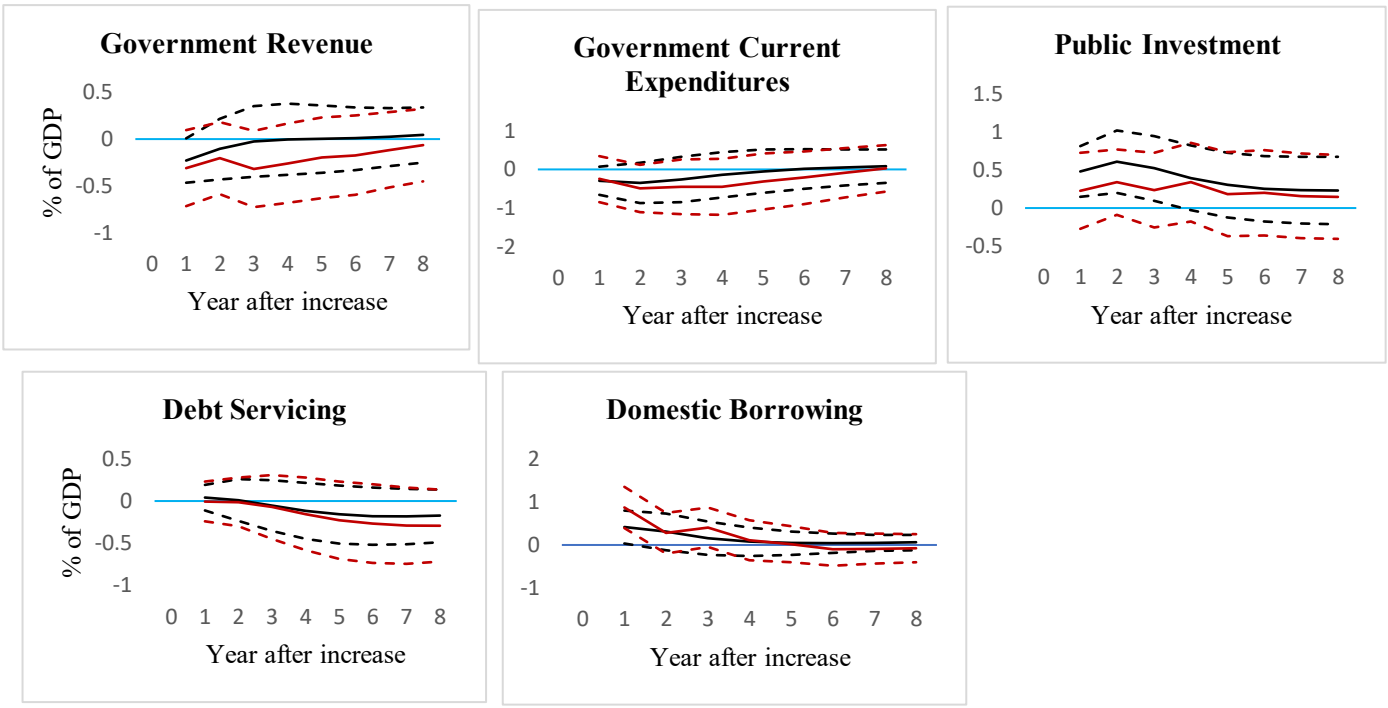


Figure A.6.2. Fiscal Variables Response to Permanent Loans

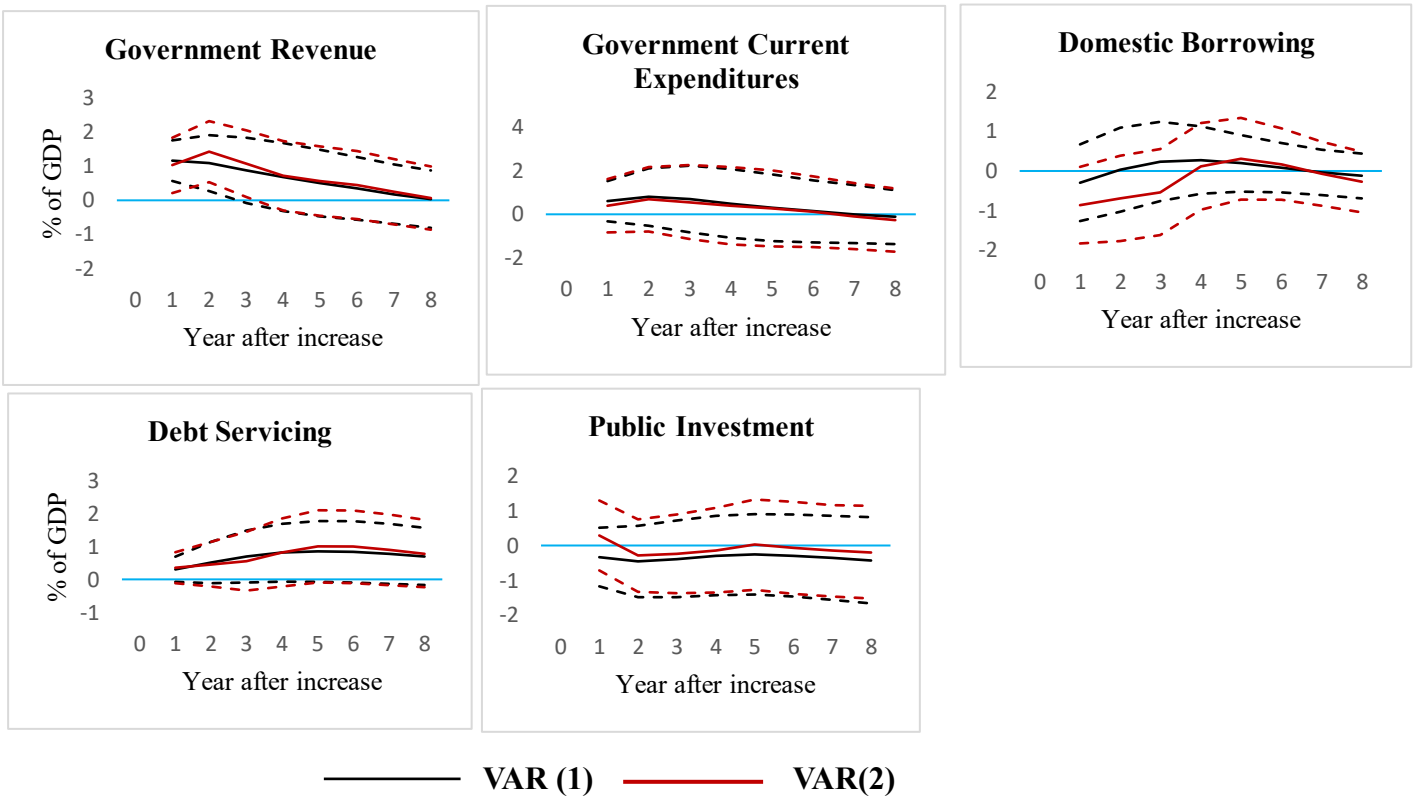


