Can Decentralization foster Structural Transformation? Theory and Evidence

By

Michael Mbate
Phd Candidate in International Development
London School of Economics and Political Science
Houghton Street, WC2A 2AE, London
Tel: +447459820836
Email: m.mbate@lse.ac.uk

Abstract

This paper provides a succinct discussion of the theoretical debate on the link between decentralization and structural transformation. Using the African context, it begins by examining the rationale underpinning decentralization as well as the various mechanisms through which it is postulated to enhance structural transformation through state capacity and effective political institutions. Using a panel of local governments in Kenya, econometric results from System GMM analysis robustly show that decentralization enhances structural transformation conditional on inclusive and participatory systems that enable citizens to influence decision making processes and the degree of political competition at the local level. These findings, which are robust across different specifications, cast doubt on recent studies which argue that decentralization spontaneously leads to structural transformation and shed light on potential mechanisms that policy makers need to address.

Keywords: Decentralization, Structural Transformation, Public Participation, Electoral Competition
Introduction

Following the demise of top-down hierarchical and centralized systems as the ideal governance model, African countries are experiencing a paradigm shift towards decentralized systems meant to transfer central government powers to local jurisdictions. This reform has gained prominence in the last two decades, as centralized governments are perceived to be abusive, corrupt and portraying few incentives to be accountable to citizens. By bringing the government ‘closer to the people’, decentralization is anticipated to establish democratic governance which enhances structural transformation through allocative efficiency (by matching the provision of public goods and services with citizen’s preferences), productive efficiency (by fostering public accountability and reducing bureaucratic red tape) and public accountability - by shifting political power downwards (Smith and Revell, 2016; Smoke and White, 2005). As a result, at least more than half of African countries have decentralized their political, fiscal and administrative functions, with high and increasing hopes of fostering structural transformation (World Bank, 2011; Yilmaz, 2009).

Yet, despite this policy reform, contrasting outcomes on the effects of decentralization on effective structural transformation are being witnessed between and within countries, with marked divergence in anticipated outcomes related to governance and the provision of public services. Several studies underscore the positive impact of decentralization (Faguet, 2012; Albornoz-Crespo and Cabrales, 2013) while others show its detrimental effect (Treisman, 2006) and even some show no effect at all (Khaleghian, 2003) or mixed evidence (Smith and Revell, 2016). In general, empirical evidence from different country experiences shows that the economic and political effects of decentralization are context and time specific, and vary according to local power structures which shape the incentives which elected officials face.

The objective of this paper is twofold. First, it provides a nuanced and analytical overview of the theoretical literature on decentralization and structural transformation. By combining key literature spanning over four decades and empirical evidence from different country experiences, it highlights the vital theoretical propositions and country experiences that every policy maker should be aware of. Second, it provides a case study of local government performance in Kenya with the objective of identifying the conditions under which decentralized institutions are associated with enhanced structural transformation in terms of public spending on infrastructure development and public service delivery. According to its proponents (Tiebout, 1956; Oates, 1972), decentralization is theoretically associated with redistributive mechanisms that address heterogeneous tastes and preferences amongst citizens due to the enhanced downward accountability of officials as well as reduced information asymmetry. However, empirical studies view decentralization as a political strategy whose outcomes are contingent on the political capacities and interests of local legislators (Bardhan and Mookherjee,
This paper aims to build on this premise and empirically examine how varying levels of political competition and public participation across local government jurisdictions affects expenditure allocations amongst public goods that are vital for structural transformation.

In this paper, I draw my argument form both quantitative and qualitative analysis and show that contrary to popular belief, decentralization does not spontaneously translate into structural transformation, improved governance and downward accountability – or its associated gains - because the underlying theoretical causal mechanisms underscoring this link do not always apply in the real word. And even when they do, the effectiveness of decentralization may be conditional on the dynamic interaction between political forces at both the central and local level. The discussion of the empirical analysis shows that the extent to which decentralization deepens governance and accountability hinges on several factors such as the levels of citizen participation in making decisions and the strength of political competition at the local level. As discussed, these factors enable citizens to hold their leaders accountable by altering the nature of incentives they face once elected into public office, an aspect which corresponds to the classical theoretical proposition of ‘exit and voice’ advanced by Hirschman (1970). The results show that it is the absence of these factors that might explain the poor performance of decentralized political institutions in most Africa countries.

The contribution of this paper is twofold. First, at the theoretical level, it examines how variation in two vital institutional variables: political competition and public participation at lower levels of governance influences the degree of structural transformation. Second, the empirical strategy adopted deviates from related work on decentralized public service delivery (Devereux et al. 2002; Wantchekon, 2003) and explicitly takes into account the issue of endogeneity. By doing so, this paper relates to a growing body of literature on institutional design in developing countries (Lacombe, 2004) as well as to a nascent body of studies focusing on how legislative behaviour in decentralized systems of governance can enhance or deter structural transformation (Lipscomb and Mobarak, 2015; Aritenang, 2014; Lubell et al. 2002).

