Agricultural Foreign Aid Allocation in Sub-Saharan Africa: The importance of Democracy and Quality of Governance

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***Abstract*: The objective of this research is to revisit the determinants of the allocation of foreign aid to agriculture in Sub-Saharan Africa, with a particular focus on the effects of democracy and quality of governance. The data for the study cover the period 1996-2018 in 47 Sub-Saharan African countries. Since democracy and quality of governance are a complex and multidimensional concepts, we measure them using three variables for democracy and five variables for quality of governance. In the quantitative analyses, we perform two estimations: country fixed effects and feasible generalized least squares regressions. We find that the strength of democratic institutions and government voice and accountability positively determine foreign aid to agriculture. Moreover, the quality of governance affects the allocation of foreign aid. Indeed, political stability and absence of violence/terrorism, government effectiveness, regulatory quality, rule of law, and control of corruption positively determine the allocation of foreign aid to agriculture. Our findings have strong policy implication for Sub-Saharan Africa countries, which shows that it is more desirable to promote good governance and improving the processes of democratization in each country to shift agricultural aid flows from international aid agencies and donor's countries.**

***Keywords*: Agriculture, foreign aid, democracy, quality of governance.**

I. INTRODUCTION

The probable consequences of the issues surrounding the agricultural question in globalization (agricultural model and ecological peril, food security and demographic change, food quality and industrialization, inequality, liberalization, etc.) as well as the fact that agriculture has been profoundly transformed by industrialization and the capitalist world-economy have placed agriculture high on the international agenda since the millennium (Mègnon, 2017). In the light of the Doha Round of trade negotiations, the agricultural issue will therefore be posed as the first materialization of agriculture in the international agenda, giving furthermore the importance of agriculture beyond even the borders. Since then, agriculture has been part of the global agendas designed at the level of the United Nations and its agencies. According to the UN 2030 Agenda (UN, 2015), the goal is "to eradicate hunger and ensure that everyone, especially the poor and vulnerable, including infants, has access to sufficient, safe and nutritious food throughout the year by 2030".

Despite the recognition of the importance of agricultural development, foreign aid agencies have sharply reduced their allocations to the agricultural sector. In Sub-Saharan Africa, where aid is most needed, the share allocated to agriculture declined by more than half between 1980 and 2002. Moreover, this decline is not related to declining agricultural populations: per capita agricultural aid fell from a peak of about US$20 per capita in the mid-1980s to only US$7 per capita in 2001. These trends have been accompanied by a sharp decline in agricultural R&D efforts, particularly in Sub-Saharan Africa (Beintema & Stads, 2006; Pardey et al., 2006). However, there has been a relative improvement (a 2.3 point increase) in the allocation of specific foreign aid to the agricultural sector in Sub-Saharan Africa between 2002 and 2010. However, the share allocated to agriculture remained between 6.5 and 7.8 percent of the total, almost double the proportion of aid to agriculture for all developing regions (Mellor, 2017).

The contraction of aid through the "urban bias" paradigm. Indeed, in developing countries (DCs), market failures and negative colonial legacies are structural impediments to market-driven agricultural development. These structural disadvantages have been compounded by systemic political economy forces that bias policies in favor of smallholders in particular. The "urban bias" originating in DCs is compounded by the protectionism of the international trade regime resulting from an ironic "rural bias" in the political economy of OECD countries (Bezemer & Headey, 2008). For this reason, in Monterrey 2002, the issue of policy coherence in the context of financing for development was at the heart of the conference. In this respect, and credibly, the industrialized countries cannot boast of their contribution to development financing through their aid and that their trade policy in some of its aspects, notably protectionism or agricultural subsidies, is silent. The fight against poverty, which has become the priority of developing country governments and international partners (Fan, 2008), has changed the practice of the Bretton Woods institutions following the failures of Structural Adjustments Program's. Thus, drawing on recent history, empirical studies (Aragie & Balié, 2020; Christiaensen & Martin, 2018; Diao & McMillan, 2018) refer to foreign aid as

one of the options for financing public investments to stimulate sectoral growth as agriculture. Indeed, any outcome is sensitive to government choices under constraints on financing mechanisms (Adam et al., 2014, 2018; Adam & Bevan, 2006).

Somme previous studies have suggested that factors of democracy explained foreign aid allocation (Alesina & Dollar, 2000 ; Fleck & Kilby, 2006; Svensson, 2000) and a large body of the literature is concentered to quality of governance as key factors in the active allocation of foreign aid (Alesina & Dollar, 2000; Bräutigam & Knack, 2004; Burnside & Dollar, 2000; Claessens et al., 2009; Clist, 2011; De la Croix & Delavallade, 2014; Hout, 2007; Kathavate & Mallik, 2012; Neumayer, 2003a, 2003b; Nordtveit, 2014; Winters & Martinez, 2015). A common drawback of these existing studies is that they aggregate into a single amount the different types such as, humanitarian, military, educational, and health to examine the attractiveness of foreign aid. The studies in agricultural aid are scarcity. Then, we address this gap by examining in this paper the importance of these two concepts in the provision of foreign aid specifically to the agricultural sector in Sub-Saharan Africa.

II. MAJORS PREDICTIONS AND ASSUMPTIONS

External financing through foreign aid to agriculture is selected given the role of this in financing public investments in low-income countries (Adam et al., 2018). In addition, aid to agriculture accounts for about 50% of sub-Saharan public spending (Mogues, 2015).

In many parts of the world, economic transition goes hand in hand with a political transition to a modern concept and organization of democracy (Profeta et al., 2013). Although it is difficult to establish the correct direction of a causal relationship, there may be positive feedback effects between economic and political reforms (Giavazzi & Tabellini, 2005). On the one hand, a higher level of economic welfare, which implies, for example, higher rates of education, a larger middle class, would be necessary, but not sufficient, for democracy to be widely supported and then introduced (Acemoglu & Robinson, 2006; Boix, 2003; Lipset, 1959). On the other hand, stable democracies are likely to promote economic liberalization and reform, which in turn have a positive effect on economic performance (Persson & Tabellini, 2006, 2008). As a result, democratization has positive effects on subsequent growth (Papaioannou & Siourounis, 2008) and thus attracts external support. For example, Svensson (2000) argues that if a country is more democratic, aid significantly promotes economic growth. However, the fungible behavior of the recipient government must be kept in mind (Feyzioglu et al., 1998; Kaya & Kaya, 2020; Maruta et al., 2020). Relatively few studies have addressed the influence of democracy on the allocation of international aid, especially in agriculture.

