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Umoh, O. J. and Onye, Kenneth U. and Atan, Johnson A.

West African Institute for Financial and Economic Management,  
Lagos, Nigeria, University of Uyo, Uyo, University of Uyo, Uyo

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# **Political and Institutional Determinants of Fiscal Policy Persistence in West Africa**

Umoh<sup>1</sup>, O. J., Onye<sup>2</sup>, K. U., and Atan<sup>3</sup>, A. J.

## **Abstract**

This study investigates the political economy of fiscal policy making in West Africa by relying on a two-fold estimation technique, namely – the Instrumental variable regression model which accounts for potential endogeneity issue in the data and the Generalized Least Square regression model. The analysis covered 14 West African countries and spans over the period 1980 to 2016. The key results are as follows. First, we find evidence that fiscal policy has been more persistence in the region. This suggests that the governments of West African economies are either unwilling or just unable to adequately implement counter-cyclical fiscal policy. Second, fiscal policymaking has generally been driven by political and institutional factor rather than on the basis of sound economic considerations. And third, the core politico-institutional factors determining fiscal persistence include corruption, government effectiveness and rule of law.

Keywords: Fiscal Persistence, political stability, Corruption, West Africa

<sup>1</sup> West African Institute for Financial and Economic Management, Lagos, Nigeria and Dept. of Economics University of Uyo  
<sup>2,3</sup> Dept. of Economics University of Uyo

## 1. Introduction

Prior to the 1970s, the choice of fiscal policy stance was assumed to be largely a macroeconomic phenomenon. But owing to the resurgence of political economy and the emergence of the institutionalist school, economists are now paying closer attention to the non-economic determinants of fiscal policy persistence and deficit crisis (Lavigne, 2006; Ifere and Okoi, 2017)<sup>1</sup>. Fiscal Policy persistence refers to the dependence of contemporaneous fiscal policy on their past behaviour (Afonso, 2010). Persistence in fiscal policy could exist when the underlying traditional macroeconomic determinants of fiscal policy are overwhelmed by non-economic variables such as political, institutional, or geographic factors. The situation appears to be rife in developing countries, particularly in West Africa, where the fiscal authorities are almost always overtly exposed to political intrusions and therefore more prone to fiscal indiscipline (Onye 2017).

The traditional motivation for implementing discretionary fiscal policy or for running a fiscal deficit has primarily been anchored on its macroeconomic stabilization function, i.e., the use of government expenditure and tax policies to smoothen business cycle volatility. This entails the use of countercyclical fiscal policy by the governments to smoothen business cycles. Notwithstanding the perceived benefit associated with countercyclical policies, a large number of studies has shown that fiscal deficit has generally been persistence and indeed pro-cyclical, particularly, for West Africa (see Afonso et al 2010; Fatas and Milhov, 2001a and 2001b; van den Noord, 2000; Gali, 1994). For instance, Afonso et al 2010, using data from 132 developed and developing countries document that fiscal policy has generally been counter-cyclical in developed countries but pro-cyclical or acyclical in most developing countries. The same authors find that the major factors accounting for this cross-country variation in fiscal policy pro-cyclicality in developing countries are political and institutional variables rather than macroeconomic fundamentals.

So far, existing line of research on fiscal policy stabilization role and effectiveness have tended to focus on two major characteristics of fiscal policy, namely; fiscal policy responsiveness and discretion<sup>2</sup> and has therefore apparently ignored a third fiscal policy characteristic, namely, fiscal persistence. The first two sets of fiscal policy characterizations are usually employed in studies that investigate fiscal policy effectiveness (using business cycle models) and their degree of pro-cyclicality or counter-cyclicality (based on policy rules). In particular, most studies on fiscal policy responsiveness focus on the elasticity of government spending (or elasticity of tax revenue or fiscal deficit) with respect to output (or its measures). Generally and as has been noted, these types of studies find that fiscal policy is more persistent in developing economies than advanced economies. In other words, the advanced countries are more able to implement counter-cyclical fiscal policy than the less developed ones (see e.g.,

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<sup>1</sup>Fiscal persistence is simply defined as a measure of the dependence of current fiscal behavior – spending and revenue – on its past development.

<sup>2</sup> Discretionary fiscal policy is that component of fiscal policy that is due to exogenous government action or extraordinary non-economic phenomenon, and not a systematic response to output or macroeconomic conditions

Galiet al 2003; Afonso, Alnello and Furceri, 2010; Afonso, 2008; Afonso and Gonzalez-Alegre, 2008; Hallerberg and Strauch al 2002).

Similarly, studies on the effectiveness of fiscal policy focus mainly on the significance and sign (also magnitude) of the discretionary (or responsiveness, government size and/or spending) parameter in the regression of a business cycle models. The general result that has emerged from such studies is that fiscal policy tends to exert stabilizing effect (reflected in negative spending parameters) in most of the advanced economies (see e.g., Lee and Tsung 2007; Fatas and Milhov, 2001a and 2001b; van den Noord, 2000; Gali, 1994).

Although the third fiscal policy characteristic – fiscal persistence – has generally been sidelined, it has also apparently become a prominent stylized feature of fiscal policy practice in Africa that is not only pervasive but also account for the bulk of the pro-cyclicality of fiscal policy in the region (see e.g., Tarawalie et al. 2014; Onye and Okon, 2017). Therefore, endeavouring to understand the nature of fiscal persistence in West Africa and its political and institutional determinants could offer important insights into nature of fiscal policy pro-cyclically across countries in the region. This will supply policy lessons for countries in the region particularly on how to implement more active and effective counter-cyclical stabilization policy.

Remarkably, if fiscal policy is found to be more persistent, the fiscal authorities would tend to be: (i) less responsive, i.e., - for instance –unwilling and/or unable to spend more during recession (or unwilling/unable to spend less during boom) in a counter-cyclical manner; and (ii) unable to exercise adequate fiscal policy discretion and could, instead, be pro-cyclical. Importantly, such a weak fiscal responsiveness and/or the inability of fiscal authorities to exercise adequate discretion could particularly be very damaging during cyclical downturns. It could prolong recession or boom beyond the cycle – with damaging consequences for economic growth and development. Hence, there is need to properly understand the political economy dynamism of fiscal persistence in West Africa.

The broad objective of this paper is to investigate the political, institutional and macroeconomic determinants of fiscal persistence in the West African sub-region. The specific objectives are two folds, namely: (i) to estimate the magnitude and significance of fiscal persistence and unpack the national fiscal positions (spending and revenue) of African economies into the three constituent parts –persistence, responsiveness and discretion; and (ii) to investigate the impact of political, institutional and macroeconomic variables on fiscal persistence in West Africa.

A study of this nature is important in many folds. First, as the study unpacks national fiscal policy stance of countries in the region, it will help to explain cross-country variation in fiscal policy behaviour in West Africa. This is particularly important given the dearth of empirical research in this area. Second, the study will elucidate our understanding of the empirics of political business cycle (PBC) literature that is conspicuously dearth in economics and yet essential for our understanding of the dynamics of electoral spending and its potential impact on business cycle. Third, a study of this nature would offer important insight on the pro-cyclically

of fiscal policy in West Africa and would, therefore, supply lessons for policy on more active and effective counter-cyclical stabilization policy for countries in the region<sup>3</sup>.

