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Budgetary Institutional Adjustments and Fiscal Discipline in Local Government: An Assessment of Entity Location Mediation

Paul Onyango-Delewa[1]

Isaac Nabeta Nkote[2]

RESEARCH
ARTICLE

A B S T R A C T

For quite a long time, budgetary institutional adjustments have been implicated as important determinants of fiscal discipline in local government. Moreover, entity location has been argued a pivotal and influential factor in the budgetary institutional adjustments-fiscal discipline linkages. However, to date no research is conclusive enough on what precisely explains budget discipline especially in Sub-Saharan Africa-based localities. On the basis of a cross-sectional research design, this study investigated the budgetary institutional adjustments-entity location-fiscal discipline triangulation in Uganda, East Africa. Data were collected from 26 districts, 9 municipalities and a number of sub-counties spread across four purposively-selected geographical regions of the country. The regions are north-western, northern, north-eastern, and eastern. Data were then subjected to both regression and structural equation modeling statistical analysis. Notably, results from structural equation modeling revealed that budgetary institutional adjustments have strong predictive power on fiscal discipline. Conversely, entity location does not have any influence on the budgetary institutional adjustments-fiscal discipline relationship. Theoretical and practical implications from the findings are discussed.

[1] Lecturer, ORCID: 0000-0002-7770-6744, Gulu University, Faculty of Business and Development Studies, Uganda, ponydel2005@gmail.com

[2] Senior Lecturer, ORCID: 0000-0001-6485-0205, Makerere University Business School, Dean Faculty of Commerce, Uganda, inkote@mubs.ac.ug

1. Introduction

The current dynamics in the fiscal federalism environment perpetuated by increased demand for accountability and transparency, have generated enormous practice and research attention to local government (LG) fiscal discipline (Altunbas & Tornton, 2012; Blom-Hansen, 1999; Von Hagen & Harden, 1995). Thus, over the years, numerous public finance studies (e.g. Bahl & Bird, 2008; Fjeldstad, 2006) have endeavored to create understandability of how local entities should run resource-allocation mechanisms that enhance fiscal discipline. To date, such empirical efforts have not yet been fully successful.

Fiscal discipline is an entity's ability to maintain its revenue, spending and borrowing structures at levels that are financially-sustainable and compatible with short and long-term objectives (Altunbas & Tornton, 2012; Bahl & Bird, 2008; Blom-Hansen, 1999). Under fiscal federalism, it is commonly argued that local governments should manage local economies through their own fiscal policies. The practice does not only augment regional stability but also reduces horizontal fiscal imbalances significantly. However, running autonomous fiscal policies is basically practical under viable fiscal discipline practices (Bahl & Bird, 2008).

Achieving conventional standards of fiscal discipline in most local government jurisdictions remains largely illusionary. Numerous studies (e.g. Ebel & Taliercio, 2005; Olowu, 2003; Poterba, 1994) attribute fiscal discipline setbacks in both developed and developing economies to adjustments frequently made in budgetary institutions. However, amending budgetary laws, statutes and regulations requires timely steps in order to effectively tailor fiscal operations to fiscal discipline standards (Ebel & Taliercio, 2005).

Besides, Blom-Hansen (1999) and Fjeldstad (2006) observe that a local agency's geographical location is a fundamental factor in attaining sustainable fiscal discipline. Fjeldstad (2006) complements that the more distant the agency is from the central resource allocation unit, the lesser capacity it may in achieving fiscal discipline. This phenomenon is distinctive with strained and divergently resource-endowed local entities of various Sub-Sahara African economies (Fjeldstad, 2006; Olowu, 2003).

The foregoing views and largely inconclusive results of most empirical scholarships imply that a comprehensive understandability of the budgetary institutional adjustments-entity location-fiscal discipline triangulation is indispensable. This is specifically so if the current relentless LG fiscal discipline problem is to be effectively addressed. In the present study, fiscal discipline-related activities in 26 districts and other local governments in Uganda, East Africa are surveyed. Since the early 1990s when the country embraced decentralization as a political, administrative, fiscal resource-allocation policy, Uganda has been acclaimed for its fiscal federalism proficiency (Bahl & Bird, 2008; Bird, 2011; Olowu, 2003).

The study is founded on two basic theoretical foundations. On one hand, it invokes fiscal illusion theory proposed by Krogstrup & Wyplosz (2006) and Winer

(1980). The theory posits that various fiscal discipline identities such as accountability and service delivery influence adjustments in budgetary institutions.

On the other hand, the formative fiscal federalism theory (Bradford & Oates, 1971; Tiebout, 1956) was also engaged in order to explain budgetary institutional adjustments-entity location linkages and how they affect fiscal discipline.

Essentially, we offer two key contributions to the local government fiscal discipline knowledge body. First, we contribute to the fiscal discipline literature by providing a comprehensive conceptual framework (Bahl & Bird, 2008; Von Hagen & Harden, 1995) capable of explaining the budgetary institutions-entity location-fiscal discipline relationships.

Much as the need to examine such connectivity has been enunciated in previous research (Altunbas & Tornton, 2012; Fjeldstad, 2006), such a model had never been adopted before. The oversight has over the years annulled comprehensive appreciation of fiscal discipline especially in the African setting (Bahl & Bird, 2008; Bird, 2011; Olowu, 2003). Besides, drawing on the fiscal illusion and fiscal federalism theoretical (Tiebout, 1956; Winer, 1980) perspectives, this research benefits further understandability of LG fiscal discipline in conceptual terms.

Second, as previous research on LG fiscal discipline has been largely inconclusive and even portraying mixed results, proposing a direct and simplified model provides quite a balanced picture of the problem. Notable statistical methodologies such as: regression analysis (Simonton, 2003) and structural equation modeling-based path analysis and bootstrapping (Beran & Srivastava, 1985; Marsh, Hau & Wen, 2004; Preacher, Zyphur & Zhang, 2010) are employed in order to comprehensively test the fiscal discipline paradoxical mechanisms.

The suggested and empirically-examined mechanisms are likely to fill an important gap in the fiscal discipline literature both in conceptual and empirical terms. Moreover, unveiling budgetary institutional adjustments-entity location context provides a more nuanced relational insight and potential explanation of the fiscal discipline dimension. The model presented as Figure 1 is proceeded by the study hypotheses developed in the subsequent section.

Figure 1: Conceptual Model
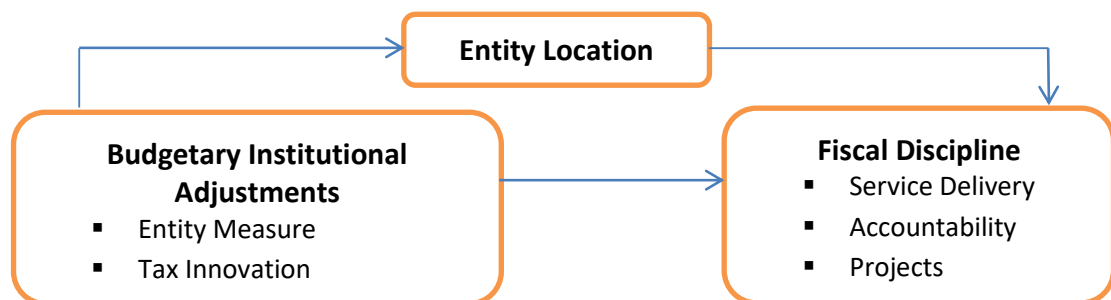
Source: Authors' elaboration.

2. Hypothesis Development

2.1. Fiscal Discipline

In local government (LG), fiscal discipline is defined in terms of how the entity manages its gross revenue, spending, deficits, and debt in a given period of time. Technically, these four budget aggregates often considered constraints, are the key measures of its fiscal performance (Altunbas & Tornton, 2012; Blom-Hansen, 1999). Thus, fiscal discipline abounds when one set of budget constraint is accompanied by another set of constraint. For instance, the LG enjoys fiscal discipline by achieving some deficit target. This is possible if borrowing is increased and spending restrained, say, amidst constrained revenue (Altunbas & Tornton, 2012; Bahl & Bird, 2008).

However, most localities attain such controls in situations where high spending often culminates into large budget deficits and more debt and tax burdens. Von Hagen & Harden (1995) associate deficits-debt-tax burdens cohabitation with resource-constrained entities of the developing world. The cohabitation is considered desirable in that it makes policymakers pay due attention to tax systems, expenditure program efficiency, and requirements for budgetary institutional adjustments (Bahl & Bird, 2008; Von Hagen & Harden, 1995).

Tax systems, expenditure program efficiency, and budgetary institutional adjustments are important ingredients of ideal resource allocation, growth, and service delivery structures (Bird, 2011).

Moreover, fiscal discipline allows entities to accommodate potential fiscal pressures such as unfunded public pension and contingent liabilities more conveniently (Altunbas & Tornton, 2012). The entity is deemed fiscally disciplined if its budget aggregates are sustainably affordable from both ex-ante and ex-post contexts. Affordability relates to how the level and distribution of revenue, spending, and borrowing affect entity financial health both in the short and long-run (Altunbas & Tornton, 2012; Von Hagen & Harden, 1995).

Thus, in order to properly understand the comprehensive process of fiscal discipline, its constructs and thus affordability measurements (conceptualized in Figure 1): service delivery quality, accountability and transparency capacity, and ability to complete public projects need to be investigated more deeply.

2.1.1. Service Delivery

In their work on fiscal illusion theory, Bradford & Oates (1971) and Winer (1980) underscored service delivery as a notable indicator of fiscal discipline especially in sub-national entities. Subsequent studies (Alesina et al., 1999; Fjeldstad, 2006; Poterba, 1994) interpret that perspective to imply that service delivery is both the quantity and quality of public goods and services local communities receive as a result of fiscal discipline practices. From the African-based local entities context, basic goods and services comprise agriculture, education, health, road network, and water and

sanitation (Fjeldstad, 2006; Olowu, 2003). Since such services involve outlay of large amounts of resources and are often rendered in form of government projects, they significantly impact entity revenue, expenditure and debt.

In most African countries, local governments are barred from borrowing directly from either from local or foreign financial institutions and governments. According to Fjeldstad (2006) and Olowu (2003), such deterrence helps circumvent national macroeconomic disequilibrium and horizontal fiscal imbalances. Thus, local entities are largely funded by inter-governmental fiscal transfers and donor aid (Alesina et al., 1999; Fjeldstad, 2006).

Furthermore, service delivery in local government introduces yet another critical budgetary dimension, the budget deficit. Even in acclaimed fiscal federalism nations such as Ethiopia, Ghana, South Africa and Uganda majority local entities lack competent technical capacity.

Accordingly, they rarely balance the revenue-expenditure-deficit equation indicative of a standardized fiscal discipline mechanism (Alesina et al., 1999; Bahl & Bird, 2008; Olowu, 2003).

The ability to effectively control fiscal balances is an internal decision-making process. Exacerbated by the common pool problem (Alesina & Perotti, 1996), spending in such decentralized jurisdictions often exceeds their revenue-generation ability. The resultant budgetary strains persistently compromise fiscal discipline and consequently quality of service delivery. The situation is, however, addressed through bail-outs in form of inter-governmental fiscal transfers.

2.1.2. Accountability and Transparency

Achieving fiscal accountability and transparency in local government is a multi-faceted mechanism and one often dictated by individual entity operational complexity (Ebel & Taliercio, 2005). Commonly, fiscal accountability and transparency explains: medium-term fiscal policy and targets, fiscal aggregates risks, revenue and expenditure projections models and related assumptions, budget comprehensiveness, entity assets and liabilities, and budgetary information credibility (Altunbas & Tornton, 2012; Ebel & Taliercio, 2005; Von Hagen & Harden, 1995).

According to Altunbas & Tornton (2012), publicized medium-term revenue targets and expectations, spending projections and funding requirements enhance fiscal credibility. In effect, fiscal discipline is impacted and borrowing costs are minimized. Essentially, such publicity also creates an efficient local planning integrated framework. The framework facilitates the entity's engagement of fiscal projections and targets (Altunbas & Tornton, 2012; Ebel & Taliercio, 2005).

Local government stakeholders including central government and the donor community expect openness on fiscal aggregate-related risks. Such risks include those related to local revenue collection, utilities accessibility, and borrowing interest rates.

When the risks are not catered for in advance, they seriously undermine fiscal planning and discipline (Ebel & Taliercio, 2005).

During the budgetary process, local entities develop several models and adopt various assumptions in order to project revenue and expenditure. Much as most models and assumptions tend to be technical in nature, they should be simplified to enhance higher levels of government and the local community scrutiny. Accountability and transparency are also expected on the various budget components (Von Hagen & Harden, 1995). For instance, the entity budget and balance sheet (statement of financial position) framework must clearly highlight all revenue sources, expenditure items, and liabilities. Such openness is also expected on arm's length agencies and other off-budget instruments for budget credibility purposes (Altunbas & Tornton, 2012; Ebel & Taliercio, 2005).

Finally, fiscal discipline involves candidness on the entity's assets and liabilities. All cash flows and fixed assets movements including current debts, current liabilities, arrears and contingent liabilities must be publicized. Ebel & Taliercio (2005) assert that when past and planned fiscal operations are disclosed, it makes most entities reluctant to circumvent constraints on main budget operations by creating off-budget operations. Off-budget operations promote rent-seeking practices such as misappropriation of funds (Ebel & Taliercio, 2005; Von Hagen & Harden, 1995).

2.1.3. Projects Completion

The essence of decentralization and particularly fiscal federalism is to empower sub-national entities provide public goods and services to their local communities in the most effective manner (Bahl & Bird, 2008; Olowu, 2003). Thus entities must participate in construction and setting-up of schools, health centers, roads, and drilling of boreholes. These projects involve large fiscal outflows commonly funded through inter-governmental fiscal transfers (grants) and bank loans, and sometimes by donor support.

Completing such projects in an accountable and transparent manner portrays some level of fiscal discipline (Fjeldstad, 2006). However, projects in most local entities especially in corruption-ridden African jurisdictions are rarely completed due to rampant fiscal deficits and bail-outs from central government. Commonly, bail-outs are seldom granted because of poor accountability and budget violations Bahl & Bird, 2008; Olowu, 2003).

In sum, attaining fiscal discipline is quite a big challenge to majority local authorities. While some scholars (e.g. Rodden, 2002; Yilmaz & Serrano-Berthet, 2010) attribute it to leadership capacity and partisan politics, adjustments in budgetary institutions seems to dominate the debate. Moreover, it is also stressed that entity geographical location is a crucial factor in its ability to attain sustainable fiscal discipline (Blom-Hansen, 1999; Fjeldstad, 2006). This case closely relates to horizontal fiscal imbalances commonly associated with local resource-endowment divergences.

2.2. Budgetary Institutional Adjustments

As a potential predictor to local government fiscal discipline, budgetary institutional adjustments refer to those systematic amendments made to the rules and regulations that govern the way budgets are drafted, approved and implemented (Alesina & Perotti, 1996; Ebel & Taliercio, 2005). Typically, the amendments are reactions to anticipated fiscal shocks within the entity bureaucracy pertaining to, say, eminent budget deficits.

The World Bank Institute's governance initiative of the Poverty Reduction and Economic Reform Division (WBIPR), for instance, recommends that parliaments and local authorities adopt appropriate budgetary adjustments as a budget oversight mechanism (Alesina et al., 1999). Such action does not only strengthen fiscal accountability and transparency but also significantly curbs corruption.

In practice, however, local authority budgetary governance mandates have often been subdued by executive predominance and own technical deficiencies rendering them largely dysfunctional.

Alesina et al. (1999) and Yilmaz and Serrano-Berthet (2010) associate conducive fiscal discipline in local government with three major institutional arrangements. These are laws that create ex-ante constraints on budget deficits, hierarchical (top-bottom) procedural rules, and transparent procedures. Laws that establish ex-ante constraints on budget deficits are simply restrictions of numerical nature designed to limit excessive budget deficits. Such deficits emanate from entity borrowings (debt) and practices where expenditure persistently exceeds revenue (Yilmaz & Serrano-Berthet, 2010).

Hierarchical procedural rules are legislative mandatory rules that entities must follow in the budget-making and implementation process. Such institutions limit legislature capacity to amend the executive proposed budgets haphazardly (Rodden, 2002; Von Hagen & Harden, 1994). The institutions are prevalent in situations where executive veto on legislative amendment proposals tends to neutralize or at least diminish local authority amendment powers. Transparency procedures pertain to transparency in respect to budgetary and fiscal information.

Other budgetary institutional structures that localities and the executive can adjust to bring about fiscal discipline include: two-stage budgeting undertaken prior to setting of anticipated budget deficit targets, restrictions on amendments of spending proposals, constitutional limits on deficit spending, debt ceilings and fiscal targets (Yilmaz & Serrano-Berthet, 2010).

Previous research (Blom-Hansen, 1999; Fjeldstad, 2006) suggests that at any time within the budgetary period, national executive and local jurisdictions can adjust one or a combination of the various budgetary institutions in a bid to attain targeted fiscal discipline levels. This empirical observation supports the common pool problem (Von Hagen & Harden, 1994) stand and fiscal illusion theory (Winer, 1980) view that local budgetary institutional adjustments are feasible in respect to entity measure, tax innovations, and grants structure.

2.2.1. Entity Measure

A broad body of research (Altunbas & Tornton, 2012; Blom-Hansen, 1999; Ebel & Taliercio, 2005) associates local government (LG) fiscal discipline in developing countries with numerous factors. These include: budgetary institutional framework, central government patronage, and community cooperation. However, entity measure; the numerical number of local governments a country runs in a particular budget year is fundamental (Blom-Hansen, 1999; Ebel & Taliercio, 2005).