Alesina & Weder (2002) in their studies of the mechanisms of aid allocation or receipt through TOBIT regression over the period 1970-1995, it is interesting to note that the political rights variable indicates that the United States gives relatively more to democratic countries. These results, taken together, suggest that the United States may be more interested in democratic institutions per se than in the quality of government. In addition, the United States may want to use foreign aid as a political tool to promote certain political outcomes in various parts of the world. The Middle East is an obvious, but not unique, example. However, when total aid is taken, the "democracy" variable is no longer significant. This also shows the influence of democracy in multilateral relations. Two years earlier, Alesina & Dollar (2000) showed that foreign aid responds more to political and property rights variables. Countries that follow the democratization process receive more aid. Fleck & Kilby (2006) analyze both the decision to provide aid to a country and, conditional on the decision to provide aid, the decision of the level of aid to be provided by the United States. Their empirical analysis uses an unbalanced, country-level annual panel covering the period 1960-1997. The results show that democracy is statistically significant and provide modest evidence that the variable plays a role in the U.S. decision to provide or not aid. This evidence should be interpreted as modest for two reasons: regional effects that are due to democracy at the regional level or other factors and the estimated effect size that is not particularly large.

Hypothesis 1: The more democratic a country is, the larger the allocation of aid to agriculture.

In addition to these sparse debates on the role of democracy, there is also a debate on governance. Democracy can only be effective if the institutions that guarantee it are of better quality (Olper, 2001). According to Kaya & Kaya (2019), increased attention to the agricultural and reversing the downward trend in agricultural aid can improve the overall effectiveness of aid and enable a sustainable transition out of poverty. Thus, an increase in agricultural aid can improve the welfare of the poor both directly and indirectly through pro-poor public spending. This argument implies the effectiveness of aid, a topic heavily debated in the literature. Going back to the 1950s, the likely consequences of foreign aid set the stage for lively discussions among economists (Friedman, 1958; Rosenstein-Rodan, 1961). Starting from the micro-macro paradox highlighted by Mosley (1987)[1], a long series of studies estimating the effectiveness of aid have emerged. The results of these studies remain inconclusive. This is due to disagreement about the factors that undermine aid effectiveness. These factors include corruption (Asongu & Nwachukwu, 2017; Svensson, 1999), aid fungibility (Chatterjee et al., 2012; Collier & Hoeffler, 2007; Feyzioglu et al., 1998; Kaya & Kaya, 2020; Werker et al., 2009), aid effectiveness modeling and measurement issues (Clemens et

[1]According to this paradox, foreign aid-funded projects are often successful but total aid disbursements do not seem to make any difference at the macro level. How to solve this problem has generated a literature of its own, including a number of different theoretical perspectives.

al., 2012; Roodman, 2008); the Dutch Disease (Arellano et al., 2009; Bjerg et al., 2011; Werker et al., 2009) and the low institutional quality of recipient countries (Asongu & Nwachukwu, 2016; Burnside & Dollar, 2000). Others factors are based on political, strategic, and historical linkages, rather than on the needs of recipient countries (Alesina & Dollar, 2000; Fleck & Kilby, 2006).

Empirically, the role of governance quality on aid allocation is generally, but aid allocated to agricultural is rarely addressed by previous studies. A portion of the literature suggests that there are certain thresholds below which the benefits of foreign aid are insignificant for recipient countries (Durham, 2004; Kose et al., 2009). This is due to the absence of structural characteristics such as human capital, local financial development, macroeconomic policy and strong institutions (Maruta, 2019). Specifically, Arya et al. (2019) shows that the effects of foreign capital flows below a certain threshold of governance quality are insignificant due to factors such as corruption, bureaucratic incompetence, political instability, and bureaucracy. Yet, good governance improves a country's macroeconomic performance by reducing uncertainty, directing foreign aid to the most productive areas, building trust, and enhancing cooperation between the donor and recipient country (Maruta et al., 2020).

The corollary conclusion is that the donors should consider the governance of the recipient country when making decisions to provide aid (Winters & Martinez, 2015). Despite official donor rhetoric, the poorest and most corrupt countries receive the highest amounts of aid (De la Croix & Delavallade, 2014). Svensson (2000) proposes a simple game-theoretic "rent-seeking" model for the aid allocation mechanism using the share of aid to GDP over the period 1980-1993. Remarkably, he finds no evidence that donors systematically allocate aid to less corrupt countries. This result is confirmed by Alesina and Weder (2002). Indeed, in their study, these researchers use seven different measures of corruption (ICRG, TI, WDR, S&P, IMD and BI/EU) and total aid per capita over the period 1975-1995. As a result, they find no evidence of massive foreign aid. Neumayer (2003b) used aid recipient status and the proportion of total aid to 121 recipient countries between 1991 and 2000. He exploited the WGI monitoring of corruption, rule of law, and regulatory quality, as well as the Freedom House and Political Terror Scale. Regulatory quality is a consistently positive predictor of aid levels, while corruption control and rule of law do not have as much predictive power. Bermeo (2010) examines the proportion of bilateral aid delivered through different channels to 106 recipients, 2002-2007 and also total aid by sector. By using the average of five of the six global governance indicators, its results shows that donors channel aid through NGOs and multilateral organizations in poorly governed countries and that governance positively predicts higher overall aid flows (budget support, economic infrastructure, and productive sectors).

Clist (2011) took total and aggregate aid from seven major donors (France, Germany, Japan, Netherlands, Sweden, UK, USA), 1982-2006. The governance variable is the combined Freedom House and Political Terror Scale index. The Freedom House index positively predicts the existence of aid flows from all seven donors and significantly influences the amount of Aid for three of them. The Political Terror Scale significantly predicts eligibility for three of the donors. In addition, Clist et al. (2012) discuss the existence of budget support and the amount of budget support from the European Commission and the World Bank, 1997- 2009. The WGI governance effectiveness index has been put into operation. Government effectiveness predicts the receipt of budget support but does not predict the amount of budget support. Akramov (2012) exploits the overall aid flow and sectoral aid flow from 1973 to 2002 for OECD DAC donors through the Freedom House score and category. He finds that donors reward changes in the Freedom House category (e.g., from "not free" to "partially free") but, not smaller changes in the Freedom House score within these categories. These effects can be found across multiple aid sectors. Nordtveit (2014) uses a probability function to explain the probability of receiving general budget support from 23 bilateral donors over the period 1995-2009. Exploiting the WGI government effectiveness index, he arrives at results such as better governed countries are more likely to receive general budget support and get larger amounts, but better governed countries do not receive more other types of programmatic aid. In Sub-Saharan Africa, Alabi (2014) shows through a GMM over the period 2002-2010 that the transparency index exerts a positive and insignificant effect on the allocation of foreign aid to agriculture while the governance index shows a positive and significant relationship with aid to agriculture. This finding provides evidence of the role of governance on receipt of aid.

