Foreign Aid, Checks and Balances and Resource Rent

Marina Dodlova
German Institute of Global and Area Studies (GIGA)
21 Neuer Jungfernstieg
20354 Hamburg, Germany

Nabamita Dutta
Department of Economics
College of Business Administration, University of Wisconsin, La Crosse
La Crosse, WI 54601, USA

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Abstract

We study the impact of checks and balances on the volume of foreign aid inflows to recipient countries. We hypothesize that higher checks and balances lead to lower volumes of attracting aid because of less rent seeking at the top of the government. However, this impact of checks and balances disappears in the presence of windfalls like natural resource rent because in resource rich countries foreign aid is no longer an important source of non-tax revenue and/or rent seeking remains high in spite of constitutional constraints. Our empirical results confirm that in the case of lower natural resource rent, an improvement in checks and balances does reduce the volume of aid. Yet, in the face of increasing natural resource rent, the beneficial impact of checks and balances on aid inflows disappears.

Keywords: foreign aid, checks and balances, rent seeking, size of legislatures

JEL: F35, D72

1. Introduction

An extensive literature is devoted to how foreign aid is allocated to recipient nations (Bueno de Mesquita and Smith, 2009; Hoeffler and Outram, 2011; Nunnenkamp and Thiele, 2013, etc.). Apart from investigating the factors that shape such allocation, the previous studies have explored how donors' interests shape foreign aid inflows to recipient nations (Faye and Niehaus, 2012; Dreher et al., 2008; Berthelemy, 2006; Alesina and Dollar, 2000). The existing literature has recognized that the quality of governance being a determinant factor of aid allocation to recipient countries and has come up with mixed conclusions. Building on this literature, we look into the question of how checks and balances of recipient nations affect the extent of foreign aid inflows. Better checks and balances should minimize rent seeking in government and, thus, should reduce the volume of aid.

Checks and balances has been established to be an integral factor for a country's struggle to growth and economic development. In general the literature associates checks and balances as the idea of multiple veto players, empowered with decision making and different interest, must act together for successful policy implementation (see, for example La Porta, López-de-Silanes, Cristian Pop-Eleches and Shleifer, 2004; Keefer, 2001; Thorsten Beck, George Clarke, Alberto Groff, Philip Keefer and Patrick Walsh, 2001 to mention a few). Separation of powers along with checks and balances is considered to be a rigorous system that can lead to better governance in the form of lower corruption (see, Lederman, Loayza and Soares, 2004).

The literature on the determinants of foreign aid inflows to recipient nations is not as extensive as the literature studying the impact of foreign aid on economic and political institutions of recipient nations. The latter group of studies have not come to concrete conclusions – the results as to aid's effect on political or economic institutions is ambiguous. Since checks and balances are

more closely correlated with political institutions, we focus on that particular group of studies. Studies like Bueno de Mesquita and Smith (2009), Djankov *et al*. (2008), Rajan and Subramanian, (2007), Knack (2004) have emphasized that aid has no effect on democratization or corruption. While other studies (Goldsmith, 2001; Dunning, 2004) have stressed that aid can improve governance, a different strand of literature conclude that aid's impact is at best institutionally entrenching rather than institutionally changing (Bueno de Mesquita and Smith, 2010; Kono and Montinola, 2009; Wright, 2009; Frey and Eichenberger, 1994). In this context, Dutta, Leeson and Williamson (2013), stresses that aid does not the power to convert a democracy into dictatorship and vice versa, but can amplify the current institutional path.

The arguments of many of these studies focusing on the negative impact of aid follows the reasoning that greater aid is capable of expanding the role of the state and further entrenching the powers of the elite. Aid dollars can be stolen, wasted, or mismanaged leading to increases in rent-seeking, inefficiencies, and corruption (see, Dutta and Williamson, 2015). Following this line of reasoning, it is obvious that with greater checks and balances and, thus, greater accountability, monitoring and transparency, the probability of aid being stolen, wasted or mismanaged goes down. As rent seeking is minimized, the volume of aid should go down. Thus, this is in accordance with the first hypothesis of the paper states that states that as checks and balances improve, the volume of aid should go down.

Yet, as Svensson (2000) points out that windfalls like natural resource rent as well as foreign aid, can lead to higher rent seeking in the presence of competing social groups. Before Svensson (2000), Lane and Tornell (1996) and Tornell and Lane (1999) have pointed out the same arguments. They have shown that when multiple powerful groups have access to production, each group tries to maximize its share of production and, thus, rent seeking rises and production suffers.

Mehlum, Moene and Torvik (2006), in this context, have suggested that natural resources lead to lower income in the face of 'grabber friendly' institutions and enhance the same when institutions are producer friendly. Building on these studies, we raise the question whether the beneficial impact of checks on volumes of aid is corroded in the presence of greater natural resource rent. Thus, we test the hypothesis whether the presence of windfall like natural resource rent can revoke the beneficial impact of checks and balances.

Our measure of checks and balances is checks from Database of Political Institutions – DPI (Beck et.al. 2001). As Knack and Keefer (2007) states that this measure is based a number of factors - 'the number of parties in the government coalition (for parliamentary systems), whether the president's party has a majority in the legislature (presidential systems), and whether elections are governed by closed-list or open-list rules (the former granting more authority to the heads of parties).' (Knack and Keefer, 2007). Further, the measure also considers DPI's legislative index of electoral competitiveness (LIEC), scaled one to seven.7.