This paper proceeds as follows. The next section discusses the theoretical arguments in favour of decentralization as well as the mechanisms through which it is hypothesized to enhance structural transformation. Section 3 then present the counter-arguments to decentralization, drawing from existing empirical literature. In reconciling the two conflicting schools of thought, section 4 present the econometric specification and discussion of the results while section 5 concludes.
2. Theoretical Rationale for the Decentralization – Structural Transformation Nexus

The theoretical mechanisms through which decentralized government institutions fosters good governance are well established in the political economy literature. A key proposition posits that decentralization promotes governance and accountability by deepening the levels and nature of political competition (Qian and Weingast, 1997). Three potential channels have been proposed in support of this. First, decentralization is associated with increased political entrepreneurship, where more avenues and opportunities are created for individuals to join the political arena and compete for electoral positions. This in turn creates a pool of competitive candidates seeking elective positions and thus increases the incentives for candidates to align their policies with the preference of voters in order to get elected (Faguet, 2014). According to the median voter theorem, candidates whose policy ambitions reflects the needs of the median voter - usually the poor in developing countries - are more likely to be elected, an aspect that reinforces policy alignment with the needs and preferences of the local electorate (Myerson, 2006). Second, an increase in political competition promotes transparency and accountability, as candidates who lose elections join the local opposition parties, and thus act as ‘watchdogs’, constantly mounting pressure on elected incumbents to deliver public in accordance with established rules and procedures (Selee, 2011). Finally, political competition leads to the formation of multiple political parties, providing citizens with the option of switching their political affiliation from existing and well-established parties to new ones which reflect their preferences (Faguet, 2014).

A second mechanism advocated for in the literature relates to the effect of decentralization on bolstering the levels of public accountability. Grounded in the influential works of Wallis and Oates (1988), decentralization is argued to promote downward accountability by placing the fate of local officials in the hands of the local electorate. As a consequence, decentralization re-orient the flow of power, where local officials are no longer accountable to the central government but rather the local citizens they represent in their jurisdictions. This enhances accountability as local citizens are able to monitor the quantity and quality of services provided, and thus capable of disciplining politicians by rewarding or sanctioning them in competitive elections. Given this possibility of ‘exit’, local officials then have the incentives to provide public services in an accountable manner in order to lessen the probability of non-re-election (De Figueiredo and Weingast, 1997). Relatedly, given that career prospects as well upward mobility of public officials directly hinges on the electorate, local officials became responsive to the demands of local citizens in order to signal superior performance and increase their chances of getting re-elected or progressing towards more powerful political positions at the central level. This is in contrast with top-down hierarchical governance structures where local politicians are accountable to the central government, a situation which can worsen accountability when the priorities at the centre are not aligned with those of the locals. Therefore, ‘the effect of
decentralization is to dramatically tighten the loop of accountability between those who produce public goods and services and those who consume them’ (Faguet, 2014, p.3).

Besides its effects on political competition and downward accountability, several authors argue that decentralization increases responsiveness to local needs, by better targeting the provision of public goods and services, owing to increase in information flows and frequent interactions between the locals and public officials. This proposition, as advocated for by Smith and Revell (2016) hinges on the assumption that establishing sub-national units reduces the problem of information asymmetry which characterizes centralized and hierarchical governance structures. In centralized systems, the multiplicity of vertical tiers of governance acts as barriers to information flow, partly due to coordination failures and differences in incentives across bureaucrats in different hierarchical tiers (Treisman et al. 2009). On the contrary, in decentralized systems, public officials are well suited to make correct inferences on the prevailing needs of the electorate due to increased proximity and lower costs of obtaining and verifying information. This in turn leads to the provision of tailored public goods and services which are aligned to the heterogeneous demands and expectations of multiple segments of the local population (Leeson, 2013). In addition, given the spatial proximity at the sub national level, bureaucrats are well positioned to work in conjunction with community based organizations and civil societies to identify prevailing problems and respond to these challenges through innovative and effective solutions. This argument is partly in line with Hirschman’s (1970) concept of ‘voice’, where decentralization enhances the capacity of local citizens to express their needs and preferences to public officials using different solidarity movements and forums.