The more LGs the country operates, the more complicated it becomes to achieve optimal budgetary governance at both national and locality levels. The complications arise from identifying ideal budget decision actors, gauging actor interests and incentives, and deciphering both formal and informal institutions that shape inter-entity interactions (Ebel & Taliercio, 2005).

According to the country's Local Government Act (1997 amended), local governments in Uganda include city (Kampala), districts, municipalities, and sub-counties. Currently, the country is a host to one city, 122 districts, 30 municipalities and and over 1,000 sub-counties. These localities are scattered in seven geographical regions: western, northern, north-eastern, eastern, central, south-western, and western (Ministry of Local Government, 2017).

Consistent with past research (e.g. Bird, 2011; Ebel & Taliercio, 2005), creation of more localities in Uganda has not only led to power capture by the few elites, but has extensively sidelined local people from the policy-making process and consequently compromised social services provision. Other rent-seeking practices such as corruption are also rampant (Bird, 2011).

Therefore based on the foregoing entity measure-fiscal discipline discussion, it is proposed:

Hypothesis 1: Entity measure positively contributes to fiscal discipline in local government.

2.2.2. Tax Innovation

Fragmentation of a political system into numerous regional local entities often culminates into uncoordinated tax-related decisions (Bahl & Bird, 2008; Bird, 2011; Ebel & Taliercio, 2005). Such decisions rarely exploit relevant economies of scale related to public services application and inefficient costly public infrastructure. According to Ebel & Taliercio (2005), this signifies a potential fiscal discipline threat.

Furthermore, Bahl & Bird (2008) and Bird (2011) noted that local authorities find themselves in a regional competition for existing tax types. The consequence of such competition for favorable tax rates often truncates government revenue.

When public services remain persistently stagnant, the temptation is debt financing as the only viable alternative. In order to avoid tax-debt migration, fiscal illusion theory (Krogstrup & Wyplosz, 2006; Winer, 1980) recommends that local

authorities adopt appropriate tax innovations. Common and practical tax innovations in income-strained local entities comprise introducing new tax types and making adjustments in existing tax rates. This is, however, feasible after carefully studying community income levels and potential reaction. Besides, the innovations must not jeopardize national macroeconomic policy and budgetary framework nor perpetuate horizontal fiscal imbalances (Bahl & Bird, 2008; Ebel & Taliercio, 2005).

In Sub-Saharan Africa countries, Uganda inclusive, property tax levied on local buildings is the most paying source of local revenue. Others include various types of fees, market dues, surcharges, and penalties (Fjeldstad, 2006; Olowu, 2003; Rodden, 2002). Local entity fiscal discipline is therefore measured by how effective local revenues, central government grants and donor aid are managed.

Much as the assessment augments quality service delivery on an accountable and transparent basis and avoids supplementary budgeting, few LGs in the country meet this standard. Tax innovations in majority entities are constrained by poverty, low incomes, political interference, and entity measure (Fjeldstad, 2006; Rodden, 2002). Thus, we propose:

Hypothesis 2: Tax innovations and fiscal discipline have a positive relationship.

2.2.3. Grant Structure

The local community, suppliers, creditors and other principle local entity stakeholders are likely to recognize entity obligations as sovereign; akin to those of central government. This is more especially if the obligations happen to be financed purely by local taxes, fees, charges, and borrowing. Thus, fiscal deficits, fiscal imbalances (both vertical and horizontal), and bail-out concerns would be irrelevant and irrational (Alesina et al., 1999; Yilmaz & Serrano-Berthet, 2010). Moreover, other scholars (e.g. Altunbas & Tornton, 2012; Porteba 1994; Rodden, 2002) are of the opinion that the absence of such irregularities in local government fiscal structures significantly enhance policy-driven fiscal discipline.

In practice, however, local revenue lacks the capacity to sufficiently fund the numerous fiscal obligations faced by local governments in majority countries of the world. Commonly, the gap is therefore often filled by intergovernmental fiscal transfers (grants) and; in jurisdictions of majority Sub-Saharan Africa entities, by donor aid (Rodden, 2002; Yilmaz & Serrano-Berthet, 2010). The fiscal illusion theory (Krogstrup & Wyplosz, 2006) posits that intergovernmental grants constitute that vertical flow of funds that takes place between governments. That funds-transition is initiated by central government from a national common pool; the consolidated fund, and granted to sub-national entities (Krogstrup & Wyplosz, 2006; Bird, 2011).

The transfers take three dominant forms; conditional, unconditional, and equalization grants. Conditional grants are meant to finance development-oriented projects related to agriculture, education, health, road network, and water and

sanitation. Given their large investment resource characteristics, conditional grants are normally managed by local authorities but under rigorous central government patronage and oversight (Altunbas & Tornton, 2012).

Local government autonomy in respect to conditional grants is therefore highly compromised. In Africa, fiscal autonomy in regard to such grants is restricted on the basis of unreliable budget and financial management technical capacity, corruption, and likely partisan politics influences. Unconditional and equalization grants benefit local entity expenditure obligations with somehow relaxed autonomy. The two types of grants are meant to finance recurrent spending and activities designed to address horizontal fiscal imbalances respectively (Altunbas & Tornton, 2012; Rodden, 2002).

From the fiscal discipline and fly paper effect contexts, recent fiscal federalism literature (Blom-Hansen, 1999; Von Hagen & Harden, 1995; Yilmaz & Serrano-Berthet, 2010) observes that intergovernmental fiscal transfers rarely breed meaningful reductions in local taxes. Besides, increases in the transfers instead often stimulate local spending than would be expected if local revenue collections increased. This is consistent with the public economy theoretical and empirical studies view (Alesina & Perotti, 1996; Bradford & Oates, 1971) that majority individuals consider grants "own-revenue" but camouflaged by fiscal policy and politics.

The "own-revenue" perception exacerbated by central government stringent grant control and patronage does not only compromise sub-national fiscal accountability and transparency but heavily undermines management commitment. The ultimate outcome is an undercut in entity fiscal discipline goal.

Considering the foregoing analytical views, the following hypothesis is therefore proposed:

Hypothesis 3: Grant structure has a positive relationship with fiscal discipline.

2.3. Entity Location: Mediation Consideration

A number of fiscal discipline studies (e.g. Bahl & Bird, 2008; Blom-Hansen, 1999; Fjeldstad, 2006) have recently demonstrated that a local government's geographical location from the center is a pivotal factor in attaining its fiscal discipline endeavors. In Sub-Saharan Africa and specifically Uganda, public resource allocation is formula-driven.

Key considerations include: entity population size, previous budgets performance and accountability record, available resource quantity, and geographical location (Bird, 2011; Olowu, 2003; Yilmaz & Serrano-Berthet, 2010).

Entity location is critical in that the more distant an entity is from the center, the less the opportunity it may have in identifying and engaging accountable technical manpower (Blom-Hansen, 1999; Fjeldstad, 2006). Such units are also not easy to access due to lack of basic infrastructure like roads and electric power and thus operate manual accounting systems. Besides, their local communities are largely poor

and illiterate and barely appreciate the relevancy of effective budgeting, budgetary institutionalization, fiscal discipline, and accountability (Fjeldstad, 2006).

In their seminal work, Olowu (2003) and Yilmaz and Serrano-Berthet (2010) indicated that resource-endowment differences in majority rural-based local entities in African often generate horizontal fiscal imbalances. These imbalances are normally beyond the fiscal capacity of equalization grants periodically allocated to local entities. This explains why supplementary budgeting (fiscal incrementalism) and bail-out practices; serious fiscal discipline setbacks, dominate entity operations. In Uganda, several local governments admit their inability to contain bail-out-fiscal discipline complications and frequently look at central government for rescue (Fjeldstad, 2006; Olowu, 2003; Von Hagen & Harden, 1995). We therefore propose that:

Hypothesis 4: Entity location mediates budgetary institutional adjustments-fiscal discipline relationship.

3. Methods

3.1. Sampling

As noted earlier, Uganda is currently comprised of seven regions; western, south-western, central, north-western, northern, north-eastern, and eastern regions. In order to advance the country's political and administrative but particularly fiscal federalism agenda, the regions are divided into one city (Kampala), 122 districts, 30 municipalities and 1,500 sub-counties (Ministry of Local Government, 2017).

This research was conducted in four purposively-selected (Baruch & Holtom, 2008) regions of north-western, northern, north-eastern, and eastern. The regions (a host to 33 districts, 12 municipalities, and about 400 sub-counties), were selected on the basis of consistently reported expenditure governance pitfalls (Fjeldstad, 2006; Ministry of Local Government, 2017; Olowu, 2003; Von Hagen & Harden, 1995). Target districts and municipalities were chosen on a purely-random basis but sub-counties were also purposively identified given their large numbers.

At district level (unit of analysis), participants included: principal administrators (Chief Administrative officer; Resident District Commissioner; Local Council Five Chairperson), Chief Finance Officer, Department Heads, and finance function employees. At municipality and sub-county levels, Town Clerks, Treasurers, Sub-County Chiefs, accountants and their finance staff participated in the survey.

Through pure-random and purposive sampling procedures (Scandura & Williams, 2000), a total sample of n = 243 participants was generated. In gender terms, 58% (141) of the subjects were male and 42% (102) female. Their mean age was 41 years (SD = 1.264) with job mean tenure of 4 years (SD = 1.617). It was also found that 52% of the participants were married, 34% single and 14% widowed. Altogether, 33% held first degree certificates, 39% held diplomas, and 28% were secondary school

drop-outs. The sample consisted of 31% finance activity-based employees, 18% administrators and CFOs, 40% heads of department, and 11% civic leaders.

From the local entity expenditure governance context, the current study's biographical data seem to suggest that the investigated entities operate more or less a gender-balanced mechanism. Consistent with previous research (Bird, 2011; Olowu, 2003), most of their personnel are middle-aged, fairly educated, and hold family responsibilities. Moreover, the majority have served for short periods with potential to support LGs for a long time in future.

4. Measures

4.1. Service Delivery

This construct was measured by 15 items related to those in validated scale versions (Altunbas & Tornton, 2012). A sample item: "[…] the nature of services rendered is fair", revealed a Cronbach's ($\alpha = 0.842$) level of reliability.

4.2. Accountability

In order to assess accountability under public expenditure governance, 12 items related to modified scales in (Blom-Hansen, 1999; Von Hagen & Harden, 1995) were used. Sample item: "[…] accountability is not relevant for effective outlay control" exhibited ($\alpha = 0.817$) reliability.

4.3. Projects Completion

Project completion was measured by 12 items drawn from the scales in (Bahl & Bird, 2008). Sample item: "[…] facilitates prompt project accomplishment" exhibited an ($\alpha = 0.794$) internal consistence.

4.4. Entity Measure

Based on 13 items closely related to those in scales from (Ebel & Taliercio, 2005), the influence of entity measure on LG fiscal discipline was tested. A sample item: "[…] is pivotal to entity fiscal discipline" exhibited an ($\alpha = 0.885$) reliability level.

4.5. Tax Innovation

The construct tax innovation was evaluated by 12 items ($\alpha = 0.816$) as in validated scales in the work of Alesina & Perotti (1996) and Bird (2011). Sample items: "When relevant, this LG introduces new taxes."; "[…] community is often tax inverse."

4.6. Grant Structure

Designed along validated scales in Alesina et al. (1999), Olowu (2003) and Poterba (1994), some 13 items were adopted to assess grant structure in local entities. The items; with a sample statement: "[…] grant amounts are often sufficient", exhibited Cronbach coefficient (α = 0.863).

4.7. Entity Location

Apparent Budgetary Institutional Adjustments-Fiscal Discipline relationship mediator, entity location, was measured by 11 items composed similar to scales in (Blom-Hansen, 1999; Fjeldstad, 2006). Sample item: "[…] location is not important for fiscal discipline", all displayed (α = 0.798) internal consistency.

The preceding construct measures indicate that their respective study variables hold internal consistence (reliability) levels (0.68 < α < 0.94) generally accepted in statistical circles (Marsh et al., 2004; Simonton, 2003).

5. Control Variables

Six participant demographic characteristics; gender, age, marital status, educational level, position held, and tenure were adopted as control variables. Previous studies (e.g. Ebel & Taliercio, 2005; Krogstrup & Wyplosz, 2006) suggest that biographical variables often relate with fiscal discipline in local government. Thus, [Gender: (0=female, n=102; 1=male, n=141)]; [Age in years: (1=20-30, n=34; 2=31-40, n=128; 3=41+, n=81)]; [Marital status: (1=single, n=59; 2=married, n=116; 3=others n=68)]; [Educational level: (1=certificate, n=21; 2=diploma, n=64; 3=bachelor's degree+, n=158)]; [Job tenure in years: (1=1-3, n=67; 2=4-6, n=118; 3=7+, n=58)] were controlled for.

Additionally, a latent factor adopted to enhance instrument validity verification and subjected to Harman's Single Factor approach-based confirmatory factor analysis (CFA), was controlled for. This was to minimize possible repressive effect CFA latent factors tend to have on hypothesis results (Beran & Srivastava, 1985).

6. Analytical Approach

By engaging SPSS software, the various study variables and their constructs were first tested for relative association (correlation) and prediction (regression). Thereafter, as in previous studies (Marsh et al., 2004; Scandura & Williams, 2000; Simonton, 2003), other statistical attributes such as means, standard deviations, reliability (internal consistence), validity, and multi-collinearity were established.

The study hypotheses (both direct effect and indirect effect) were tested by means of structural equation modelling (SEM) using the Analysis of Moments Structures (AMOS) computerized package (Bollen & Stine, 1992; Preacher, Zyphur &

Zhang, 2010). On the basis of a two-step strategy, SEM helps to verify whether variables in hypothesized models are consistent with original data structure.

In step one, a measurement model is tested using confirmatory factor analysis but without involving any control variable (Preacher et al., 2010). The idea is to generate output from control variable latent construct items of a higher-order-term. The output is required in constructing effective model goodness-of-fit indices and testing for direct and indirect (mediation) effects related to various study variables (Bollen & Stine, 1992; Preacher et al., 2010).

In step two, the target structural model is anticipated to exhibit mediation estimation statistics being sought for. Marsh et al. (1992) recommend that where only one item is exhibited for each of the control variable latent constructs error variances, all the variances should be fixed at zero value. Thus, in order to observe that condition, the current study's control variable latent constructs and their model paths were loaded on both its mediating variable (entity location) and the dependent variable (fiscal discipline) (Preacher et al., 2010).

7. Results

7.1. Descriptive Statistics and Correlation Analysis

Correlation coefficients including means, standard deviations, and reliability ratings for the target model variables and their constructs are reported in Table 1. All measures exhibit high internal consistence reliabilities, with (α) ranging from (0.75) to (0.85). The dependent variable (fiscal discipline) portrayed the lowest mean value (2.92), but its construct (accountability), the highest (3.11). Fiscal discipline standard deviation (SD) value was the highest (1.607) while one of its constructs (project completion) showed lowest SD (1.497). However, all item mean and SD values were quite fair and in the right direction (Baruch & Holtom, 2008; Simonton, 2003).

Furthermore, correlation coefficients ranged from (-0.147) to (0.442) and were statistically significant at both (0.01) and (0.05) levels, 2-tail measurement. Most of them exhibited a pattern consistent with proposed hypotheses of the study. For instance, budget institutional adjustments hold a significant but negative relationship with entity fiscal discipline

(r = -0.342, p < 0.05). This suggests that positive adjustments made in budget institutions impair fiscal discipline efforts.

On the contrary, entity location-fiscal discipline relationship (r = 0.257, p < 0.01) indicates that entity's location directly affects how it executes its fiscal discipline. Likewise, its location also directly affects the nature of budget institutional adjustments it makes in a particular period. This is indicated in the output (r = 0.442, p < 0.01).

Table 1: Variable Means, Standard Deviations, Reliability Coefficients, and Correlations

Variable	M	SD	1	2	3	4	5	6	7	8	9
1. ServDelivery	3.06	1.517	.826								
2. Accountability	3.11	1.552	-.340*	.871							
3. ProjctCompltn	3.03	1.497	-.254	.321**	.794						
4. FD	2.92	1.607	.188**	.289*	.285**	.843					
5. EntityMeasur	2.97	1.551	-.276	.144	.278*	-.375**	.816				
6. TaxInnovatn	3.13	1.529	-.252*	-433*	.137*	-.240**	-.235**	.839			
7. GrantMgmt	2.95	1.530	.414*	.282	-.168**	.122	-.147*	-.249**	.768	.	
8. BIA	3.07	1.538	-.353**	-.314*	-.427**	-.342*	-.023	-.060	-.376**	.825	
9. EL	3.05	1.526	.236*	-.255*	.182**	.257**	.008	.121	.232	.442**	.837

Source: Authors' elaboration.

Notes: n=243; ServDelivery = Service Delivery; ProjctCompltn = Project Completion; FD = Fiscal Discipline; EntityMeasure = Entity Measure; TaxInnovatn = Tax Innovation; GrantMgmt = Grant Management; BIA = Budgetary Institutionalization Adjustments; EL = Entity Location; Reliability alpha coefficients in parentheses; ** Correlation is significant at the 0.01 level (2-tailed); * Correlation is significant at the 0.05 level (2-tailed).