Our empirical findings support out hypothesis. Checks and balances do have a negative and significant impact on volumes of aid. With an improvement in checks and balances, the volume of aid goes down. But then as the level of natural resource rent rises, the beneficial impact of checks and balances on reducing aid waste is corroded. In terms of economic significance, for a country like Slovenia lying at the 10th percentile in terms of its natural resource rent, an improvement in checks lowers its volume of aid. For a standard deviation rise in checks, Slovenia's aid will go down by 1.8 percentage points. Yet for a similar rise in checks for Bolivia, lying at the 75th percentile of our sample in terms of natural resource rent, volume of aid will go up by 0.9 percentage points.

Our paper proceeds as follows. The next session presents the theoretical framework. Section 3 describes the data. Section 4 presents the methodology and reports the empirical results. Section 5 presents robustness analysis. The last section concludes.

2. Data

For our dependent variable, foreign aid, we employ the most commonly used measure - net official development assistance (ODA) received by a country as a fraction of gross domestic national income (GNI) - from World Development Indicators (WDI), 2014 online database. Based on WDI's definition, ODA consists of concessional terms (net of repayments of principal) and grants given to recipients nations for enhancement of their economic development and welfare by members of the Development Assistance Committee (DAC), by multilateral institutions, and by non-DAC countries. We use this measure of aid as part of our benchmark analysis since it is the broadest measure available. As reported in Table 1, the mean for aid is around 7.8 with a standaSector specific aid data is collected by OECD's CRS system but the quality of aid data is questionable and suffers from fungibility (see, Easterly and Pfutze, 2008). We use some of the sector data as part of robustness analysis.

Our primary variable of interest is a measure for checks and balances. The definition of the term checks and balances varies to some extent in the literature. This have been mentioned earlier sections where we also stress that in this paper our idea of checks and balances closely follow Keefer (2001) where he defines checks and balances as the existence of "multiple players with different interests, each of whom holds veto power, must approve policies as a condition of their implementation". Our benchmark measure of checks and balances comes from the Database of Political Institutions (DPI) constructed by Beck, Clarke, Groff, Keefer and Walsh (2001) and made available by the World Bank. The measure is called 'checks' in the database. It is constructed

based on two other variables in the database - LIEC and EIEC. LIEC stands for Legislative Indices of Electoral Competitiveness and captures the extent to which the legislature of a country is able to impose checks and balances. It ranges from 1 to 7. When LIEC ranges between 1 and 5, the legislature is characterized by none or minimal checks and balances. When EIEC > 6, it indicates competitiveness and that checks and balances are present among the elected legislatures. EIEC stands for Executive IEC and is constructed in a similar manner. It also ranges from 1 to 7. Checks is equal to 1 if LIEC or EIEC is less than 6. If LIEC or EIEC is greater than 6, then checks is incremented by 1 depending on different political structures - if there is a chief executive, if the chief executive is competitively elected or if the opposition controls the legislature. In the case of presidential system, checks is incremented by one for each chamber of the legislature except when the president's party holds a majority in the lower house. Further, for each party that is coded as allied with the president's party, checks is also incremented by one. Finally, in the case of parliamentary system, 'for every party in the government coalition as long as the parties are needed to maintain a majority' (DPI, 2012), checks is incremented by one. Overall, the description above implies that higher numbers for checks are characterized by greater checks and balances. The mean for checks for our sample is approximately 2.5 with a standard deviation of 1.67.

Other than checks, the other measure of checks and balances that is considered as part of benchmark measures, is government fractionalization from DPI database. The variable measures the probability that two deputies picked at random will be of different government parties. Thus, similar to the measure checks, a higher number indicates greater checks and balances.

Based on our hypothesis, other than different measures of checks and balances, our other independent variable of interest is natural resource rent. We consider natural resource rents as a percentage of GDP from WDI, 2015 online database. According to the World Bank definition,

total natural resource rents constitute of the sum of oil rents, coal rents, natural gas rents, mineral rents and forest rents. The variable, as expected, has huge variability in our sample. The mean of rent (in log form) is 1.1 with a standard deviation of 2.2.

As mentioned earlier, the literature on factors that affect foreign aid allocation to recipient nations is relatively scarce compared to the broad range of studies that look at foreign aid's impact on macroeconomic factors, economic and political institutions. Yet, there are a few studies that guide us in choosing our controls. Ali and Isse (2006) mention that aid might be given to countries that have low income per capita. Hence we include gross domestic product (GDP) per capita as one of the determinants. Following Ali and Isse, we also control for trade openness or imports plus exports as a percentage of GDP. As the volume of trade grows for a nation, it might become less dependent aid. Government expenditure as a percentage of GDP is considered as yet another determinant. This proxies for the size of the government. On one hand, the larger the size of the government, it can imply more rent seeking and, thus, more reasons to ask for more aid inflows. Yet, on the other hand, higher government expenditure might also mean that the recipient nations have sufficient funds to spend on public goods and investment and, thus, higher aid inflows may not be necessary. Other than these we control for total population and age dependency.

3. Empirical Methodology

Based on our hypothesis, we are interested in exploring the impact of checks and balances on the volume of aid inflows to a country. Further, we want to explore how the impact changes in the presence of different levels nature resource rents.