A fourth mechanism through which decentralization leads to improved governance and structural transformation appertains to the reduction of political and ethnic instability. This school of thought argues that in countries which are polarized across different cleavages such as ethnicity or religion, decentralizing power to sub-national units can lessen the risk of violence and political tensions which emanate when parts of the population are economically, socially or politically excluded (Scherrer, 2008). By decentralization, minority groups are bestowed with power and authority to control local resources and make decision on local matters. Miodownik and Cartrite (2010) argues that this is mostly relevant in countries which are endowed with natural resources clustered in geographical regions cohabited by different ethnic groups. In addition, by decentralizing power and guarantying political representation to women, local elites and disadvantaged minorities, the risk of revolutions and conflicts against the central government is mitigated. According to a theoretical model by Diamond et al. (1995), decentralization can address the risk of public riots and dissatisfaction by ensuring that public goods and services as well as political power are distributed to encompass different ethnicities and minority groups. Finally, for societies which are clustered along cleavages such as ethnicity, Miodownik and Cartrite (2010) empirically shows that decentralization re-adjusts
the structure of relationship between different agents from such class-based identity to organizational structure inherent in the decentralized system.

A final mechanism which has received substantial emphasis, at least at the theoretical front relates to the role of decentralization in promoting good governance through *inter-jurisdictional and yardstick competition* (Tiebout, 1965; Oates and Schwab, 1988). Proponents of the inter-jurisdiction argument postulate that given the mobility of factors of production such as capital and labour, sub-national units will compete against each other in attracting entrepreneurial ventures and business firms. As a result, there are greater incentives for public officials to design and implement regulatory policies which boost the investment atmosphere. According to Bardhan (2002), inter-jurisdictional competition lessens the discretionary and monopoly power by public officials, as jurisdictions that are marked with high levels of corruption and low provision of public goods and services are more likely to witness an outflow of these mobile factors to neighbouring or other jurisdictions where local government are more responsive and less predatory. This form of accountability corresponds to Hirschman’s (1970) concept of exit mechanism where local citizens have the option to either switch to other local units when dissatisfied with the performance of their public officials. In a theoretical model developed by Chu and Yang (2012), the authors show that in countries with weak electoral systems, interjurisdictional competition can lead to sound governance by implementing optimum tax policies as well as reducing bureaucratic procedures which deter the creation of new business ventures and thus boost the mobilization of local tax revenues. Regarding the yardstick competition argument, it is argued that citizens have the potential to compare policy outcomes in different local units and thus have a benchmark to evaluate their elected officials (Besley et al. 2003).

### 3. Decentralization and its negative effect on structural transformation

On the contrary, a competing school of thought argues that decentralization can worsen governance outcomes, lead to a deterioration in public accountability as well as poor provision of basic public goods and services. Several theoretical propositions have been advanced in support of this argument, although empirical evidence remains inconclusive. For instance, opponents of decentralization normally point out to the classical problem of *soft budget constraints* which leads to mounting fiscal pressures, debt default and increased risk of macroeconomic instability (Rodden, 2006). According to this view, sub-national units ‘have strong incentives to overspend and reap the benefits, while nationalizing the cost of their behaviour through central bailouts’ (Faguet, 2014, p.8). Attributed to Prud’homme (1995), local officials are aware that in the event of financial distress or inability to deliver their mandate to local citizens, then part of the liability will be borne by the central government. This arises because most projects implemented at the local level are managed or financed in conjunction with the central government, and due to information asymmetry, voters are unable to
differentiate whether in case of failure, the blame should rest on the local or central government. Therefore, local politicians are more likely to over spend budgetary resources or engage in corruption in expectation of bail outs from the central government, an aspect which can lead to fiscal deficits. Even in the case where the central government could decide to instil financial discipline by not bailing out local units, it is argued that this commitment cannot be credibly upheld, as the central government knows that part of blame will rest on it and thus sanctioned by voters in competitive elections. Therefore decentralization creates perverse incentives for local leaders to engage in wasteful spending of financial resources in anticipation of bailouts from the central government.

A second argument in disfavour of decentralization relates to the risk of capture by local elites and powerful special interest groups. According to this notion, local elites such as tribal leaders, political brokers, landlords or even religious figures are capable of influencing local economic and political decisions, as well as capturing power bestowed on local institutions. Such diversions of local resources can then be used to promote self-interest motives which are in contrary to aggregate societal welfare, resulting into corruption and rent seeking (Miller, 2002). For instance, empirical evidence by Jones (2013) in the Philippines shows that local elites influence procurement allocations and engage in over pricing in jurisdictions which they financed campaign elections for the incumbent public officials. As discussed by Besley et al. (2003), local elites may also be against the establishment of a strong sub-national government as it would act as a threat to their influence in their respective jurisdictions. In fact, unlike in centralized systems where the influence of local elites is minimal due to numerous small elite groups competing against each other and counteracting each other’s influence, a decentralized governance structure can have the opposite effect, reinforcing elite cohesion and local capture. Miller (2002) argues that this effect occurs due to two main reasons. First, at the local level, it is easier to organize and establish collusion between powerful groups and individuals residing in small geographical areas, and second, the probability of detection and sanction is low as civil organizations may not be present across all local units in a particular country. Therefore, decentralization is deemed to result into redistributive capture and considered as a means of devolving corruption from the central level to local units.