The rest of the paper is organized as follows. Section 2 presents an overview of the deficit, debt and growth profile of West African countries. In section 3, we provide a brief survey of related literature, focusing particularly on the Political Business cycle (PBC) literature. Section 4 lays out the methodology. In section 5, we present the result and conclude the paper with some lessons for policy.

## 2. Overview of Deficit and Growth Profile of West African countries.

As theory without facts could put one in a blind alley, we endeavour in this section to examine the profile of fiscal deficit and economic growth in the 14 West African countries under study. The motivation for this sub-section is to undertake a perceptive overview of the regional and countries-specific scorecard on growth and deficit with a view to unearthing any conditional relationship that might exist between them. In other words, we try to address the question; does the macroeconomic landscape of West African economies say something about the fiscal policy stance in the region?

Economic growth in the West African region was strongest between 2003-2008 and 2011-2015. Considering the average growth rate over the period, 1995-2015 (Table 1 and 2), the growth rate varied widely. Nigeria's average growth is the highest for the region as the country posted an average growth rate of 6.3% between 1995 and 2015. On the other hand, Guinea Bissau posted the least average growth rate of 2% over the same period. Burkina Faso, Ghana, Mali and Niger recorded average growth rates of 6%, 5.8%, 4.9% and 4.5 % respectively. Senegal, Sierra Leone, Togo and Mali were the next in line as regards regional mean growth rates since they, respectively, posted mean growth rates of 4.2 (Senegal), 4.2 (Sierra Leone), 3.7 (Togo) and 3.2 (Mali).

Table 1: Fiscal Deficit and Growth Profile of WAEMU economies (1995-2015)

year	1995-00	2001-05	2006-10	2011	2012	2013	2014	2015	1995-15
<b>GHA</b> /Fiscal Deficit (LCU'bil.)	0.21	0.37	2.45	4.46	8.50	11.21	12.40	7.36	<b>5.87</b>
Real GDP Growth	4.3	5.0	6.5	14.0	9.3	7.3	4.0	3.9	<b>5.8</b>
Debt(%GNI)	101.85	104.40	23.05	29.28	32.25	35.79	49.77	56.29	<b>54.1</b>
<b>NIGERIA</b> /Fiscal Deficit	-280.00	-328.30	70.50	-155.90	-66.40	2002.70	1993.00	3356.70	<b>824.04</b>
Real GDP Growth	2.7	11.1	7.2	4.9	4.3	5.4	6.3	2.7	<b>6.3</b>
Output Gap	-1.30	-4.50	1.90	1.10	-0.20	-0.20	1.00	-1.10	<b>-.041</b>
Debt(%GNI)	98.90	55.40	7.20	4.50	4.10	4.30	4.50	6.20	<b>23.14</b>
<b>GAMBIA</b> /Fiscal Deficit	0.01	0.60	0.60	1.25	1.28	2.76	2.04	3.35	<b>1.49</b>
Real GDP Growth	3.9	3.1	4.7	-4.3	5.9	4.8	0.9	4.7	<b>3.5</b>
Debt(%GNI)	57.60	111.40	73.90	57.70	61.30	62.80	63.80	..	<b>69.79</b>
<b>SIERRA L.</b> /Fiscal Deficit	-29.80	18.20	253.80	413.40	377.30	405.10	380.90	387.00	<b>275.74</b>

<sup>3</sup> The ECOWAS countries in the West African Sub-region that are included in our sample include 8 WAEMU economies (Benin, Bukina Faso, Cote d'Ivoire, Togo, Guinea Bissau, Mali and Niger) and 6 WAMZ economies (Nigeria, Ghana, Guinea, Gambia, Siera Leone and Liberia).

Real GDP Growth	-0.9	7.9	5.8	4.8	15.2	20.7	4.6	-20.6	<b>4.2</b>
Debt(%GNI)	174.00	117.40	39.50	34.40	32.60	28.60	25.70	31.40	<b>60.45</b>
<b>GUINEA/</b> Fiscal Deficit	114.90	316.40	1078.00	422.70	1295.50	2241.50	1977.70	4537.60	<b>1498.04</b>
Real GDP Growth	4.0	3.1	2.2	3.9	3.9	2.3	0.4	0.1	<b>2.9</b>
Debt(%GDP)	95.90	108.20	94.90	72.00	26.40	24.30	23.10	22.30	<b>58.39</b>
<b>LIBERIA/</b> Fiscal Deficit					-	-	-	-	<b>58.39</b>
Real GDP Growth	32.5	-3.1	7.2	8.2	8.0	8.7	0.7	0.0	<b>11.5</b>
Debt(%GDP)					-	-	-	-	-

Key: External debt stock is current US\$; real GDP is measured at 2010 constant US\$;

With respect to the fiscal outcomes, Guinea posted the largest fiscal deficit with the region with a deficit of 1498.04. This is followed by Nigeria (824.04), Togo (483.44), Cote d'Ivoire (310.84), and Burkina Faso (117.42).

Looking at the country-specific scorecard on economic growth, the real GDP growth rate was uneven among the countries in 2016. The Gambia recorded a growth rate of 4.7 percent in 2015, compared with 0.9 percent in 2014 and 4.8 in 2013. The growth rate in Ghana decelerated marginally to 7.36 percent in 2015, from 12.4 percent recorded in 2014. In Guinea, real GDP growth was lethargic between 2012 and 2015, plummeting from 3.9% in 2012 to 2.3 % in 2013 and 0.4% (2014) and 0.1(2015). In Liberia, real GDP grew by 0% in 2015. The situation in Nigeria closely mimics the that of Liberia over the same period. Real GDP in Nigeria plummeted from 6.3% in 2014 to 2.6% in 2015 and by 2016 Nigeria consistently posted negative growth rate in the first, second and third quarters of the year- a situation of economic recession. As Onye and Umoh (2017) documents, Nigeria's recent economic recession is one that was orchestrated by plummeting price of crude oil which is the major source of foreign exchange earning for the country. This resulted in a drastic drain of the country foreign exchange reserve.

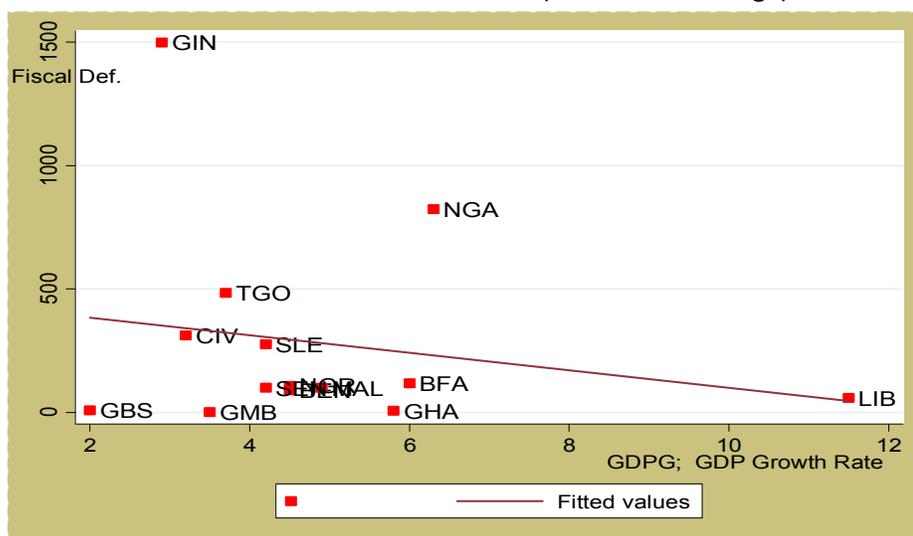
Table 2: Fiscal Deficit and Growth Profile of WAEMU economies (1995-2015) (contd.)