8. Hypotheses Testing

As indicated in the preceding section, study hypotheses were tested on a bi-model (measurement and structural) basis. Supported by five latent items, confirmatory factor analysis (CFA) results from the measurement model showed quite significant item loadings and reasonable goodness-of-fit indices. The results support structural equation modelling testing (Marsh et al., 2004): (Range: [0.43 − 0.97], $p < 0.01$; $\chi2 = 967.53$, df = 13, $p < 0.01$; CFI = 0.98; NNFI = 0.97; RMSEA= 0.02; SRMR = 0.06).

Besides, CFA was also performed on the Harman's One Factor model to test for the common methods threat to the study dataset. The model's relatively weak indices: [$\chi2$ =15.471; df = 18; $\chi2$/df = 0.860; IFI = 0.784; TLI = 0.898; CFI = 0.901; RMSEA = 0.101 (L.090, H.112)] indicated that data were free from that threat (Marsh et al., 2004; Preacher et al., 2010).

Statistical results displayed in Tables 1 and 2 further suggest that the study variables and majority of their constructs portray strong reliability coefficients and significant factor loadings ($\beta > 0.50$, $p < 0.01$; $\alpha \geq 0.700$). Coupled with minimal common methods variance threat, Marsh et al. (2004) associate such output with a robust and quite reliable study instrument's construct and discriminate validity.

In phase two, a structural model was developed to facilitate structural equation modelling (SEM) (Bollen & Stine, 1992; Marsh et al., 2004). However, in order to avoid compromising SEM test results, the study variables had to be first evaluated for possible multi-collinearity linkages. Conventionally, absence of the multi-collinearity threat is established by tolerance values (TVs) and variance inflation factors (VIFs) items that depict [(< 1.00); (< 10.0)] status respectively (Marsh et al., 2004). Table 2 (TVs) and (VIFs) output confirm that position.

Notable simulation research (e.g. Beran & Srivastava, 1985; Preacher et al., 2010) asserts that structural models with strong goodness-of-fit indices must be adopted if study hypotheses' direct and indirect effects have to be measured effectively. Thus, we engaged the model with indices: Chi-Square ($\chi2$)=1.437; df=1; p=.231; ($\chi2$/df)=1.437; GFI=.988; NFI=.988; RFI=.884; IFI=.996; TLI=.962; CFI=.996; RMSEA=.043(L.000; H.186) at 90, to test the effects.

Table 2: Multiple Regression Coefficients and Structural Equation Modeling

HYP	Model	Unstandardized Coefficients		Standardized Coefficients	CR (t-value)	Sig.	Collinearity Statistics		95% CI
		β	SE	β			TV	VIF	
	Constant	8.263	1.421	-	5.813	.000*	-	-	
	Em	1.015	.236	.830	4.303	.001**	.816	1.225	
	Txi	.361	.215	.610	1.676	.116*	.885	1.129	
	Gmt	.303	.205	.587	1.480	.161**	.809	1.236	
	R^2			.574					
	Adj.R^2			.483					
SEM	*Direct Effects*								
H1:	FSD ◄——— Em			.773	1.739	.372**			
H2:	FSD ◄——— Txi			.581	1.392	.122**			
H3:	FSD ◄——— Gmt			.662	1.629	.259*			
	Indirect Effect								
H4:	BIA ◄——— FSD			-.647	1.293	.313**			
	ELN ◄——— FSD			-.521	1.386	.209**			[-.067; .024]

Source: Authors' elaboration.
Notes: HYP=Hypothesis; CR=Critical Ratio; TV=Tolerance Value; VIF=Variance Inflation Factor; CI=Confidence Interval; Em=Entity Measure; Txi=Tax Innovation; Gmt=Grants Management; FSD=Fiscal Discipline; BIA=Budgetary Institutional Adjustments; ELN=Entity Location; *p < 0.05; **p < 0.01; Hypotheses Status:H1 (Supported); H2 (Supported); H3 (Supported); H4 (Not Supported); BIA, ENL, and FSD are the study variables.

8.1. Direct Effect Tests

In Hypothesis 1, the study anticipated that in local government, entity measure holds a positive relationship with fiscal discipline. Both regression analysis (β=.830, p < .01, t-value 4.303) and SEM (β=.773, p < 0.01, t-value 1.739) results (Table 2) indicate that data confirm that position. Hypothesis 2: tax innovation relates positively with fiscal discipline also received data backing as per regression analysis (β=.610, p < .05, t-value 1.676) and SEM (β=.581, p < 0.01, t-value 1.392) results. Similarly, regression (β=.587, p < .01, t-value 1.480)-SEM (β=.662, p < 0.05, t-value 1.629) output suggests that data support Hypothesis 3 proposition that grants management has a positive relationship with fiscal discipline in local entities. Further, the study regression model unveiled [(R2=.574; Adjusted R2=.483)] values.

8.2. Indirect (Mediation) Effect Test

Conceptually, the method employed in testing mediation by SEM (Preacher et al., 2010) is more or less analogous to that in Baron and Kenny (1986) and Kenny, Kashy and Bolger (1998). In both approaches two models; 1 and 2, are considered. While model 1 is developed to hold the potential mediator; that is, entity location in the current study, model 2 is structured to suppress the mediator and enhance (predictor-criterion) relationship evaluation (Baron & Kenny, 1986; Kenny et al., 1998; Preacher et al., 2010).

Mediation is considered present no matter the (predictor-criterion) relationship results status, but as long as the (predictor-mediator) and (mediator-criterion) relationships display statistical significance (Kenny et al., 1998; Preacher et al., 2010). The SEM-based mediation results are also presented in Table 2. Accordingly, the results; [(β= -0.647, p < 0.01, t-value 1.293; β= -0.521, p < 0.01, t-value 1.386)], suggest that data did not support Hypothesis 4. This implies that the location of an entity does not have any bearing on the interaction between budgetary institutional adjustments it makes and its fiscal discipline status.

In order to confirm the SEM results further, data were subjected to bootstrap analysis as recommended in other simulation studies (e.g. Beran & Srivastava, 1985; Bollen & Stine, 1992).

Bootstrapping first involves generating indirect effect confidence intervals (CIs) by closely exploring the related model. The 2,500 replicated sub-samples exhibited a statistically-insignificant (0.10) entity location effect-size with 95% bias-corrected (CIs) [-0.067; 0.024] (Table 2). The effect is considered insignificant since its bias-corrected (CIs); [-0.067, 0.024], enclose a zero value therein (Hancock & Nevitt, 2001; Preacher & Hayes, 2008). These bootstrap results confirm that Hypothesis 4 was indeed not supported by data.

9. Discussion

9.1. Study Contribution

The results of the first three hypotheses of this study are quite important and add to the existing literature. However, the key contribution of the research is to budgetary institutional adjustments-entity location-fiscal discipline literature. Entity location was examined and indeed confirmed that it is not the mechanism through which budgetary institutional adjustments affect fiscal discipline in local government.

Altunbas & Tornton (2012) describe fiscal discipline as that level of fiscal performance in which local entities are able to mobilize revenue and effectively manage expenditure and borrowing. When this capacity is executed through own fiscal policy initiative, it creates regional stability, minimizes horizontal fiscal imbalances, and promotes service delivery (Altunbas & Tornton, 2012; Blom-Hansen, 1999).

Additionally, it supports the earlier work of Von Hagen & Harden (1995) which, inter alia, found that fiscal discipline is not only helpful for maintaining prudent deficit and debt levels, but enhances taxation and institutional compliance.

Adherence to various budgetary institutional adjustments is considered an important signal of fiscal accountability. The findings of the current study are also in congruence with empirical ideas expounded by Bahl & Bird (2008) in which effective projects completion especially in resource-strained entities of Sub-Saharan Africa is emphasized. Thus, in sum, this investigation is a big contribution to the contextual mechanisms required for fiscal discipline in local government.

Furthermore, the research supports numerous findings of past empirical work which argue that there is need to pay attention to entity budgetary institutional adjustments (Alesina & Perotti, 1996; Alesina et al., 1999; Bird, 2011; Ebel & Taliercio, 2005; Olowu, 2003; Poterba, 1994). Consistent with Ebel & Taliercio (2005) and Olowu (2003) observation that entity measure has serious bearing on fiscal discipline; this study reiterates the point that the number of local governments affects available resource package and thus its management.

Results of the current research further support the budgetary institutional adjustments -fiscal discipline linkages in local entities. Specifically, it proves that tax innovation is certainly a strong predictor of fiscal discipline as highlighted in the work of Alesina & Perotti (1996) and recently Bird (2011). Adopting tax measures tailored to local community payment capacity does not only enhance tax collectivity but also significantly motivates taxpayers (Bird, 2011; Poterba, 1994).

The current results demonstrate that local entities in Sub-Saharan Africa in general and those of Uganda in particular heavily rely on grants (inter-governmental fiscal transfers) for budgetary survival. As indicated in previous studies (Alesina et al., 1999; Ebel & Taliercio, 2005; Olowu, 2003), such entities must effectively manage available grant funding if they have to achieve required fiscal discipline. This finding is considered a noteworthy contribution to the existing literature especially in studies where grants have often been overlooked.

As indicated earlier, past scholarly work (e.g. Blom-Hansen, 1999; Fjeldstad, 2006) attribute successful fiscal discipline operations in local government to its geographical location. The more distant a locality is from the centre, the more funding it may receive as per most budget allocation formulas in Africa.

However, the findings from the current research contradict that previous empirical evidence. It offers support to the work of Bahl & Bird (2008), Ebel & Taliercio (2005), and Olowu (2003) which found that despite location-setting benefits, various rural-based localities still face fiscal discipline challenges. This is largely due to manpower deficiencies, poor budgetary control oversight, and corruption. In a nutshell, entity location is not necessarily a critical concern when formulating fiscal discipline policy.

10. Conclusion

This research is an important contributor to fiscal discipline literature in regard to the management of public resources in general and those of local government in particular. It stands out as one of the few studies in which the three fiscal discipline constructs; service delivery, accountability, and projects completion, are examined in a single study. The constructs have often been ignored by past research.

The research demonstrates that fiscal discipline in local government is quite achievable even in resource-constrained and largely corrupt economies of the developing world like those in Sub-Saharan Africa, Uganda inclusive. In support of past empirical evidence (Alesina & Perotti, 1996; Alesina et al., 1999; Bird, 2011; Ebel & Taliercio, 2005; Olowu, 2003; Poterba, 1994), properly executed budget institutional adjustments can engender fiscal discipline. This is workable regardless of the entity location under review in the country's geographical set-up.

11. Theoretical and Practical Implications

Findings from the study impact local government fiscal discipline literature generally and theory specifically on several fronts. Firstly, the study promotes the theoretical position of the fiscal illusion theory (Krogstrup & Wyplosz, 2006; Winer, 1980) by introducing new insights of how fiscal discipline attributes; service delivery, accountability, and projects completion can explicitly accommodate budget institutional adjustments to enhance fiscal discipline.

Initially, the theory did not take in-depth regard of potential influence of budget institutional adjustments in local entity fiscal discipline endeavours (Ebel & Taliercio, 2005; Krogstrup & Wyplosz, 2006).

Secondly, the fiscal federalism theory posits that strategically-tailored budget institutional adjustments can generate high profile fiscal governance in decentralized economies (Bradford & Oates, 1971; Tiebout, 1956). By implication, that theoretical view suggests that fiscal discipline in local entities is actually feasible. The current research reinforces fiscal federalism theory by introducing the otherwise previously overlooked budget institutional adjustments constructs of entity measure, tax innovation, and grant structure into its theoretical framework. Consistent with past research (Ebel & Taliercio, 2005; Olowu, 2003; Poterba, 1994), the study findings suggest that fiscal discipline in local government is easily attainable but if the entity measure-tax innovation-grant structure triangulation is effectually managed.

From a practical (managerial) standpoint, achieving acceptable fiscal discipline standards has important implications for local entity administrators, employees, and local community representatives. This research helps administrators and employees to understand fiscal discipline relevance to entity performance. Such knowledge reinforces the innovative capability of the entity. Its findings support the work of Blom-Hansen (1999) and Von Hagen & Harden (1995) which states that local entity fiscal

discipline does not only enhance fiscal performance and accountability but greatly minimizes fiscal horizontal imbalances.

Blom-Hansen (1999) identifies horizontal imbalances with fiscal instability in especially poorly resource-endowed local governments. The findings will therefore help local communities to appreciate available services and support local revenue contributions accordingly.

12. Study Limitations and Areas for Future Research

Like any other research, this study is not free from limitations. First, it was conducted using a cross-sectional design. Cross-sectional methodology entails collecting data at one point in time. Such snapshot approach renders inference to causality results challenging (Baruch & Holtom, 2008; Simonton, 2003). Future studies may adopt either random-sampling experimental approach or longitudinal methodology in order to investigate variable causality more effectively (Marsh et al., 2004; Scandura, & Williams, 2000).

Second, the study tested possible entity location mediation in the budgetary institutional adjustments-fiscal discipline relationship. Its data did not support the mediation hypothesis (H4) when tested by both the Kenny et al. (1998) SEM-based path analysis direct and indirect effects approach, and through bootstrapping (Beran & Srivastava, 1985; Bollen & Stine, 1992; Preacher et al., 2010). Nonetheless, much as the dual mediation tests statistically dispel entity location mediation probability, more research is required to investigate it further.

Additionally, there may be more mediators and even moderators which could emerge in local government budgetary institutional adjustments-fiscal discipline relationship. For instance, factors such as entity autonomy and manpower technical capacity may be important for future studies investigation. The studies can also conduct follow-up analysis of specific local entities known for fiscal discipline challenges or excellence in other regions of Uganda. This will strengthen both literature and theory quite significantly.

In summary, the findings of this study intend to inspire upcoming fiscal discipline research in similar entities not only in Uganda and the Sub-Saharan Africa region but also elsewhere where fiscal federalism is seriously unfolding. The resultant motivation may engender accountability, transparency and quality service delivery especially in resource-constrained and complex economies of the developing world.

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VAT Liabilities of Electronic Service Providers in Turkey

Erdem Ateşağaoğlu[1]

M. Süheyl Karakaya[2]

RESEARCH ARTICLE

A B S T R A C T

Topic of our paper is the new system in VAT taxation of B2C e-commerce - transactions between commercial corporations and customers executed via internet- in Turkey and the problems arising from such imposition of VAT on B2C e-commerce. This topic will be assessed in three parts. In the first part, general frame of VAT in Turkey will be briefly explained in order to understand the applicable new system in taxation of B2C e-commerce. In second part, the new system in taxation of B2C e-commerce regulated via Communique No. 17 on VAT and its problems will be elaborated and also evaluated. Particularly; the concept of electronic service provider, registration obligation of this person as taxpayer, threshold for relevant registration, the general and punitive measures against noncompliance of new system, the possible problems and failures will be arisen as to the application are the main points regarding this issue. In final part, possible drawbacks in the area of execution and the role of the banks in the new system and generally positive outcomes will be considered and shared about the new VAT system of B2C e-commerce. If it needs to make some general inferences, we think that what will happen in the future should be evaluated due to specific uncertainties arising from implementation of new system, although it seems to be working.

[1] Assoc. Prof. Dr., ORCID: 0000-0003-0018-3508, İstanbul University, Faculty of Law, Fiscal Law Department, Turkey, eatesaga@istanbul.edu.tr

[2] ORCID: 0000-0002-5255-6516, İstanbul University, Faculty of Law, Turkey, karakayasuheyl@gmail.com

1. General Framework of VAT in Turkey

1.1. Taxable Event

Value added tax (hereinafter "VAT") in Turkey is regulated under the Value Added Tax Law, Law No.3065 ("hereinafter VAT Law"). Article 1 of the VAT Law provides that, among other things, deliveries and services which are deemed as commercial, agriculture, industrial or self-employment activities and the importation of goods and services will trigger the payment of VAT (Mutluer, 2007: 281). Therefore, VAT is payable on every transaction involving production or the performance of a service and the taxable event is directly connected with delivery or importation of a good or execution or importation of a service (Kaneti, 1989: 388). Also, the article 10/1-b of the VAT Law set out that issuance and delivery of an invoice or similar documents before delivery of goods or rendering of services is evaluated as taxable event. Besides, it is stated in the article 10/1-ı that the commencement date of custom tax liability is also considered as taxable event for VAT purposes regarding the import transactions (Mutluer, 2007: 286; Şişman, 2014: 250).

The meaning of delivery is clarified under the article 2/1 of the VAT Law. In this regard, delivery concept is the transfer of the right of disposition on a property to the buyer or those acting on the buyer's behalf by the owner or those acting on the owner's behalf (Mutluer, 2007: 282; Şenyüz, Yüce & Gerçek, 2018: 256; Oktar, 2018, 193). Moreover, according to article 2/1 of the VAT Law, it is also regarded as delivery when initiation of the shipment started or when the delivery of goods to the carrier or driver took place. Taxable events have been required to occur in Turkey. In this context, pursuant to the article 6 of VAT Law, the delivery transaction or service should be fulfilled or benefiting from the service in Turkey (article 6 of the VAT Law).

On the other hand, there are certain VAT exemptions or tax refund available regarding exportation of goods and services (article 11), transit transportation and business concerning the transportations of cargo and passenger between Turkey and foreign countries by shipping, airway, road and railway (article 14), transactions carried out by banks and insurance companies and subject to banking and insurance transaction tax (article 17/4-e), deliveries of goods from Turkey to the free zone areas (article 12/1) and the services performed in free zone (article 17/4-ı), sale of the participation shares and real estates by corporations on condition that the real estate is held at least for 2 years (article 17/4-r) and etc., set out in the articles 11-17 of the VAT Law (See Oktar, 2018: 193-209). There is also VAT refund for the non-resident passengers (article 11/1-b) and tax exemption for goods have no commercial value exceeding 150 € regulated via article 167/1-4 of the Customs Law No, 4458 (Şenyüz, Yüce & Gerçek, 2018: 303).