The specification that we test is given below

$$\mathrm{Aid_{it}} = \beta_0 + \beta_1 \mathrm{Aid_{it-1}} + \beta_2 \mathrm{CB_{it}} + \beta_3 \mathrm{Rent}_{it} + \beta_4 (CB * Rent)_{it} + \sum_{j=1}^{J} \alpha_j X_{jit} + \beta_3 \gamma_i + \beta_4 \theta_t + \epsilon_{it}$$

where Aid_{it} is the extent of ODA/GNI received by country i in time t. $\mathrm{Aid_{it-1}}$ is the measure of aid lagged one period. It captures the persistence of the dependent variable and, thus, enables us to estimate a linear dynamic panel-data (DPD) model. Intuitively, aid in period t-1 should be a determinant as to how much aid flows in the current period. CB_{it} is the measure for checks and balances. As mentioned above, our main benchmark measure is checks considered from DPI. The other measure considered is government fractionalization as part of benchmark results. Additional measures are considered as part of benchmark analysis. Rent_{it} is the total amount of rent generated from natural resources for country i in time t. We consider this in logarithm form. The benchmark controls used are population, GDP per capita, openness, government expenditure and age dependency. These are captured in the matrix, $\mathrm{X_{ijt}}$. All control variables are considered in logarithm form. γ_i is the country fixed effect, θ_t is the time specific effect and ϵ_{it} is the random error term.

Our coefficients of interest are β_2 and β_4. β_2 captures the direct effects of checks and balances on aid inflows while β_4 captures the indirect effect of the same via the channel of natural resources. Depending on the sign and magnitude of these two coefficients as well as the magnitude of natural resource rent, $\frac{\delta \mathrm{Aid}}{\delta \mathrm{CB}}$ can be > 0 or <0.

One of the critical issues we face in our empirical methodology is that of endogeneity. Democratization of recipient countries as one of the reasons for donating foreign aid has been stressed in the aid literature. To a great extent it is reasonable to assume that democratization implies greater checks and balances. Thus, greater aid inflows can be associated with greater

democracy, which, in turn, results in better checks and balances. The measure of checks and balances, in all probabilities, is going to suffer from endogeneity concerns.

We deal with endogeneity in two ways. As part of our baseline analysis, we run ordinary least squares (OLS) and fixed effect (FE) estimates where we lag all independent variables, including checks and balances and the interaction term, by one period. The thing we should mention here is that for all our specifications, we consider a 5 year interval panel following Acemoglu, Naidu, Restrepo and Robinson (2014). The authors mention that interval panels are better than panels based on averages since the latter creates a complex pattern of serial correlation and, thus, generating consistent estimators becomes more challenging. Thus, lagging all our dependent variables by one period implies lagging them by 5 years. This minimizes endogeneity concerns arising out of reverse causality to some extent. Our panel consist of a panel of 179 countries over the period 1975 to 2012.

Although, as shown in the literature, lagged covariates might still be correlated with the error term and, thus, is not a perfect solution to endogeneity concerns. To provide a more rigorous solution to endogeneity concerns, we employ Dynamic Panel Estimators – System GMM [1.] Yet another method to deal with endogeneity concern is to undertake two stage least square (2SLS) analysis. In this context, Baum (2008) and Murray (2006) point out that the finite-sample properties of IV estimates are problematic. Further, in the presence of weak instruments, IV estimators may not be an improvement over OLS estimators. Finally, as Persson and Tabellini (2006) point out in regressions with country fixed effects, it is a very difficult to find efficient, time varying instruments that are strictly exogenous.

[1] Dynamic panel estimators are well suited for panels where N (individuals or countries) > T (time periods), when the relationship is linear, models with strong fixed effects, heteroscedasticity and autocorrelation within countries, models with a single dependent variable and, finally, independent variables that are not strictly exogenous and are correlated with present as well past realizations of the error (Roodman 2008).

GMM estimation takes into account endogeneity concerns by generating instruments via moment generating conditions. While Difference GMM estimators generate lagged levels of regressors as instruments for the first differenced endogenous variables, System GMM estimators are preferred where the levels of the equation are used to obtain a system of two equations – one differenced and one in levels. The efficiency of the System GMM estimators are enhanced because the variables in the second equation are instrumented with their own first differences (Blundell and Bond, 1998; Mishra and Newhouse, 2009). By using stationary conditions of the initial observation, System GMM estimators reduce bias increase precision over difference GMM estimator. We treat checks and the interaction terms, Checks*Rent, as endogenous for all our System GMM estimations.

While fixed effect estimates are suited to take into account unobserved heterogeneity, they cannot handle several other panel data challenges. Removing unobserved heterogeneity by first differencing is commonly employed technique for panel data and falls under the family of linear dynamic panel-data (DPD) model estimators. Nickell (1981) points out that in the content of a dynamic panel data (DPD) fixed effect model with small T and large N, a correlation between the regressor and the error term arises due to the demeaning process. Thus, standard errors might be rendered inconsistent. Thus, we do not consider a lagged dependent variable as an explanatory variable of interest for OLS and FE estimates Arellano and Bond (1991) proposed the General Method of Moments (GMM) estimator that generates consistent estimates for such models dynamic DPD estimators and, thus, corrects for Nickell bias.

The System GMM estimates are valid under certain assumptions like absence of second order autocorrelation. We report p values from second order autocorrelation to establish that the

null cannot be rejected, for all our specifications. Further, to make sure that the exclusion restrictions for the instruments are met, we report p values from Sargan Test.

4. Empirical Results

4.1. Baseline Results

As mentioned earlier, Table 1 reports our summary statistics. Table 2 reports the correlation

[Table 1 about here]

coefficients of our main variables of interest. As we can see from the Table, the three measures of checks and balances – checks, government fractionalization and constraints on the chief executive

[Table 2 about here]

are negative correlated with aid at the 5% level of significance. Aid is also negative and significantly correlated with GNI, government effectiveness and population density. On the other hand, it is positive and significantly correlated with age dependency, and fertility rate. Rent is not significantly correlated with foreign aid. Once again, it is to be noted that all explanatory variables are lagged by 5 years or by one period.