<b>BEN/year</b>	<b>1995-00</b>	<b>2001-05</b>	<b>2006-10</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>1995-15</b>
Fiscal Deficit (LCU'bil.)	0.21	0.37	2.45	4.46	8.50	11.21	12.40	373.864	<b>89.43</b>
Real GDP Growth	4.3	5.0	6.5	14.0	9.3	7.3	4.0	2.1	<b>4.5</b>
Debt(%GDP)	59.55	43.02	16.59	24.08	25.58	22.27	21.49	25.79	-
<b>BURKINA FASO/</b> Fiscal Deficit	47.22	104.55	33.10	69.53	177.21	235.59	119.61	152.54	<b>117.42</b>
Real GDP Growth	6.6	6.4	5.5	6.6	6.5	5.7	4.0	4.0	<b>6</b>
Debt(%GDP)	52.98	44.31	21.27	22.04	23.50	21.50	20.87	24.01	<b>28.8</b>
<b>GUINEA BISSAU/</b> Fiscal Deficit	5.16	11.37	2.05	4.18	11.37	9.17	7.79	10.93	<b>7.75</b>
Real GDP Growth	0.1	1.8	3.3	9.3	-1.8	0.8	2.5	4.8	<b>2</b>
Debt(%GDP)	388.41	220.18	148.03	25.68	28.09	27.04	24.56	29.90	<b>11.49</b>
<b>SENEGAL/</b> Fiscal Deficit	34.74	1.69	34.92	114.36	128.10	110.97	154.68	218.22	<b>99.71</b>
Real GDP Growth	4.3	4.7	3.5	1.8	4.4	3.5	4.3	6.5	<b>4.2</b>
Debt(%GDP)	80.44	63.12	25.07	30.30	35.38	35.78	36.35	43.48	<b>43.74</b>
<b>MALI/</b> Fiscal Deficit	55.58	69.27	-98.46	209.25	60.75	155.14	204.74	141.15	<b>99.68</b>
Real GDP Growth	4.3	7.1	4.6	3.2	-0.8	2.3	7.0	6.0	<b>4.9</b>
Debt(%GDP)	108.17	69.37	23.05	23.35	25.59	26.72	24.49	28.87	<b>41.2</b>
<b>NIGER/</b> Fiscal Deficit	39.12	44.34	-116.23	44.74	39.63	96.96	327.43	386.38	<b>107.8</b>
Real GDP Growth	2.9	4.0	5.2	2.3	11.8	5.3	7.0	3.6	<b>4.5</b>
Debt(%GDP)	86.49	74.68	23.02	35.14	34.55	35.55	32.97	40.85	<b>45.41</b>
<b>TOGO/</b> Fiscal Deficit	60.06	113.68	-48.40	581.18	851.79	509.50	818.06	981.64	<b>483.44</b>
Real GDP Growth	5.1	1.1		4.9	4.8	4.0	5.9	5.4	<b>3.7</b>
Debt(%GDP)	103.31	100.42	65.75	19.46	22.75	26.06	24.48	29.12	<b>48.92</b>
<b>CIV/</b> Fiscal Deficit	90.92	80.95	122.97	483.74	430.39	346.07	378.52	553.14	<b>310.84</b>
Real GDP Growth	3.8	0.0	2.2	-4.4	10.7	8.9	8.5	9.2	<b>3.2</b>
Debt(%GDP)	144.14	95.50	64.29	52.39	36.30	32.55	29.18	34.08	<b>61.05</b>

Key: External debt stock is current US\$; real GDP is measured at 2010 constant US\$;

Figure 1 shows the scatter chart of fiscal deficit versus economic growth in West African economies. We superimpose a fitted nonparametric-regression line on the scatter chart in order to shed light on any potential unconditional relationship that might exist between the variables.

Figure 1: Scatter Chart of Fiscal Deficit versus Growth (1995-2015 Average)



As is obvious from Figure 1, the relationship between deficit and growth across West African economies appears negative and weak. In particular, Figure 1 buttresses a situation where countries with relatively lower fiscal deficit made impressive growth performance. This appears to be the situation for Gambia, Ghana, Sierra Leone, Senegal, Burkina Faso, Benin, Liberia, Mali, and Togo. Of course, Nigeria and Guinea are exceptions to this. Nonetheless, Nigeria's case is not too surprising given the fact that petroleum export constitutes Nigeria major source of revenue. Thus, the general picture that emerges from Figure 1 seems to suggest that economic factors alone do not tell the whole story about fiscal deficit and deficit persistence.

### 3. Literature: Fiscal Policy Persistence and Political Business Cycle

Several theories have been put forward to explain the interaction of political and institutional factors with economic outcomes. Many of these theories revolve around the so-called political business cycle model (PBC) which is the model that tries to analyze how macroeconomic fundamentals behave when political factors are at play (Taramelie et al 2014). These are theories that are developed to explain the effect of the election cycle and other political and institutional characteristics on macroeconomic policy making and outcomes. The PBC often signify the economy's fluctuation around its long-run trend due to political pressures and influence of powerful interest groups. Prominent among the political business cycle models are:

- (i) Equilibrium model by Barro (1979) and Lucas and Stockey (1983);
- (iii) Politico-institutional model of Person (2001) and Person and Tabellini (1999, 2001), Alesina and Tabellini (2008);
- (iv) Elite mass model and group model that is associated the California State University Long Beach, n.d;

- (v) Opportunistic PBC model associated with Norhaus (1975), Perroti and Kontopoulos (2002), Volkerink and De Haan (2001), Franzese (2002), Mink and De Haan (2005), Andrikopoulos et al (2004), Alesina and Roubini (1997)
- (vi) Partisan political business cycle (PBC) model or ideological cycle by Hibbs (1977), Rogoff and Siebert (1988) and elaborated by Rogoff (1990), and Nordhaus (1975), Mackic (2014) among others;
- (vii) Uncertainty Model by Pasten and Cover (2010)

The equilibrium model of Barro (1979) and Lucas and Stockey (1983) postulates that that shocks in spending and revenue should be smoothed by budget deficits and surpluses and by keeping tax rate relatively constant. Nonetheless, the tax smoothing hypothesis does not explain persistence in fiscal deficit for most developing and some advanced countries, hence broader and more robust theoretical framework and been proposed. In this regard, Alesina and Perotti (1995, 1996b) argue that economic factors alone do not suffice in explaining the fiscal persistence and that the issue could be resolved by taking a political and institutional perspective.