Besides its effect on soft budget constraint and local elite capture, decentralization has also been argued to spark conflicts and tension across different tiers of government, some of which may hinder the effectiveness of the state to govern its citizens (Tendler, 1997). This phenomenon arises as decentralization involves a ‘territorial distribution of power’ and thus reconfigures political, fiscal and administrative arrangements between different agents, most of whom have conflicting or contrasting objectives and preferences. According to Wilson (2006), inter-governmental conflict can arise due to bureaucratic resistance to accept change, ambiguity on the functions and responsibilities of different public officials operating at the various levels of the government, and disagreement on which level of
government receives credit or blame for policy outcomes - especially when development projects are co-financed by both the central and local government. In fact, empirical evidence by Redoano et al. (2015) shows that in Italy, local jurisdictions whose leaders are aligned to the ruling party at the national level receive higher amounts of discretionary grants compared to those local units under the control of officials from the opposition. As a result, the national government blocks development by limiting financial resources to jurisdictions which do not support their bills at the parliamentary level. In the case of Argentina, evidence by Ardanaz et al. (2014) shows a similar occurrence where that local units which vote in favour of government bills at the central level receive more revenues. Therefore, this evidence is in line with the argument that decentralization may generate conflicts within the government, rather than forging complementarity amongst different governance tiers.

A fourth proposition, normally advanced in the economics literature posits that decentralization leads to a reduction in the quality of public policies as well as a decrease in economies of scale. Proponents of this view normally point out to the fact that the level of technical and administrative expertise at the local level are low and this can manifest itself in poorly designed public policies (World Bank, 2011). Local units, compared to the central government, do not have the absorptive capacity to budget the significant resources at their disposal and implement sustainable and pro-poor projects, as a result of limited human capital (Yılmaz et al. 2003). In addition, this strand of literature also contends that in the provision of public services in countries with multiple sub-national units, inefficiency is bound to arise due to increase in overhead costs and purchase of production inputs in smaller quantities. In an empirical study in Nigeria, Daniel (2014) shows that provision of public goods such as infrastructure is cost effective if undertaken by the central government due to its ability to pool more resources and purchase raw materials in bulk as this reduces per unit cost of production due to increase in economies of scale.

A final argument levied against decentralization relates to its potential to widen inter-regional inequalities. Given differences in initial conditions such as resource endowment, geographical location, income levels and human development indicators (health, education and literacy levels), some sub-national units are in a greater position to generate more local taxes and thus provide higher quality services vis-à-vis those local units where tax revenues are low. As a consequence, this may create uneven development across jurisdictions. Empirical evidence from Barako and Shibia (2015) shows that in Kenya, local counties located in urban areas perform relatively well compared to those in the rural areas in terms of mobilizing property taxes. The authors argues that this is due to the fact that urban areas are characterized by formal property rights, well-identified market prices which can be used for property valuation as well as high administrative capacity in terms of enforcing tax payment. As a result, counties located in urban areas collect property tax which is six hundred times
in magnitude compared to those located in rural areas, and thus widens the magnitude of local developmental resources available to different jurisdictions within the same country.

4. **Empirical Strategy**

4.1 **Econometric Specification**

The baseline specification estimated to assess the link institutional determinants of structural transformation takes the form:

\[ y_{it} = \alpha + \phi k_{it} + \beta X_{it} + \eta_i + \varepsilon_{it} \]

Equation (1)

for local jurisdiction \( i = 1, \ldots, N \) and year \( t = 1, \ldots, T \)

and \( \text{E}(\eta_i) = 0 ; \text{E}(\varepsilon_{it}) = 0; \text{E}(\eta_i \varepsilon_{it}) = 0 \)

where \( y_{it} \) denotes public spending on infrastructural development in a local county \( i \) in a given year \( t \), \( K \) is a matrix of the variables of interests (public participatory and electoral competition) and \( \phi \) is the key parameter of interest, \( X_{it} \) is a set of explanatory variables (population density, poverty, local taxes, economic zone), \( \eta_i \) represents unobserved county heterogeneity while \( \varepsilon_{it} \) is the error term.

County fixed effects are also incorporated to account for time-invariant attributes and ensure that all of the identifying variation comes from changes over time. To measure structural transformation, the empirical analysis uses public spending on road construction and electricity provision. Following the literature on industrial development, inadequate road and electricity constitute the most significant barriers to manufacturing and economic transformation in Africa. In addition, not only are these public services vital for industrial production, but they are also critical for household and individual consumption and thus critical for improving social welfare for a large segment of the population, especially the poor.