Another significant VAT exemption is connected with export-registered deliveries (article 11/1-c). According to the provision, VAT of goods delivered by a manufacturer taxpayer resident in Turkey to such exporters, under the condition of exportation, shall not be paid by exporters. In such condition, VAT shall be declared in the statement for the period concerned and shall be assessed, accrued and deferred

by the tax office, even if that VAT amount shall not be collected by exporters (Mutluer, 2007: 288). However, in case the goods concerned are exported within 3 months following the delivery date to an exporter, the VAT amount which was deferred, shall be canceled. Within this respect, when purchasing the goods from the suppliers in Turkey, the exporter located in Turkey will purchase these "subject to exportation" so that no VAT is paid. VAT subjected to such exemption will be arisen in the event that the exportation of goods is not be completed within three months of the purchase date.

There is also a VAT refund mechanism only for delivery of goods and services that are either exempted from VAT or are subject to the reduced rate of VAT (Article 29/2 of the VAT Law). In such cases, the input VAT amount that is not able to be offset against the output VAT amount may be offsetting from other taxes, social security premium, debts relevant to municipalities and other public administration or refunded on the basis of the principles to be determined by the Ministry of Finance (See Oktar, 2018: 216, 217).

1.2. Taxpayer and Tax Responsible of VAT

The parties liable for the payment of the VAT are the persons making delivery of goods and providing services. However, persons who buy services or goods can be held responsible from the payment of VAT in certain transactions (Kaneti, 1989: 389; Mutluer, 2007: 284; Şenyüz, Yüce & Gerçek, 2018: 258).

Article 9 of the VAT Law, arranges the topic of tax responsible, which is the key subject within the scope of our paper. According to first paragraph of this article, if the taxpayer hasn't got any residence, place of business, a legal headquarter or business center in Turkey and, in other cases considered necessary, by the Ministry of Finance, the parties of the taxable transactions may hold responsible for the payment of VAT in order to secure the tax claim. There is also new paragraph was added wording as (Aydın, 2009: 126) "VAT amount regarding the services performed electronically to real persons who are not VAT taxpayer by the party which has not any residence, place of business, a legal headquarter or business center in Turkey is declared and paid by the service providers rendering such service. Ministry of Finance is authorized to determine procedures and principles of the application and scope of the said services performed electronically", in November 28, 2017.

It is understood from the above provisions that the article 9 of VAT Law regulates a tax responsibility for the taxable events made by non-resident taxpayers (Oktar, 2018: 191). In the event that a non-resident person or legal entity derives income from a Turkish resident via delivery of goods or performance of a service, VAT is calculated, declared by VAT return No. 2 and paid by the Turkish resident as tax responsible. So, as a general rule, non-residents are not responsible for the payment of VAT. Finally, the new paragraph stated above regulates the liability of foreign electronic service providers. At this point, what does it mean to be "electronic service provider" and what measures would be taken is the questions that we would like to

analyze in following chapters. Because, this change does not stand for creating a new type of liability. Taxpayers of the sales transaction made from abroad are always foreign side. What has changed according to that regulation is basically about tax responsibility. Pursuant to the new system explained below in detail concerning taxation of B2C e-commerce, customer is no more involved in this transaction as tax responsible.

1.3. Imposition, Accrual and Collection of VAT

Tax basis of VAT is purchase price of goods or services, which means VAT is calculated over the invoiced sale amount (Mutluer, 2007: 294). Pursuant to the article 20/2 of the VAT Law, tax base covers and totals of money borrowed all type of properties, benefit and service or other things with monetary value. Tax base includes transportation, loading and unloading expenses made by the sellers to the place determined from the recipient, packing costs, insurance amounts, commissions and such expenses, taxes, duties, levies and charges and contributions to the funds, delay interest, price difference, incomes as interest and premium, any benefit and service or value under different names, stated under the article 24.

In accordance with the article 39/1 and the General Communique on VAT Application (hereinafter "General Communique"), the Ministry of Finance set out every month as taxation period for the taxpayer and tax responsible. In this regard, VAT Return No. 1 should be submitted by the VAT taxpayer to the relevant tax office until the 20th day of the following month of relevant taxable event and accrued tax shall be paid until the end of the 26th day of the same month. However, pursuant to the said General Communique, VAT arisen from import transactions shall be declared and paid together with custom duties.

The legislator determined the general VAT rate as 10% (article 28/1 of VAT Law). On the other hand, the above said article had been given the Council of Ministers the authorization to reduce this rate down to 1% or increase it up four times and specify tax rates for various goods and services and retail phase for some of the goods, by the time the article 90 of the Decree Law No. 700 came into force on July 7, 2018 and assigned the mentioned authorization within the same scope to the President of the Republic. In this context; all deliveries of goods and services that take place in Turkey are subject to VAT at rates varying from 1% to 18% according to the Decree of the Council of Ministers, No. 2007/13033 (hereinafter "Decree").

Although the VAT rate less than 18% is usually exceptional, there are some goods and services, the VAT rate of some goods and services were reduced to 8% for List II or 1% for List I annexed to the Decree, such as yarns and filaments used in the production of yarns, all types of fabrics, internal and external clothes. The VAT that a taxpayer pays for goods and services purchased (input VAT) can be offset against (deducted from) the VAT calculated on deliveries of goods and services made (output VAT). When the amount of output VAT is greater than the input VAT, the difference shall be paid to the tax office by the taxpayer (Aydın, 2009: 114-115). In the event that

the reverse is true the balance is carried forward to be offset against future output VAT. In other words, the taxpayer is required to submit VAT returns to the tax office on monthly basis. The VAT difference to be paid to the tax office is calculated by way of deduction of the output VAT amount from the input VAT amount. In the event that the reverse is correct, the input VAT amount exceeds the output VAT, the balance is carried forward to be offset against future output VAT amount and transferred to next taxation period (Kaneti, 1989: 391). Thus, it is not refunded. This regulation is so-called "reverse charge mechanism" and does not create any tax burden for both Turkish and non-resident individual, except for its cash flow effect for the former (Biçer & Uslu, 2018). This system relies on taxpayers who are obliged to register themselves and submit a monthly tax return. This system is used mostly transactions between business to business (B2B) (Özdemir, 2014: 58).

Regarding the above issue, as per the chapter titled "Deduction of VAT paid by Tax Responsible" of the Communique Serial No. 49 VAT, the tax responsible could deduct the VAT amount within the scope of declared tax return No. 2 from the tax return No. 1 in the same month. However, the taxpayer's right to deduct the real accrued VAT is applicable providing that the invoices and similar documents have to contain VAT amount, issued and recorded in legal books. In addition to that, the application of deduction shall not be exceeded the calendar year of registration date pursuant to the article 29/3 of VAT Law (Oktar, 2018: 215; Aydın, 2009: 115).

2. New System in Taxation of B2C (Business to Customers) E-Commerce and Its Problems

When the digital transactions are not properly taxed, e-commerce can damage the competition in the market and cause heavy tax burden on classic consumer (Ünsal & Ubay, 2017: 24). At the one side we see, EU trying to solve this problem and abolish geo-blocking regulations in order to get neutral cross-border digital transactions among its countries. They want to be sure that it is equally profitable to do online shopping between EU countries. (Hutchinson, 2018: 297-298). This problem is solved in EU within B2B context with "Mini One Stop Shop". (Çetin Gerger and Gerçek, 2016, 70). Where firms are registered in one country of EU and this country is responsible of both collection and distribution of collected tax among EU countries. However EU is also struggling to deal with B2C (Business to Consumer) transactions. Turkish Ministry of Finance has published a Communique No. 17 on VAT (hereinafter "Communique 17") in an attempt to solve the problem about inefficiency of old system, where final consumer did not committed to perform his duties as tax responsible. This regulation actually based upon the article 41 of the Law numbered 7061 ("Amendment of Certain Taxes and Laws and other Acts"), dated November 28, 2017 and has amended the article 9 of the VAT Law (Dikmen, 2018: 99). The Communique is regulating taxation of the sales of electronic goods to individual customers with no VAT-registration. The target groups of this regulation are parties that have no residence, workplace,

registered head office and business center in Turkey and whose services provided electronically (Budak, 2018: 73). Although target group was clarified by Communique, new system founds its real roots in code itself. That is a good point to highlight in respect of principle of legality for taxes. This regulation is actually a successor in respect of digital taxation. There was also a change in article 11 of VAT Law relating withholding mechanism in income tax and corporate tax. (Öksüz & Türgay, 2018: 151-152.)

Before that legislation, there was a different mechanism going on in the area of VAT. In past, the above-mentioned general VAT application namely "reverse charge mechanism" was in force regarding these e-commerce transactions. Foreign supplier of electronic goods was not coerced to register for VAT. Because, their resident customers were responsible on behalf of them. The customers located in Turkey were obliged to declare the realized VAT with the "VAT Return No: 2" and then can benefit from tax deduction when they would give their own personal "VAT Return No: 1". Therefore, customers were tax responsible in this system, upon the transactions they have made. However, this application was not ensured to collect VAT derived from B2C e-commerce due to the fact that consumers were not followed in the matter of their responsibilities on VAT Return No: 2.

The efficiency of old system, will actually be assessed separately herein below, was highly doubted (Ceran & Çiçek, 2014: 303). In short, applying reverse charge mechanism in B2C sales was a big fail for Turkey (Yüce & Akbulut, 2018: 117). Demanding individual customers to remit tax on remote services was too much of a burden. As Hellerstein puts it this was a "tax on honesty" and did not really work (Hellerstein, 2016: 621). Therefore, new system, with aforesaid changes was introduced. With this new system, electronic service providers have to register and submit tax return for VAT. This declaration will happen via 'VAT Return No: 3'. In case of violation of these obligations, according to Communique 17, punitive provisions of Turkish Tax Procedural Code No. 213 will be revoked. Before we explain in detail, one can say about new system is more effective from old one. However, it misses again certain points such as regular feedback of banks related to transactions executed by electronic service providers as we also explained in following chapters in detail.

2.1. Taxable Event on the B2C E-Commerce

Turkish VAT Law attributes the taxable event in any delivery and service to be based in Turkey (Art. 6). In this regard, selling online electronic goods deemed as a service. OECD and other countries accepted that as such. (Pozvek, 2017: 39). Especially with cloud computing, the electronic service approach is getting stronger and become more extensive (Hojnik, 2018: 74). The virtual stores get a commission over the amounts derived from application sales (Kükrer, 2016: 584). In this regard, article 11 of EU Regulation (1777/2005) gives us guide to define electronically supplied service as

"Electronically supplied services shall include services which are delivered over the internet or an electronic network and the nature of the service in question is heavily dependent on information technology for its supply". Since the benefit of e-commerce takes place in Turkey, it is also deemed that service was given in Turkey according to Turkish law and subject to VAT. Therefore, whenever electronic sales transaction of goods to a customer in Turkey is completed, taxable event occurs. Draft Communique 17 was enumerated some of the transaction types however, this was not a numerus clausus enumeration. "Electronic Services are defined under 3 main categories: Radio and television broadcasting services, Telecommunication services, Other services provided in electronic environment. Monitoring or listening to radio and television programs at a user-selected time, depending on a program catalog organized by the media service provider. Voice, written and visual telephone services over the Internet. Accessing or downloading music, voices outside of music, movies. Accessing or downloading electronic books and other electronic publications. Accessing games or downloading games, in-game purchases and services for remote play of games. All kinds of software supply (including access and download) and updating" (Whole list was enumerated on www.digitalservice.gib.gov.tr; KPMG, 2017. For more general scope of e-commerce Yüce & Akbulut, 2018: 110).

Therefore, Communique 17 uses a broader scope with the term "electronically provided service" (Ekinci, 2018). Finally, we would like to point out in the context of Communique, when transaction made in foreign currency, tax will be evaluated on Turkish lira upon the currency published by Turkish Central Bank at the day of taxable event (Karakoç, 2018: 54).

2.2. "Electronic Service Provider" as Taxpayer

As it stated above, taxpayer of this kind of transaction is non-resident seller acting without creating a business office or permanent establishment in Turkey, named as "electronic service provider". So what does it mean to be an electronic service provider? This terminology was introduced Turkish legal system just recently and yet with the Communique 17.

As we first look to text of the Turkish VAT Law Art. 9, we see the phrase "the services performed on electronic medium". What are those services? Are there any specific criteria (threshold etc.) to be deemed an electronic service provider other than that vendor just having no nexus in Turkey and to deliver digital services to real persons? These questions remain unanswered in the mere text of the law. What law does, is to link (direct) us to secondary legislation. Article 9 follows, "Ministry of Finance is entitled to set procedure and principles related to implementation and also scope of the services performed on electronic mediums." With these reference we find Communique 17 published by Ministry of Finance.

Communique 17 states in 2.1.2.1.2.1, "Whoever has the right of claiming compensation from customer, setting the general clauses related to service or obliged to perform the service would be deemed as electronic service provider." Therefore, that is the definition of electronic service provider. This means it is possible to be a taxpayer, without performing a service. For example, Play Store would be classified as taxpayer as it holds right to claim for compensation, although it did not perform any service. However, the view of the OECD is that a website or website hosting arrangement through an internet does not in itself constitute a permanent establishment (Bardopoulos, 2015: 203).

In this case, another question arises, if the obligation to perform and to claim compensation lies with two different identities, which one should be identified as the electronic service provider? According to us, it can be both. Because, in the case of Play Store it also possible to claim that Google is both obliged to perform (in the name of developer) and entitled to claim compensation. Therefore, there is room for legal ambiguity on this point.

It is said in the Communique 17 that "where electronic service provider did not explicitly state or it is not written on the contract between parties or, it is not reflected on the invoices or other related documents, value added tax related to services performed on electronic medium shall be declared and paid by who intermediates the electronic service supply". So, in the event that electronic service provider cannot be determined within the scope of electronic agreements, invoices or etc., the intermediaries are characterized as tax obligatory. However, this provision of the Communique is worth to highlight. It is not clear what is to be an intermediary. Is the Communique referring to banks, other payment intermediaries, proxy servers or just persons? There may be also another option that, is it just referencing platforms that enables people to sell their digital product via popular electronic store (i.e. Play Store, Apple Store). As we stated above, when we are unable to find real taxpayer, we can detect it by the measure of right to claim compensation. In most of the cases, platforms (digital stores) as such would be responsible as electronic service providers.

2.3. Taxpayer Threshold for Foreign Vendors to Register as Electronic Service Provider

When non-resident vendor performs a service in an electronic medium to non-VAT responsible consumer, taxable event occurs regardless of this service having the value whether 1 or 1000 Turkish Lira. As we see, there is no threshold for non-resident vendors to enjoy refraining to register their profit (Konca & Durgun, 2018). As the OECD puts it, it is the duty of the country of taxation to simplify and make it easy the process of compliance for non-resident vendors (OECD, 2015). This regulation of Turkey can influence the compliance rates negatively.

USA, EU and most of the other countries have thresholds for foreign vendors to register (Silva, 2014: 161). In fact, some studies show that compliance level is low when there is no threshold (Satterthwaite, 2018: 195-196). Since Turkey applies no threshold yet for its local companies, it could be a great chance to test it first on foreign vendors.

In the case of threshold, how do countries check if the vendors exceed that limit is another question. However, for example in Norway, government wants non-resident vendors to register after exceeding one threshold and adds that if government detects that vendor already exceeded that threshold then vendor should pay the occurred tax (The Norwegian Tax Administration, 2017). In our view, Turkey should put a threshold in order to protect both tax neutrality and potential revenue problem. In Turkey (Communique 17, 2.1.2.1.2.2.) and as well as in EU (European Council, 2011: Art. 63c), non-resident vendors are not obliged to keep books. They are obliged to keep the invoices and other related documents for 10 years (European Council, 2006: Art. 369/2 and 369k.) in EU (EU Commission, 2016: 17) and 5 years in Turkey. These documents should be kept ready for presentation when the controllers have asked to do so. In Turkey, if they fail in preservation and presentation of aforesaid documents there will be consequences with regard to tax evasion and tax assessment together with tax penalty.

However, when there are no books to analyze in detail, above all to assess basis, and to do cross check, it is very hard for tax administration to investigate the accuracy of tax returns. Other obstacle in front of the local tax administration is the audit. When there is no physical existence and no books whatsoever, it is impossible to conduct a classic audit. Other versions such as electronic audit could be the solution. Or in more classical way, basis valuation commissions will calculate the basis, administration will accrue the tax and if the vendors think differently than they should prove it otherwise on their own before the court. Since the taxpayer failed his duty to inform the tax authority prior to assessment, now burden of proof relating the inaccuracy of assessment would be on his shoulders.

Last solution brings so much compliance burden on the shoulders of non-resident small and medium enterprises. Since these small and medium enterprises will not possibly have a chance for legal counsel in Turkey it will damage their business (Karakoç, 2018: 55).

2.4. Place of Taxation and Other Problems

Problem of place of taxation is the problem of which law should be applied to supposed taxable event. Either sellers or customer's country law will be governing. Sellers place redeemed as place of taxation on cross border sales of digital goods in EU before 2015. However, it was changed because of BEPS initiative (EU Commission, 2016: 17).

When place of taxation was accepted as sellers' location, sellers who exports digital goods to foreign countries did enjoy great exemptions. Since countries wanted to boom their export industry, limit for exemptions was high (Pozvek, 2017: 38). However, when some countries of European Union started to set their limits very high, then small and medium enterprises started to settle themselves in those countries and following caused tax erosion for other countries (Öksüz & Türgay, 2018: 146; Budak, 2017: 298; EU Commission, 2016: 17).