The political and institutional perspective to the determinants of the deficit and deficit persistence is due to the seminal works of Person (2001) and Person and Tabellini (2001) which have been refined in the ensuing literature by Hallerber and Strauch (2002). Sorensen et al (2001) and Lane (2003) among others. For instance, Hallerber and Strauch (2002). Sorensen et al (2001) argue that fiscal policy is less counter-cyclical, i.e., less anti-cyclical, during election years suggesting a situation of pro-cyclical. Alesina and Tabellini (2008) found that most of the pro-cyclical of fiscal policy in developing countries can be explained by the high level of corruption. More recently, Afonso et al (2010) have shown that while government size (spending-GDP ratio) leads to increase in fiscal persistence, they tend to impact discretionary component of fiscal policy negatively. Similarly, Person and Tabellini (1999) argue that fiscal outcome might be different across regime (presidential and parliamentary). Under the presidential system, government size and redistribution could be smaller because as a system tends to be more transparent and centralized, fiscal policy can be formulated and implemented without much delay, interference and cost. The opposite may be true of a parliamentary system depending on the electoral laws. In this regard, Alesina and Perotti (1995) and Person and Tabellini (1997) find that large deficit, rising debt and fiscal presence is more common in countries with a parliamentary system. Qno (2003) emphasized the central role of political factors such as political stability, legislativeturnover and institutional factors such as budgetary procedure and rules, bureaucracy, efficiency and democracy on fiscal deficit and persistence.

The Elite Mass and Group models postulate, in general, that as long as the probability of remaining in office between election years is less than one, the deficit will tend to be trend-driven rather than cyclical (counter or pro-) which will thereby increase the probability fiscal persistence and sovereign debt crisis. Closely related to this is the theory of fiscal illusion – the assumption that factors which obscure or weaken governments' spending-tax nexus would distort the voter's appreciation of the true cost/benefit of government fiscal actions thereby resulting in inefficient allocation of resources. The elite-mass theory divides the human society into two: the powerful elite group (e.g., politicians and public administrators) and the less powerful masses (e.g., labourers or workers). The central proposition of the elite-mass theory is that since the masses are ill-informed, apathetic and only able to influence the political process indirectly through voting, public policies are only but the reflection of the preferences of the powerful elite. And so, fiscal policymaking could be driven largely by political interest and factors rather than economic fundamentals. Similarly, the group model posits that public policies if primarily the reflection of the preferences and interests of powerful pressure group in the

system. According to this theory, policymakers incorporate the interest of pressure groups by negotiating and compromising among competing demand and that the influence of these pressure groups could be so powerful that public policy ends up reflecting their interest as opposed to the interest of the general public (masses).

Depending on the underlying assumption about key characteristics of political parties (e.g. whether the ideological leaning is partisan or opportunistic) or voter characteristics, a number of political business cycle models have been developed. For instance, Nordhaus (1975) pioneering work on the '*formal theoretical opportunistic framework*' assume an adaptive expectation scheme by a voter in which voting is based on economic performance in the recent past. Under this adaptive scheme, an opportunistic incumbent will find it optimal to generate a cycle of economic stimulus before elections as it corresponds to his term in office, not minding recession in the post-election period. Under this scenario, fiscal policy would tend to be pro-cyclical when the period of boom coincides with pre-election spending or when recession coincides with post-election years. The Nordhaus (1975) model is explained with Philip's curve inflation-unemployment short-run in which politicians embark on spending glut as election approaches, not minding inflationary implications (Tarawalie, 2014) which are followed by macroeconomic austerity measure at the close of the political cycle upon the assumption of office. Regrettably, this sort of fiscal policy strategy is bound fiscal policy persistence and sub-optimal outcome with any real gain in output growth.

The closest rivalry model to the opportunistic PBC model is the ideological cycle or partisan model which was due to the pioneering works of Hibbs (1977). The central postulation of the ideological cycle is that political parties are partisan or ideological and therefore choose economic policies based on party ideology. Depending on the party in power, economic policies change and partisan preferences shape [policy making and drives business cycle. According to the theory, the key actor or agent of policymaking may not be a powerful elite group as with the Nordhaus (1975) opportunistic BCM, but instead, the pressure group or electorate with the party that identify preferences according to the party platform

The Rogoff and Siebert (1988) PBC model were developed in 1988 based on the underlying assumption that voters are myopic and do not know the competencies of the politician ab-initio, and therefore can only base their rational expectations using the observable outcomes of a current policy during elections. According to this model, all politicians irrespective of the level of competency will attach equal weight to reelection but only competent incumbents politician will usually show their competency by promoting an expansionary fiscal policy which will result in a pre-election fiscal deficit. On the other hand, a politician with low competency will usually not undertake such actions. In this regard, voters will adjudge incumbents performance based on their pre-election spending on public goods and pre-election non-distortive taxes but would only learn of the loss of their income (via distortive tax and less public goods) after elections are held.

A number of studies have empirically examined the institutional, political and macroeconomic determinants of fiscal deficit and/or deficit persistence. For instance, Javid, Arif, and Arif (2011) examine the economic, political and institutional determinants of fiscal deficit and deficit persistence for the south Asian and AESEAN countries over the period of 1984 to 2010. Their study employed the dynamic panel data models to take account of persistence in the volatility behaviour and identify the factors determining of budget deficit and its volatility. The same author employed rule of law, political stability, government effectiveness and regulatory quality as the politico-institutional variables

determining fiscal deficit and deficit volatility. Similarly, Ifere and Okoi, (2017) examine the political economy of fiscal deficit in Nigeria using descriptive statistic and Ordinary Least Square regression technique. The authors made use of variables such as CIPA fiscal policy rating, index of political right and turnover in the national assembly. Their finding from their study suggests that fiscal policymaking in Nigeria is driven more by political factors rather than on the basis of sound economic considerations. In a related study, Fatas and Milhov (2006) investigate how a strict budget restriction, such as a deficit benchmark, impacts fiscal policy. The same authors found that budget restriction or the use of fiscal rules leads to less volatility in deficit but that the same benchmark could potentially reduce the responsiveness of fiscal policy to output shock. As we see in Onye et al (2017), while less discretion which is associated with budget benchmarks is known to reduce volatility, less responsiveness of fiscal policy might amplify business cycle. Thus, fiscal benchmarks such as the ones imposed by the Convergence Criteria in the West African Monetary Zone (WAMZ) or Maastricht Criteria in the Eurozone could be counterproductive if they fail to account for unforeseen circumstances.