In Table 3, we report our baseline results – Ordinary Least Squares (OLS) estimates. Checks is our main measure for checks and balances. As mentioned before, we attempt to handle endogeneity for fixed effect estimates by lagging all the explanatory variables including checks. Due to Nickell bias (as mentioned earlier), we do not control for lagged aid in results for Table 3.

[Table 3 about here]

For both the specifications, we find that the direct impact of checks is negative and significant suggesting that higher checks and balances reduces rent seeking activities and, thus, reduce waste of aid money. With higher checks and balances, the volume of aid goes down. Yet, in accordance with our hypothesis, we find that the interaction term, CB*Rent, is positive and significant

indicating that in the presence of higher rent, the negative beneficial impact of checks and balances is eroded. To analyze better what this means, we need to estimate $\frac{\delta \text{Aid}}{\delta \text{CB}} = \hat{\beta}_2 + \hat{\beta}_4 \text{Rent}_{\text{it}}$ for different values of rent. We do this for our FE estimates in Table 4B.

The FE estimates are presented in Table 4A. In column 1, we add only our independent

[Table 4A about here]

variables of interest. We include the controls in subsequent columns. Checks, lagged one period, is negative and significant for all the specifications suggesting that with greater checks and balances, aid wastage is reduced and, thus, volume of aid goes down. The coefficient of rent is negative for all the specifications but never significant. The interaction term, lagged one period, is positive and significant for all the specifications implying that as the extent of resource rent rises, the beneficial monitoring impact of checks is reduced. We further analyze this in Table 4B. In terms of controls, higher GDP per capita, as expected, lowers the volume of aid to recipient countries. The coefficient becomes significant from column (4) onward. Higher economic development as indicated by higher GDP per capita lowers the need for foreign aid for a country and, thus, volume of aid goes down. The other controls are not significant.

[Table 4B about here]

In Table 4B, we provide the marginal estimates based on $\frac{\delta \text{Aid}}{\delta \text{CB}} = \hat{\beta}_2 + \hat{\beta}_4 \text{Rent}_{\text{it}}$. Following Asiedu, Jin and Nandwa (2011), Dutta and Williamson (2015), Dutta and Sobel (2016), we estimate $\frac{\delta \text{Aid}}{\delta \text{CB}}$ at various percentiles of rent based on our sample of countries. This helps us to see how the impact of checks on volumes of aid changes for different levels of rent. Based on the marginal estimates presented in Table 3B, we find that for low levels of rent, an improvement in checks and balances lowers the volume of aid. So, for a country like Slovenia lying at the 10th percentile in terms of its natural resource rent, an improvement in checks lowers its volume of aid.

For a standard deviation rise in checks, Slovenia's aid will go down by 1.8 percentage points. Yet for a similar rise in checks for Bolivia, lying at the 75th percentile of our sample in terms of natural resource rent, volume of aid will go up by 0.9 percentage points. For countries with lower levels of natural resource rent, rent seeking is kept at control with an improvement in checks and balances and the small level of natural recourse rents is not being able to corrode its power. Thus, checks and balances work effectively. But such effective checks and balances is eroded as the amount of natural resource rent rises and, thus, provides the incentive for greater rent seeking.

4.2. Benchmark Results

System GMM estimates constitute our benchmark results. The results are presented in Table 5A. The same set of controls are included. Apart from checks, we include an alternate measures of checks and balances – government fractionalization.

[Table 5A about here]

The results for 'checks' are presented in Column 1 and that of government fractionalization is presented in Column (2). Our overall conclusions remain similar to the fixed effect estimates. The coefficient of the lagged dependent variable is, as expected, positive and significant suggesting that past aid levels positively affect current aid inflows to recipient nations. Coefficient of both measures of checks and balances – checks and government fractionalization – is negative. But none of the coefficients are significant. The interaction, CB*Rent, is positive and significant for both measures of checks and balances suggesting that as resource rents go up, the beneficial impact of checks and balances gets eroded. The marginal estimates, $\frac{\delta \mathrm{Aid}}{\delta \mathrm{CB}}$, are presented in Table 5B. Similar to Table 4B, we present the marginal estimates for the 10th, 25th, 50th, 75th and the 90th percentile as well as the mean of natural resource rents based on our sample of countries.

[Table 5B about here]

Similar to the conclusions from Table 5B, we find that for very low levels of rent, an improvement in checks and balances has a beneficial impact in terms of reducing aid inflows. Yet, as natural resource rent rises, the negative impact of checks and balances on aid diminishes and becomes insignificant. In terms of economic significance, the magnitudes of the estimates in column 2 (when government fractionalization is used as the measure of checks) are more compared to column 1 estimates. Similar to our previous estimates, for countries lying beyond the 75th percentile, in terms of their natural resource rents, $\frac{\delta \text{Aid}}{\delta \text{CB}}$ is, in fact, positive and significant suggesting that rent seeking persists inspite of an improvement in checks and balances. Thus, since the presence of greater natural resource rents leads to greater rent seeking among political groups, it attracts more aid.

As mentioned before, we report p values for Sargan test and second order autocorrelation for all the specifications in Table 5A. Sargan test p values show that overidenitification restrictions have been met and as suggested by the second order autocorrelation p values, second order autocorrelation is not present. Further, we report r, the ration of number of countries to number of instruments. As stated by Roodman (2009) and Asiedu and Lien (2011), when r is less than 1, the underlying assumptions behind the System GMM estimates might be violated. Further, it makes the estimates susceptible to Type I error implying that significant results can be generated even though the variables may not have any significant association. Our reported r is always greater than one.