Hypothesis 2: The better the quality of governance a country has, the greater the allocation of aid to agriculture.

III. DATA AND VARIABLES DESCRIPTIONS

Our statistical analysis uses country-level data over the period 1996-2018 for 47 Sub-Saharan African countries. The selection of countries and time period is based on data availability. Our focus on the quality of governance does not result in a pre-1996 analysis. In this way, the data form a non-cylindrical panel. We use the logarithm for some regular variables. Table 2 summarizes the variables used and highlights some important descriptive statistics for each variable. The description of all the variables used in this study is presented in appendix (table A1). The countries included in this study are listed in table A2 in appendix.

Table 2. Descriptive statistics of the sample

	Number of observations	Mean	Standards deviations	Median	Minimum	Maximum
lnOdaAgTous	1074	2.449	1.841	2.642	-4.605	6.091

LnGovCon	884	2.603	.497	2.631	-.093	4.205
LnGovDeb	1019	3.926	.846	3.97	0	6.4
LnAgGDP	966	2.864	.869	3.16	.603	4.37
LnReXM	514	.387	.49	0	0	2.303
lnFemLabor	1058	4.083	.31	4.178	2.887	4.487
lnAgLandH	1080	-3.857	.611	-3.775	-6.182	-2.17
LnAgW	1081	6.965	1.9	7.265	2.303	10.445
lnPopRu10	1081	4.057	.343	4.125	2.364	4.528
LnReGini	713	3.773	.168	3.761	3.178	4.19
LnPrivCrd	1028	2.575	.921	2.606	-.91	7.85
Polity22	1034	1.901	5.16	3	-9	10
LiberCiv	966	.604	.153	.638	.116	.862
VoiAcount	1078	-.597	.733	-.677	-2.226	1.007
PolStab	1078	-.505	.907	-.376	-3.315	1.282
GovEffet	1078	-.746	.622	-.752	-2.446	1.057
QRegul	940	-.689	.631	-.647	-2.645	1.127
RuLaw	940	-.699	.664	-.702	-2.606	1.077
CorupCont	1078	-.616	.621	-.713	-1.869	1.217
IQgI	940	-.658	.626	-.682	-2.238	1.094
IQgE	940	-.722	.61	-.708	-2.524	1.085
IQG5	940	-1.629	1.566	-1.668	-6.401	2.287

Source: Author based on data from WDI, WGI, PolityV, IIDEA, ReSAKSS and FAOSTAT.

Table 2 presents summaries of descriptive statistics for all relevant variables for the period 1996-2018. Public funding from foreign aid to agriculture amounts to US$2.5 million (constant 2010) with a median of 2.64. Indicators of democracy score positively, yet indicators of the quality of governance are negative, this show the characteristics of Sub-Saharan Africa countries by their poorly quality of governance. Indeed, the period covered by our study was marked by advances in democratization and the transition from autocracies to democracies, improved civil liberties and the participatory engagement of citizens in electoral processes.

3.1. Variables of interest: factors of democracy and quality of governance

3.1.1. Different measures of democracy

There are at least two major issues to consider. On the one hand, democracy is a multidimensional concept, so that it is difficult to measure it with a single variable. Already in the 1970s, Dahl (1971) suggested that the concept of democracy has at least three dimensions: public contestation, the right to participate and civil liberties. However, most studies on the relationship between public policy and democracy do not refer to this multidimensionality and use a single variable to measure democracy. On the other hand, economic researchers are divided between those who favor a simple dichotomous definition with snapshot data (Beghin & Kherallah, 1994) or time series data (Olper et al., 2014), i.e. whether a country is democratic or not and with democracy as a discrete and non-continuous variable (Nourou, 2020; Papaioannou & Siourounis, 2008), and those who develop a continuous measurement of democracy based on a specific index (Swinnen et al., 2000).

Generally, democracy is measured by specific indexes such as civil liberties and political rights. Civil liberties include aspects of freedom of expression and belief, rights of association and organization, rule of law and personal autonomy and individual rights; while political rights reflect the electoral process, political pluralism and participation, and the functioning of government. According to Freedom House, civil liberties are measured on a scale of 1 to 7, with 1 representing the highest degree of freedom before the law and 7 the lowest, and political rights, which on the same scale, 1 represents the highest degree of freedom and 7 the lowest (Mundlak et al., 2012). However, both indicators are partial. For example, the civil liberties index has a classification bias (Papaioannou & Siourounis, 2008). From this point of view, we retain the index of fundamental rights (i.e. the aggregation of three sub-attributes which are: access to justice, freedoms, and social rights and equality) from the new base developed by the International Institute for Democracy and Electoral Assistance (IIDEA) which allows defining indexes of the overall state of democracy (Tufis, 2019).

The second group of indicators is based on the Polity2 index as contained in the PolityV data set (Marshall & Gurr, 2020). The Polity2 index ranges from -10 (strong autocracy) to +10 (strong democracy). Polity2 indexes of 10 and 0 indicate a strongly democratic and autocratic government respectively (Maruta et al., 2020). The Polity2 indicator is not an ideal measure. For example, Cheibub et al. (2010) suggest that parts of the average range of the Polity2 indicator are close to representing random noise and that a dichotomous measure of democracy such as the one originally provided by (Alvarez et al., 1996) and later extended by Cheibub et al. (2010) should be preferred if it is not clear how the intermediate scores are calculated. While we are aware of these limitations, we consider the Polity2 index to be a reliable indicator for capturing progressive changes in policy variables.

3.1.2. Different measures of governance quality

Six dimensions of governance are categorized (Kaufman et al., 2011): political stability and absence of violence/terrorism, government effectiveness, voice and accountability, regulatory quality, rule of law and control of corruption. Scores range from -2.5 to 2.5, with higher scores

indicating better results. Three main groups of variables define the quality of governance (Kaya and Kaya, 2020): the quality of political governance composed of voice and accountability and political stability and absence of violence. For the sake of clarity, only the variable 'political stability and absence of violence' will be considered to explain the quality of governance. Indeed, the variable 'voice and accountability' tends to explain democracy (Ahlborg et al., 2015) and will be adopted as its alternative measure. The quality of economic governance composed of two variables such as government effectiveness and regulatory quality, and the quality of institutional governance captured by rule of law and control of corruption. In an attempt to see the concurrent effect of these indicators while escaping the possible problem of multicollinearity, we constructed indexes of governance quality by taking simple averages of five items[2] and each group consisting of two items (see table A1) drawing on the recent work (Kaya and Kaya, 2020) to determine the relative role of the governance quality indicators.