An evaluation of the literature reviewed indicates that studies on the impact of political and institutional factors on fiscal deficit and deficit persistence are biased towards the experience of more developed countries of the world. Further, a number of existing studies, particularly for developing countries, are bereaved of the robust methodological framework. For instance, Ifere and Okoi, (2017) used OLS regression technique that is obviously unable to account for any potential endogeneity problem in the model. This seems to have been reflected in the mixed results that they have produced. Further, many of the past works (see e.g., Fatas and Mihov, 2002; Lane, 2002; Areaza et al., 1999; Hercowitz and Strawczynski, 1999) do not adequately account for the cyclically adjusted part of the deficit. Obviously, this has led to misleading results since the cyclical component of the deficit when it is unaccounted for, would tend to make the fiscal policy response appear more countercyclical. This study, therefore, will add value to literature in this area by adequately accounting for the cyclical component of fiscal deficit using the Holdrick-Prescot Filter. We also rely on a more robust estimation framework, namely the Instrumental Variable technique which represents an improvement over OLS as it is able to account for potential endogeneity problems.

#### **4. Methodology and Data**

The empirical methodology we adopt is two-pronged and covers a set of 10 West African countries – namely, 6 WAMZ countries (Gambia, Ghana, Guinea, Liberia, Nigeria, Sierra Leone) and 4 WAEMU countries (Guinea Bissau, Niger, Senegal and Togo) – for which we are able to find consistent data. In the first strand, we specify two sets of fiscal character equations, each for government spending and tax revenue. This enables us to decouple each country's fiscal stance (on tax revenue and expenditure) into responsiveness, persistence and discretion components. In the spending policy rule (equation 1) – for instance – general government spending is specified as a function of log real GDP, lagged spending, and a set of control variables, namely; contemporaneous inflation rate and the lagged and current oil price (see Afonso, Alnello and Furceri, 2010; Fatas and Milhov, 2003, 2006 for a related approach). The second strand of our empirical specification relies on a cross-country regression of fiscal

persistence parameter on a set of political, institutional and macroeconomic fundamentals that as known to be important determinants of fiscal persistence. As in Fatas and Milhov (2001) and Afonso (2010), the cross-sectional regression is implemented within the Generalized Least Square (GLS) framework in order to account for potential heterogeneity and cross-sectional variability across the sample countries. Thus, our specifications explore both the time series and cross-sectional information contained in the data.

We set out with the specification of the so-called fiscal character equation, which unpacks measures of national fiscal positions into quantitative estimates of ‘persistence’, ‘responsiveness’ and ‘discretion’ components for each of the 10 West African economies in our sample, thus:

$$\ln S_{it} = \alpha_i^S + \beta_i^S \ln GDP_{it} + \lambda_i^S \ln S_{it-1} + \varphi_i^S Z_{i,t} + \varepsilon_{it}^S \quad 1$$

$$\ln R_{it} = \alpha_i^R + \beta_i^R \ln GDP_{it} + \lambda_i^R \ln R_{it-1} + \varphi_i^R Z_{i,t} + \varepsilon_{it}^R \quad 2$$

where: The variables: S= general government spending (% GDP); R= general government revenue (%GDP); GDP = real GDP (at 2010 constant \$ US), Z= a set of control variables which include real oil prices and current inflation rate.

Given the spending and revenue equations (eq. 1 and 2) for each country, we have a total of 20 estimable baseline equation for first tranche model (country-specific regression). Equation 1 and 2 are estimated using an IV approach. The motivation for adopting this approach is to mitigate the effect of possible endogeneity of both government spending and revenue with respect to output level (GDP). We use as instruments for contemporaneous output in each country-equation the second lag of real GDP of the country. The parameters measure the country-specific coefficients, where:  $\alpha_i$  = intercept;  $\beta_i$  = fiscal responsiveness parameter (measured as the elasticity of government spending and revenue to output);  $\lambda_i$  = fiscal persistence parameter (measured as the elasticity of first lag of government spending/revenue with respect to output);  $\varphi_i$  = joint coefficient of control variables; and  $\delta$  = discretionary fiscal shock (measured as the standard deviation of  $\varepsilon_{it}^S$  and  $\varepsilon_{it}^R$ ).

The rationale for including the control variables is intuitive, straightforward and follows standard practice in the literature. Oil prices are included because they affect the state of the economy and in fact constitutes a significant part of energy spending in the countries. Inflation is included to account for potential spells of an inflationary spree and to ensure that our results are not driven by inflation as in Afonso, Alnello and Furceri (2010). However, our study differs from Afonso, et al (2010) in terms of our focus on: (i) Africa and ECOWAS, in particular; and (ii) a carefully designed investigation of the effect of political activities, institutional, demographic and macroeconomic determinant of fiscal policy persistence or lack of counter-cyclical in West Africa.

The second strand of estimable equations specifies a cross-country model of fiscal persistence parameter for the spending equations. Following the standard specification in the

literature, we model spending persistence in terms of a set of political, institutional and macroeconomic fundamental (see e.g. Afonso et al 2010; Gali, 1994; Fatas and Milhov, 2006; Fatas and Milhov, 2001b for a sister approach)<sup>4</sup> We estimate the following cross-country Generalized Least Square (GLS) regression model using the fiscal (spending) persistence parameter as the response variable.

$$\lambda_i^S = \beta_1 + \sum_j \phi P_{i,j} + \sum_j \theta E_{i,j} + \mu_i \quad (3)$$

for all  $I = 1$  to  $N$ . In particular, the dependent variable is spending persistence ( $\lambda_i^S$ ) retrieved from the country specific IV regression while the set of regressors included in the model consist of the following:

- (a) Political and institutional variables (P) comprising of World Governance indicators on– (i) index of corruption (COR) (ii) index of rule of law (LAW) (iii) index of regulatory quality (QTY) (iv) index government effectiveness (GEF) (v) political stability (STAB); and
- (b) macroeconomic variables (E) – comprising (i) total fiscal deficit (FD) (ii) real GDP growth rate (GDPG) (iii) real GDP per capita (GDPC) (iv) CPI-based inflation rate (INF) (v) GDP deflator-based inflation rate (INFD) (vi) external debt (% GNI) (DEBT) (vii) trade openness (OPN).

The a priori expectations about the sign of the variables are as follows. Aside corruption that is expected to positive impact spending persistence, all other institutional variables (rule of law, regulatory quality, government effectiveness) as well as political stability are expected to be negatively related to spending persistence because improvement in this factors would allow policymaking to rely more on economic factors and sound fiscal principles rather than non-economic considerations. On the other hand, corruption is expected to perpetuate fiscal irresponsibility, embezzlement and lack of prudential financial management which will increase spending persistence. And so, corruption is expected to be positively related to spending persistence.

Considering alternative specifications of eqt.3 using different sets of regressors in the GLS model, we arrived at 3 parsimonious estimated equations reported in columns C3 through C5 of Table 5. Since our dependent variable is based on estimates rather than actual observation, there are potentials for larger standard error than usual and therefore lower t-statistic which would lead wrong decision concerning the statistical significance of the traditional OLS cross-country estimate. In fact, if we employ the usual (unweighted) OLS, our regression residual

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<sup>4</sup> A large body of literature has found that economic variables are correlated with fiscal persistence and spending as well as with automatic stabilizers (see e.g., Poplawski, 2008; Fatas and Milhov, 2001, 2003; Rodrick, 1998). Similarly, the cross-country variation in fiscal persistence and government spending are generally explained by political and institutional factors (see Person, 2001; Person and Tibellini, 2001; and Fatas and Milhov, 2003).

would comprise of two components, namely: the sampling error (the difference between the true value of the dependent variable and its estimated value) and the random shock (that would have been obtained even if the dependent variables are based on observed values rather than estimates. Under this scenario, there is, therefore, the need to correct for this un-measurable error term. In this study, we correct for potential heteroscedasticity arising from cross-country variability by relying on the weighted least square rather than the usual OLS. In particular, we implement the cross-country regression using the GLS and weight the model with the inverse of the heteroscedastic term.

