# Intergovernmental Fiscal Transfers and Tactical Political Maneuverings: Evidence from Ghana's District Assemblies Common Fund

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# Introduction

- In Ghana, to achieve the objective of bottom-up approach to economic development which deals with excessive centralized bureaucracy and bring management functions closer to the people at the grassroots, a more decentralised design of local governance and transfers began in the 1980s.
- The structural reforms in the economy coincided with the political transition aimed at promoting multi-party democracy in order to move away from military dictatorship.
- Ghana, therefore formally started the decentralization process in 1988 and was given a boost by the 1992 Constitution of the 4$^{th}$ republic.

- Fiscal decentralization is one of the strategies adopted to implement the decentralisation policy with the aim of ensuring adequate transfers of financial resources from central government to sub-national governments with sufficient autonomy to allocate these resources in provision of socio-economic services.

# The Problem

- The economic rationale for resource distribution is “equity and efficiency”, but evolution of political economy theories have shown that political factors also influence the process. Hence, the need for empirical evidence on the influence of politics on resource distribution in different political settings.

- The formula allocation in Ghana is to prevent political influences. Yet, the formula has undergone frequent changes but empirical study to ascertain its effectiveness in achieving the objective is very rare in Ghana.

- Results of existing study on Ghana (Miguel and Zaidi, 2003; Banful, 2007), predicts that DACF transfers favour loyal political followers at the districts and it exhibits a PBC.
- However, Brender and Drazen (2005) states that PBC are likely to occurs in young democracies with short electoral history and electorates with linited infoemation and ability to evaluate economic policies.
- So, new evidence are required in view of the changing dynamics of the political environment.

## Objectives and Research questions

❖The broad objective is to analyze the political economy dynamics of intergovernmental fiscal transfer mechanism in Ghana with focus on the DACF. Specifically to:

(i) examine the relationship between DACF allocations and the electoral outcomes; (ii) determine the political factors influencing the system of allocation and how it has evolved over time.

❖The objectives are achieved through answers to the ff questions:

(i) is the allocation formula sufficient to isolate political influences in the resource distribution, if so, to what extent?; (ii) does the desire to entrench political support in core or swing districts influence the transfer formula?; and (iii) how does electoral outcomes affect political maneuverings, as democracy mature in Ghana.

- **Justifications of the Study**
- ***First***, Static Panel model (Fixed effect) dominates, but it assumes strict exogeneity of dependent variables. However, this assumption collapses if there is any feedback in terms of districts' actions in any year on the amount of transfers receive in future years. In this case, feedback effect falsifies the assumption and creates a problem of simultaneity bias. Hence this study uses GMM method in a dynamic setting by (Aellano & Bond, 1991).

- ***Second***, public choice models of political economy argue that variations in transfers are influenced by whether a country is a "mature" or "new" democracy. Given Brender and Drazen (2005) classification, Ghana's democracy can be classified as "mature". So, the study contributes by examining, if political considerations in transfer allocation has evolved with changes in the democracy.