Figure A.6.3. Fiscal Variables Response to Political Regime's Change

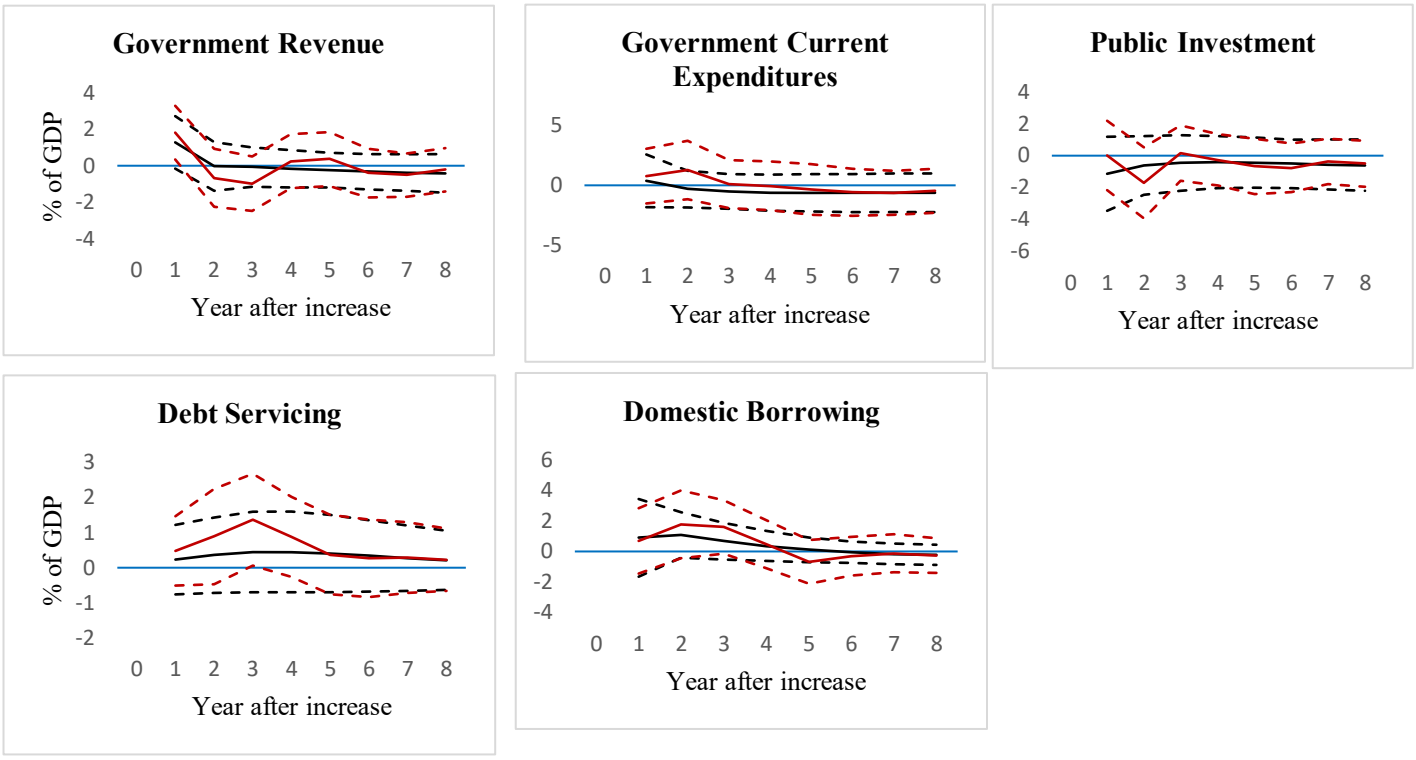


Figure A.6.4. Fiscal Variables Response to Temporary Grants