The data series used in country-specific regressions include general government total expenditure (S), general government total revenue (R), index of oil price (Oil) and the CPI-based inflation rate (INF). The last two variables are used as a control in the fiscal character model (eq. 1 and 2). Here, the second lagged value of GDP is used as an instrument for the contemporaneous level of output so as to control for potential endogeneity problem in equation 1 and 2. The sources of these data and the descriptions of the variables are as presented in Table 3 (see Appendix).

## 5..Results

### 5.1..IV Estimate of Fiscal Characterization Parameters in West Africa

We set out with the result of the Instrumental Variable (IV) regression of the fiscal policy stance (spending and revenue) unpacked into the three components – persistence, responsiveness and discretion (Table 4 and 5). Since we are basically interested in investigating the economic, political and institutional determinants of fiscal persistence in West Africa as clearly stated in the objectives, we pay special attention to the persistence parameter and include the responsiveness for ease of comparison and clarity.

As clearly stated in the section on methodology, we follow standard practice in the literature (see Alfonso, 2010) and measure fiscal policy persistence as the elasticity of the first lag of government spending/revenue with respect to output<sup>5</sup>. Looking at the coefficients reported in Tables 4 and 5, it is easily seen that the size of spending persistence is generally larger than that of the responsiveness coefficient. This is also true when we consider the number of persistence parameters that are statistically significant. In particular, while the persistence parameters are statistically significant in most of the cases (9 times for revenue and 7 times for spending), the responsiveness parameters are significant for a few number of cases (6 times for revenue and 5 times for spending). Overall, this gives a total of 15 statistically significant fiscal persistence parameters and 11 statistically significant fiscal responsiveness parameters. As in Lavigne (2006), this result suggests that fiscal policy in West Africa is more persistent than responsive.

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<sup>5</sup>Fiscal Policy persistence refers to the dependence of contemporaneous fiscal policy on their past behaviour (Alfonso, 2010). We remark that we followed the standard practice in the literature (see e.g. Fatas and Mihov, 2001, 2003) and computed ‘fiscal policy discretion’ as the standard deviation of the residuals from both the spending and revenue equations. Thus, smaller and less significant persistence and responsive parameters would imply higher discretionary parameter – suggesting a negative relationship between fiscal persistence and discretion.

Table 4: IV Estimate of Spending Persistence, Responsiveness and Discretion Parameters

Dep. Variable:LogSpending(lnS)	Resp. $\beta^S$	Persistence. $\lambda^S$	Discre $\delta_i^S$	oil	Infid	Endo Test for IV
Guinea Bisau	-2.2, E8 (0.002)**	0.31 (0.15)	4.79	n0.05 (0.146)	n0.033 (0.477)	s(0.001)**
Niger	0.028563(0.23)	0.789162(0.001)**	0.1	0.00089(0.22)	0.01132(0.02)**	s(n0.001)**
Senegal	0.38491(0.6)	0.6999(0.001)**	0.06	0.0014(0.04)**	0.0074(0.09)*	s(n0.001)**
Togo	0.02368(0.22)	0.82(0.001)**	0.11	0.0009 (0.29)	0.0034(0.14)	s(n0.001)**
Gambia	2.52 e-08 (0.001)**	0.14(0.56)	2.09	0.009(0.7)	0.1589 (0.3)	s(n0.001)**
Ghana	3.66, e-11(0.8)	0.83(0.001)**	2.01	0.06(0.02)**	0.07(0.13)	s(n0.001)**
Guinea	3.02, e-9 (0.001)**	0.49 (0.001)**	2.86	-0.025(0.314)	n0.033(0.45)	s(n0.001)**
Liberia	2.67 E-09 (0.5)	0.860 (0.001)**	4.71	0.016 (0.083)*	0.075 (0.361)	s(n0.001)**
Nigeria	0.07005(0.03)**	0.244742(0.26)	0.18	0.0021(0.37)	0.349(0.061)*	s(n0.001)**
Sierra Leone	0.074205 (0.046)**	0.484(0.067)*	0.12	0.0012(0.25)	0.0017(0.43)	s(n0.001)**

Table 5: IV Estimate of Revenue Persistence, Responsiveness and Discretion

Dep. Variable:Log Revenue(lnR)	FiscResp $\beta^R$	Rev Persistence $\lambda^R$	Discre. $\delta_i^R$	contr oil	control infid	End test for IV
Guinea Bissau	1.3 E-9 (0.48)	0.35(0.09)*	4.56	0.0051 (0.919)	0.04 (0.34)	r (0.001)**
Niger	0.1031489(0.001)**	0.1372(0.30)	0.27	0.0042(0.02)**	0.00875(0.58)	R(0.001) **
Senegal	0.065232(0.001)**	0.4962(0.001)**	0.05	0.0009(0.01)**	0.0081(0.23)	R(0.001) **
Togo	0.11478(0.012)**	0.045(0.91)	0.12	0.0033(0.03)**	0.00315(0.44)	R(0.001) **
Gambia	3.64 e-08 (0.001)**	0.84(0.001)**	1.5	0.044(0.002)**	0.164(0.007)**	R(0.001) **
Ghana	1.15e-11(0.012)**	0.73(0.001)**	1.79	0.0041(0.83)	0.0489 (0.13)	R(0.001) **
Guinea	7.17E-10(0.171)	0.73 (0.001)**	1.42	0.023(0.184)	-0.001(0.966)	R(0.001) **
Liberia	-5.0 E10	0.99 (0.001)**	-2.01	0.018 (0.4)	0.079 (0.076)*	R(0.001) **
Nigeria	0.012267(0.44)	0.83(0.001)**	0.21	0.0034(0.12)	0.0402(0.001)**	R(0.001) **
Sierra Leone	0.078202(0.003)**	0.404(0.06)*	0.21	0.0015(0.13)	0.0108(0.02)**	R(0.001) **

The result presented in Table 4 and 5 addresses the first objective of this paper which is to estimate the magnitude and significance of fiscal persistence and unpack the national fiscal positions (spending and revenue) of African economies into the persistence, responsiveness and discretion components. Nonetheless, as the second objective of this paper is to investigate the impact of political, institutional and macroeconomic variables on fiscal persistence in West Africa, i.e., to investigate the determinants of fiscal persistence, the next issue we analyze is the economic and politico-institutional determinants of fiscal persistence (Table 6).

## 5.2 Determinants of Fiscal Persistence- GLS Result

We now proceed to analyze the determinants of fiscal persistence of government spending, the so-called spending persistence (Table 6). From Table 6; columns 3, 4 and 5 represent different specifications of the estimated Generalized Least Square (GLS) model using different set of regressors.