3.2. Dependent variable

Financing through aid to agriculture: the development flow captured by foreign aid to agriculture is still of primary importance for Sub-Saharan African countries. Indeed, despite controversies surrounding its real role, the fact remains that the structure of public finances of African states does not allow them to mobilize all the resources necessary to finance the development of their agriculture (McArthur & Sachs, 2019). This forces them to resort to external support to sustain their budgets, aid support is multifaceted. However, we work with official development flows in support to agriculture.

3.3. Control variables

We then use some variables to control for the importance of democracy and quality of governance factors on the allocation of aid to agriculture drawing on previous studies and data availability. *Size of government*: this variable allows for productive government spending on social programs (health and education spending) and non-productive spending (Aragie & Balié, 2020) such as military spending. Indeed, in order to increase agricultural production, governments may have to increase spending on security (e.g. in conflict areas) and law enforcement (e.g. due to population growth). *Public debt*: it is approximated by total debt service (i.e. public expenditure on interest and principal payments) mainly because we have more observations for the latter. *Financial development*: it materializes the role of financial intermediation (Castañeda Rodríguez, 2018). *Agricultural value added as a percentage of GDP*: the agricultural sector is difficult to tax in developing countries due to self-consumption, under-reporting and special tax treatments (exemptions and deductions). *Agricultural trade*: it is measured by net exports in real terms and is use as proxy for the costs of agricultural expenditure (Rausser et al., 2011). Given the availability of data, we use this variable as a percentage of total exports. *The amount of land per capita*: this variable is approximates the truly fixed relative endowment income in agriculture (Rausser et al., 2011). It is used extensively in the field of agricultural protection. *The share of agriculture in total employment*: this variable is a proxy for the relative size of the lobby group or lobbying (Rausser et al., 2011).

IV. ECONOMETRIC SPECIFICATIONS AND ANALYSIS METHOD

The model we estimate is based on the standard models of determinants in comparative economics used by Profeta et al. (2013). Thus, we estimate two empirical models. The first one relates democracy and external public financing to agricultural through agricultural aid:

$$Y_{i1t} = \alpha_1 + \delta_r + \emptyset_t + \beta_j X_{i1t} + \gamma_d D_{it} + \mu_{i1t} \qquad 1.1$$

Where Y_{i1t}represents our dependent variable (source of financing through foreign aid to agricultural in country i in year t); X_{i1t} the set of control variables; D_{it} is a policy variable designed to capture the level of democracy or the quality of governance within theirs multiple indicators; α_1 is a joint intercept; δ_r and $\emptyset_t$ are country i and year t fixed effects, respectively; β_j materialize the coefficients of the control variables; γ_d materialize the coefficients of the democracy variables; and μ_{i1t} is an unobserved error term.

The second specification relates the quality of governance to external public financing to agricultural through agricultural aid:

$$Y_{i2t} = \alpha_2 + \varphi_r + \theta_t + \beta_l X_{i2t} + \gamma_n QG_{it} + \mu_{i2t} \qquad 1.2$$

Where Y_{i2t} is our dependent variable (source of financing through foreign aid to agricultural in country i in year t); X_{i2t} is the set of control variables; QG_{it} is a policy variable designed to capture governance quality; α_2 is a joint intercept; $\varphi_r$and θ_t are country i and year t fixed effects, respectively; β_l materialize the coefficients of the control variables; γ_n is the coefficients of the governance quality variables; and μ_{i1t} is an unobserved error term.

According to Maruta et al. (2020), the quality of institutions changes little over time. Thus, the small variation over time in the factors of democracy and governance quality make it impossible to use the internal estimator because of time-invariant covariates. Therefore, fixed effects are not the right estimator for our analysis. The random effects model must be the right choice. However, the rather long period of our study ($T = 23$ years) does not favor random effects. In that case, we opt for country fixed effects models like Profeta et al. (2013). In the comparative economics literature, econometric approaches are employed by researchers relating

[2]To test the internal consistency between items, we calculated Cronbach's alpha. This test gives an alpha of 0.8568, which proves the strong credibility of our index. For the IQgE and IQgI indexes, the alpha values are 0.8763 and 0.8695 respectively, proving the strong credibility of our indexes. Recall that the simple average of a statistical series X is the sum of the numbers n_i over the total number T.

measures of democracy in its multidimensionality with the dependent variable while incorporating intra-country and/or year variation (Albalate et al., 2012; Papaioannou & Siourounis, 2008; Profeta et al., 2013). Similar research is done on the other institutional factor, the quality of governance, but with methods such as panel OLS (Ahlborg et al., 2015) and dynamic generalized least squares (Kaya and Kaya, 2020). Of course, the crucial difference is that Papaioannou & Siourounis (2008) study aims at estimating the impact of democracy on economic growth while Albalate et al. (2012) study targets the institutional determinants of military spending and Profeta et al. (2013) study targets intermediate outcomes such as tax revenues and public spending.

From the above, our study approaches the latter. Furthermore, our study approaches that of Kaya &Kaya (2020) for quality of governance. The difference is only that it deals with the fungibility of foreign aid. We deal with the allocation of aid to agriculture. Besides, we estimates using panel data with country specific effects over the whole period covered in order to facilitate the discussion on the fitness and consistency of our results across specifications. Different specifications are provided depending on whether we use dummy year variables instead of a trend variable. We also use the Huber-White correction of the standard error to overcome possible heteroskedasticity problems (see Albalate et al., 2012).

V. REGRESSION RESULTS AND DISCUSSION

The correlations between the variables are reported in table A3 for the democracy factors and in table A4 for the quality of governance. In view of the high correlation, we suspect the existence of multicollinearity problems between variables such as GDP per capita and value added in the agricultural sector. The multicollinearity test is performed for each regression and the values are reported in each results table. To ensure that this correlation is low, the VIF (Variance Inflation Factor) method (Marquardt, 1970) is used. Indeed, there is a debate about the level of the VIF which highlights the problem of multicollinearity. However, we retain the argument of Fox (2016) that there is a multicollinearity problem when the VIF is greater than 5. For each regression, the VIF is in the expected range (see tables 2 and 3). Thus, we conclude that our variables form a positive matrix. The results are presented in Tables 3 and 4 for democracy and quality of governance respectively.