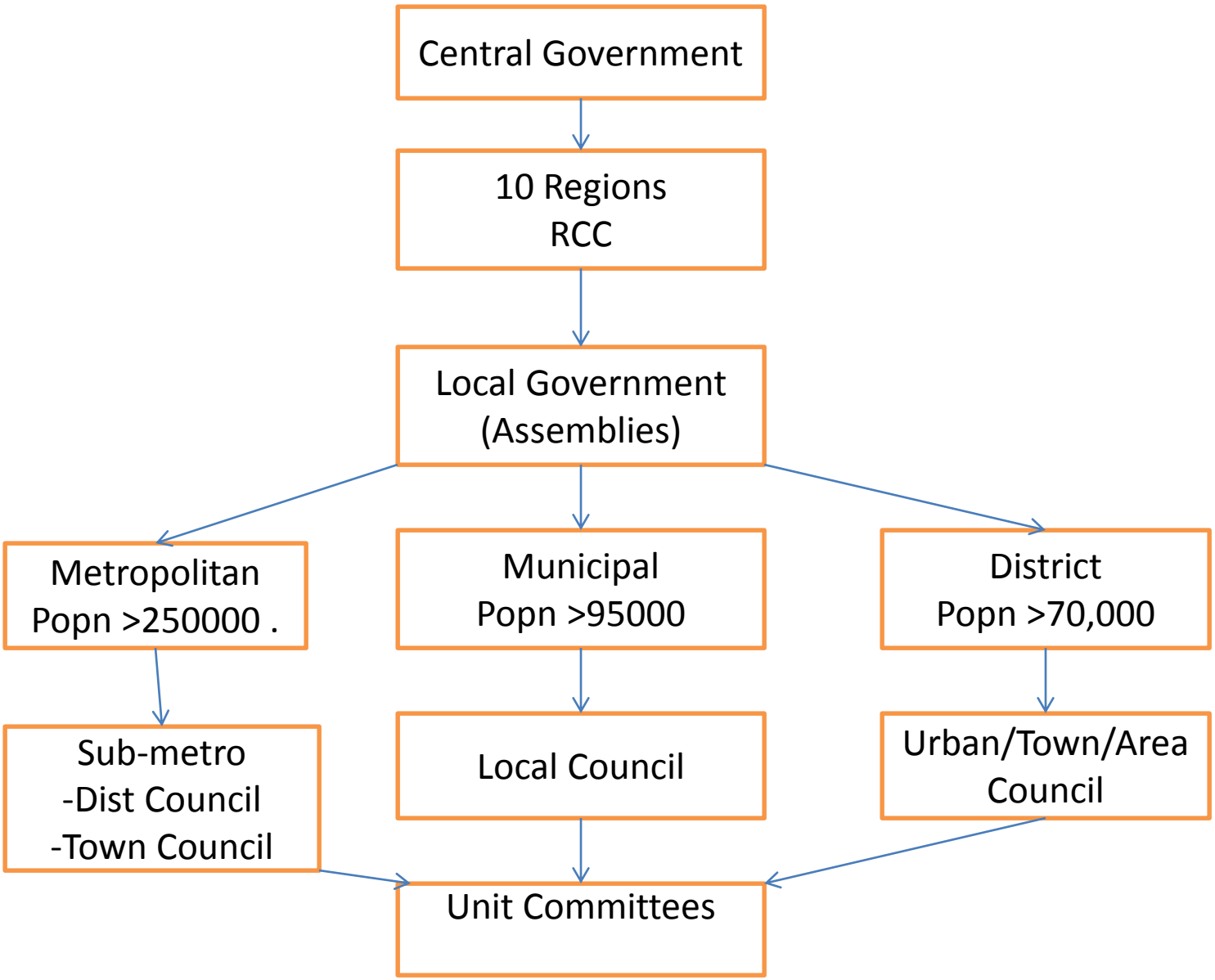
# Intergovernmental Systems in Ghana

***The Political System***

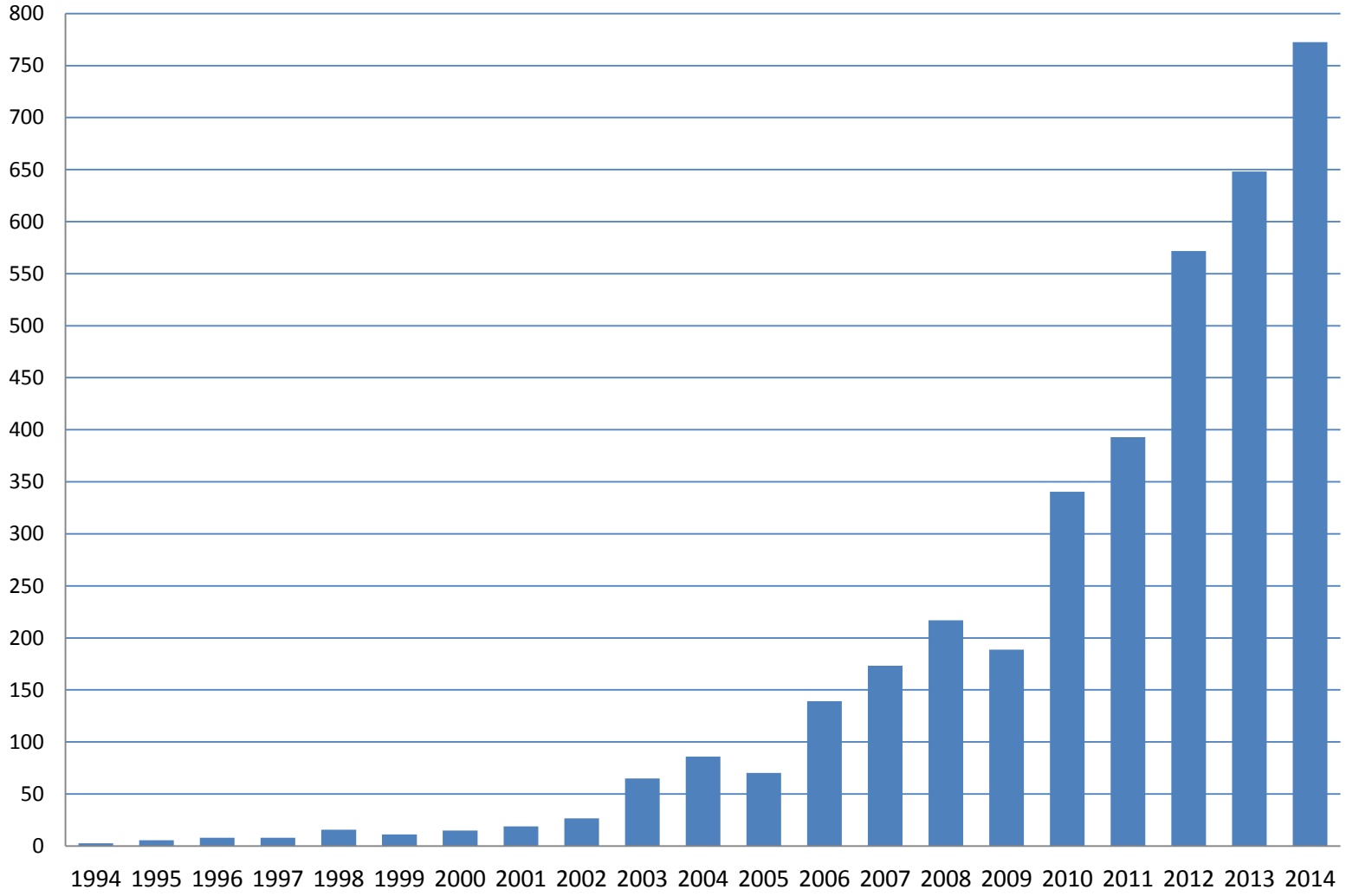
- Republic of Ghana is a unitary state, divided into ten administrative regions with multiparty democracy as provided by the 1992 constitution that established the 4th Republic.
- Each of the regions is headed by a Regional Minister appointed by the President, which form the upper tier of governance system.

- The District Assemblies (DA) are the principal units of local government which form the second level administrative sub-division below the level of region and headed by District Chief Executive (DCE).
- Between the district assemblies and the central government are the Regional Coordinating Councils (RCCs) which, coordinate policy implementation amongst the district assemblies.

Figure 1 depicts the governance structure in Ghana.


Central Government
10 Regions
RCC
Local Government
(Assemblies)
Metropolitan
Popn >250000 .
Municipal
Popn >95000
District
Popn >70,000
Sub-metro
-Dist Council
-Town Council
Local Council
Urban/Town/Area
Council
Unit Committees