As a result of above said discussions, EU has changed its place of taxation rule in 2015 to customers' location (Hojnik, 2018: 78). Since OECD's Base Erosion and Profit Shifting Action number 7 requires to define digital nexus (Mastar Özcan, 2016: 79), it is suggested by OECD to establish new type of nexus based on "significant economic presence" (Budak, 2017: 310).

How was the situation in Turkey? Namely, place of taxation on cross border import of B2C digital goods has been always customers' location in Turkey. As stated above, Turkish VAT Law attribute the taxable event in any delivery and service to be based in Turkey (Turkish VAT Law Art. 6). At this point, selling online electronic goods deemed as a service. OECD and other countries accepted that as such. As a result, since the benefit takes place in Turkey it is also deemed that service was given in Turkey according to Turkish VAT Law Art. 6 (Yaltı, 2003: 233; Çetin Gerger, 2011: 65). We can conclude that, Turkey's approach to place of taxation in this matter was true, even before the new legislation of EU after 2015.

2.5. General Measures to Enforce New System

Communique 17 states that in the case of non-compliance of new system as mentioned above is occurred, punitive measures of Turkish Tax Procedural Code will be revoked. However, before that, an ex officio assessment derived from the article 30 of the Tax Procedure Law No. 213 will be made. In Turkish tax law, there are four ways to assess tax basis. These are; based on (self-assessment) tax return, ex officio, additional and administrative assessments.

According to the imposition over the tax return, tax administrations are obliged to assess and accrue the tax by taking into consideration the tax payers' written declarations including the tax basis. Apart from first method, tax administrations mostly assess the basis in person (Öncel, Kumrulu & Çağan, 2015: 95). In such circumstances, when the tax basis cannot be detected in part or whole from books, records, documents or other statutory measures or situations and also in the event of violations of the obligation to submit a tax return, tax administrations are obliged to assess the tax through ex officio method. In such circumstances; lacks of books, invoice or other documents are not hindering tax administration to make an assessment.

Obviously, it is a technical matter to assess tax basis. Thus, basis valuation commissions may be deployed. These commissions are consisted of both agents of tax

administration and representatives of taxpayers (Tax Procedure Law, Art. 72). These commissions have auditing authorization and so the Turkish Court of Cassation - *Regional Administrative Court and/or Council of State*- expects them to fulfill this obligation (Aslan & Karakoç, 2016: 261). They should, if they found any, check the books or other documents. However, if those documents lack, they are also entitled to base their assessment upon criteria such as; sector of taxpayers, general profit, business volume, capital sum, how many workers are employed, state of stocks etc. (Karakoç, 2011: 717).

Interestingly, it is not possible for taxpayers to claim nullity by action against the reports of basis valuation commissions whereas for tax administration means for action is open. Upon the result of the attitudes of tax administration, taxpayers may be faced with two different scenarios. In first scenario, tax administration does not take an action against the report and assess the basis in compliance with report, and then sent notice. At that point, if the taxpayer takes an action for this notice then he can prove the contrary of report by expert and other complementary evidence. In second scenario, tax administration takes an action against the report and court does not find that commission decision justified. In this situation; some authors say that if authenticity of report is approved by court, it will be impossible to apply administrative remedies such as negotiation -in German Law *"tatsächliche Verständigung"*- (Karakoç, 2011: 707). However; in any case, if the taxpayer does not involve with the judicial procedure at the end, it should not be forgotten that he will be faced off with a precautionary attachment issued by tax office. If that doesn't work, some of the authors discuss the possibility of blockage of access to internet site which non-compliant firm operates (Karakoç, 2018: 54).

2.6. Punitive Measures Against the Violation of New System

According to this matter, Turkish Tax Procedural Code regulates 3 different way of punitive measures. First one is loss of tax fine, second one is special irregularity fine and the last one is general irregularity fine. Starting with first, Tax Procedure Law Art. 344 says "*when loss of tax arises in accordance with the conditions stated in Art. 341, taxpayer or tax responsible will be fined with the amount of tax have been lost*". In this context, Art. 341 of Tax Procedure Law states that "*tax loss means, late or less accrual of tax, due to default of obligations in respect of time, or less fulfillment of these obligations by taxpayer or tax responsible*". Article 5 of the Law on Collection Procedure of Assets, No. 6183, provides a late fee for the payment made after the due date, in rate published in Presidential Decree numbered 62 as "2%" per month.

When it comes to special irregularity fines, we first encounter with the obligation of e-tax return. Communique stated that "electronic service provider" should electronically declare their "VAT Return No: 3". They are not obliged to submit blank return if they don't cause taxable event to occur (Dikmen, 2018: 101). However,

in the case of negligence of general obligation (when taxable event occurs), a fine will be arisen (Art. reiterated 355/4 of Tax Procedure Law). This fine is irrelevant of tax loss fine. Amount of penalty is gradual and changes every year with the decree of President. This year's amounts are highest being 1.400 Turkish Liras and lowest being 350 Turkish Liras. There is also a discount mechanism on the execution of this fine. When vendor submits his late e-tax return by 30 days later he gets 1/10th of the aforesaid punishment, and after 60 days, rate increases to 2/10th. Finally, after 60 days of negligence, punishment is full whether e-tax return has submitted or not.

Additionally, according to Communique 17, it is possible for electronic service providers to enjoy VAT refund under special conditions. In order to get VAT refund, "electronic service providers" should have bought something related to their provided service from resident VAT responsible sellers in Turkey. Invoices of these transactions should be kept and exhibited on demand. If these keeping obligations are omitted, article 352 of Tax Procedure Law applies. This irregularity fine is a fixed fine and changes every year, which is applicable 80 Turkish Liras for 2018.

3. Conclusion and Evaluations

Within this paper, we have tried to analyze recent Turkish approach in taxation of B2C e-commerce. We have stated that globalization and the internet made e-commerce as complex as never before. Consequently, firms can operate on a cross-border level without needing any of residence or place of business. Within this concept, therefore, it is almost impossible to tax these entities in respect of corporate tax. On the other side, developing countries, like Turkey, do not want to discourage the investors but they also want to minimize the revenue loss. However, in short our first impressions are quite positive about new regulation.

To solve this problem, VAT comes our help. As we stated, there are different methods to collect VAT. Turkish government did put away one of the inefficient methods for B2C transactions, namely "reverse charge mechanism" and introduced somehow more effective register system.

Obviously, government has to be informed from transactions in order to check accuracy of tax returns. Within the context of B2C commerce, Turkish banks were first obliged by law to regularly report cross-border transactions which payment made through them in Draft Communique 17. However, this article was removed in Communique 17's last version. It is most likely that Turkish government prepares legal and technological infrastructure to lay out this mechanism. Once this mechanism laid out, there will be also room for Turkish banks in execution/confiscation provisions. As of now, all banks taking part within electronic payment system are obliged to provide information about B2C e-commerce transactions if requested by the Ministry of Finance in the context of article 148, 149 and 151 of Turkish Tax Procedural Law No. 213. As a result, tax assessments can be made according to the informations related

to electronic commercial transactions gathered from banks. However; there is no regular feedback of banks related to transactions executed by electronic service providers and determination of which tansactions or vendors are within the scope of information garhering sysytem. The main reason of such uncertainties is the status of undetermined threshold for relevant transactions.

On the other hand, it should be taken into account that absence of assets of foreign electronic service provider is a big problem for enforcement. Within the context of this problem, which effective forcible method will be followed in order to collect such tax amounts becomes another uncertain subject. Therefore, this problem of collection method should be considered on a preferential basis and clarified. The first method coming into mind is that to collect the overdue tax debts via "electronic attachment system" that allows an electronic attachment procedure applicable on monetary claims arisen from payment orders made by consumers. However, we think that this kind of "e-attachment" applications may break the international banking system on credit card provision and create private law problems between banks and claimants ("electronic service providers").

To sum up, firms started to submit their tax returns by April 2018. They continue as now to do so. From this point of view, new system is actually working quite well. Nevertheless, it is also ambiguous to detect what would be in case incompliance. There is yet no judicial or administrative decree on this point. However, we guess, there is enough instrument in Turkish Tax Procedural Code to ensure the payment of the tax. Both administrative assessment and tax fines will help to accomplish that task. When it comes to the enforcement of these measures, banks may help to achieve that objective. We expect the regulations in future which oblige them to inform adminstration related electronic transactions. Moreover, Turkish tax law allows administration to apply electronic attachment to bank accounts. When the necessary legal infrastructure laid out, banks could take active role in such attachment. In this case, vendor's account primarily and consumer's as secondarily may encounter with this measure of attachment.

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Unionization and Labor Share of Income Distribution: An Empirical Investigation of OECD Countries

Sacit H. Akdede[1]

Sidre G. B. Göcekli[2]

*RESEARCH
ARTICLE*

A B S T R A C T

This paper investigates the effects of unionization of the labor force and capital openness on the labor share of the income distribution. This paper empirically studies the relationship between labor share and unionization for OECD countries by regressing labor share on unionization of the labor force and other controlling variables. We use the Generalized Least Squares estimation method in panel data for the period of 1999-2011. Our controlling variables include political stability, economic growth, and capital share. We employ different panel data techniques with different hypothesis testing for robustness. Our regression results show that an increase in capital openness decreases labor share while an increase in unionization rate increases it. On the other hand, political stability has a positive effect on labor shares while economic growth seems to affect labor shares negatively. Also, an increase in capital share decreases the labor share but it is not statistically significant.

[1] Prof. Dr., ORCID: 0000-0002-7220-9220, Aydın Adnan Menderes University, Department of Public Finance, Aydın, Turkey, shakdede @adu.edu.tr

[2] Research Assist., ORCID: 0000-0002-5406-4304, Department of Economics, Aydın Adnan Menderes University, Aydın, Turkey, sgb.gocekli@adu.edu.tr (Corresponding author)

1. Introduction

The struggle between capital holders and labor force to share the generated income is an old story dating back to feudalism, maybe long before. The fight over the share of the income between the two generally favors the capital holders as the modern world economic structure relies on capitalism. Unfortunately, this reality made the income distribution unbalanced and skewed to capital. As aresult, the labor force began to form unions to protect their share. Therefore, the question here is "does unionization have an effect on labor shares?"

Thus, to answer this question we investigate the effects of unionization of the labor force and capital openness on labor shares of income distribution for OECD countries. Our expectation is that in the OECD countries, the relationship between the unionization rate and labor shares of income is positive while the relationship between capital openness and labor share is negative. Literature and our findings also support our expectations.

Schultz & Mwabu (1998) has examined union wage effects in South Africa among Africans and whites, controlling for human capital variables, rural residence, and industry; and found that union membership among African workers increases their wages by 145 percent at the bottom tenth percentile of the wage distribution and increases their wages by 19 percent at the top 90th percentile. Among white workers, the relative increase in union wages is 21 percent at the tenth percentile but is associated at the 90th percentile with a reduction of 24 percent.

Wallace, Leicht & Raffalovich (1999) utilized time series equations for quarterly data in the US from 1949 to 1992 and investigated the impact of union membership and strike activity on the labor's share. They found that union membership redistributed the income from capitalists to workers throughout the post-war capital-labor accord. However, after 1980, the weakened position of organized labor prevented unions to have a re-distributional impact. Also, they didn't find any evidence that strikes having a re-distributional impact.

Jayadev (2007) measured the capital account openness for world countries basing it on the Quinn's index after controlling for GDP per capita, trade ratio, trade taxes, real interest rate and budget deficits. He examined its effect on the labour share; and found that as capital account openness increases, the labor share of income diminishes.

Fichtenbaum (2009) analyzed the U.S. manufacturing sector from 1949 to 2006 with time series analysis and found that labor's share of income declined approximately 25 percentage points in this period while around 28% of that decline is explained by the decline in unionization.

Herzer (2014) found a negative long-run relationship between union density and income inequality in Ireland for the period of 1963-2000 employing time series cointegration and causality analyses.

Young & Zuleta (2015) use a panel of US industries over the years of 2002-2005 (4 years) to investigate the relationship among labor shares, union membership rates, and ratios of capital to value-added. They relate industries' labor shares to their union membership rates while controlling for capital-to-output ratios, labor adjustment costs, and biased technical change; also, a measure of globalization. Across US industries and time, they find that union memberships positively and significantly is associated with labor shares.

Elveren, Marr & Renard (2017) examined the effects of female participation in the labor force on profits and capacity utilization by utilizing indirect and 2-stage least square regression method by controlling for the gender wage gap, unemployment, unionization rate. They found that increasing female labor force participation and gender wage gap increases the profits and capacity utilization while the increase in the unionization rate decreases the firm profits and doesn't affect the capacity utilization significantly.

Young & Lawson (2018) analysed the relationship between the economic freedom and labour share for 93 OECD and non-OECD countries while controlling for various variables such as union density, democracy, real GDP, size of government, legal structure, and school enrolment etc. by utilizing panel least square regressions and found that economic freedom positively affects labor share. Also, their regression is controlled for unions only in one regression and they found a positive effect, but it was not statistically significant. However, they relate the capital's share with economic freedom and use Fraiser Institute's Economic Freedom of World index (EFW) to measure against labor share. As can be seen from the brief literature review, the labor share of national income can be related to many things including political factor. This paper empirically and spesifically investigates the relationship between union membership ratio and the labor share of national income. Figure 1 below can give a sense of relationship between the labor share and distribution of national income.

As can be seen in figure 1, an increase in union membership is associated with a decrease in the income that is going to the top 10% of the population (vice versa). Then it can be inferred that a rise in unionization leads to a fall in the share of capital which in turn can be inferred as a rise in the labor share of income from the production function.

Figure 1: Union membership and share of income

Union membership and share of income going to the top 10%
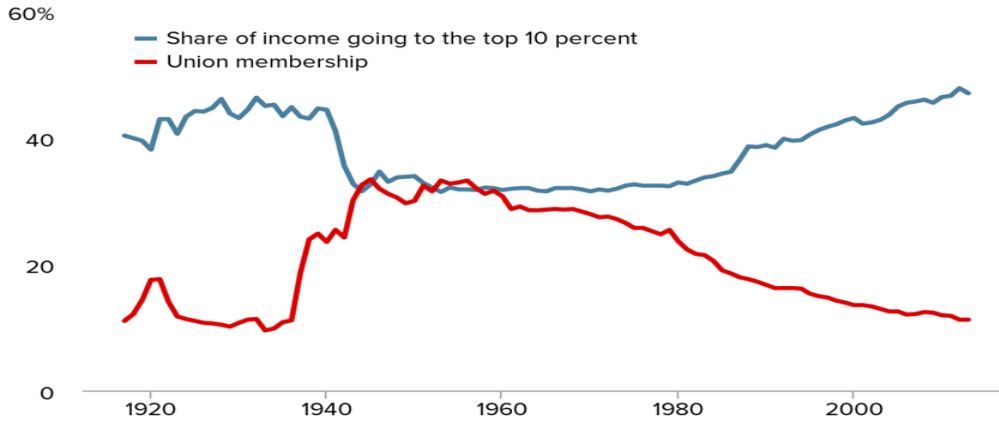
Source: U.S. Census Bureau and Piketty and Saez (2013)

Economic Policy Institute

Source: Mishel & Schieder, 2016.

2. Theory

The analysis here is based on the neoclassical production function. According to the production function, income or GDP is a function of labor and capital. GDP is distributed to the production factors, namely capital share and labor share. The Cobb-Douglas production function is revered as the most common representation of an economy. Thus, we here assume a neoclassical production function as follows

$$Y_{it} = f(K_{it}, A_{it}L_{it}) \tag{1}$$

Here Y, A, K, L respectively denotes output, technology (productivity), capital, and labor, where AL denotes effective labor.

$$y_{it} = \frac{Y_{it}}{K_{it}} = F\left(\frac{K_{it}}{K_{it}}, \frac{A_{it}L_{it}}{K_{it}}\right) = F(1, \frac{A_{it}L_{it}}{K_{it}}) \tag{2}$$

$$y_{it} = \frac{Y_{it}}{K_{it}}; \qquad \frac{K_{it}}{Y_{it}} = \frac{1}{y_{it}} = k_{it} \tag{3}$$

$$l_{it} = \frac{A_{it}L_{it}}{K_{it}}; \qquad y_{it} = f(l_{it}) \tag{4}$$

$$Y_{it} = y_{it}. K_{it} = f(l_{it}). K_{it} \text{ (Assuming constant returns to scale)} \tag{5}$$

where y_{it} is output to capital ratio and k_{it} is capital to output ratio, and l_{it} effective labor per unit of capital.

The marginal product of labor is the partial derivative of Y according to L and describes the wage rate, denoted by

$$w = \frac{\partial Y_{it}}{\partial L_{it}} = A_{it}.f'(l_{it}) \qquad (6)$$

while the marginal product of capital is the derivative of Y according to K and describes the profit rate, denoted by

$$r = \frac{\partial Y_{it}}{\partial K_{it}} = f(l_{it}) - l_{it}.f'(l_{it}) \qquad (7)$$

$$Y_{it} = w.A_{it}L_{it} + r.K_{it} \qquad (8)$$

$$y_{it} = w.l_{it} + r \qquad (9)$$

$$1 = \frac{w.l_{it}}{y_{it}} + \frac{r}{y_{it}} \qquad (10)$$

where the economy's labor share is $\frac{w.l_{it}}{y_{it}}$ and the economy's capital share is $\frac{r}{y_{it}}$. Thus, labor's share is represented by the share of labor compensation in GDP in this study.

$$\text{labour share} = \frac{w.l_{it}}{y_{it}} = \frac{A_{it}.f'(l_{it}).l_{it}}{f(l_{it})} \qquad (11)$$

The elasticity of substitution between labor and capital:

$$\rho = \frac{d(K/L)/(K/L)}{d(r/w)/(r/w)} \qquad (12)$$

Let K/L be denoted by k, then it becomes

$$\rho = -\frac{(f'(k))^2}{(f''(k)).(f'(k))} \cdot \frac{w}{r.k} \qquad (13)$$

If the elasticity of substitution (ρ) equals 1 (ρ=1), there is no change to the capital's share. If ρ>1, capital's share will increase when k increases. If ρ<1, the capital's share will decrease and labor's share will increase when k increases.