Table 3. International aid to agriculture and democratic factors: Country fixed effects

	(1) Pooled OLS	(2)	(3)	(4)	(5)	(6)
	Agricultural Foreign aid					
lnGovCon	-0.65***	-0.46**	-0.12	-0.05	-0.54*	-0.11
	(0.224)	(0.181)	(0.263)	(0.246)	(0.284)	(0.255)
lnReGovDebt	-0.20***	-0.27***	-0.18	-0.27**	-0.09	-0.27**
	(0.079)	(0.083)	(0.117)	(0.121)	(0.086)	(0.123)
lnAgVaGDP	-0.03	-0.93***	-0.79**	-0.52	-1.52***	0.04
	(0.213)	(0.258)	(0.383)	(0.349)	(0.322)	(0.461)
lnReXM	0.17	0.03	-0.27	-0.25	-0.43**	-0.34*
	(0.107)	(0.124)	(0.193)	(0.206)	(0.204)	(0.200)
LnAgLandH	0.61***	0.65***	-0.14	-0.20	-0.03	-0.86
	(0.150)	(0.149)	(0.474)	(0.463)	(0.460)	(0.574)
LnAgW	1.38***	0.88***	1.00***	0.71**	1.63***	0.30
	(0.107)	(0.111)	(0.364)	(0.357)	(0.421)	(0.376)
LnPrivCrd	0.34**	0.29**	0.52*	0.41	1.06***	0.40
	(0.141)	(0.131)	(0.278)	(0.266)	(0.195)	(0.260)
Trend	0.07***					
	(0.011)					
Polity22		0.11***	0.08***	0.04		
		(0.022)	(0.029)	(0.046)		
Pol24				0.01*		
				(0.005)		
LiberCiv					-1.73*	
					(0.926)	

VoiAcount						1.02***
						(0.294)
Constant	-5.32***	2.59	-3.19	-1.99	-5.89*	-1.32
	(1.183)	(1.754)	(2.870)	(2.848)	(2.999)	(2.729)
Years fixed effects	No	Yes	Yes	Yes	Yes	Yes
Country fixed effects	**No**	**No**	**Yes**	**Yes**	**Yes**	**Yes**
Observations	209	209	209	209	209	209
R square ajusted	0.66	0.73	0.78	0.79	0.75	0.79
Fisher test	51.09****	23.81***	27.16***	33.6***	37.2***	29.63***
VIF	1.28	1.57	1.57	1.83	1.45	1.41

Source: Author based on STATA 16. Standard deviations are in brackets, *** p<0.01, ** p<0.05, * p<0.1.

In model 1 (pooled OLS panel), we observe some factors determining the allocation of aid to the agricultural sector. By progressively introducing indicators of democracy, some variables become significant (positively or negatively). This highlights the importance of institutional factors in the transformation of economies today. The results in Table 3 show a positive and significant influence between the strength of democratic institutions and international aid to the agricultural sector. When country-specific fixed effects are taken into account in our specification, the shift from autocracies to democracies (strength of democratic institutions) determines the allocation of aid to agriculture at the critical 5% threshold. This relationship is linear. This result shows the idea that the level of democracy depends on each country and the related changes per year. For other indicators of democracy, voice and accountability and participatory engagement are significant and positive at the 5% level.

Concerning the protection of civil liberties, a negative and significant influence is observed at the 1% threshold. Indeed, in an advanced democracy, civilians can exercise greater control over the use of aid in general and, as a result, the share of agricultural aid decreases. Our result seems to suggest that this effect starts to be felt after a certain threshold of democracy and development. Our result contrasts with that found by Clist (2011) who showed that the Freedom House index positively predicts the existence of aggregate aid flows from seven major donors (France, Germany, Japan, the Netherlands, Sweden, the UK, and the US). The positive impact of the time trend indicates that the allocation of international aid to agriculture increases slightly each year. This result is interesting in the light of the commitments made by the international community to finance development since the 2000s in the context of the MDGs, some of which have been reaffirmed in the context of the SDGs.

The existing literature on aid suggests that the effectiveness of foreign aid can be determined by the level of democracy in recipient countries. Thus, when the degree of democracy is higher in countries receiving foreign aid, it should stimulate more economic growth (Svensson, 1999). For example, according to recent literature (Maruta et al., 2020), aid for education, after interacting with democracy, has a significantly higher positive effect on economic growth. Indeed, in a panel setting, Fleck and Kilby (2006) show that democracy plays a role in US aid allocation decisions. Furthermore, Alesina & Weder (2002) already supported the idea that the US might be more interested in democratic institutions than in the quality of governance. Thus, the country that follows the democratic process receives more aid (Alesina & Dollar, 2000). Our study confirms these predictions for international aid to agriculture.

From the above results, we can conclude that democracy through its indicators mentioned in this study determines the allocation of international aid to agriculture. Thus, hypothesis 1 is confirmed for the strength of democratic institutions, voice and accountability and participatory engagement. It is invalidated for the protection of civil liberties, which emerges as the unexpected (negative) sign. Regarding the determining role of good governance, its relationship with foreign aid is plural as it covers several aspects of governance. Donors generally believe that good governance is both an objective in itself and an instrument to enhance development. Therefore, they use good governance indicators as selection criteria in the allocation of aid and try to improve governance through specific projects or by having a policy dialogue with recipient governments. The new aid economy emphasizes the importance of good governance and good institutions for aid to be successfully used for sustainable growth. This led to the creation by the US of the Millennium Challenge Account, whose transfers are directed to countries that pass the good policy test. Aid has thus moved away from project-based lending to country selectivity and policy-based lending. In our study, the results considering the World Bank's WGI governance quality indicators are presented as follows (Table 4).

Table 4. International aid to agriculture and quality of governance factors: Country fixed effects