## Fig 2: Yearly Allocation of DACF, 1994-2014 (Ghc 000' million)



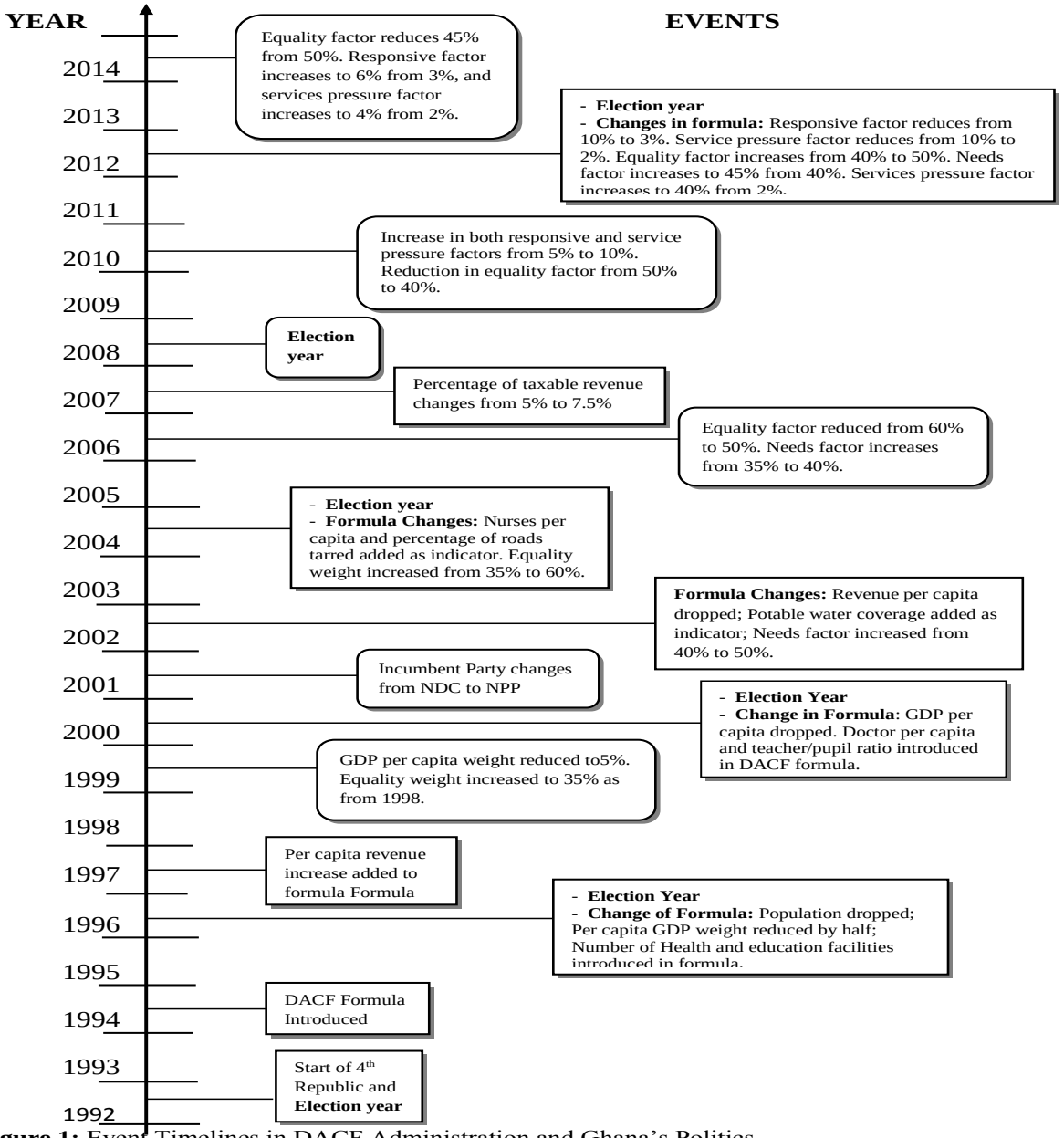



**Figure 1:** Event Timelines in DACF Administration and Ghana's Politics

| Factor | Measure | Weight (%) |
|---|---|---|
| **A. EQUALITY** | **% of DACF to be shared equally** | **45** |
| **B. NEED**<br>• ***Health***<br>Health facility/Popn<br>Health Professionals/Popn<br>• ***Education***<br>Education facility/Popn<br>Trained Teacher/Popn<br>• ***Road***<br>Tarred Roads coverage<br>• ***Water***<br>Portable Water Coverage | **Lack of services relative to others** | **45**<br><br>*9*<br>*8*<br><br>*10*<br>8<br><br>*5*<br><br>*5* |
| **C. RESPONSIVENESS**<br>• Revenue Improvement | **Effort in raising own revenue** | **6** |
| **D. SERVICE PRESSURE**<br>• Population Density | **Intensity of use of public facilities** | **4** |