Thus, as the capital share increases, labor share decreases. We assume that unionization affects labor productivity. We, therefore in this paper, test explicitly and empirically how unionization affects labor share through productivity variable.

3. Data and Empirical Analysis

Our following estimation model is based on Young & Lawson (2014) with our additional variables especially unionization rate. The regression analysis covers the

OECD countries and the period of 1999-2011. The time span is based on the availability of the data during the research.

$$\text{labsh}_{it} = \beta_0 + \beta_1 \text{kaopen}_{it} + \beta_2 \text{tud}_{it} + \beta_3 \text{gcf}_{it} + \beta_4 \text{polsta}_{it} + \beta_5 \text{gdpg}_{it} \quad (14)$$

where labsh is labor share of income; kaopen is Chinn&Ito capital account openness index; tud is trade union density ($\frac{\text{union membership}}{\text{employment}}$); gcf is gross capital formation percent of GDP; polsta is political stability and absence of violence, and gdpg is gross domestic product growth. Data is gotten from Penn World Tables 8.1 (labsh), World Development Indicators – World Bank (gcf, gdpg), Worldwide Governance Indicators – World Bank (polsta), OECD Statistics (tud), The Chinn-Ito Financial Openness Index – Portland State University (kaopen).

Table 1. Descriptive Statistics

	labsh	**kaopen**	**tud**	**gcf**	**polsta**	**gdpg**
Mean	0.58	1.88	29.72	23.49	0.70	2.48
Median	0.60	2.39	21.71	22.86	0.86	2.78
Max.	0.75	2.39	92.47	39.35	1.67	10.83
Min.	0.35	-1.19	6.23	13.87	-1.62	-14.72
Std. Dev.	0.08	0.96	20.48	3.98	0.66	3.26
Obs.	352	352	352	352	352	352

Source: Authors' elaboration.

The Chinn-Ito (kaopen) Index is an index measuring a country's degree of capital account openness constructed by Chinn&Ito based on binary dummy variables that codify the tabulation of restrictions on cross-border financial transactions reported in the IMF's Annual Report on Exchange Arrangements and Exchange Restrictions. Index approximately ranges from -2.5 to +2.5, higher number implying greater openness for capital account. As it can be seen from table 1 median is a high number of 2.38 implying most of the OECD countries have high capital openness ratio.

Labour's share of income is the share of labor compensation in GDP at current national prices and used in the production function. Theory postulates that sum of the labor share and capital share equals one. The mean (0.58) and median (0.60) of labor share show that labor's share of income is around 60% of GDP and have a higher share than capital in most of the OECD countries. This is a plausible statistic. Because most of the OECD countries are developing countries and most of them are in the transition period from the labor-intensive production structure to capital intensive production structure.

Trade union density is the ratio of union members in totally employed people. Higher density translates to higher union membership thus greater unionization rate. Mean of 29.7 means that in OECD countries on average 30% of the employed are members of trade unions.

Political Stability and Absence of Violence/Terrorism measures perceptions of the likelihood of political instability and/or politically-motivated violence, including terrorism. Estimate gives the country's score on the aggregate indicator, in units of standard normal distribution, ranging from approximately -2.5 (weak) to 2.5 (strong). A value of 2.5 means politically stable while -2.5 means instable. Looking at the statistics, it can be seen that OECD countries are mostly stable but they have concerns usually.

Gross capital formation percent of GDP consists of outlays on additions to the fixed assets of the economy plus net changes in the level of inventories. It seems that in OECD countries on average 23% of GDP is formed by capital investments.

On average OECD countries have approximately 2.5 percent growth rate.

Below is the estimation results.

We used Generalized Least Squares Method to eliminate the autocorrelation issues directly in the weighting matrix of the regression, also Ordinary Least Squares have a stable variance and normal distribution assumptions which don't hold in our data set, however, GLS can be used in this situation.

Table 2. Fixed Effects vs. Random Effects- Hausman Test

	(b) fixed	(B) random	(b-B) difference	sqrt(diag(V_b-V_B)) S.E.
kaopen	-.0061	-.005	-.0005	.0003
tud	.0009	.001	-.00006	.0001
gcf	-.0004	-.0003	-.00002	.00002
polsta	.012	.013	-.001	.0007
gdpg	-.001	-.001	.00006	.00003
chi-square (5) = (b-B)'[(V_b-V_B)^(-1)](b-B)				8.01
Prob>chi-square				**0.1558**

Source: Authors' elaboration.

Firstly, we estimated regression for both fixed effect and random effect models, then used the Hausman Test to determine which model is the correct choice for our data set.

b = consistent under Ho and Ha

B = inconsistent under Ha, efficient under Ho

Test: Ho: difference in coefficients not systematic

From Table 2 it can be seen that Prob>Chi2=0.1558 which means Ho is accepted indicating a difference in coefficients are not systematic, the individual level effects are adequately modeled by a random effects model, thus Random Effect model is better for this regression.

Table 3. Panel GLS Random Effects Model Regression Results

Labor share	coefficient	t-Statistic
Constant	0.57	31.70 ***
kaopen	-0.005	-2.90 ***
tud	0.001	3.89 ***
gcf	-0.0003	-1.12
polsta	0.013	3.29 ***
gdpg	-0.001	-5.13 ***
R-squared: within = 0.1830 **Wald χ2 (5) = 75.85**		
between = 0.1561 **Prob > χ2 = 0.0000**		
overall = 0.1565		

Source: Authors' elaboration.

According to regression results in Table 3 all the variables, excluding gross capital formation, are statistically significant at 1% significance level. Results support our hypothesis. That is, trade union density, that is, increased unionization of labor force has a positive effect on labor's share of income. Also, political stability has a positive effect on labor's share. As the political stability increases, economic uncertainties decrease, leading to a more predictable economic future which in turn lessens unemployment, which increases wages. Capital account openness, on the other hand, affects labor's share negatively. Higher rates of capital openness indicate easier capital mobility and easier acquisition of capital making what is earned to be invested in the capital more thus increasing capital's share of income while decreasing labor's share. It seems that GDP growth also lowers labor's share. This shows that economic growth in OECD countries sustained by capital investments leading to capital's share of returns to be more and labor's less.

4. Conclusion

This study shows that unionization has a positive effect on labor's share of income which verifies our expectations and conforms to the literature. Seeing unionization has a positive effect on labor share, if governments have a goal of increasing labor's share of income, they may encourage membership of trade unions. As a policy recommendations, governments increase the incentives to membership of unions by paying the membership fees of unions for workers. Better income distribution is a desirable outcome for many countries since better income distributions can reduce the social conflict, political and social violence. Therefore, one of the most important goals of fiscal policies of countires is to have a better income distribution. For that end, interferences into market determined income distribution is a common action. One of the interference measures of government policies of market determined income distribution is to regulate the economy. One of the tools for that regulation is to have minimum wage. However, encouraging the membership of unions can be a better policy of governments to have better income distributions. This study is done for only OECD countries because of data restrictions. When the data become available for the whole world, this study would be replicated for world countries.

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Tax System and Rates in the Republic of Kosovo and Their Comparison with the Balkan Countries

Refik Kryeziu[1]

RESEARCH
ARTICLE

A B S T R A C T

In this study Tax System and Rates in the Republic of Kosovo and Their Comparison with the Balkan Countries. During the research, we have noticed that changes in tax rates, expansion of the taxable base, and creation of conditions for economic development which have constantly been changing in Kosovo and Balkan countries. Although the tax system in Kosovo is new, it is competitive not only in the region but even beyond it. In the new fiscal package of 2015, tax rates had changed. Personal Income Taxes have reduced some of the revenues, corporate taxation up to 10%, insurance companies 7% to 5%; VAT is applied with two tax rates 18% and 8%. Balkan states have significant differences in tax rates, but not in tax systems. In some taxes, high rates have already been set, while in some countries there are lower rates. It is characteristic and interesting that the tax systems of these countries have been constantly reformed, reducing tax rates and redefining the tax base.

1. Introduction

In this paper, we present the functioning of the tax system in the Republic of Kosovo and the comparison of tax rates with Balkan countries. The paper continues

[1] Assist. Prof. Dr., ORCID: 0000-0001-8628-6166, Kadri Zeka University, Gjilan, Kosovo, refik.kryeziu@uni-gjilan.net

dealing with the tax system and norm, where many economists and financiers from different countries have taken up this issue. In the continuation of the work, the focus of addressing this problem will be related to the process of building and developing the tax system in Kosovo starting with customs, excise, presumptive tax, value added tax, income tax, corporation tax, property tax and contributions. In the continuation of the paper we will analyze the development and functioning of the tax system in the Balkan countries to debate the tax rates, the effects of this system on the development of certain sectors and the economy in general.

2. Review of Literature

The designing of an appropriate and functional taxation reform has not been an easy objective to be reached in any of the Balkan countries. Difficulties have especially arisen in making the reforms acceptable and then successfully implementable. The taxation reforms management has been during the whole taxation reform process, from the inspection of the state until now, a long and complicated process and it still continues to be. This is due to the fact that all post-communist countries possessed taxation systems drafted for the planned economy and incompatible with the market economy and with a tax administration which needed a complete reorganization for the purpose of a successful operation in new conditions (Tanzi, 2002: 11). The economic transition brought new and unique challenges to the Balkan countries. Some of them we have treated here below (in the following): 1) In the '90s, the taxation systems of post-communist countries are characteristic for: a) non-transparency, b) differences in tax charges by means of which the discrimination of certain activities and factors and at the same time favoring of the others was done; c) there was no balance between direct and indirect taxes; d) the frequent changes in taxation systems and in certain taxes (especially on the turnover rates) as a consequence of an unsustainable tax policy; e) complex administrative procedures; f) incompatibility with the tax systems of West European countries; g) non-flexibility and nonsimplicity. Mojsoska-Blazevski's (2011) research on the influence of labour legislation changes over the employment rate and the size of the informal economy showed a marginal effect of the flat tax policy. The author finds that 'the reduction of social security contributions had a positive impact on the employment rate, in contrast with the impact of the flat tax reform.' She concludes that the social security and tax reforms aimed at reducing labour costs had the following positive effects: (a) helped employees during the crisis, (b) had an effect on employment, (c) increased the net wage, (d) diminished the extent of informal economy, (e) improved tax compliance, the and (f) increased the number of individuals insured in the pension system

(Grabowski & Tomalak, 2004: 251). Trpeski & Tashevska (2012) the overall tax burden in Macedonia remains low in the period of 2010-2016. However the tax burden remained relatively high in particular for low skilled labour, "caused by the minimum base for payment of social insurance contributions, which was prescribed at 65% of the national average wage rather than on the individual wage and at around 50% for health insurance on average (differentiated by branches, with higher relative burden on branches with lower average wages). Kreso & Lazovic-Pita (2011) study the labour tax burden in the Balkan countries with flat tax rates: Macedonia, Montenegro and Bosnia and Herzegovina.

3. Purpose of Tax System

Existence and functioning of tax types in different countries regardless of the level of economic development form the tax system where certain goals are achieved. Through the tax system, the collection of financial means on setting up budget revenues, the financing of economic and functional categories, development of the economy, improvement of its structure, alleviation of social effect and other problems. For the purposes of taxation, many authors from different countries have been taken into consideration, depending on economic and financial developments, especially those who pay great attention to taxation. The tax system represents all taxes levied in a co-existent country with which the fiscal policy goal can be applied. Taxes are one of the forms through which the state earns revenue (Limani, 1994: 128). Hence, it follows that the purpose of the tax is to collect the financial means for the state that are necessary for the financing of their functions (Komoni, 2008: 47). With other taxation policies, other objectives can be achieved in the economy by making allowances or discounts, benefits for certain products and certain sectors of the economy. With the tax system, the government can achieve other goals by protecting the economy from external competition. This is reflected in some economic branches, both industrial and agricultural. The place and role of any of the taxes are not the same and depends on many factors that governments decide to build the country's tax system (Brajshori, 2014: 105). The study of tax purposes is closely related to the study of the role of the state. With the expansion of the state's role, money needs also increased. Apart from the financing of increased state expenditures, taxes are increasingly being utilized for the realization of other purposes that can be taken as fiscal purposes of taxation (Jelçiq, 1985: 204). To better understand the characteristics and essence of taxation, we are examining the tax system issues and the tax rates that determine the tax policies in Kosovo by comparing with the Balkan countries.

4. Tax Legislation and Tax Policy in Kosovo

Since the end of the war in 1999, a new era has begun in the Republic of Kosovo in the political, economic and budgetary terms. Through system laws, the types of taxes that make up the tax system function. Tax instruments operate on the basis of the policies in which they are applied, which are harmonized with the regulations, guidelines and laws approved "Tax Legislation of Kosovo, TAK, Publication I, 2016, Pristina". In Kosovo, the tax system is administered by the Tax Administration of Kosovo, established in January 2000, under the administration of UNMIK, and from February 2003 the powers are transferred to the Ministry of Finance. From July 2001, VAT is applied, part of the tax burden goes to customers. Since 2002, the Wage and Income Tax applies. From January 2005, Income Tax and Income Tax are replaced with Personal Income Tax (PIT), which includes natural persons and corporate income tax (CIT), legal entities (Tax system in Kosovo, 2011).

4.1. Customs and Excise

Customs are fiscal instruments that through state procedures collect funds at the moment of importation and exportation when goods are transferred from another country. Customs is a government agency that collects duties and controls the goods from the customs territory. In Kosovo, customs operate since 1999. UNMIK Regulation no. 1999/3 and the Administrative Direction. Taxes and procedures are defined in the Customs Law. All goods of any kind intended for Kosovo and not subject to any import ban shall be subject to a customs duty of 10% with the exception of goods for which the customs duty is equal to 0% "Customs and Excise Code, November 11, 2008". Excises are a special type of tax for certain types of products. With the calculation of excise duty, the taxable value of the goods shall consist of the total customs value plus customs duties, the value accruing from the retail price, including customs duties and excises "Regulation on Excise 2000/2". Excise duties are charged special products, specific is that although the rise in the price of the product does not significantly affect the decline in consumption. In the framework of reforming the tax system, 2009, changes were made in customs and excise, the Customs and Excise Code was approved.

4.2. Value Added Tax (VAT)

The VAT is a special type of turnover tax set at each stage of the production and distribution process. In the cleanest form, VAT is a tax on all final expenditures for goods and services that are delivered to the final customer. Applies to products that go through production and distribution stages, from raw material to final products and

sales. In practice, VAT has substantial deviations because there are different degrees, exceptions for certain goods and services. With the Law on VAT, the tax rate was 15%, since 2009 was 16% "Law no. 03 / L-146 on Value Added Tax", is applicable from January 1, 2009, and is applicable from 1 January 2010 "Law no. 05 / L-037 For VAT". The most recent reforms were implemented from 01 September 2015 through the new Fiscal Package including VAT, PIT and CIT, where VAT rates are 8% and 18% depending on the supply of goods or services" Law no. 05 / L-037 For VAT".

4.3. Personal Income Tax (PIT)

The application of personal income tax is a direct taxin practice. PITis appled resident and non-resident persons, enterprises, partnerships and companies that generate gross income.

Personal Income Taxes are charged by these levels and sources of income:

1) For taxable income 960,00 € or less, 0%, taxable income 960,00 € up to 3,000.00 €, including the amount of 3,000.00 €, 4% of the amount over 960,00 €, for taxable income of over 3,000 € to 5,400.00 €, including the amount of 5,400.00 €, 81.6 €, plus 8% of the amount over 3,000.00 € and for taxable income over 5,400,00 €, 273.6 € plus 10% of the amount over € 5.400,00.

2) Gross income from business activities with gross annual income over 50,000.00 €, who choose to keep books and businesses less than 50,000.00 €, who do not choose to keep books, 3) Gross income from rents, 4) gross income from intangible property, 5) gross income from interest, and 6) other income, gifts from any source. With the recent reform of the personal income tax, taxes on interest, rent taxes, gambling, capital gains, the sale of intangible property, etc. have also decreased"Law no. 05 / L-028 on Personal Income Tax".

4.4. Corporate Income Tax (CIT)

In the course of the construction of the tax system, there is also profit tax "Regulation no. 2002/3 on Profit Tax in Kosovo". Profit tax is a corporation tax rate applied to the rate of 10 percent, for all economic activities and 5 percent for insurance and reinsurance companies. Profit tax is payable by corporations that realize turnover more than 100,000.00 € and those that possess assets in the amount of 50,000 €. Previously it was applied only to large corporation tax profits. With the new reforms, Corporate Income Tax, in the calendar quarter is obliged to pay these taxpayers" Law no. 03 / L-161 on Personal Income":

1. Taxpayers with annual gross income up to 50,000.00 € or less, who are not required to submit their annual declaration:

2. Criminal taxpayers exceeding the amount of 50,000.00 € and taxpayers who have to compile financial statements:

- A quarter (¼) of the tax liability for the following tax period based on the estimated and reduced taxable income, whichever is severely withheld during the quarter or for the second period, the following tax periods for which the taxpayer makes the payment, at least one quarter (¼) of 110% of the tax liability reduced by any amount held at source during the quarter. Or CIT includes all small corporations that are themselves subject to real-estate tax, applied only to gross corporate sales "Law no. 03 / L-162 Corporate Income Tax".