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Agricultural Foreign aid							
LnGovCon	0.03	-0.17	-0.05	-0.04	-0.21	-0.12	-0.02	-0.28
	(0.247)	(0.224)	(0.236)	(0.223)	(0.264)	(0.241)	(0.213)	(0.228)
lnReGovDebt	-0.19	-0.10	-0.02	-0.13	-0.19	-0.15	0.02	-0.14*
	(0.122)	(0.117)	(0.119)	(0.125)	(0.126)	(0.121)	(0.112)	(0.074)
lnAgVaGDP	-0.17	-0.31	-0.50	-0.65	-0.89**	-0.84**	-0.33	-0.75*
	(0.396)	(0.364)	(0.399)	(0.398)	(0.385)	(0.393)	(0.383)	(0.382)
LnReXM	-0.36*	-0.13	0.09	-0.01	-0.31	-0.06	0.15	-0.01
	(0.198)	(0.189)	(0.167)	(0.170)	(0.228)	(0.170)	(0.155)	(0.146)
LnAgLandH	-0.61	-1.01**	0.24	-0.64	0.20	-0.29	-0.33	-0.49
	(0.509)	(0.468)	(0.477)	(0.592)	(0.471)	(0.539)	(0.468)	(0.489)
LnAgW	0.18	0.14	0.67**	0.64**	0.88**	0.80**	0.40	0.78***
	(0.354)	(0.349)	(0.315)	(0.301)	(0.386)	(0.310)	(0.311)	(0.288)
LnPrivCrd	0.54**	0.28	0.26	0.37	0.50*	0.50*	0.14	0.58***
	(0.238)	(0.233)	(0.242)	(0.245)	(0.272)	(0.261)	(0.224)	(0.218)
Trend								0.03**
								(0.016)
PolStab	0.76***							
	(0.171)							
GovEffet		1.63***						
		(0.269)						
QRegul			1.11***					
			(0.320)					
RuLaw				1.06***				
				(0.309)				
Corupt					0.01			
					(0.524)			
IPQgI						0.04***		
						(0.010)		
IQgE							1.70***	
							(0.318)	
IPG5								0.04***
								(0.009)
Constant	-0.52	-0.02	-0.08	-2.03	-1.05	-2.04	-0.03	-3.55
	(2.551)	(2.486)	(2.518)	(2.879)	(3.141)	(2.869)	(2.446)	(2.732)
Years dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Country fixed effects	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
Observations	209	209	182	182	209	182	182	182
R square ajusted	0.80	0.81	0.79	0.79	0.76	0.78	0.81	0.79
Fisher test	24.52***	31.94***	25.44***	27.18***	22.62***	26.98***	31.88***	41.41***
VIF	1.33	1.48	1.39	1.41	1.29	1.40	1.46	1.45

Source: Author based on STATA 16. Standard deviations are in brackets, *** p<0.01, ** p<0.05, * p<0.1.

As can be seen in columns 1-5 of Table 4, four of five indicators of the governance quality (political stability, government effectiveness, quality of regulation and rule of law) have a positive sign associated with foreign aid attractiveness in the agricultural sector. Political stability (1% threshold), government effectiveness (1% threshold), regulatory quality (1% threshold) and rules and laws (5% critical threshold) significantly and positively explain the allocation of international aid to agriculture. Control of corruption is positively but not significantly explain the agricultural foreign aid. Recall that the purpose of considering governance indicators individually is to determine the weight of each of these indicators in donors' aid allocation decisions. Thus, the results indicate that donors are more concerned about all these indicators when allocating agricultural aid to recipient countries, which is consistent with Alesina and Weder (2002) who found that Australian and Scandinavian donors use control of corruption as a basis for selectivity, and Alesina and Dollar (2000) who found that most donor countries favor recipients with better political and civil rights. In addition, as peace and security are key factors in development, aid is used to reduce conflict and manage post-conflict situations well. Thus, good governance is essential to guide the allocation of international aid (Collier, 2007), which is consistent with our finding on political stability.

Beside the effects of individual measure of the quality of governance, we need to capture the effect of all indicators simultaneously. Columns 6, 7 and 8 of Table 4 show the results of the governance quality index where the simple average of the indicators is used accordingly. The coefficient of each of these indexes is always positive compared to the coefficients of the individual indicators in the previous regressions. Clearly, the quality of institutional and economic governance as well as overall governance contribute to the decision to allocate foreign aid to agriculture. Moreover, Dietrich (2013) confirms the role of governance in aid allocation by showing that donors bypass corrupt rulers and go through non-state actors to allocate aid. Overall, our results show that foreign aid in support of the sector is effective when there is good governance as argued by Burnside and Dollar (2000).

From the above, the results suggest that in economies where the country has lower corruption, higher rule of law, better regulatory quality, more effective government, greater public participation and better control of the political system, the allocation of aid is more effective as a source of funding for agricultural development. Corruption can be a major by-product of foreign aid, and there is a broad consensus, not necessarily to reduce foreign aid in order to stifle corruption, as Moyo (2009) advocates, but to place anti-corruption practices at the heart of strategies to increase aid effectiveness (De Janvry & Sadoulet, 2016). Based on these results, we conclude that the quality of governance conditions the efficient allocation of international aid to agriculture and therefore confirm Hypothesis 2 for international aid financing to agriculture. This confirmation materializes the argument that international aid is a source of multiple equilibrium such as the green revolution with the adoption of innovations and other agricultural inputs, which is in line with Sachs (2005).

VI. EXTENSION AND ROBUSTNESS DIAGNOSIS

On democracy, the strength of democratic institutions, voice and accountability, and participatory engagement are key determinants of international aid to agriculture. As civil liberties are sensitive to the specification, their effect appears to be mixed, thus invalidating hypothesis 2. We also note that the level of significance varies according to the model used. For example, for the country-specific effects, the threshold is 5% for the strength of democratic institutions on international aid to agriculture (see table A7 in appendix). Through the FGLS model (table A8), the results remain identical and justify the robustness of our analysis regarding the quality of governance. These results are not very sensitive to the methods of analysis, thus confirming all the indicators of governance quality as the main determinants of agricultural foreign aid.

VII. CONCLUSIONS

Our study contributes to understanding the sources of ineffectiveness of international aid to the agricultural sector by documenting that at the aggregate level, improving institutional quality in recipient economies can be a way for donors to overcome this setback by refining policy design and cultivating aid reforms in recipient developing countries. Indeed, most African countries have been trapped in an absolute deterioration of institutional quality for many years, as evidenced by a very low percentage of annual change in the measure of institutional quality. However, international aid represents the highest proportion of government budgets in African countries (Knack, 2004). In Africa, aid to agriculture, in interaction with institutional quality, has a higher positive and significant effect on economic growth than aid to education and health (Maruta et al., 2020). This is a very important finding for policy perspectives. According to Rostow (1965), growth in the agricultural sector is the first step in development in all countries for a successful take-off.

On the side of democracy and for the source of funding through international aid to agriculture, the strength of democratic institutions, voice and accountability and participatory engagement are the main determinants. As civil liberties are sensitive to the specification, their influence appears to be mixed, rejecting hypothesis 1 for this indicator. On the quality of governance side, we infer for international aid to agriculture that the results are not very sensitive to the methods of analysis, thus confirming all indicators of quality of governance as main determinants of international aid to agriculture. Specifically, political stability, government effectiveness, quality of regulation, rules and laws, and control of corruption are the main determinants of public financing of international aid to agriculture, thus confirming hypothesis 2. Thus, all things being equal, it can be argued that political, institutional and economic factors have

determined the behavior of traditional donors and philanthropic organizations in Sub-Saharan Africa, with regard to agricultural development policies. Based on our all findings, there is a strong policy implication for international aid to Sub-Saharan Africa countries, which shows that it is more desirable to promote good governance and improving the processes of democratization in each country to shift agricultural aid flows.