# Empirical Literature

| Author(s) | Theory | Method and Study Period | Finding |
|---|---|---|---|
| **Maystadt and Salifu (2015)** | Opportunistic Redistribution Theory by Cox and McCubbins (1986) | Instrumental variables approach on state variation in VAT transfers from 2007 to 2015. | Increases in VAT transfers induced by higher oil windfalls improve the electoral fortunes of incumbent government in Nigeria |
| **Caldeira (2012)** | Opportunistic Redistribution Theory of Cox and McCubbins (1986). | Fixed Effect with a micro-level public finance dataset | Senegalese system of redistribution is tactical as grants allocation target swing communes relative to partisan communes. |
| **Arulampalam et al (2009)** | Tactical Redistribution model of Dixit-Londregan (1998). | Instrumental Variables (IV) and Ordinary Least Squares (OLS) for data from 1968 to 1996 | Aligned states and swing states receive more allocations than non-swing states and unaligned states. |
| **Kalman (2007)** | Tactical Redistribution Theory of Dixit and Londregen (1987) | Linear and Probit panel regressions on a panel dataset of Hungarian local government budgets from 1993-2003 | There is political influence and politicians use intergovernmental grants to enhance their parties' chances of reelection in Hungary |

| | | | |
|---|---|---|---|
| **Sole-Olle and Sorribas-Navarro (2008)** | **Tactical Redistributive Model of Lindbeck and Weibull (1987)** | **Triple-Estimator approach for data from 1993 to 2003** | **Partisan alignment affects grants to Spanish municipalities; aligned municipalities receive more than unaligned.** |
| **Viega and Pinho (2007)** | Political Budget Cycles model by Regoff and Sibert (1988), and Tactical Redistribution theory of Cox and McCubbins (1986) | Panel GMM approach with Portuguese data from 1979-2002 | Political factors evolve with maturation of Portugal's democracy, and allocations favour swing voters in early period of democracy |
| **Banful (2007)** | Tactical Redistribution model of Dixit and Londregan (1996), and the Political Budget Cycles theory of Rogoff and Sibert (1988) | Seemingly Unrelated Regression and Fixed Effect method on Ghanaian data from 1994 to 2003 | Per capita grants are higher in districts where vote margins are lower, suggesting that swing districts are targeted in Ghana. |
| **Gordin (2006)** | Tactical Distribution targeting model by Lindbeck and Weibull (1987) | Analysis is by Panel Corrected Regression on transfers to provinces from 1972 to 2000 | Provinces that are ruled by governors from opposition parties attract more federal transfers beyond social welfare criteria in Argentina. |

# Theoretical model

- There are 2 political parties: Incumbent (A) and opposition (B).
- The President is elected by winning majority votes in the presidential election and a member of parliament by winning the majority of votes in the parliamentary election.
- For Party A, the sharing of Y, ($G_iA$; $i$ = 1, 2, 3,….N) is selected by the President but must be accepted by a majority of sitting parliamentarians.
- The sharing of Y promised by Party B, ($G_iB$; $i$ = 1, 2, 3,….N), is selected by the Presidential candidate for the Party.
- Both parties have to allocate the same amount of resources so that :

$$Y = \Sigma G_iA = \Sigma G_iB \qquad (1)$$

- Voters are rational and self centered, so they care about benefits from their favourite political party, and their private consumption.

# Theoretical model

- Therefore, they are willing to trade off their political preferences in return for private economic gains.

- The utility of a voter is given by: U*i*(y*i* + G*i*) where y*i* is the income of a voter in district *i*, Gi is the transfer received and such that U'*i*>0 and U"*i*<0.