Table 6: Determinants of Spending Persistence (West Africa)

	C1	C2	C3	C4	C5
<b>EXPLANATORY VARIABLES</b>					
<b>Macroeconomics</b>					
		GDPG	-0.22(0.003)**	-0.2(0.00017)**	-0.6(0.016)**
		Debt	-	-	0.8E3 (0.87)
		INF	-	-	-0.05(0.14)
		infd	-	-	-
		GDPG	-	-	0.0005(0.24)
<b>Institutional</b>		corruption	0.34(0.001)**	1.77(0.0001)**	3.13(0.035)**
		govteff	-1.09(0.0024)**	-0.87(0.0049)**	-0.58(0.57)
		rule of law	-	-	3.13(0.0035)**
<b>Political</b>		pol Stab	-0.42(0.003)**	-0.45(0.0055)**	-

Key: ‘-’ stands for not applicable.

From Table 6, the key result of the GLS regression can be summarized as follows. First, corruption is the major institutional factor explaining spending persistence in the region. This is because the coefficient of corruption turned out to be statistically significant in all the three specifications whose results are reported in C3, C4 and C5. For instance, corruption index is statistically significant with a coefficient of 0.34 and a probability value of 0.001 (in the model represented as C3). Similarly, models C4 and C5 returned a result with corruption index being significant in both cases; 1.77 with a probability value of 0.0001 (for model C4) and 3.13 with a probability value of 0.03 (for model C5).

Second, the impact of corruption on spending persistence is more pronounced in both magnitude and statistical significance when we shocked the estimable GLS model with zero regulatory quality, i.e., when we assumed regulatory quality away from the model. This is arguably a plausible assumption in which one could presuppose a West African region in which the various national governments neither regulate its key institutions nor private business dealing. Expectedly, our result suggests that corruption would tend to thrive more under this scenario.

Third, output growth is the key macroeconomic determinant of spending persistence among countries in West Africa. This result is rather not too surprising given that larger national output and income would imply that the various national governments in the region are able to undertake and fund deficit spending.

And fourth, Political stability, rule of law and governments effectiveness are also important in explaining spending persistence in West Africa. We were, however, unable to find evidence for a significant effect of debt stock, GDP per capita, regulatory quality and inflation rate (CPI-based) on fiscal persistence in West African Economies.

## 6. Conclusions and Lessons for Policy

This study has effectively made use of a two-step estimation procedure to pursue a twofold objective. First, an empirical decoupling of fiscal policy into three components: persistence, responsiveness and discretion parameter is implemented using the

instrumental variable (IV) Generalized Method of Moments (GMM) regression technique on a country-by-country basis. Second, we investigate the determinants of spending persistence in the context of 10 selected West African economies for which we are able to find consistent data. We model the spending persistence in terms of a set political, institutional and macroeconomic fundamentals– that have been hypothesized as key drivers of fiscal persistence – using a rich data set.

The key conclusions of our analysis are as follows. Fiscal policy is more persistence than responsive in most of our sample countries. This result is consistent in terms of both the magnitude and statistical significance of the spending persistence parameters.

From the cross-country Generalized Least Square (GLS) result, we found that the core institutional factors determining spending persistence in West Africa include corruption, government effectiveness and rule of law while the primary political factor is political stability. The effect of regulatory quality turns out to be insignificant. More interestingly, corruption is found to significantly impact spending persistence in all three different specifications of the GLS model. Remarkably, the size and significance of the corruption term improve when we shocked our model with zero regulatory quality- suggesting that the effect of corruption on fiscal persistence might thrive more in the absence of government controls..

From the policy standpoint, our finding that fiscal policy is more persistent implies that the fiscal authorities have little leeway or flexibility to curb spending behaviour, particularly in the short run. This finding is particularly relevant given our finding that government spending is overall more persistent than government revenue. More so, given that more fiscal persistence implies less discretion, it may be more difficult for the fiscal authorities in the region to implement temporary activism and perhaps even more difficult to reverse it when it is no longer needed. An additional policy implication stems from the fact that while government effectiveness contributes to reducing spending persistence, corrupt act to perpetuate it. This can be seen as a recommendation for the governments to improve their frameworks and governance procedure and to tackle corruption more decisively.

## References

- Afonso, A., Alnello, L., and Furceri, D. (2010). Fiscal policy responsiveness, persistence, and discretion. *Public Choice*, Vol. 145, No. 3/4 (December 2010), pp. 503-530.
- Afonso, A. (2008). Ricardian fiscal regimes in the European Union. *Empirica*. 35(3). 313-334.
- Afonso, A., & González Alegre, J. (2008). Economic growth and budgetary components: a panel assessment for the EU. ECB Working Paper N° 848.
- Afonso, A., Alnello, L., Furceri, D., & Sousa, R. (2009). Assessing long-term fiscal developments: a new approach. ECB Working Paper N° 1032.
- Alesina, A., & Perotti, R. (1994). The political economy of budget deficits. NBER Working Paper N° 4637
- Alesina, A., Campante, F., & Tabellini, G. (2008). Why is fiscal policy often procyclical? *Journal of the European Economic Association*, 6(5), 1006-1036.

- Andrikopoulos, A, I Loizides & K Prodromidis (2004) "Fiscal Policy and Political Business Cycles in the EU", *European Journal of Political Economy*, vol 20, pp 125–152.
- Barro, R. (1979). "On the determination of public debt." *Journal of political economy* 87; 940-47.
- Fatas, A. and Mihov, I. (2001a), 'Government size and automatic stabilizers: international and intranational evidence', *Journal of International Economics*, vol. 55, pp. 3-28.
- Fatas, A. and Mihov, I. (2001b), 'Fiscal policy and business cycles: an empirical investigation', *Monday Crédito*, no. 21.
- Fatas, A and Milhov, I. (2003). The Case for Restricting Fiscal Policy Discretion. *The Quarterly Journal of Economics*, Vol. 118, No. 4 (Nov. 2003), pp. 1419-1447.
- Fatás, A., & Mihov, I. (2006). The macroeconomic effects of fiscal rules in the US States. *Journal of Public- Economics*, 90(1-2), 101-117.
- Franzese, R.J. (2002). Electoral and Partisan Cycles in Economic Policies and Outcomes. *Annu. Rev. Polit. Sci.* 5:X--X DOI: 10.1146/annurev.polisci.5.112801.080924
- Gali, J. (1994). Government size and macroeconomic stability. *European Economic Review*, 38( 1 ), 117-132.
- Hercowitz, Z. and M. Strawczynski (1999). "Cyclical bias in government spending: Evidence from the OECD", mimeo, Tel Aviv University
- Hallerberg, Mark and Rolf Strauch (2002), 'On the cyclicity of public finances', *Empirical*, 29, 183–207.
- Hibbs, D. (1977). Political Parties and Macroeconomic Policy. *American Political Science Review*, LXXI, 1467-1478.
- Ifere, E.O., and Okoi O.B (2017). Political Economy of Fiscal Deficit in a Democracy. *Economia*. <https://doi.org/10.1016/j.econ.2017.10.002>.
- Javid, A, Y., Arif, U., and Arif, A. (2011). Economic, Political and Institutional Determinants of Budget Deficits Volatility in Selected Asian Countries. *The Pakistan Development Review*, 50, (4): 649-662.
- Lane, P. (2003). The cyclical behaviour of fiscal policy: evidence from the OECD. *Journal of Public Economics*, 87(12), 2261-2675.
- Lavigne, R. (2006). The Institutional and Political Determinants of Fiscal Adjustment. *Bank of Canada*, WPS N0.1 ISSN 1192-5434