In the estimation of equation (1), the choice of the econometric technique greatly hinges on two factors given the panel dimension of the data. First, the presence of county fixed effects may lead to omitted variables if they are significantly correlated with the covariates. Second, the left hand side variables are endogenous, and thus reverse causality might bias the estimated coefficients. In order to
tackle these problems, a first natural solution would be to use an instrumental variable (IV) approach. The IV approach requires an instrument \((Z_{i,t})\) that is highly correlated with the covariates \((X_{i,t})\), that is, \(\text{Corr} (X_{i,t}, Z_{i,t}) \neq 0\) and uncorrelated with the error term \(\text{Corr} (Z_{i,t}, \epsilon_{i,t}) = 0\). However, due to the lack of any exogenous instrument which satisfies these two exclusion restrictions, the empirical estimation relies on system General Methods of Moments (GMM) technique that yield efficient and un-biased results as pioneered by Holtz-Eakin et al. (1988), Arellano and Bond (1991), Arellano and Bover (1995) and Blundell and Bond (1998).

The justification is twofold. First these maximum likelihood estimators are explicitly designed to take into account the structure of the panel data (small \(T\) and large \(N\)). Second, the estimators are designed to correct for the endogeneity introduced by the inclusion of spatial lag through the use of internal instruments (lagged values as variable). To test for the validity of the instruments, several tests such as the Sargan/Hansen test of over-identifying restrictions and the Arellano-Bond test for autocorrelation are implemented (Roodman, 2009). To mitigate any concerns regarding the modifiable areal unit problem, the unit of analysis is defined at the county level, the precise zoning system that forms the basis for revenue allocation at the sub-national level.

The system GMM estimation simultaneously addresses the nature of the panel dataset, county fixed effects as well as the lack of valid external instruments. The intuition behind the system GMM technique is to eliminate the unobserved time invariant country heterogeneity \(\eta_i\) through first difference, and then instrumenting the endogenous right hand side variables using their past values, under the assumption of uncorrelated error terms.

Formally, this involves lagging equation (1) to obtain

\[
y_{i,t-1} = \beta X'_{i,t-1} + \eta_i + \epsilon_{i,t-1}
\]

Equation (2)

Subtracting equation (2) from equation (1) yields

\[
y_{i,t} - y_{i,t-1} = \beta (X'_{i,t} - X'_{i,t-1}) + (\eta_i - \eta_i) + (\epsilon_{i,t} - \epsilon_{i,t-1})
\]

Equation (3)

and eliminates the unobserved country effects to yield

\[
y_{i,t} - y_{i,t-1} = \beta (X'_{i,t} - X'_{i,t-1}) + (\epsilon_{i,t} - \epsilon_{i,t-1})
\]

Equation (4)
which can also be expressed as

$$\Delta y_{it} = \beta \Delta X'_{it} + \Delta \varepsilon_{it}$$  \hspace{1cm} \text{Equation (5)}$$

The system GMM estimators combines the standard set of equations in levels (equation 1) with appropriate lags in first differences, with the equation in first difference (equation 5) with suitable lags in levels as instruments. The System GMM therefore estimates the following sets of equations;

$$\begin{pmatrix} y_{it} \\ \Delta y_{it} \end{pmatrix} = \beta \begin{pmatrix} X_{it} \\ \Delta X_{it} \end{pmatrix} + \varepsilon_{it}$$  \hspace{1cm} \text{Equation (6)}$$

The validity of the system GMM instruments are tested using the Hansen test, the Difference in Hansen test, and the Arellano (AR) tests for autocorrelation. Both the Hansen and Difference in Hansen tests examines the exogeneity of the instrument under the null hypothesis of joint validity of all the instruments used. The assumption of no-serial correlation among the residuals is tested by the AR test of order two.

4.2 Data

The yearly panel data used in the analysis comprises of 47 Kenya counties over the period 2012 to 2017. The data is obtained from the Office of the Controller of Budgets in Kenya. The data contains two key features which are crucial for the identification strategy. First, by combining the cross section and time series dimensions, the increased number of observations increases the precision of the estimates. Second, panel data consistently estimates fixed effects models that take into account unobserved country heterogeneity which would have otherwise biased the estimates. In Equation 6, the variables incorporated in $X_{it}$ have theoretically and empirically been found to have a robust impact on public spending on infrastructure. Table 1 summarizes these variables and presents their expected signs.
Table 1: Baseline Equation Variables

<table>
<thead>
<tr>
<th>Economic Notion</th>
<th>Variable (Proxy)</th>
<th>Expected sign</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infrastructure Development</td>
<td>Expenditure on roads and electricity (% of budget)</td>
<td>a</td>
</tr>
<tr>
<td>Public Participation</td>
<td>Public participatory meetings (number of attendees per county population)</td>
<td>Positive</td>
</tr>
<tr>
<td>Political competition</td>
<td>Electoral competition (margin of victory)</td>
<td>Positive</td>
</tr>
<tr>
<td>Local resources</td>
<td>Local taxes</td>
<td>Positive</td>
</tr>
<tr>
<td>Demand and labour force</td>
<td>Population density</td>
<td>Positive</td>
</tr>
<tr>
<td>Economic zone</td>
<td>Industrial zone dummy</td>
<td>Positive</td>
</tr>
</tbody>
</table>

4.3 Descriptive Statistics

The descriptive statistics of the main variables are presented in table 2. The table shows the mean of each variable, the number of observations as well as the overall, between and within country standard deviation. The results underscore the relative low levels of public spending in infrastructural development although the large overall standard deviation points out to divergence in spending across the local jurisdictions.