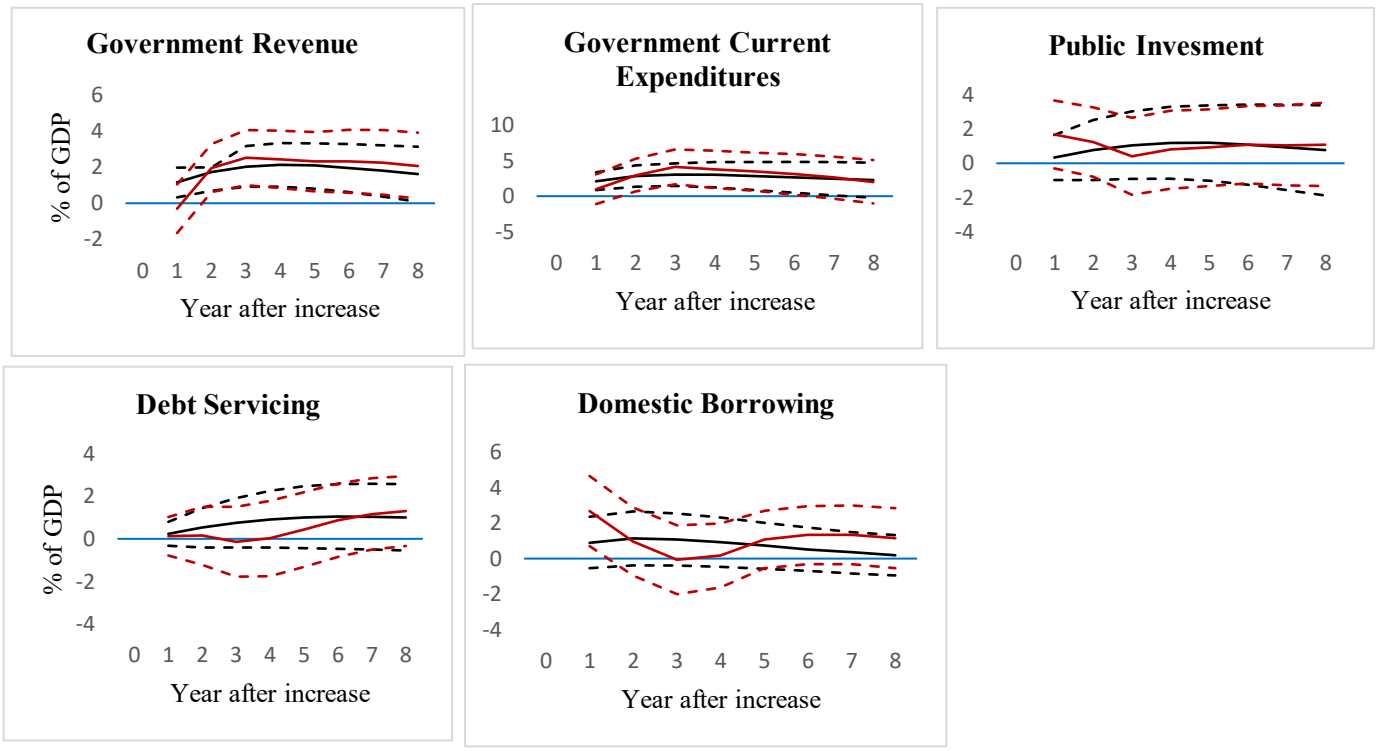


Figure A.6.5. Fiscal Variables Response to Permanent Grants

VAR (1) **VAR(2)**

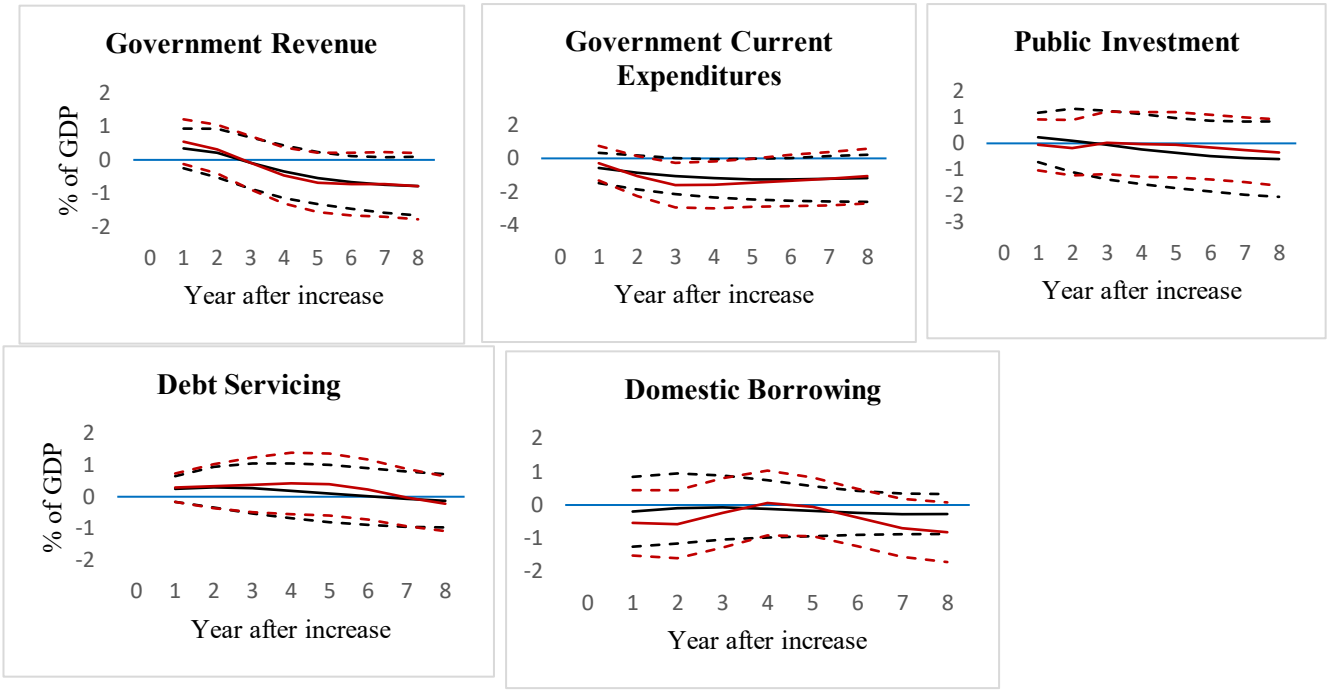


Figure A.6.6. Fiscal Variables Response to Political Regime's Change for Grants

VAR (1) **VAR(2)**

University of Antwerp
IOB | Institute of
Development Policy