5. Robustness Analysis

We provide several sensitivity checks to provide robustness to our main findings. Our robustness test consist of checking our benchmark results to the inclusion of other controls, checking the

results with alternate measures of checks and balances, and checking our results for sector-wise aid.

We start by checking if our main conclusions remain the same with the inclusion of additional controls. In Table 6A, we include fertility rate and government effectiveness. Government effectiveness is used as a measure of overall institutional quality while fertility rate has been used as a determinant of aid in previous studies. Our conclusions remain the same. The interaction term for both measures of checks and balances remain positive and significant. Lagged aid is positive and significant. The newly included controls are not significant in the first two specifications. We report the marginal estimates for these results in Table 5C.

[Table 6A about here]

Keeping space constraint in mind, we report the estimates for the lowest (10th), middle (50th) and highest (90th) percentiles of natural resource rents. The estimates from these percentiles will provide us with all the details of the overall conclusion since we are checking the varying impact of checks and balances on aid for all possible ranges of the data, based on natural resource rents. Our analysis, based on the marginal estimates, support our benchmark findings. Natural resource rents is detrimental to the monitoring power of checks and balances since it leads to greater rent seeking activities among the different branches of government and, thus, attracts more foreign aid.

Next we check our findings with alternate measures of checks and balances. The first alternate measure considered is constraints on the chief executive. The measure is considered from Polity IV database and captures the 'the extent of institutionalized constraints on the decision making powers of chief executives, whether individuals or collectivities' (Polity IV, 2007). The variable varies from 1 to with higher number denoting greater constraints on the chief executive. 1 denotes unlimited authority and 7 represents the executive having equal or less authority with

the accountability groups. The second measure of checks and balances considered as part of robustness analysis is *OppFrac* from DPI. This measures the probability that two deputies picked at random from among the opposition parties will be of different parties. The higher the probability, the greater will be checks and balances.

The results for the measures –constraints and 'oppfrac'- are presented in columns 3 and 4 of Table 5A respectively. The coefficient of constraints, itself, is negative but not significant. The coefficient is negative but only marginally significant. The interaction term, CB*Rent, is positive significant for both the alternate measures. Thus, overall it conforms to our main conclusions – an improvement in checks and balances should reduce the volume of aid inflows at it minimizes rent seeking. Yet, in the presence of higher levels of resource rents, political constraints fail and rent seeking persists. Thus, volume of aid goes up.

Similar to our analysis before, we present marginal estimates for all the specifications of Table 5A in Table 5B. As mentioned before, keeping space constraint in mind, we report the estimated for the bottom (10th percentile), middle (50th) and the top (90th percentile) of natural resource rents. This should give us a rigorous idea as to how $\frac{\delta \text{Aid}}{\delta \text{CB}}$ varies throughout the sample. The marginal estimates are presented in Table 6B.

[Table 6B about here]

Our conclusions remain unaltered from the marginal estimates in Table 6B. At low levels of natural resource rent, an improvement in checks and balances has a beneficial impact on volumes of aid. Aid wastage is reduced with an improvement in checks and balances. Thus, volumes of aid go down. This is true for countries like Slovenia. But as levels of natural resource rent rise for countries, then the monitoring impact of checks and balances is corroded and, thus, volume of aid rises.

As part of our final robustness analysis, we check our results with sector-wise aid. We check whether our results are sensitive to alternate measure of aid per capita allocated for different sectors. The sectors considered are production, education and health. The results are

[Table 7 about here]

presented in Table 7. We find that our overall our hypothesis is supported by the estimates. For all the measures of aid, the interaction term is positive and significant. Checks is only negative and significant in column (3); in columns (1) and (2), it is positive but not significant.

6. Conclusions

The determinants of foreign aid inflows have been broadly discussed in the literature but the effects of political factors remain still unclear. Further, the checks and balances argument is usually used in the way that high inflows of foreign aid lead to less checks and balances in recipient countries. In this paper, we focus on an inverse relationship and examine whether checks and balances in the recipient countries lead to lower volumes of attracting aid. Our main argument is that in case of high checks and balances in recipient countries the politicians are constrained in rent seeking and so competing special interest groups do not bargain for attracting more aid. As a result, total foreign aid in countries with high checks and balances is lower. However, the inclusion of natural resource rent cancel out such a beneficial effect of checks and balances. We find that in resource rich countries higher checks and balances do not lead to less foreign aid and more probably because they do not help to avoid rent seeking in the legislatures.

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Table 1: Summary Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Foreign Aid	923	7.76	11.25	-0.18	127.28
Checks	1265	2.48	1.66	1	17
Rent (log)	1227	1.06	2.22	-12.24	4.60
GDP per cap(log)	859	8.89	1.26	4.95	11.75
Pop (log)	1491	15.39	2.01	8.78	21.01
Trade (log)	1221	4.23	0.60	0.08	6.07
Gov. Exp (log)	1191	2.70	0.42	0.72	4.89
Age Dep. (log)	1434	4.21	0.29	2.80	4.79
Gov. Frac.	1100	0.19	0.27	0	1
Opp. Frac.	810	0.45	0.29	0	1
Constraints	1196	4.31	2.29	1	7