- Voters are modelled as a continuum, distributed along real numbers where a voter located at X prefers Party A to B and will vote if:

$$U_i (y_i + G_i B) - U_i(y_i + G_i A) > X_A \qquad (2)$$

- The critical value or “cut point density” of district *i*, where all voters in the district with values of X< X*i* will vote for Party B and the rest for Party A is given by:

$$X_{Ai} = U_i (y_i + G_i B) - U_i(y_i + G_i A) \qquad (3)$$

# Theoretical Model

- Let, $\phi_i(X_i)$ = proportion of population in district *i* to the left of *Xi*.
- Then total vote that Party B receives in the Presidential election is:

$$VP_B = \sum_{i=1}^{N} P_i \phi_i(X_i) \quad \textbf{(4)}$$

$$VMP_B = P_i \phi_i(X_i) \quad \textbf{(5)}$$

- The total vote for presidential candidate for Party A in district ***i*** is:

$$VP_A = \sum_{i=1}^{N} P_i - VP_B \quad \textbf{(6)}$$

$$VMP_A = P_i - P_i \phi_i(X_i) \quad \textbf{(7)}$$

- Eqn (4) to (7) implies both Presidential and Parliamentary elections depends on the amount of transfers.

# Theoretical Model

- The incumbent president can push through the transfers that maximize his/her vote using the party majority in parliament even without regard to re-election prospects of individual MPs from his party, because, the President has the ability to punish or reward the MPs through the party structures.
- The presidential candidate for Party B can also promise a sharing of Y that maximizes only his/her votes, because, other politicians of his/her party going for parliamentary elections face the threat of punishment should he become the president.
- With this assumption, the vote margin can be used to proxy for the "cut point" density in empirical specifications. It is positively related to the proportion of swing voters.
- Therefore, in respect of the DACF, this framework implies that in equilibrium, districts with more swing voters would receive higher transfers. [For details, read (Dixit and Londregan, 1995;1996)]

# Empirical Model

- The basic empirical model is specified in a dynamic panel form as follows:

$$y_{it} = \sum_{j=1}^{k} \delta_j y_{i,t-j} + \beta' P_{it} + \gamma' X_{it} + v_i + \varepsilon_{it} \qquad (8)$$

where, $y_{it}$ , is per capita transfers that a district ***i*** receives from the national level government in year *t*;

$P_{it}$ is a vector of political variables;

$X_{it}$ is a vector of control variables;

$v_i$ is unobserved effect specific to district ***i*** and $\varepsilon_{it}$ denotes the error term;

***k*** is order of lags of the dependent variable.

# Empirical Model

- According to Rogoff and Sibbert (1988) Political Budget Cycles predictions, the empirical model for dynamics of the election year dummy (ELYDum) is stated as:

$$\beta' P_{it} = \beta'_1 ELYDum + \beta'_2 PAL + \beta'_3 PSW + \beta'_4 ELYDum \times PAL + \beta'_5 ELYDum \times PSW$$

$$+ \beta'_6 ELYDum \times (1 - PAL) + \beta'_7 ELYDum \times (1 - PSW) \qquad \textbf{(9)}$$

- Following Arulampalam et al (2009), influence of political factors on the transfers is specified in the form of interaction as:

$$\beta' P_{it} = \beta_1 PAL_{it} + \beta_2 PSW_{it} + \beta_3 PAL_{it} \times PSW_{it} + \beta_4 PAL_{it} \times (1 - PSW_{it})$$

- $$+ \beta_5 (1 - PAL_{it}) \times PSW_{it} + \beta_6 (1 - PAL_{it}) \times (1 - PSW_{it}) \qquad \textbf{(10)}$$

where, $\boldsymbol{PAL_{it}}$ is an indicator of political alignment that equals one (1) if the same party is incumbent at both national level and district ***i*** at time ***t***, and zero otherwise. $\boldsymbol{PSW_{it}}$ indicate the proportion of constituencies in district ***i*** identified as *swing* during the election.