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Tests	MPI	Polity2	**Tests**	MPI	Polity2
F	10.21 (0.000)	11.03 (0.000)			
BP	472.49 (0.000)	511.72 (0.000)	Hausman	102.82 (0.000)	63.13 (0.000)
WGH	418.04 (0.000)	560.87 (0.000)	CD	42 (0.000) AAV=0.369	39.77 (0.000) AAV=0.366
BPLMI	15.29 (0.000)	13.12 (0.000)	WA	36.52 (0.000)	30.27 (0.000)

Note: AAV=Average absolute value of the off-diagonal elements.

Variables	**Tests**			
	IPS	**Pesaran**	**MW**	**Choi**
$OdaTous$	-6.4276 (0.000)	-8.799 (0.000)	127.5229 (0.0122)	488.8441 (0.000)
MPI (I1)	*N/A*	5.18 (1.000)	205.7589 (0.000)	10.0892 (0.000)
$Polity22$ (I1)	*N/A*	2.302 (0.989)	140.647 (0.000))	378.6511 (0.000)
$rgdpo\_têt$	-2.4879 (0.0064)	1.639 (0.949)	105.8573 (0.1214)	295.0204 (0.000)
tot_rent (I1)	-7.0973 (0.0000)	-1.395 (0.081)	177.6434 (0.000)	355.1081 (0.000)
$ReGovDebt$	-0.4791 (0.3159)	-3.878 (0.000)	119.073 (0.0218)	262.8426 (0.000)
$AgVaGDP$	-4.8936 (0.000)	-1.658 (0.049)	107.3958 (0.0436)	272.5022 (0.000)
$ReXM$	*N/A*	-14.893 (0.000)	857.0473 (0.000)	838.5161 (0.000)
AgW	1.1235 (0.8694)	2.519 (0.897)	29.6693 (1.0000)	84.8947 (0.7382)
$VarTe$ (I1)	-15.626 (0.000)	-8.527 (0.000)	279.4171 (0.0005)	37.5093 (0.000)

Table A4. Stationary tests Appendixes

Table A1. Description of variables and sources

Name of the variable	**Description of the variable**	**Coding the variable**	**Source**
Agricultural forgien aid	We use total agricultural flows measured in millions of US dollars (constant 2017 prices). In addition, it should be noted that operationalized aid is the portion of commitments actually disbursed.	OdaAgTous	FAOSTAT
Size of government	It is captured by government consumption expenditures as a % of GDP and takes into account productive government expenditures for social programs (health and education expenditures) and non-productive expenditures.	GovCon	WDI
Public debt	It is approximated by total debt service (i.e., government expenditures for interest and principal payments) primarily because we have more observations for the latter.	GovDeb	WDI
Agricultural value added as a percentage of GDP	It measures the contribution of agriculture to GDP.	AgGDP	WDI
Agricultural trade	It is measured by net exports in real terms.	ReXM	ReSAKSS
		FemLabor	WDI
Land per capita	This variable captures the availability of land per farmer. This variable approximates the truly fixed relative endowment income ("fixed income") in agriculture.	AgLandH	USDA-ESR
Agricultural work	This variable measures the contribution of agriculture to total employment.	AgW	USDA-ESR
financial development	It is represented by the value of credits granted to the private sector in relation to GDP.	PrivCrd	WDI
Polity2	The Polity2 index ranges from -10 (strong autocracy) to +10 (strong democracy).	Polity22	POLITYV
Civil liberties	The civil liberties defined are the aggregation of three sub-attributes: Access to justice, freedoms, and social rights and equality. This is the index of Fundamentals rights.	LiberCiv	IIDEA
Voice and	It measures perceptions of the extent to which a country's citizens can	VoiAcount	WGI

accountability	participate in choosing their government, as well as freedom of expression, freedom of association and freedom of the media.		
Political stability and absence of violence	It measures perceptions of the likelihood that the government will be destabilized or overthrown by unconstitutional or violent means, including politically motivated violence and terrorism.	PolStab	WGI
Government effectiveness	It measures perceptions of the quality of public services, the quality of the civil service and its degree of independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to these policies.	GovEffet	WGI
Quality of the regulation	It measures the perceived ability of the government to formulate and implement sound policies and regulations that enable and promote private sector development.	QRegul	WGI
Rule of law	It measures perceptions of the extent to which agents trust and abide by the rules of society, and in particular the quality of contract enforcement, property rights, police and courts, and the likelihood of crime and violence.	RuLaw	WGI
Control of corruption	It provides a better understanding of the extent to which public power is exercised for private purposes, including both petty and grand forms of corruption, as well as the control of elites and private interests over the state.	Corupt	WGI
Institutional Governance Quality Index	It is composed of two variables such as government effectiveness and regulatory quality.	IQgI	WGI
Economic Governance Quality Index	It is composed by the rule of law and the control of corruption.	IQgE	WGI
Average governance quality index	It is composed by the five indicators except voice and responsibility.	IQG5	WGI

Table A2. Liste des pays pour l'étude

South Africa	Liberia
Angola	Madagascar
Benin	Malawi
Botswana	Mali
Burkina Faso	Mauritania
Burundi	Mozambique
Cameroon	Namibia
Cap Verde	Niger
Comores	Nigeria
Congo	Ouganda
Ivory Coast	Central African Republic
Djibouti	Democratic Republic of Congo
Eritrea	Rwanda
Eswatini	Sao Tome & Principe
Ethiopia	Senegal
Gabon	Seychelles
Gambia	Sierra Leone
Ghana	Somalia
Guinea	Chad
Equatorial Guinea	Togo
Guinea-Bissau	Tanzania
Mauritius	Zambia
Kenya	Zimbabwe
Lesotho	

Table A3. Correlation matrix with democracy factors

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1) lnOdaAgTous	1.000										
(2) lnGovCon	-0.068	1.000									
(3) lnReGovDebt	-0.251	0.163	1.000								
(4) lnAgVaGDP	-0.365	0.222	0.299	1.000							
(5) lnAgLandH	-0.071	-0.130	0.099	-0.006	1.000						
(6) lnReXM	-0.029	-0.184	0.262	0.091	0.080	1.000					
(7) lnAgW	0.636	0.083	0.073	-0.292	-0.314	0.039	1.000				
(8) lnPrivCrd	0.153	0.253	-0.219	0.019	-0.262	-0.169	-0.126	1.000			
(9) Polity22	0.544	0.079	0.112	0.235	-0.248	0.185	0.540	0.054	1.000		
(10) LiberCiv	0.444	-0.346	0.005	-0.063	0.241	0.207	0.241	-0.026	0.453	1.000	
(11) VoiAcount	0.610	-0.126	0.007	-0.006	-0.048	0.173	0.467	-0.043	0.758	0.720	1.000