4.5. Contributions

Contributions are non-fiscal instruments, i.e., the obligatory take-over of a portion of the profit realized by certain individuals. Contributions are paid in special funds, in a certain social program, e.g., health insurance, pensions or social security and unemployment. In the countries of the region, two pension systems, investment systems and transfers are applied:

1) PAYG (Pay As You Go is a state program funded by taxes or contributions that are collected by employees) Transfers System or Scheme, applied by some states, known as the Pay As You Go system. This system is based on the transfer of pension funds, (the Balkan countries applying the pension scheme are: Bulgaria applies since 2000, Croatia 2002 and Macedonia since 2005).

2) Investment system or investment-based pension scheme (The Transfer Scheme of Transfers applies to these countries in the region, such as: Albania, Montenegro, Bosnia and Herzegovina and Serbia) (Kryeziu, 2014: 192).

Collective contributions are made by the employer and the employee by 5% of the salary. Voluntarily can contribute, up to 10% of the annual salary, to a total of 15% of the salary (Kryeziu, 2014: 192).

5. Tax Rates in Kosovo

Based on the established tax policies, the various contemporary countries, in their tax systems, set the tax rates. Tax rates are set by percentage, which represents the ratio between the tax and the tax base, which serves to set the tax rate. In Kosovo, along with the development of the tax system, we have dynamics of tax rate changes.

Table 1: Change of Tax Rates, period 2005 to 2018

Taxes	2005	2009	2015 - 2018
Personal Income Tax (PIT)	0 - 960€ - 0%, 960 - 3000€ - 5% 3000€ - 5400€-10% mbi 5400€ - 20%	0 - 960€ - 0%, 960 - 3000€ - 4% 3000€ - 5400€-8% mbi 5400€ - 10%	0 - 960€ - 0%, 960 - 3000€ - 4% 3000€-5400€ -8% mbi 5400€ -10%
Corporate Income Tax (CIT)	20%	10%	10%
		7% Assurance compensation	5% Insurance company
Value aded tax VAT	15 %	16%	8% dhe 18%

Source: Processed data based on tax legislation in force.

In Table 1 we see that Kosovo has made some progress in reforming and functioning of the tax system. Setting new tax rates to some extent has also impacted on budget growth and economic growth in the country (Kryeziu, 2011: 107). In order to reflect the effects of taxes on economic development, reforms are made both in the system and in tax rates. The changes have influenced the growth of National Revenues, economic growth, and increased budget revenues (Kryeziu, 2014: 154). In this regard, the changes in tax rates in all modern countries create ideal conditions for foreign investors that affect economic development in general (Kryeziu, 2009: 28).

6. Characteristics of the Tax System in Balkan States, Difference and Comparison between These Countries

Major political and economic changes occurring in the 1990s in Europe and beyond have been accomplished with many objectives that have been reflected in the countries of the region in many aspects and directions, especially in the political, economic and financial aspects. Politically, the reforms have influenced the development of democracy, economic freedom is spreading, and in fiscal policy, the fiscal system has been developed and reformed, with the developed European countries. While in the Balkan countries, there are approximately the same tax systems, while with their policies there are significant differences in the establishment of norms. Total tax rates are counted as tax, tax, and contribution charges, to be calculated and paid by businesses and individuals. This burden shows the weight that a country's fiscal policy puts on residents and non-residents. Withholding tax (such as salary tax) or tax and tax collected with tax agent (VAT, sales tax) are excluded (Gjokutaj, 2016). The tax reform can be described as a dynamic process of continuous improvement of the structures of the national tax systems in order to fulfill the general economic and tax policy goals. It has been confirmed that some of the most powerful tax reform drivers from a domestic and international point of view are the general tax

policy principals. Basic priority of the Corporate Income Tax reform in the RM is to maintain a tax structure that would enable a relatively simple and easy administration and at the same time would provide a comparatively lower corporate effective tax burden (Gruevski, 2012: 10).

In the Balkan countries, there are three main types of taxes: Personal Income Tax (PIT), Corporate Income Tax (CIT) and Value Added Tax (VAT) as well as Social Security Contributions (SSC) and Health Insurance Contributions (HIC). Personal Income Tax (PIT), Albania, Bosnia and Herzegovina, Macedonia and Montenegro apply the flat tax. In Albania it has been applied since 2007, replacing the progressive tax by up to 30%. At the same time, Macedonia has passed a flat tax since 2007. Montenegro also applies the flat tax 9%, from 2009 to 12%. Croatia and Serbia, apply the progressive tax. In Croatia, PIT is escalating from 15% to 45%. In Serbia, the basic rate is 10%, but the self-employed pay 12% (Pere & Hashorva, 2011: 80). Corporate Income Tax (CIT) rates differ in Balkan countries. In Albania there is 15%, Macedonia 10%, Montenegro 9%, Serbia 15%, Kosovo and Bosnia with 10% *(*Pere & Hashorva, 2011: 80).

Tablo 2: Tax Rates in Balkan countries for 2016 (%)

States	VAT	Profit Tax	Personal Income Tax	Social and health insurances		
				Total	Employer	Employee
Macedonia	5, 18	10	10	27	0	27
Kosovo	8, 18	10	10	10	5	5
Croatia	5, 13, 25	20	47.2	37.2	17.2	20
Montenegro	19	9	9	32.8	9.3	23.5
Bosnia-Herzegovina	17	10	10	41.5	10.5	31
Bulgaria	9, 20	10	10	31.4	18.5	12.9
Albania	20	5, 15	13.23	27.9	16.7	11.2
Serbia	20	15	15	37.8	17.9	19.9
Romania	2, 9, 20	16	16	54.5	38.45	16.05
Greece	6, 13, 23	29	46	40.06	24.56	15.5

Source: Gjokutaj, 2016: 70.

In Table 2 we note that in the Balkan countries have differences in tax rates in 2016. Above average, VAT has Croatia and Greece, below Kosovo 18% and 8%, Bosnia and Herzegovina and Montenegro. Albania 20%, Macedonia 18% and 5%, Montenegro has 19%, Serbia 20%, Bosnia 17%. For tax on profit, the tax rates in the Balkan countries over the average are Greece with 29%, Croatia with 20% and Romania with 16%, below average have Montenegro, Kosovo, Macedonia and Bosnia. Albania

operates with a tax rate for profit, between the highest and the lowest. For personal income tax (including tax at source) Greece, Croatia have the highest tax rate, Romania is close to 16%. The lowest level is Kosovo, Albania, Macedonia, and Bosnia. For social and health insurance contributions, Romania, Greece, Serbia, Bosnia, Croatia and Montenegro have the highest rates. Social and health insurance contributions in Romania are 54.5%, employers with 38.45% and employees with 16.05%. In Albania, social security contributions paid by the employer are 15% and the employee 11.20%. Macedonia has all the burden transferred to the employee with the level of 27%, Montenegro 5.50% and 24%. In Serbia, the employer pays 17.9%, while the employee is 19.60%. In Kosovo, the employerpays 5% and the employee 5%, in Bosnia the employer pays 10.50%, while the employee is 31%. One of the objectives of the tax policy and system in Kosovo and the Balkan states is to adapt to the position of national economies and the functioning of their tax systems in a continuous manner, they should improve and design their tax policies, which we consider it a good way and way for state governments to advance their tax systems and thus to develop public finances in order to be competitive with the economies of the region, the European Union and beyond.

7. Conslusion

During the drafting process, it came to the conclusion that the tax policies and systems in Kosovo and the Balkan states are adapting to the position of national economies and the functioning of the continuous systems of their, to improve and design them. Also in this paper we have compared the taxation of the Kosovo system with the Balkan countries and the harmonization of the system of these countries. As noted in the paper, we conclude that the governments of some Balkan countries need to reform their tax systems for the sake of consolidating their system to improve the quality of taxation compared to those currently in force.

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OECD Ülkelerinde Genişletici Maliye Politikalarının Ekonomik Büyüme Üzerine Etkisi

The Effect of the Expansionary Fiscal Policies on Economic Growth in OECD Countries

Hilmi Çoban[1]

Fatih Deyneli [2]

RESEARCH ARTICLE

A B S T R A C T

Although monetary and fiscal policies are discussed in different economic approaches, the main discussion is focused on fiscal policy. Because while the central bank leads the monetary policy independently with its own policy goals and tools, the government leads the fiscal policy via budget as a basic tool of the economic policy.

In this study, we analyze the relationship between economic growth and fiscal impulse which is used to measure changes in public budget impacts by using the panel data analysis with fixed effects in 33 OECD countries. We use the International Monetary Fund and World Bank data. According to the results; the expansionary effect of fiscal policies has no effect on economic growth between the period of 2011-2017.

[1] Assoc. Prof. Dr., ORCID: 0000-0001-6351-6547, Hacı Bayram Veli University, Department of Public Finance, Ankara, Turkey, hilmicoban@hbv.edu.tr

[2] Assoc. Prof. Dr., ORCID: 0000-0003-1867-1075, Pamukkale University, Department of Public Finance, Denizli, Turkey, fdeyneli@pau.ed.tr

Ö Z E T

Para ve maliye politikaları farklı ekonomik yaklaşımlar içinde ele alınan politikalar olmasına rağmen, yaklaşımlar arasındaki temel tartışma maliye politikası üzerindedir. Bunun nedeni, para politikasına amaç ve araç bağımsızlığı çerçevesinde merkez bankası yön verirken; hükümetin bütçe aracılığı ile maliye politikasını temel iktisat politikası aracı olarak kullanmasıdır.

Bu çalışmada, kamu bütçesindeki meydana gelen değişmeleri ölçmek içinde kullanılan mali etki ile ekonomik büyüme arasında ilişki 33 OECD için panel veri analizi sabit etkiler modeli kullanılarak analiz edilmiştir. Çalışmada Uluslararası Para Fonu ve Dünya Bankası verileri kullanılmıştır. 2011-2017 yılları arasını kapsayan analiz sonuçlarına göre; maliye politikalarının genişletici etkisinin ekonomik büyüme üzerindeki etkisinin olmadığı görülmektedir.

1. Giriş

Ülkelerin yaşadıkları iktisadi sorunların çözümüne ilişkin başvurdukları temel araçlardan birisi maliye politikasıdır. 1929 ekonomik krizi başta olmak üzere ardından yaşanan tüm ulusal ve uluslararası krizlerin etkilerinin azaltılmasına yönelik olarak, farklı yoğunluklarda da olsa kullanılan maliye politikasının etkinliğinin ölçülmesi, politika kullanımının yaygınlaşmasına veya daha çok olumsuz eleştiri ile birlikte kullanımının azaltılmasına neden olabilmektedir. Maliye politikasının etkinliği, çarpan kavramı ile ölçülmesinin yanında, son yıllarda mali etki kavramı ile de değerlendirmeye tabi tutulmaktadır. Mali etki kavramı, esasen maliye politikalarının ekonomi için uyarıcı nitelikteki özelliğini ifade etmektedir. Chand (1977) tarafından, bütçe uyarıcı etkisi olarak isimlendirilen ve ölçülen mali etki kavramı, farklı yaklaşımlarla ölçülmüş ve maliye politikasının etkinliği için yeni bir bakış açısı ortaya koymuştur. Gerek IMF gerekse OECD tarafından yapılan hesaplamalarda kamu harcamaları ve vergilerin, potansiyel ve fiili milli gelir üzerindeki etkileri birlikte ele alınmış olması, mali etki kavramının Chand (1977) tarafından ortaya konan "bütçe uyarıcı etkisi" etrafında incelendiğini ortaya koymaktadır.

Bu çalışmada -özellikle 2008 yılı krizi sonrasında yaşanan gelişmeler dikkate alınarak- Keynesyen iktisadın çözüm önerilerinden biri olan genişletici bütçe uygulamalarının ekonomik büyüme üzerindeki ektisi incelenecektir. Çalışma 2011-2017 yılları arasını ve 33 OECD ülkesini kapsamaktadır. Çalışmada panel veri analizi sabit etkiler modeli kullanılmıştır. Bütçe uygulamalarının ekonomi üzerindeki genişletici (veya daraltıcı) etkisini incelemek için Uluslararası Para Fonu tarafından hesaplanan mali etki ölçümü bağımlı değişken olarak kullanılmıştır. Dünya Bankası tarafından yayınlanan ekonomik göstergeler ise açıklayıcı değişken olarak kullanılmıştır.

Çalışmanın ilk bölümünde maliye politikasının ekonomi üzerindeki etkinliği üzerinde yapılan tartışmalara yer verilmiştir. İkinci bölümde literatür taraması yer almaktadır. Üçüncü bölümde yönteme, model ve verilere yer verilirken, dördüncü

bölümde elde edilen bulgular sunulmuştur. Sonuç bölümde ise analiz sonucunda elde edilen bulgular ışığında değerlendirmeler yapılmıştır.

2. Maliye Politikasının Ekonomi Üzerindeki Etkinliği

Ekonomik sorunların çözümüne ilişkin olarak uygulanacak iktisat politikalarının farklılığı, politika uygulayıcılarının zihnindeki ekonomik yaklaşımların farklılığı ile doğru orantılıdır. Temelde farklı ekonomik yaklaşımlar içinde ele alınan politikalar para ve maliye politikalarıdır, ancak iktisadi yaklaşımlar arasındaki temel tartışma alanı maliye politikaları üzerinedir. Dünyada neo-liberal politikaların uygulama alanının genişlemesi ile para politikalarının temel uygulayıcısı konumundaki merkez bankalarının amaç ve araç bağımsızlık dereceleri artmış ve para politikaları piyasa mekanizması içinde çözümler sunma yönünde değişmiştir. Maliye politikaları ise kullandığı araçlar itibariyle kamu otoritesinin elindeki en temel iktisat politikası aracı olarak kullanılmaya devam etmiştir.

Fizyokratlar ve devamında Klasik İktisadi Düşünce içinde devletin ekonomiye müdahalesinin oldukça sınırlı olması gerektiği belirtilmiştir. Fizyokratlar, merkantilistler tarafından ortaya atılan devlet müdahalelerinin etkinsizliğini vurgulayarak burjuvazinin karşısında durmuştur (Charbit, 2002: 867). "Doğal Düzen" ekonominin genel kurallarını içerir ve toplum düzenine uygulanması durumunu ifade eder (Neill, 1949: 536). Net hasılayı (ürünü) arttıracak unsur doğal düzendir ve müdahale edilmemelidir (Spengler, 1945: 328). Fizyokratlar klasik iktisadi düşüncenin temellerini atması bakımından oldukça önemlidir ve maliye politikasının kullanımının oldukça sınırlandığı, doğal düzen içinde oluşturulan ekonomik düzenin, net hasılayı arttıracak temel unsur olarak görüldüğü bir iktisadi yaklaşımı ifade etmektedir.

Klasik iktisadi düşünce, özellikle ücretlerin ve fiyatların esnekliğine odaklanarak, ekonominin tam istihdamda dengede olduğunu ve uygulanacak maliye politikasının tam dışlamaya neden olacağını belirtmiştir. Adam Smith kişinin tamamen kendi özel faydasına odaklı biçimde çalışırken, görünmez el ile yönetilen piyasa süreci sonucunda, kişinin niyetinin parçası olmayan bir sonu teşvik ettiğini belirtmiştir (Gramp, 2000: 445). Bireylerin toplumsal çıkarlara ilişkin sahip oldukları dürtüler olmasa dahi, mal ve faktör piyasasında var olan fiyatların ve ücretlerin esnekliği ile ifade edilen görünmez el, bireysel çıkarların amacı içinde olmayan sonuçların ortaya çıkmasını sağlayacaktır.

Adam Smith kamu kurumlarının yaptığı harcamaların finansmanının mümkün olduğunca kullanıcı ücretleri ile finanse edilmesini gerektiğini belirtmiştir (Eecke, 2003: 705). Bu durum kamu gelirlerinin kamu harcamalarının finansmanı sağlama dışında başka fonksiyonu olmadığını ifade etmektedir. Maliye politikasının bir diğer önemli aracı olan kamu gelirlerinin etkinliğini sınırlayan bu yaklaşım, maliye politikasının ekonomi üzerindeki etkisinin de hafiflemesi sonucunu doğurmaktadır. 1929 Büyük Buhran öncesinde Birinci Dünya savaşının da etkisiyle zayıflayan Avrupa ülkelerinin aksine, Amerika'da ortaya çıkan yüksek düzeyde yatırım, önemli verimlilik artışları, istikrarlı fiyatlar, yüksek ücretler ve yüksek şirket karları ile birleşerek, Amerikan borsasında fiyatların şişmesine neden olmuştur (Crafts & Fearon, 2010: 289).

Amerika'daki hisse senetlerinin fiyatlarının, şirketlerin reel değerlerinden çok daha fazla, aşırı şekilde yükselmesi ve bir balon oluşturması ile başlayan süreç, geleneksel iktisat olarak literatürde ifade edilen klasik iktisadi düşüncenin temel ilkelerinin sorgulanması sonucunu doğurmuştur.