- Lucas, R. and N. Stokey. (1983). Optimal fiscal and monetary policy in an economy without capital. "Journal of Monetary Economics. 12; 15-94.
- Lee, Y., and Sung, T. (2007). Fiscal Policy, Business Cycles and Economic Stabilisation: Evidence from Industrialised and Developing Countries. *Fiscal Studies*, Vol. 28, No. 4 (2007), pp. 437-462.
- Mackiewicz, V., 2014. Political budget cycles at the municipal level in Croatia. *Finance Theory Pract.* 38 (1), 1–35, <http://dx.doi.org/10.3326/fintp.38.1.1>.
- Mink, M., J.P.A.M. Jacobs, and J. de Haan (2012), Measuring Coherence of Output Gaps with an Application to the Euro Area. *Oxford Economic Papers*, 64, p. 217–36.
- Nordhaus, V. 1975. 'The Political Business Cycle'. *Review of Economic Studies*, 42: 169-90.
- Onye, K U., & Okon, J.U. (2017). Fiscal Policy and Monetary Integration in WAMZ. An AERC Thematic Paper, WPS.
- Pasten, R., Cover, J.P., 2010. The political economy of unsustainable fiscal deficits. *Cuadernos De Economía* 47, 169–189.
- Persson, T. (2001). Do political institutions shape economic policy? NBER Working Paper N° 8214.
- Persson, T. (2001). Do political institutions shape economic policy? NBER Working Paper N° 8214.
- Perotti, R. and Y. Kontopoulos (2002) Fragmented Fiscal Policy. *Journal of Public Economics* 86, 191-222.
- Persson, T. and G. Tabellini (1997) Political Economy and Macroeconomic Policy. (NBER Working Paper No. 6329).
- Persson, T. and G. Tabellini (1999) The Size and Scope of Government. *European Economic Review* 43, 699-735
- Persson, T., & Tabellini, G. (2001). Political institutions and policy outcomes: what are the stylized facts? NCEPR Discussion Paper N° 2872.
- Rogoff, K. (1990) Equilibrium Political Budget Cycles. *American Economic Review* 80, 21-36.
- Rogoff, K. and A. Sibert (1988) Elections and Macroeconomic Policy Cycles. *Review of Economic Studies* 55, 1
- Rogoff, K. and A. Sibert. 1988. "Elections and Macroeconomic Policy Cycles." *Review of Economic Studies* 55: 1-16.

- Tarawalie, A. B., Sissoho, M., Conte, M., and Ahotor, C. R. (2013). Fiscal and Monetary Policy Coordination in the WAMZ: Implications for Member States' Performance on the Convergence Criteria. *WAMI Occasional Paper Series*, 1 (4):
- Tarawalie, A. B., Sissoho, M., Conte, M., and Ahotor, C. R. (2014). Political Business Cycle and Macroeconomic Convergence: The WAMZ Experience. *WAMI Occasional Paper Series*, 1 (7): 1 – 40.
- Van den Noord, J. (2000). The Size and Role of Automatic Fiscal Stabilizers in the 1990s and Beyond. OECD Economics Department Working Papers No.230.
- Volkerink, B. and de Haan, J. (2001). Fragmented government effects on fiscal policy: New evidence. *Public Choice*, 109, 221-242.

## Appendix

Table 3: Data Sources and Variables Descriptions

Variable	Code	Description	Source
Debt Stock	DEB	External Debt Stock, total (DOD, Current US\$)	WDI (current US\$)
Debt/GNI	DEBT	External debt stocks (% of GNI)	WDI
Gross Domestic Product	GDP	GDP (Constant 2010 US Dollar)	WDI (2010 Const. US\$)
General government revenue (LCU' b)	GR	Revenue consists of taxes, social contributions, grants receivable, and other revenue. Revenue increases government's net worth, which is the difference between its assets and liabilities (GFSM 2001, paragraph 4.20). Note: Transactions that merely change the composition of the balance sheet do not change the net worth position, for example, proceeds from sales of nonfinancial and financial assets or incurrence of liabilities.	WEO(bil. of LCU)
General government total expenditure (LCU' b)	GE	Total expenditure consists of total expense and the net acquisition of nonfinancial assets. Note: Apart from being on an accrual basis, total expenditure differs from the GFSM 1986 definition of total expenditure in the sense that it also takes the disposals of nonfinancial assets into account.	WEO (bil. of LCU)
General Government Expenditure(% GDP)	S	General Government Expenditure(% GDP)	WEO
General Government Revenue (% GDP)	R	General Government Revenue (% GDP)	WEO
Oil Prices	Oil	Log of real Petroleum annual average spot price	OPEC Bulletin
Oil Production	OPR	Ratio of Oil production to GDP	OPEC Bulletin
Inflation Rate	Inf	Inflation, as measured by the consumer price index, reflects the annual percentage change in the cost to the average consumer of acquiring a basket of goods and services that may be fixed or changed at specified intervals, such as yearly. The Laspeyres formula is used	WDI
Trade Openness	Opn		IFS
Govt Effectiveness	GEF	<i>Reflects perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies.</i>	WGI
Political Stability (Index)	STAB	<i>Political Stability and Absence of Violence/Terrorism measures perceptions of the likelihood of political instability and/or politically-motivated violence, including terrorism.</i>	WGI
Corruption Index	COR	<i>Control of corruption reflects perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests.</i>	WGI
Reg. Quality	QTY	<i>Regulatory Quality reflects perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development</i>	WGI
Rule of Law	LAW	<i>Rule of law Reflects perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence</i>	WGI
GDP Per Capita	GDPC	GDP per capita (constant 2010 US\$)	WDI

GDP Growth Rate (annual)    GDPG    GDP growth (annual %)

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Note: WGI estimates of governance (ranges from approximately -2.5 (weak) to 2.5 (strong) governance performances).

GE and GR are based on WEO compilations from Ministry of Finance or Treasury Latest actual data: 2015 Fiscal assumptions: Fiscal projections for 2015 are based on the authorities' budget whereas the 2016 forecast was made to have a 1.7 percent of GDP fiscal consolidation (compared to 2015). Start/end months of reporting year: January/December GFS Manual used: Government Finance Statistics Manual (GFSM) 1986 Basis of recording: Accrual General Government includes: Central Government; Valuation of public debt: Nominal value Primary domestic currency: CFA Franc Data last updated: 02/2017 (see WEO, 2017).

Where: WEO stands for IMF'S World Economic Outlook; WDI represents World Bank's World Development Indicators and WGI stands for World Governance Indicators.