Table A4. Correlation matrix with governance quality factors

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
(1) lnOdaAgTous	1.000															
(2) lnGovCon	-0.069	1.000														
(3) lnReGovDebt	-0.233	0.142	1.000													
(4) lnAgVaGDP	-0.313	0.248	0.353	1.000												
(5) lnAgLandH	-0.120	-0.115	0.103	0.012	1.000											
(6) lnReXM	0.047	-0.259	0.225	0.066	0.094	1.000										
(7) lnAgW	0.671	0.054	0.047	-0.254	-0.325	0.044	1.000									
(8) lnPrivCrd	0.124	0.273	-0.185	0.007	-0.265	-0.174	-0.138	1.000								
(9) PolStab	0.257	-0.238	-0.100	-0.080	0.238	0.008	0.078	-0.365	1.000							
(10) GovEffet	0.618	-0.299	-0.068	-0.098	0.053	0.238	0.477	-0.144	0.498	1.000						
(11) QRegul	0.555	-0.235	-0.102	-0.056	-0.014	0.146	0.349	0.041	0.449	0.812	1.000					
(12) RuLaw	0.469	-0.261	-0.098	0.179	0.125	0.176	0.178	-0.180	0.702	0.749	0.677	1.000				
(13) Corupt	-0.005	-0.093	0.093	-0.086	0.032	0.154	0.089	-0.311	0.226	0.203	0.093	0.172	1.000			
(14) IPQgI	0.474	-0.272	-0.176	0.131	0.051	0.142	0.185	-0.167	0.664	0.679	0.600	0.953	0.043	1.000		
(15) IQgE	0.619	-0.283	-0.088	-0.083	0.024	0.206	0.439	-0.063	0.499	0.960	0.943	0.752	0.160	0.675	1.000	
(16) IPG5	0.555	-0.262	-0.170	0.130	-0.032	0.182	0.269	-0.028	0.463	0.760	0.764	0.908	0.001	0.938	0.800	1.000

Table A7. The importance of the factors of democracy: FGLS model

	(1)	(2)	(3)	(4)
	Agricultural Foreign aid			
lnGovCon	-0.65***	-0.61***	-0.33*	-0.34**
	(0.144)	(0.150)	(0.192)	(0.150)
lnReGovDebt	-0.20***	-0.19***	-0.11	-0.18***
	(0.064)	(0.065)	(0.070)	(0.062)
lnAgVaGDP	-0.77***	-0.70***	-0.16	-0.34**
	(0.168)	(0.180)	(0.164)	(0.137)
lnReXM	0.09	0.09	0.15*	0.05
	(0.082)	(0.082)	(0.084)	(0.078)
lnAgLandH	0.65***	0.68***	0.27**	0.44***
	(0.112)	(0.118)	(0.129)	(0.093)
lnAgW	0.90***	0.90***	1.12***	0.95***
	(0.089)	(0.091)	(0.095)	(0.085)
lnPrivCrd	0.37***	0.35***	0.32***	0.40***
	(0.098)	(0.100)	(0.103)	(0.092)
Polity22	0.10***	0.09***		
	(0.012)	(0.017)		
Pol24		0.00		
		(0.003)		
LiberCiv			3.03***	
			(0.613)	
VoiAcount				0.80***
				(0.080)
Constant	1.72	1.31	-6.47***	-1.30
	(1.068)	(1.134)	(0.961)	(0.834)
Years fixed effects	Yes	Yes	Yes	Yes
Observations	209	209	209	209
Wald test	973.03***	985.19***	652.44***	922.81***

Source: Author based on STATA 16. Standard errors are in parentheses,

*** p<0.01, ** p<0.05, * p<0.1.

Table A8. The Importance of Governance Quality Factors: FGLS Model

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Agricultural Foreign aid							
lnGovCon	-0.73***	0.10	-0.21	-0.18	-0.70***	-0.19	0.13	-0.03
	(0.161)	(0.161)	(0.164)	(0.165)	(0.179)	(0.167)	(0.157)	(0.169)
lnReGovDebt	-0.13**	0.00	-0.01	-0.04	-0.13*	0.04	0.03	0.07
	(0.066)	(0.057)	(0.064)	(0.063)	(0.070)	(0.065)	(0.059)	(0.067)
lnAgVaGDP	0.07	-0.29**	-0.23	-0.62***	0.08	-0.66***	-0.36***	-0.78***
	(0.145)	(0.132)	(0.147)	(0.161)	(0.171)	(0.169)	(0.135)	(0.172)
lnReXM	0.29***	0.12*	0.24***	0.16**	0.27***	0.16**	0.18**	0.17**

	(0.075)	(0.069)	(0.083)	(0.080)	(0.082)	(0.078)	(0.076)	(0.077)
lnAgLandH	0.32***	0.11	0.26**	0.24**	0.49***	0.25**	0.13	0.34***
	(0.105)	(0.093)	(0.104)	(0.099)	(0.130)	(0.106)	(0.092)	(0.109)
lnAgW	1.26***	0.66***	0.95***	1.10***	1.33***	1.10***	0.70***	0.98***
	(0.088)	(0.094)	(0.090)	(0.085)	(0.088)	(0.087)	(0.090)	(0.089)
lnPrivCrd	0.54***	0.18**	-0.01	0.39***	0.36***	0.38***	0.01	0.20**
	(0.100)	(0.086)	(0.105)	(0.092)	(0.108)	(0.090)	(0.092)	(0.088)
PolStab	0.44***							
	(0.071)							
GovEffet		1.34***						
		(0.116)						
QRegul			1.19***					
			(0.133)					
RuLaw				1.01***				
				(0.115)				
Corupt					0.06			
					(0.330)			
IPQgI						0.05***		
						(0.005)		
IQgE							1.53***	
							(0.129)	
IPG5								0.05***
								(0.005)
Constant	-5.52***	-1.37*	-2.35***	-3.11***	-5.42***	-3.35***	-1.15	-2.75***
	(0.847)	(0.795)	(0.858)	(0.850)	(0.941)	(0.861)	(0.802)	(0.846)
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	209	209	182	182	209	182	182	182
Wald test	752.38***	968.64***	842.36***	784.26***	639.19***	803.35***	1014.58***	828.63***

Source: Author from STATA 16. Standard deviations are in parentheses, *** p<0.01, ** p<0.05, * p<0.1.