Table 2: Correlation Coefficient

	Aid	Checks	Rent (log)	GNI (log)	Open (log)	Govt. Exp (log)	Age dep. (log)	Pop. Den (log)	Fertility Rate (log)	Gov. Effc.	Gov. Frac.	Constraints
Aid	1											
Checks	-0.08*	1										
Rent (log)	0.05	-0.30*	1									
GNI (log)	-0.56*	0.27*	-0.34*	1								
Open (log)	0.06	0.07*	-0.14*	0.29*	1							
Govt. Exp (log)	0.16*	0.05	-0.08*	0.26*	0.22*	1						
Age dep. (log)	0.35*	-0.36*	0.33*	-0.79*	-0.23*	-0.11*	1					
Pop. Den (log)	-0.14*	0.14*	-0.47*	0.21*	0.16*	-0.18*	-0.35*	1				
Fert. Rate (log)	0.37*	-0.47*	0.44*	-0.76*	-0.21*	-0.14*	0.91*	-0.35*	1			
Gov. Effc.	-0.32*	0.37*	-0.49*	0.77*	0.22*	0.32*	-0.60*	0.23*	-0.65*	1		
Gov. Frac.	0.01	0.34*	-0.20*	0.12*	0.12*	0.14*	-0.20*	0.09*	-0.22*	0.16*	1	
Constraints	-0.13*	0.21*	-0.10*	0.22*	0.04	0.04	-0.20*	0.05	-0.22*	0.30*	0.04	1

Table 3: OLS Specification - Foreign Aid, Checks and Balances and Resource Rent

All specifications are Ordinary Least Squares (OLS). A 5 year interval panel is considered. Year dummies are included. The dependent variable is *Aid as percentage of gross national income (GNI)*. It is net disbursements of official development assistance (ODA) received by a country as a fraction of gross domestic national income (WDI, 2014). *Checks* is from Database of Political Institutions (DPI). It captures the extent of checks and balances in the system. Checks is equal to 1 if LIEC or EIEC (legislative and executive indices of electoral competitiveness) is between 1 and 5 denoting the absence or minimal checks and balances. Checks is incremented by 1 when EIEC or LIEC is greater than 6 indicating various extent of checks and balances. *Rent* stands for rent from all kinds of natural resources expressed as a percentage of GDP. *CB*Rent* represents the interaction term of rent and checks. *GDP p.c.* stands for GDP per capita in PPP terms expressed in constant 2011 US $. Population denotes the population of a country. *Openness* represents trade openness as a percentage of GDP. *Govt. Exp.* denotes government expenditure as a percentage of GDP. Finally, *age dependency* is the percentage of dependents to working age population. All variables except checks, are expressed in logarithm form. All variables, as indicated, are lagged one period. ***, ** and * denote significance at 1%, 5%, and 10%, respectively.

	(1)	(2)
$Checks_{t-1}$	-0.685**	-0.729**
	(0.301)	(0.315)
$Rent_{t-1}$	-0.159	-0.0551
	(0.377)	(0.359)
$(Checks*Rent)_{t-1}$	0.292**	0.297**
	(0.130)	(0.131)
GDP $p.c._{t-1}$	-6.448***	-6.977***
	(0.637)	(0.877)
Pop_{t-1}	-1.971***	-2.088***
	(0.294)	(0.337)
$Open_{t-1}$	-0.650	-0.839
	(1.098)	(1.082)
Govt. $Exp._{t-1}$	1.649*	1.577
	(0.964)	(0.978)
Age $dependency_{t-1}$		-3.783
		(2.417)
Constant	91.86***	115.5***
	(9.912)	(22.00)
Observations	409	409
R-squared	0.455	0.458

Table 4A: Fixed Effect Specifications - Foreign Aid, Checks and Balances and Resource Rent

All specifications are Fixed Effect. A 5 year interval panel is considered. Year dummies are included. The dependent variable is *Aid as percentage of gross national income (GNI)*. It is net disbursements of official development assistance (ODA) received by a country as a fraction of gross domestic national income (WDI, 2014). *Checks* is from Database of Political Institutions (DPI). It captures the extent of checks and balances in the system. Checks is equal to 1 if LIEC or EIEC (legislative and executive indices of electoral competitiveness) is between 1 and 5 denoting the absence or minimal checks and balances. Checks is incremented by 1 when EIEC or LIEC is greater than 6 indicating various extent of checks and balances. *Rent* stands for rent from all kinds of natural resources expressed as a percentage of GDP. *CB*Rent* represents the interaction term of rent and checks. *GNI* stands for Gross National Income expressed in constant 2011 US $. Population denotes the population of a country. *Openness* represents trade openness as a percentage of GDP. *Govt. Exp.* denotes government expenditure as a percentage of GDP. Finally, *age dependency* is the percentage of dependents to working age population. All variables except checks, are expressed in logarithm form. All variables, as indicated, are lagged one period. ***, ** and * denote significance at 1%, 5%, and 10%, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
$Checks_{t-1}$	-0.690**	-0.871**	-0.877**	-1.048***	-0.534*	-0.537*
	(0.284)	(0.346)	(0.345)	(0.304)	(0.288)	(0.289)
$Rent_{t-1}$	-0.658	-0.661	-0.750	-0.292	-0.363	-0.365
	(0.418)	(0.619)	(0.620)	(0.571)	(0.506)	(0.507)
$(Checks*Rent)_{t-1}$	0.447***	0.591***	0.583***	0.474***	0.407***	0.408***
	(0.0761)	(0.103)	(0.103)	(0.0894)	(0.0797)	(0.0799)
GDP $p.c._{t-1}$		-0.128	0.185	-4.881***	-4.203***	-4.188***
		(1.862)	(1.867)	(1.659)	(1.485)	(1.488)
Pop_{t-1}			10.74	-1.327	-0.491	-0.971
			(6.545)	(5.739)	(5.097)	(5.380)
$Open_{t-1}$				0.610	0.481	0.495
				(1.726)	(1.577)	(1.581)
Govt. $Exp._{t-1}$					0.519	0.504
					(1.318)	(1.321)
Age $dependency_{t-1}$						1.471
						(5.191)
Constant	7.256***	10.79	-159.7	68.15	47.83	48.80
	(1.166)	(15.24)	(105.0)	(93.38)	(83.67)	(83.88)
Observations	704	426	426	419	409	409
R-squared	0.107	0.169	0.177	0.210	0.199	0.199
Number of countries	132	126	126	126	125	125