Table 2: Descriptive Statistics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Overall Standard Deviation</th>
<th>Between Standard Deviation</th>
<th>Within Standard Deviation</th>
<th>Number of Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infrastructure development</td>
<td>2.21</td>
<td>0.62</td>
<td>0.57</td>
<td>0.21</td>
<td>282</td>
</tr>
<tr>
<td>Public participation</td>
<td>1.28</td>
<td>1.09</td>
<td>0.89</td>
<td>0.50</td>
<td>282</td>
</tr>
<tr>
<td>Political competition</td>
<td>2.42</td>
<td>0.68</td>
<td>0.47</td>
<td>0.50</td>
<td>282</td>
</tr>
<tr>
<td>Population density</td>
<td>1.85</td>
<td>0.54</td>
<td>0.12</td>
<td>0.40</td>
<td>282</td>
</tr>
<tr>
<td>Local resources</td>
<td>4.56</td>
<td>0.27</td>
<td>0.17</td>
<td>0.21</td>
<td>282</td>
</tr>
<tr>
<td>Economic Zone</td>
<td>0.50</td>
<td>0.17</td>
<td>0.19</td>
<td>0.25</td>
<td>282</td>
</tr>
</tbody>
</table>

4.4 Econometric Results

The econometric results corresponding to the baseline model are reported in tables 4 and 5. Table 4 presents Panel Fixed Effects estimates while table 5 presents system-GMM estimates. To mitigate any potential multi-collinearity problem, the variables are gradually augmented in the model.
Table 4: Fixed Effect Regressions: 2012-2017

<table>
<thead>
<tr>
<th>Dependent variable: Public spending on roads and electricity (% of budget)</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public participation</td>
<td>0.010**</td>
<td>0.009***</td>
<td>0.029**</td>
<td>0.036**</td>
</tr>
<tr>
<td></td>
<td>(2.25)</td>
<td>(2.28)</td>
<td>(2.03)</td>
<td>(2.45)</td>
</tr>
<tr>
<td>Electoral competition</td>
<td>0.107***</td>
<td>0.096***</td>
<td>0.082*</td>
<td>0.077**</td>
</tr>
<tr>
<td></td>
<td>(2.90)</td>
<td>(2.66)</td>
<td>(1.91)</td>
<td>(1.99)</td>
</tr>
<tr>
<td>Population density</td>
<td>0.111***</td>
<td>0.125***</td>
<td>0.111***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(4.27)</td>
<td>(4.67)</td>
<td>(3.96)</td>
<td></td>
</tr>
<tr>
<td>Economic zone dummy</td>
<td>0.002</td>
<td>0.002*</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.15)</td>
<td>(1.71)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local taxes</td>
<td>0.008***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(2.75)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>1.834***</td>
<td>2.081***</td>
<td>2.475***</td>
<td>2.440***</td>
</tr>
<tr>
<td></td>
<td>(15.40)</td>
<td>(16.06)</td>
<td>(22.02)</td>
<td>(21.23)</td>
</tr>
<tr>
<td>Number of Observations</td>
<td>282</td>
<td>282</td>
<td>282</td>
<td>282</td>
</tr>
<tr>
<td>Number of Counties</td>
<td>47</td>
<td>47</td>
<td>47</td>
<td>47</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.113</td>
<td>0.180</td>
<td>0.195</td>
<td>0.174</td>
</tr>
</tbody>
</table>