# Empirical Model

- Using Brender & Drazen (2005) classification, Ghana's democracy can be classified as a mature one.
- Following Viega and Pinho (2007), two dummies are used, *NewDem* and *MatDem* to separate the democratic period since 1992 years into 'new' and 'mature'.
- Equation (8) is therefore augmented with interaction terms of *NewDem* and *MatDem* with all variables in vector $P_{it}$. This extension to equation (8) yields:

$$y_{it} = \delta_j y_{i,t-j} + \varphi'(P_{it} \times DEM) + \gamma' X_{it} + v_i + \varepsilon_{it} \qquad (10)$$

- Where *DEM* in the case of *NewDem* takes the value of 1 for years 1992 – 2004, and 0 afterwards; for the case of *MatDem*, DEM is a dummy variable with a value of 1 after 2004, and 0 for earlier years.

# Data sources

- A panel dataset for 167 districts from 1994 to 2014 on the political variables, demographic variables and the economic variables are used.
- The demographic data such as population size and distribution in the districts and the economic data such as GDP growth rate were obtained from the Population and Housing Census reports and the Economy Outlook respectively of the Ghana Statistical Services.
- Data on allocation and disbursement of the DACF is sourced from annual reports of the DACF Offices.
- The political data was derived from Elections Report of the National Electoral Commission (NEC) of Ghana.

# Results and Discussions

## Table 2: Descriptive Statistics

| Variable | Obs. | Mean | Std. Dev. | Min. | Max. |
|---|---|---|---|---|---|
| Transfer *per capita* | 2795 | 6.28 | 7.47 | 0.06 | 86.79 |
| Election Year | 2795 | 0.25 | 0.43 | 0.00 | 1.00 |
| Political Alignment | 2795 | 0.58 | 0.49 | 0.00 | 1.00 |
| % Vote Difference | 2795 | 33.88 | 24.75 | 2.00 | 98.00 |
| Political Swing | 2795 | 0.78 | 0.42 | 0.00 | 1.00 |
| % Popn < 15years | 2795 | 40.02 | 3.57 | 24.00 | 53.00 |
| % Popn > 65years | 2795 | 5.03 | 0.67 | 3.18 | 9.28 |
| GDP Growth Rate | 2795 | 6.21 | 2.51 | 3.47 | 14.03 |
| Trend | 3507 | 11.00 | 6.06 | 1.00 | 21.00 |
| Trend square | 3507 | 157.67 | 137.19 | 1.00 | 441.00 |

# Table 3: Political Effects on Transfers in Ghana: National Estimates

| | 1 | 2 | 3 |
|---|---|---|---|
| $PCTransf_{(-1)}$ | 0.6754***<br>(11.86) | 0.6759***<br>(11.87) | 0.6095***<br>(7.51) |
| ELYDum | 0.5343*** (8.6%)<br>(9.31) | 0.4723 *** (7.5%)<br>(8.26) | |
| PAL | 0.1081<br>(0.69) | | 0.1135<br>(1.45 ) |
| PSW | | -0.2122*** (3%)<br>(-3.91) | -0.2235*** (3.5%)<br>( -3.58) |
| ELYDum*PAL | 0.0201<br>(0.77) | | |
| ELYDum*(1-PAL) | 0.3644<br>(1.00) | | |
| ELYDum*PSW | | -0.0292*** (0.46%)<br>(-3.37) | |
| ELYDum*(1-PSW) | | 0.0256<br>(0.59) | |
| PAL*PSW | | | -0.0353** (0.56%)<br>(-2.49) |
| (1-PAL)*PSW | | | -0.0128** (0.20%)<br>(-2.24) |
| PAL*(1-PSW) | | | 0.0190<br>(1.21) |
| (1-PAL)*(1-PSW) | | | 0.0715<br>(0.87) |

| | 1 | 2 | 3 |
|---|---|---|---|
| $\%CHD_{(-1)}$ | 0.0430***<br>(9.41) | 0.0459***<br>( 9.57) | 0.0415***<br>(9.36) |
| $\%ELD_{(-1)}$ | -0.2486**<br>(-3.77) | -0.2431**<br>(-3.74) | -0.2813***<br>(-4.72) |
| $GDPGR_{(-1)}$ | 0.1863***<br>(4.27) | 0.1874***<br>(4.31) | 0.0328**<br>(5.78) |
| Trend | 0.2744***<br>(5.30) | 0.2324***<br>( 4.17) | 0.2938***<br>(3.96) |
| Trendsqr | 0.0250**<br>(6.52) | 0.0216**<br>(6.58 ) | 0.0239***<br>(6.54) |
| | | | |
| AR(1) test | -3.61 | -3.61 | -4.70 |
| AR(2) test | 0.97 | .99 | 0.98 |
| Sargan test (p-value) | 0.46 | 0.47 | 0.48 |
| No. of Observation | 2628 | 2628 | 2628 |
| No. of Districts | 167 | 167 | 167 |