Table 4B: Foreign Aid, Checks and Balances and Natural Resource Rent – Marginal Impacts

Based on Table 4A estimates, we estimate $\frac{\delta \text{Aid}}{\delta \text{CB}} = \hat{\beta}_2 + \hat{\beta}_4 \text{Rent}_{\text{it}-1}$. Specifically, we consider the 10th, 25th, 50th, 75th, 90th percentile and the mean of resource rent based on country means of the same.

Value of log rent	Percentile	Country	Estimate
-1.4	10th	Slovenia	-1.07***
			(0.30)
0.33	25th	Belize	-0.39
			(0.29)
1.5	50th	Argentina	0.08
			(0.32)
2.5	75th	Bolivia	0.52*
			(0.36)
3.4	90th	Papua New Guinea	0.93**
			(0.41)
1.13	Mean	Guatemala	-0.05
			(0.31)

Table 5A: System GMM - Foreign Aid, Checks and Balances and Resource Rent

All specifications are System GMM specifications. A 5 year interval panel is considered. Period dummies are included. The dependent variable is *Aid as percentage of gross national income (GNI)*. It is net disbursements of official development assistance (ODA) received by a country as a fraction of gross domestic national income (WDI, 2014). *Checks* is from Database of Political Institutions (DPI). It captures the extent of checks and balances in the system. Checks is equal to 1 if LIEC or EIEC (legislative and executive indices of electoral competitiveness) is between 1 and 5 denoting the absence or minimal checks and balances. Checks is incremented by 1 when EIEC or LIEC is greater than 6 indicating various extent of checks and balances. *Govfrac* is the probability that two deputies picked at random among the government parties will be of different parties. *Rent* stands for rent from all kinds of natural resources expressed as a percentage of GDP. *Checks*Rent* represents the interaction term of rent and checks. *Gov Frac.*Rent* represents the interaction term for Government fractionalization and rent. *GNI* stands for Gross National Income expressed in constant 2011 US $. Population denotes the population of a country. *Openness* represents trade openness as a percentage of GDP. *Govt. Exp.* denotes government expenditure as a percentage of GDP. Finally, *age dependency* is the percentage of dependents to working age population. All variables except checks, are expressed in logarithm form. ***, ** and * denote significance at 1%, 5%, and 10%, respectively.

	(1)	(2)
Aid_{t-1}	0.310***	0.292***
	(0.0332)	(0.0341)
Checks	-0.293	
	(0.179)	
Checks*Rent	0.279***	
	(0.0938)	
Rent	-0.237	-0.600***
	(0.222)	(0.192)
GNI	-8.765***	-9.274***
	(0.419)	(0.507)
Open	5.723***	5.875***
	(0.559)	(0.469)
Govt. Exp.	3.375***	4.113***
	(0.578)	(0.492)
Age dep.	-7.808***	-10.44***
	(1.631)	(1.680)
Pop. density	3.380***	0.589
	(0.639)	(0.544)
Gov frac.		-0.273
		(0.418)
Gov Frac*Rent		2.285***
		(0.187)
Constant	64.28***	88.93***
	(9.596)	(11.15)
Observations	498	463
Number of countries	127	124
Number of Instruments	80	80
Sargan test (p val.)	0.14	0.20
Second order autocorr.(p val.)	0.98	0.78
r = n/i	1.59	1.55

Table 5B: Foreign Aid, Checks and Balances and Natural Resource Rent – Marginal Impacts

Based on Table 5A estimates, we estimate $\frac{\delta \text{Aid}}{\delta \text{CB}} = \hat{\beta}_2 + \hat{\beta}_4 \text{Rent}_{\text{it}-1}$. Specifically, we consider the 10th, 25th, 50th, 75th, 90th percentile and the mean of resource rent based on country means of the same. We estimate the marginal impacts for both measures of CB - checks and government fractionalization

Value of log rent	Percentile	Country	Estimates - Checks	Estimates – Gov. Frac.
-1.4	10th	Slovenia	0.66**	-3.2***
			(0.28)	(0.47)
0.33	25th	Belize	-0.19	0.54
			(0.16)	(0.42)
1.5	50th	Argentina	0.13	3.20
			(0.12)	(0.52)
2.5	75th	Bolivia	0.43**	5.7***
			(0.17)	(0.66)
3.4	90th	Papua New Guinea	0.71***	7.9***
			(0.24)	(0.81)
1.13	Mean	Guatemala	0.04	2.5***
			(0.13)	(0.49)

Table 6A: System GMM - Foreign Aid, Checks and Balances and Resource Rent

All specifications are System GMM specifications. A 5 year interval panel is considered. Period dummies are included. The dependent variable is *Aid as percentage of gross national income (GNI)*. *CB* represents the different measures of checks and balances. *Checks* is from Database of Political Institutions (DPI). It captures the extent of checks and balances in the system. The other measures of checks and balances considered from DPI are *Govfrac* and *Oppfrac*. *Exconst* is another measure of checks and balances considered from Polity IV database. *Rent* stands for rent from all kinds of natural resources expressed as a percentage of GDP. *CB*Rent* represent the different interaction terms for the different measures of checks and balances the interaction term of rent and checks. All variables except the measures for checks and balances, are expressed in logarithm form. ***, ** and * denote significance at 1%, 5%, and 10%, respectively.