$t$ statistics in parentheses  ** $p < 0.05$, *** $p < 0.01$, * $p < 0.1$

Across the different specifications, all the significant coefficients turn out to have their expected signs. The coefficient of public participation is positive and significant, suggesting that local jurisdictions that have open forums to frequently engage with the electorate on decision making processes are associated with higher budgetary allocation to the provision of basic infrastructure that is necessary for structural transformation. This result tends to lay support on the idea that inclusive democratic process that go beyond electoral competition can provide the much needed infrastructural base that is inadequate in most countries. Therefore, the argument that decentralization enhances the incentives of local public officials to tailor the provision of public services to the preferences of the local citizens partly hinges on the extent to which citizens can participate and influence local decisions and budgetary allocations. This evidence is consistent with a randomized field experiment by Sheely (2015) who show that participation of community in local government reduces discrepancies in the mis-allocation of projects at the county level. This finding supports the need to ensure that the preference of local citizens are reflected in policy through mutual and frequent dialogue that is meant to exchange ideas and enhance the productivity of the local workforce through the provision of crucial basic goods that are key ingredients in the productive sectors of the economy.
The estimated coefficient of electoral competition is also positive and statistically significant at the one percent level in most specifications. This finding is robust and consistent with the notion that electoral incentives can constrain political behaviour and promote a broad-based budgetary allocative system that is skewed towards the provision of non-rival public goods and service. This is especially important and relevant in the context of African countries where competitive elections have considerably increased over the last decade. Given that elected politicians and bureaucrats can be credibly voted out, this can provide a significant incentive to ensure that public services are provided in an optimal manner than can in turn feed into the structural transformative agenda of most countries. This finding complements the notion that mitigating the lack of political will in bureaucratic performance can at least be successful when institutional processes and mechanisms are embedded with adequate political incentives.

Consistent with theoretical expectations, local resource mobilization, proxied by local taxes portrays a robust positive impact on infrastructural development. Local government that mobilize sufficient financial resources tend to exhibit the much need policy space to finance road and electricity infrastructure that can significantly enhance private sector development (Kauffman et al., 2009). This result underpins the need for African countries to mobilize sufficient domestic resources given that infrastructural development is normally associated with huge sunk costs and require long term investment. Indeed, the East Asian industrialization experience indicates that fostering structural transformation hinges on well designed and implemented local domestic resource mobilization policies. Unlike external resources that are less predictable, volatile and often attached with stringent conditions, local taxes are flexible, an aspect that can make them to be tailored to local needs and public service provision that is aligned to a country’s structural transformation goals (Chang, 2012).
Table 5: Panel Data Estimation, Two-Step System-GMM: 2012-2017

<table>
<thead>
<tr>
<th>Dependent variable: Public spending on roads and electricity (% of budget)</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public participation</td>
<td>0.660**</td>
<td>0.435**</td>
<td>0.443**</td>
<td>0.439***</td>
</tr>
<tr>
<td></td>
<td>(2.22)</td>
<td>(1.98)</td>
<td>(2.36)</td>
<td>(3.28)</td>
</tr>
<tr>
<td>Electoral competition</td>
<td>0.516**</td>
<td>0.581***</td>
<td>0.574***</td>
<td>0.597***</td>
</tr>
<tr>
<td></td>
<td>(2.45)</td>
<td>(2.75)</td>
<td>(2.94)</td>
<td>(3.55)</td>
</tr>
<tr>
<td>Population density</td>
<td>0.002</td>
<td>0.034*</td>
<td>0.076***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.08)</td>
<td>(1.82)</td>
<td>(3.03)</td>
<td></td>
</tr>
<tr>
<td>Economic zone dummy</td>
<td>0.320**</td>
<td>0.404**</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(2.10)</td>
<td>(2.45)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local taxes</td>
<td>0.211**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(1.97)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>4.953***</td>
<td>5.223***</td>
<td>6.364***</td>
<td>6.952***</td>
</tr>
<tr>
<td></td>
<td>(5.08)</td>
<td>(5.30)</td>
<td>(6.28)</td>
<td>(6.07)</td>
</tr>
<tr>
<td>Number of Observations</td>
<td>282</td>
<td>282</td>
<td>282</td>
<td>282</td>
</tr>
<tr>
<td>Number of Countries/Instruments</td>
<td>(47 (19))</td>
<td>(47 (22))</td>
<td>(47 (25))</td>
<td>(47 (28))</td>
</tr>
<tr>
<td>Hansen Test (p-value)</td>
<td>0.389</td>
<td>0.597</td>
<td>0.609</td>
<td>0.776</td>
</tr>
<tr>
<td>Difference in Hansen (p-value)</td>
<td>0.342</td>
<td>0.533</td>
<td>0.489</td>
<td>0.381</td>
</tr>
<tr>
<td>AR(1) p-value</td>
<td>0.012</td>
<td>0.019</td>
<td>0.032</td>
<td>0.022</td>
</tr>
<tr>
<td>AR(2) p-value</td>
<td>0.942</td>
<td>0.687</td>
<td>0.639</td>
<td>0.592</td>
</tr>
</tbody>
</table>

\( t \) statistics in parentheses ** \( p < 0.05 \), *** \( p < 0.01 \), * \( p < 0.1 \). All standard errors are two-step, robust and clustered by country.

Table 5 presents System-GMM results which address the issue of endogeneity and provide potential causal inference results. The covariates in all the specifications are assumed to be endogenous and are therefore instrumented for using their lag values. The instruments are collapsed in order to ensure that they are less than the number of countries in each specification (Roodman, 2009). In order to take into account finite sample bias, the standard errors follow the Windmeijer (2005) approach and are clustered by countries in order to make them robust to serial correlation and heteroskedasticity.