# Table 4: Political Effect on Transfers in New versus Mature

| | 1 | 2 | 3 |
|---|---|---|---|
| $PCTransf_{(-1)}$ | 0.6393***<br>(11.37) | 0.6375***<br>(11.36) | 0.6268***<br>(12.64) |
| PAL | 0.1134*** (1.8%)<br>(3.69) | | 0.2172*** (4.3%)<br>(7.345) |
| PSW | | -0.3242** (5%)<br>(-3.73) | -0.3753<br>(-1.61) |
| NewDem | 0.2554<br>(5.59) | 0.2809<br>(5.64) | 0.3124<br>(1.05) |
| MatDem | 0.0831<br>(1.47) | 0.0823<br>(1.54) | 0.0811<br>(1.59) |
| PAL*NewDem | 0.0927*** (1.3%)<br>(3.66) | | 0.1178** (2%)<br>(3.71) |
| (1-PAL)*NewDem | -0.0787<br>(-1.18) | | -0.0224<br>(-1.05) |
| PAL*MatDem | 0.0394<br>(1.50) | | 0.1094<br>(1.60) |
| (1-PAL)*MatDem | -0.0354** (0.5%)<br>(-2.54) | | -0.1317<br>(0.85) |
| PSW*NewDem | | -0.0743<br>(0.27) | -0.5776<br>(0.98) |
| (1-PSW)*NewDem | | 0.2372<br>(0.47) | 0.2574<br>(0.48) |
| PSW*MatDem | | -0.1120** (1.8%)<br>(0.43) | -0.2479*** (4%)<br>(-3.14) |
| (1-PSW)*MatDem | | 0.0436<br>(1.71) | 0.03171** (0.5%)<br>(2.06) |

| | 1 | 2 | 3 |
|---|---|---|---|
| $\%CHD_{(-1)}$ | 0.1429***<br>(3.62) | 0.1507**<br>(3.51) | 0.1698**<br>(3.77) |
| $\%ELD_{(-1)}$ | -0.0317**<br>(-2.48) | -0.0385**<br>(-2.49) | -0.0302**<br>(-2.97) |
| $GDPGR_{(-1)}$ | 0.0194***<br>(5.81) | 0.0248***<br>(5.53) | 0.0214**<br>(5.69) |
| Trend | 0.2688***<br>(4.63) | 0.3087***<br>(4.40) | 0.3493***<br>(4.26) |
| Trendsqr | 0.0115**<br>(6.23) | 0.0127***<br>(5.98) | 0.0198**<br>(5.82) |
| | | | |
| AR(1) | -4.13 | -4.14 | -4.20 |
| AR(2) | 0.84 | 0.86 | 0.89 |
| Sargan (p-value) | 0.45 | 0.43 | 0.42 |
| No. of Observation | 2628 | 2628 | 2628 |
| No. of Districts | 167 | 167 | 167 |

# Conclusion and Policy

- There is political influence in the formula allocation of transfers in Ghana. In particular, there exist PBC where election years tend to be characterise by higher transfers.
- Alignment effect dominates the new democracy period, while swing effect dominates the mature democracy.
- **Policy Direction** => More financial independence of DAs through adoption of fiscal decentralization measures that would improve their revenue generation, and reduce the governments' use of transfers as political tool.
- There should be separation of powers and duties between the formulating agency and the implementing agency. Parliament should monitor and ensure compliance within the legal framework.
- The formula should be reviewed at intervals of 5 years to help minimise the indiscriminate and rampant changes to the formula.

Thanks for your attention