Abstract

We examine the heterogeneous effects due to government stability of foreign aid on tax revenues in the West African Economic and Monetary Union countries over the period 1986-2010. We show that the tax effects of aid are gradual and varying across countries according to the level of government stability. The Panel Smooth Threshold Regressions indicate that at low levels of government stability, aid negatively affects tax performances. At high levels, it encourages tax collection. Consequently, we provide estimates of individual time varying coefficients of aid effects. In general, the positive effects are marked since the mid of 1990 decade. However, decomposing aid into its forms of loans, technical and non-technical grants provides nuanced results.

Key words: Foreign aid, Government Stability, Tax Revenue, PSTR, WAEMU

JEL codes: F35, 017, H20, C23, O55

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demanding more tax exemptions (Gupta et al., 2003).

Numerous empirical studies have supported evidence of this latter argument. Remmer (2004), through a regression analysis of 120 developing countries over 1970–1999 period finds that aid systematically generates incentives and opportunities for the expansion of government spending. In contrast, aid reduces revenue collection. Bräutigam and Knack (2004) show that more aid erodes the quality of governance and the tax to GDP ratio over the 1982-1997 period. Although their results are strong to various econometric specifications (OLS, 2SLS and Ordered Logit), they are based on cross-section regressions with only about 30 countries. In further cross-section regressions of 110 developing countries over 1999-2005 and using a World Bank indicator on "efficiency of revenue mobilization", Knack (2009) shows that aid exerts a negative effect on tax systems. The main limit of these studies is that they use cross-section data and do not deal with time dynamics.

In addition, the evidence of unfavorable impact of aid on tax systems through political institutions of the recipient countries is debatable since some studies find out that aid promotes governance or doesn't change the trajectory of the institutions (Wright, 2009; Dutta et al., 2013).

In extension of these previous investigations, there are a number of empirical studies that focus on the conditions under which aid could be effective in improving tax performances. The first idea is that the effect of aid depends on its composition. Empirical results of Gupta et al. (2003) in a sample of 107 developing countries over 1970-2000 suggest that grants reduces tax effort but that loans, because they must be repaid, encourage tax collection. Using more recent data and a wider sample of 118 countries over 1980-2009, Benedek et al. (2012) find similar results. They also find that net ODA and grants are negatively associated with VAT, excise and income taxes but positively with trade taxes. Besides, they test for nonlinearities by including a squared term for aid or aid component (grants and loans) as explanatory.

Notwithstanding the echo that these studies have received, other empirical investigations show that the negative relationship between aid and tax effort is not robust and in some cases is positive. Clist and Morrissey (2011) report a positive effect of grants on tax to GDP ratio on a sample of 82 developing countries over 1970-2005. The positive effect of grants occurs even over the medium term. The approach of Brun et al. (2011a) departs from all of the other studies. Following Stotsky and WoldeMariam (1997), they first compute an indicator of tax effort from the residuals of the regression of government revenue on structural determinants of tax (GDP per capita, the ratios of import and agriculture value added to GDP, and the share of fuel and mineral exports in total exports). They then regress tax effort on macroeconomic policy variables (primary budget deficit, debt service, inflation and real exchange rate); aid variables (total aid level, grants, loans and aid instability) as well as institutional variables (corruption, quality of bureaucracy and democracy). According to their results, the positive impact of aid on tax effort does not depend on aid forms; either it is grant or loan.

Furthermore, studies defending a negative correlation between aid and tax revenues or the primacy of loans versus grants spark also some important econometric concerns. According to Clist and Morrissey (2011) and Morrissey et al. (2006), the econometric models of Gupta et al. (2003) and Benedek et al. (2012) are mis-specified as they result from the contemporaneous relationship between aid and tax. Then there is no surprise to have a negative sign of grants insofar as the poorest countries, or countries experiencing a crisis, tend to have a lower tax to GDP ratio and larger grants. It is thus necessary to test for lagged effects of aid, especially when changes in tax collection systems are gradual and usually operate over the medium term. In addition, it seems hard to accept that technical assistance for institutional strengthening and tax administration reforms does not improve tax performances. The econometric estimates of Brun et al. (2011b) evince that the International Monetary Fund programs affect positively revenue collection in the recipient countries although this effect varies according to institutional quality.