	(1) Checks	(2) Gov. Frac.	(3) Constraints	(4) Opp. Frac.
Aid_{t-1}	0.230***	0.377***	0.423***	0.402***
	(0.0751)	(0.106)	(0.0813)	(0.081)
CB	-0.622	2.255	-0.210	-1.70
	(0.444)	(1.105)	(0.425)	(1.23)
CB*Rent	0.913***	1.720***	0.610***	1.57***
	(0.243)	(0.324)	(0.223)	(0.62)
Rent	-2.128***	-0.254	-2.097**	0.07
	(0.763)	(0.388)	(1.056)	(0.37)
GNI	-6.323***	-3.255***	-2.466**	-8.69***
	(1.136)	(0.887)	(1.121)	(1.17)
Open	1.631	3.129**	2.151	1.23
	(1.774)	(1.386)	(1.387)	(1.69)
Govt. Exp.	2.376**	3.236***	0.263	1.60
	(1.150)	(1.023)	(0.874)	(1.08)
Age dep.	5.226	4.074	6.170	-5.98
	(3.545)	(3.409)	(5.089)	(4.88)
Pop. density	1.665	1.999**	2.021	1.95
	(1.271)	(0.835)	(1.406)	(1.90)
Fertility Rate	2.857	1.529	9.225***	6.11**
	(2.823)	(2.437)	(2.460)	(2.55)
Gov. effectiveness	0.545	1.129	-0.598	1.56*
	(1.381)	(0.928)	(0.952)	(0.96)
Constant	14.94	-17.22	-29.03	77.34**
	(21.75)	(18.86)	(24.91)	(29.19)
Observations	316	305	302	259
Number of countries	119	118	114	102
Number of Instruments	53	53	53	53
Sargan test (p val.)	0.10	0.75	0.10	0.9
Second order autocorr.(p val.)	NA	NA	NA	NA
r = n/i	2.24	2.22	2.15	1.92

Notes: NA implies that p values for first order autocorrelation are insignificant. So p values for second order ones are not applicable

Table 6B: Foreign Aid, Checks and Balances and Natural Resource Rent – Marginal Impacts

Based on Table 6A estimates, we estimate $\frac{\delta \text{Aid}}{\delta \text{CB}} = \hat{\beta}_2 + \hat{\beta}_4 \text{Rent}_{\text{it}-1}$. Specifically, we consider the 10th, 50th and 90th percentile of resource rent based on country means of the same. We estimate the marginal impacts for all measures of CB – checks, government fractionalization, constraints and opposition fractionalization.

Value of log rent	Percentile	Country	Estimates - Checks	Estimates – Gov. Frac.	Estimates - Constraints	Estimates – Opp. Frac.
-1.4	10th	Slovenia	-1.81**	0.017	-1.002*	-3.74***
			(0.71)	(1.15)	(0.65)	(1.31)
1.5	50th	Argentina	0.77**	4.86***	0.72**	0.69
			(0.31)	(1.23)	(0.33)	(1.72)
3.4	90th	Papua New Guinea	2.67***	8.44***	1.98***	3.96
			(0.64)	(1.67)	(0.62)	(2.78)

Table 7: System GMM - Foreign Aid, Checks and Balances and Resource Rent

All specifications are System GMM specifications. A 5 year interval panel is considered. Period dummies are included. The dependent variables are is *Aid per capita for production, Aid per capita for health and air per capita for Education. Checks* is from Database of Political Institutions (DPI). *Checks*Rent* represents the interaction term of rent and checks. *GNI* stands for Gross National Income expressed in constant 2011 US $. Population denotes the population of a country. *Openness* represents trade openness as a percentage of GDP. *Govt. Exp.* denotes government expenditure as a percentage of GDP. Finally, *age dependency* is the percentage of dependents to working age population. All variables except checks, are expressed in logarithm form. ***, ** and * denote significance at 1%, 5%, and 10%, respectively.

	(1) Aid (Production)	(2) Aid (Health)	(3) Aid (Education)
Aid_{t-1}	0.296***	0.351***	-0.0357
	(0.0696)	(0.0887)	(0.0815)
Checks	8.273	5.508	-78.57***
	(5.611)	(3.619)	(17.77)
Checks*Rent	9.757***	4.852**	57.62***
	(3.249)	(2.179)	(8.395)
Rent	-9.904	9.804	-78.87***
	(9.456)	(6.849)	(17.64)
GNI	-30.15**	-36.85***	-68.20
	(12.73)	(12.21)	(52.93)
Open	22.89***	-33.89***	65.96
	(7.497)	(12.73)	(43.14)
Govt. Exp.	-10.66	45.48***	17.95
	(15.40)	(13.83)	(50.92)
Age dep.	-21.85	32.64	6.821
	(41.60)	(53.23)	(141.4)
Pop. density	22.77	22.91	239.0***
	(15.23)	(18.64)	(53.62)
Constant	205.3	93.72	-471.3
	(228.7)	(305.0)	(763.9)
Observations	241	235	235
Number of countries	92	90	92