In the lower panel, the validity of the estimates and internal instruments are assessed by reporting the p-values corresponding to the Hansen J test, the Difference-in-Hansen test and the Arellano tests of auto-correlation of orders one and two. The diagnostic tests in all the specifications provide evidence to support the exogeneity of the instruments as well as the validity of the estimates. The Hansen J test and the Difference in Hansen test p-values confirm the joint validity of the internal instruments. On the other hand, the AR (2) supports the absence of auto-correlation in the error terms.

The estimated coefficients are broadly consistent with the panel fixed effect estimates. The findings confirm that public participatory is a vital factor that has a structural effect on a country’s structural transformation. Its coefficient remains positive and statistically significant, even after controlling for
possible reverse causality. In terms of policy, this implies that to enhance structural transformation, local governance structures and political institutions need to establish initiatives and forums that give citizens the opportunity to engage and participate in local decision making processes. Such forums include public invitations to attend and follow the proceeding of meetings where individuals express their opinions and influence budget allocations and development programs to be launched. In addition, there is need to complement this with a disclosure system where financial documents detailing revenues and expenditure, as well as local taxes are accessible to the public for audit (Wamae, 2014). Local governments need to frequently interact with key stakeholders and interest groups such as the civil society, traditional leaders, business groups, religious bodies and professional associations in order to elicit information on the prevailing needs, as well as report and get feedback on the status of ongoing projects in their jurisdiction.

Consistent with the theory discussed in section 2, electoral competition retains its positive and significant coefficient reflecting that local legislators who faced competitive elections, as proxied by the margin of victory allocate a higher share of the budget to the provision of infrastructure. This is in line with other empirical studies that show that variation in performance across elected politicians is contingent on the extent to which re-election concerns are binding. From a policy perspective, and grounded on the political accountability literature, there is need to enhance downward accountability that aligns politician’s incentives to economic development. This implies that not only are free and fair elections crucial for structural transformation, but policy makers should ensure that local elections are competitive in order to ensure that elected officials face credibly electoral threats and thus can provide the much needed infrastructure that is crucial for structural transformation.

The econometric results also emphasizes that a country’s population can accelerate structural transformation by providing a larger end-market for manufactured products. As an economy expands in size, there are incentives for firms to produce more goods due to demand and economies of scale. In addition, a country’s population is associated with an increase in the labour force, a factor input which firms can capitalize on in the production process of labour intensive products. Indeed, recent trends in industrial development show that firms are relocating part of their production process to African countries due to lower labour costs (Elhiraika and Mbate, 2014). This underpins the importance of boosting labour productivity through skills formation, knowledge creation and demand for local products. Finally, consistent with the panel fixed effect model, the coefficient of local taxes is positive and significant, underscoring the fact that counties with high level of domestic resource mobilization have a higher capacity to provide and finance infrastructural support that is a key ingredient of enhancing the reallocation of productive resources to high productive sectors.
Conclusion and policy recommendations

In the wake of major governance turmoil associated with top-down governance systems, African countries are experiencing waves of decentralization aimed at promoting structural transformation by re-designing the political, economic and social contract between governments and citizens. While the theory on decentralization has been centred on its positive effects on governance and accountability, this paper has challenged this widely held conception and highlighted that decentralization can also have unintended consequences and deter structural transformation.

Understanding the dynamics of decentralization and structural transformation is vital if African countries are to foster the re-allocation of productive resources to high value added and labour intensive manufacturing that has the potential to create job opportunities and reduce poverty. This paper has analyzed the conditions under which decentralization can enhance structural transformation using robust econometric techniques that address causal inference problems. The empirical evidence underscores the importance of public participation in decision making processes and high level of political competition as two crucial institutional variables that can catalyze decentralized as a potential avenue to enhancing structural transformation on the continent.

These findings have two key policy implications. One, given that decentralization fosters responsiveness to local needs when decision making processes are participatory and inclusive, there is need to build strong and inclusive local institutions that promote strategic collaboration between the government, the electorate and the private sector. Strong institutional frameworks marked with sound regulatory framework can enhance productivity, especially private sector development by assisting the government to identify and address infrastructural constraints that often deter long term investment and lower social welfare amongst individuals and households.

Second, there is need to boost political competition, especially at lower levels of governance. While conventional wisdom has been centred on ensuring free and fair elections, the empirical analysis points out to the need to ensure that local officials possess the right mix of incentives in order to perform and provide public goods and services that are not only pro-poor, but are crucial ingredients to industrial development and manufacturing in particular. This implies that removing barriers to political participation, and establishing policy initiatives that link electoral accountability to legislative performance through public service provision is vital in equipping political institutions with capabilities that can eventually boost visionary leadership, enhance downward accountability and promote the development of infrastructure that is pre-requisite for effective structural transformation.
References