Besides the whole controversy on aid tax effects, there seems to be a consensus on the role of the quality of institutions in improving these effects. However, only a few number of papers examine this issue including those of Gupta et al. (2003), Benedek et al. (2012), Brun et al. (2011a), Brun et al. (2011b) and Alonso and Garcimartín (2011). In general, they confirm, with the exception of Alonso and Garcimartín (2011), the premise that aid does improve tax effort in countries where institutions are good. In these countries, governments are more accountable vis--vis of their citizens and more prone to pursuit tax reforms rather than countries with poor institutions. In this context, aid inflows are more likely to be viewed as additional resources for achieving the country development objectives.

However, this last strand of studies examines the conditional aid-tax revenue nexus in different ways, which are sometimes questionable. Gupta et al. (2003) successively use two ways. They first include in the tax revenue equation the institutional variable (proxied by the ICRG corruption index). This obviously fails to test the interaction between institutions and aid. Then they construct sub-samples according to corruption levels. Their results indicate that the negative impact of grants is substantially amplified in countries with weak institutions in comparison with the whole sample. But concessional loans though still having an offsetting effect become statistically insignificant in the most corrupt quartile. Benedek et al. (2012) follow the second approach of Gupta et al. (2003) and come to similar conclusions, however with a strong negative impact for both loans and grants in the most corrupt countries.

Brun et al. (2011a) note that the sub-samples approach is limited for three reasons. First, the estimations by sub-samples do not allow testing the significance of the difference between the estimated coefficients through the regressions. It is then hard to confirm a stronger negative effect of grants in countries with weak institutions. Second, corruption is only a limited explanation. Third, the authors criticize the ad hoc/arbitrary choice of the threshold levels of the corruption index.

Brun et al. (2011a) then use the interactive term between corruption and aid variables in the whole sample regression; and alternative institutional variable including the ICRG bureaucracy and democracy indexes. Only the quality of bureaucracy fuels a positive impact of aid on tax effort.

Alonso and Garcimartín (2011) and Brun et al. (2011b) follow the same approach. The formers use an index of income distribution as an institutional variable, but fail to find an impact on the aid-tax relationship, even controlling for institutional quality by ICRG indicators. On the opposite, the latter authors show that IMF programs are less efficient in Sub-Saharan Africa countries because of institutional inefficiency. But for the whole of sample, institutional quality proxied by the quality of bureaucracy favors positive impact of aid on tax mobilization. If their results seem to be stronger, the explanation given to the negative sign of the interaction between IMF programs and Sub-Saharan countries may be problematic. Indeed, it neglects the fact that institutions have improved in many of these countries through a long history of institutional and administrative reforms. The concern of alternative institutional indicators remains as the ICRG bureaucracy quality and democratic accountability indexes are very inertial over time.

In short, literature on aid-tax nexus is controversial. The mixed results are due to samples, specifications, methods used to control for the endogeneity of aid, as well as the quality of data (even if we dont stress on this issue, see Prichard et al. (2013) and Alonso and Garcimartín (2011) for more details). Beyond the seemingly wide agreement that quality of institutions plays a major role in explaining aid-tax nexus, research on this field is still opened. The discussion above shows that the issue is not as simple as it seems. The previous studies have used very large samples including countries that do not necessarily share the same monetary and fiscal policies. Admittedly, heterogeneity is sometimes controlled for by working with regional or income level dummies or with sub-samples. But even within these groups of countries, institutional frameworks may differ. The section below highlights this fact in the case of the WAEMU countries in spite they share identical rules for monetary and fiscal policies. Our task then stresses