Büyük buhranın ölçek ve süre açısından diğer krizlerden farklı olmasının arkasında, beklenmedik teknolojik gelişmenin oluşturduğu şok, vakıfların, tüketici tercihlerinin veya devletin istikrarlı büyümeyi olumsuz etkileyen davranış ve politikaları bulunmaktadır (Cole & Ohanian, 1999: 3). Birinci Dünya Savaşı sonrasında Amerika'da özellikle otomobil ve endüstride yaşana gelişmeler, Amerika'da arzın artmasına neden olmuş ve artan üretim sonucu şirketlerin hisse senetleri değerinde de artışlar ortaya çıkmıştır (Buluş & Kabaklarlı, 2010: 2). Klasik iktisadın özellikle ekonomide arz veya talep fazlası olmayacağına ilişkin genel iddiasının, ortaya çıkan arz fazlasına ve fiyatların düşmesine rağmen talebin yeterince artmaması nedeniyle gerçekleşmemesi, klasik iktisadın önemli ayaklarından birinin boşa çıkmasına neden olmuştur. 1929 Büyük Burhan'ının ve 1930'lu yıllarda yaşanan düşük büyümenin birçok sebebi vardır ve bu konuda çok farklı teoriler mevcuttur. Ancak krizin sebebinin maliye politikası olmadığı konusunda fikir birliği bulunmaktadır (McGrattan, 2012: 1515). 1930'lu yıllarda maliye politikası sonucu toplam talepte ortaya çıkan artışın, özellikle GSMH'deki payı açısından ele alındığında ekonominin tamamını etkileyecek düzeyde önemli olmadığı görülmektedir (Brown, 1956: 864-865). Esasen bu durum, 1930'lu yılların başında maliye politikasının çok yoğun olarak kullanılmadığı ve bu nedenle yaşanan büyük buhranın derinliği ve ölçeğine ilişkin maliye politikasının herhangi bir etkinliğinin bulunmadığını göstermektedir. Büyük buhrana ilişkin olarak yapılan analizlerde genel kabul bu şekildedir. Ancak bu görüşlerin aksine, krizin bu ölçüde büyük olmasını maliye politikasına bağlayan analizler de bulunmaktadır.

McGrattan, genişletilmiş büyüme modellerini kullanarak yaptığı analizde, Büyük Buhran üzerinde maliye politikasının etkisinin büyük olduğu sonucuna ulaşmıştır. Modelde McGrattan, kamu gelirlerini ve kamu harcamalarını genişletmiş, kamu gelirlerine diğer modellerin aksine, kurumlar vergisi dışında, emlak, aşırı kazanç, menkul kıymet vergisi ve dağıtılmayan kazançlar üzerindeki vergileri de dahil etmiş ve kamu gelirlerini genişletmiştir. Bunun sonucu olarak maliye politikasının büyük buhran üzerinde etkisi olmadığı iddiasını ret etmiştir (McGrattan, 2012: 1516). Analizde özellikle kar payı ve dağıtılmayan karlar üzerindeki vergilerin yatırımları azalttığı iddiası, vergilerin daraltıcı etkisinin ekonomi üzerinde oldukça etkin olduğu ve yaşanan krizde maliye politikasının rolü olduğu savını desteklemek için kullanılmıştır.

Keynesyen iktisatçılar ve Chicago iktisatçıları, büyük buhranın atlatılabilmesi için kamu işlerine yönelik politikalar geliştirilmesi gerektiğini belirtmiştir. Chicago iktisatçıları politika önerilerini 3 temel ayak üzerine oturtmuştur. Arz ve talep arasında senkronizasyon eksikliğinin varlığı, fiyatların sert bir şekilde aşağıya düşmesi ve para politikasının etkisizliğidir (Caldentey, 2003: 18). Klasiklerin arz ve talebin her zaman dengede olduğu iddiasını ret ederek, etkinsiz olan para politikaları yerine maliye politikalarının kullanılması gerektiğini ortaya koymuşlardır. Fiyat mekanizması ile sağlanması beklenen arz talep eşitliği yerine, uygulanacak maliye politikalarının

ekonomik dengeyi sağlayacağını, para politikasının ekonomik dengeyi sağlama bakımından etkisizliğine vurgu yaparak, uygulanacak kamusal politikaların fiyatların ve maliyetlerin düşmesi, üretimin arttırılması bakımından önemli olduğunu belirtmişlerdir.

Keynes'in krize yönelik sunduğu tedavinin merkezinde, iyi mikro niyetlerin, kötü makro sonuçları olabileceği, ekonominin dengesinin eksik istihdamda olabileceği ve bu durumdan çıkışın maliye politikasının kullanılması ile olacağı yatmaktaydı. Keynes'in tedavi önerisinde para politikası hala baskın olsa bile para talebinin elastik, yatırım fonksiyonun ise inelastik olması, para politikasının makro bir yönetim anlayışı içinde ekonomi üzerinde etkili olamayacağı belirtilmiştir (Musgrave, 1987: 171). Keynesyen modelde para talebinin faize olan duyarlılığının yüksek olduğunu, buna karşın yatırımların faiz esnekliğinin düşük olması nedeniyle yatırım talep doğrusunun dik bir konumda olduğu kabul edilmiştir. Para talep eğrisinin nispeten yatay, yatırım talep doğrusunun nispeten dik bir konumda olduğunun kabulü, para politikasının etkinliğini azaltırken, maliye politikasının milli geliri arttırıcı etkisinin yüksek olduğunu ortaya koymaktadır. Keynes, 1933 yılında Başkan Roosvelt'e gönderdiği ve New York Times tarafından yayınlanan mektubunda ve 1934 yılında Roosvelt ile olan görüşmesinde, bütçe açığına güvenilmesinin, ucuz ve bol kredi ile para politikasının kullanılmasının ve harcamaların üçte bir oranında arttırılmasının Büyük Burhan'ın etkilerinin azaltacağını belirtmiştir (Musgrave, 1987: 172-173). Keynes esasen para politikasının kullanılmasına karşı olmamak ile birlikte, belli bir düzeyden sonra para talebinin faiz esnekliğinin sonsuz olduğu ve bu noktadan sonra para arzında yapılacak bir değişikliğin, milli gelir üzerinde her hangi bir etkinliğinin olmayacağını ifade etmiştir. "Likidite Tuzağı" ile ifade edilen bu durum, para politikasının etkinliğinin belli bir düzeyde sıfırlanmasını ifade etmektedir (Steindl, 1966). Maliye politikası açısından ise böyle bir durum söz konusu değildir. Uygulanan genişletici maliye politikasının makroekonomiyi dengeleyici etkisi yanında, ekonomik büyümeyi sağlayacak ve ekonomiyi tam istihdama doğru taşıyacaktır.

1920'li yılların sonları ile 1960 yılları arasında çoğu politik lider ve iktisatçı kamu harcamaları, vergiler ve bunların ulusal ekonomi üzerindeki etkileri açısından daha önceki görüşlerini değiştirmiş ve telafi edici bütçe kavramı ile önemli olanın ekonomide istihdamın arttırılması veya tam istihdama ulaşılması olduğunu belirterek, bütçe açıklarını desteklemiştir (Thorndike, 2010: 95). Bu dönemde uygulanan genişletici maliye politikalarının ve bütçe açıkları nedeniyle devletlerin kamu borç yükleri sürekli artmıştır. Artan bu bütçe yükleri ile ortaya çıkan ve sürekli artan finansman ihtiyacı ülkeleri bir borç krizine doğru sürüklemiştir. Keynes'in uzun dönemde bütçe denkliğine verdiği önem, politikacılar tarafından çok dikkate alınmamış ve artan bütçe açıklarını borçlanma ve para arzı artışları ile finanse etme çabaları ülkeleri bir borç krizine doğru sürüklemiştir. Bu dönemden sonra maliye politikasının kullanımı ve mili gelir üzerindeki etkinliği daha çok tartışma konusu olmuş ve 1929 Büyük Buhran ile kendini kabul ettiren ve yaygın biçimde uygulanan maliye politikasının kullanım alanı daralmıştır.

1980'li yılların başında başta Latin Amerika ülkeleri olmak üzere, gelişmekte olan ülkelerin çoğunda ortaya çıkan OPEC krizinin de etkisi ile borçlanma ihtiyacı artmış ve borcu ödeyebilme güçleri azalmıştır (Ay & Uçar, 2015: 17).1980'li yılların başında

yaşanan borç krizi, ekonomik büyüme üzerinde mali açıkların negatif etkisini ortaya koyan iktisat teorilerinin gelişmesine yol açarken, mali açıkların negatif etkisi üzerindeki uzlaşma "Washington Uzlaşısı" sürecini hızlandırmıştır (Neto ve Vernengo, 2004: 333). Bretton Woods sisteminin dalgalı kur rejimi ile birlikte kenara itilmesi, sermaye akışının hızlanması, dış ticarete yönelik engellerin kaldırılması ve Washington Uzlaşısı ile hızlanan süreç, para politikasının tek enstrüman olarak kullanımına odaklanan, fiyat istikrarını önemseyen, maliye politikasını sınırlandıran bir iktisadi düşünce sistemine doğru ilerlemiştir (Blanchard vd., 2010). Neo liberal politikaların hâkim olduğu bu dönemde, her ne kadar maliye politikasının kullanımına yönelik politikalar sınırlandırılmış olsa da, maliye politikasının etkinliğine yönelik tartışmalar ve analizler sürekli biçimde yapılmaya devam etmiştir.

3. Literatür Taraması

Keynesyen modelde maliye politikasının etkisini gösteren temel gösterge "çarpan" kavramıdır. Maliye politikasının etkinliğini ölçmeye çalışan çoğu çalışma kamu harcamaları çarpanı üzerinde durmuş ve ekonomik durgunluk üzerinde maliye politikasının etkinliğini bu kavram ile açıklamaya çalışmıştır. Konjonktüre karşı uygulanan maliye politikasının etkisini anlamak için, gözlemlerden farklı olarak karşı-olgusal etkinin tahmin edilmesi gereklidir (Parker, 2011: 706). Uygulanan maliye politikası sonucu birçok farklı sonuç gözlemlenebilir, ancak bu etkilerden en önemlisi ya da hedeflenmiş olan temel değişken üzerinden etkinin ölçülebilmesini ifade eden karşı-olgusal etkiler, kamu harcamaları çarpanını anlama açısından oldukça önemlidir. Tarihsel açıdan özellikle durgunluğa, resesyona karşı uygulama alanı bulan maliye politikası ve bu politikaların etkinliğini gösteren çarpan etkisi, maliye politikasının milli gelir üzerindeki etkisi üzerine yoğunlaşmaktadır.

Mali çarpan olarak da ifade edilen bu kavram, kamu harcamaları veya vergi gelirleri yoluyla mali açıkta ortaya çıkacak bir dışsal değişkenin, milli gelir üzerinde yaptığı değişikliği gösteren bir orandır (Spilimbergo vd., 2009: 2). Blanchard & Perotti, Amerika için mali çarpanı 1947-1-1997-4 arasında çeyrek dönemlik verilerini kullanarak VAR analizi ile tahmin etmiş ve mali çarpanı çeyrek dönem için 0.8, iki yıl için ise 0.5 olarak hesaplamıştır (Blanchard & Perotti, 2002). Mali çarpanın milli gelir üzerindeki etkisinin 1'den küçük olması, uygulanan genişletici politikaların milli geliri kendisinden daha az etkilediğini göstermektedir.

Perotti daha sonra 5 OECD ülkesi (Avustralya, Kanada, Batı Almanya, İngiltere ve Amerika) için, 1960-2001 verilerini VAR analizi çerçevesinde değerlendirerek yaptığı çalışmada, 1960-1-1979-4 dönemini ve 1980-1 ile 2001-4 arasındaki dönemi farklı ele almış ve bütün ülkelerde gerek bir çeyreklik, gerekse 2 yıllık analizlerin neredeyse tamamında 1980 sonrası çarpanın daha düşük çıktığı sonucunu elde etmiştir (Perotti, 2005). Auerbach & Gorodnichenko (2012), genişleme ve daralma dönemleri için çarpan katsayısını ayrı ayrı hesaplamaya çalışmış ve ekonomin durgunluk dönemlerinde uygulanan maliye politikalarına ilişkin mali çarpanın 1.4 olduğunu, fakat genişleme

dönemlerinde mali çarpanın 0.0 ve hatta 2 yıllık süreçte -0.1 olduğunu ortaya koymaktadır.

Mencinger vd. (2017) OECD ülkeleri için 1980-2014, AB ülkeleri için ise 1995-2014 yılları arasındaki çeyrek dönemlik verileri kullanarak yaptıkları çalışmada, 2008 krizi sonrası her iki ülke grubu için maliye politikasının etkinliğini ifade eden çarpanın büyüdüğü sonucunu elde etmişlerdir. Ayrıca 28 AB üyesi ülke içinde çekirdek ve sonradan katılan ayrımı yaparak, sonradan katılan ülkelerde maliye politikası çarpanını daha büyük olduğu sonucuna ulaşmıştır (Mencinger vd.,2017: 459). Skrbic (2018) Hırvatistan ekonomisi için 2010-2016 yılları arasındaki aylık verileri kullanarak, maliye politikasını etkinliğini ölçmeye çalışmıştır. Çalışmada maliye politikasını Hırvatistan ekonomisi üzerinde çok önemli bir etkisinin olduğu sonucuna ulaşılmıştır. Özellikle istihdam ve çıktı miktarını maliye politikasına pozitif yönde tepki verdiği yönünde sonuç elde edilmiştir (Skrbic, 2018: 95).

Dökmen & Vural (2011), Türkiye'nin 1990:1, 2010:4 dönemine ait verileri kullanarak yaptıkları analizde, kamu harcamalarındaki pozitif bir şok karşısında gayrisafi yurtiçi hasılanın pozitif tepki verdiği bulgusuna ulaşmıştır (Dökmen & Vural, 2011: 131). Afonso & Claeys, 1970 ile 2004 yılları arasında Almanya, Fansa, Portekiz ve İspanya gibi ülkelerde, maliye politikasını milli gelir üzerindeki etkisini VAR analizini kullanarak ortaya koymaya çalışmışlardır ve ekonomik patlamalar (toparlanma) sırasında vergi oranlarının düşmesini kamu harcamalarındaki kısıntılar takip etmediği için, zamanla yapısal açıkların bütçe açıklarının oluştuğunu belirtmişlerdir. Bu sonucu doğuran temel etmen, maliye politikasının özellikle uzun dönemde milli gelir üzerinde etkili olmadığıdır (Afonso & Claeys, 2008).

Ilzetzki vd. (2011) 44 ülke için yaptıkları çalışmada, endüstrileşmiş ülkelerde mali çarpanın, gelişmekte olan ülkelere göre daha büyük olduğu sonucuna ulaşmışlardır. Ayrıca açık ekonomilerde çarpan katsayısının kapalı ekonomilere göre da düşük olmasının yanı sıra, yüksek borçlu ülkelerde mali çarpanın etkisinin sıfır düzeyinde olduğu bulgusunu elde etmişlerdir (Ilzetzki vd., 2011: 26). Şen & Kaya (2012) Türkiye için 1980-2010 yılları arasındaki yıllık verileri kullanarak yaptıkları çalışmada mali etkinin, toplam talebi ve ekonomik büyümeyi etkilemede önemli bir enstrüman olduğu ve mali etkinin artması ile ekonomik büyümenin pozitif yönde etkilendiği sonucunu elde etmişlerdir (Şen & Kaya, 2012: 74).

Ülke maliye politikaları ve kullandıkları mali araçlar açısından kıyaslanırken, ülkelerin bütçeleri içinde kamu harcamalarının veya kamu gelirlerinin payı ele alınmaktadır. Maliye politikasının ekonomi üzerindeki etkili olup olmadığına bakmadan, maliye politikasının durumunun mevcut bütçe pozisyonu açısından ele alınması yanıltıcı olabilir (Heller vd., 1986: 2). Maliye politikalarının ekonomi üzerindeki etkilerinin ölçümünde kullanılan göstergelerden birisi mali uyarı etkisi, mali dürtü olarak da ifade edilebilen mali etki (fiscal impulse) kavramıdır. Esasen literatüre mali etki olarak dahil edilen kavram yerine, maliye politikalarının uyarıcı etkisine vurgu yaparak dürtü, uyarıcı etki şeklinde kullanılmasının daha doğru olduğu kanaatine sahibiz. Ancak çalışmada literatürdeki diğer kullanımlara benzer şekilde mali etki olarak kullanılacaktır.

Mali etki, mali politikadaki değişikliklerin ekonomik faaliyetler ve diğer ekonomik değişkenler üzerindeki etkisini ölçmek için kullanılan mali çarpan kavramı ile karıştırılmaktadır. Mali etki, hükümetin bütçe dengesinde, politikaya dayalı bir değişme olup olmadığını ortaya koymaktadır. Mali çarpan ise, maliye politikasındaki değişkenlerin ekonomik faaliyetler ve değişkenler üzerindeki etkisinin ne olduğunu ortaya koymaya çalışmaktadır (Schinasi & Lutz, 1991: 1). Chand, mali etki kavramını ilk kez "bütçe uyarı etkisi" şeklinde tanımlamıştır ve en basit şekli ile şu şekilde hesaplamıştır (Chand, 1977: 414).

$$\text{Bütçe Uyarıcı Etkisi (Dürtüsü)} = \frac{G - T - (G_{-1} - T_{-1} - yT_{-1})}{G_{-1}}$$

$y = \text{Mevcut GSYİH büyüme oranı}$

Mali etki ölçümleri, bütçenin ekonomi üzerindeki değişen etkisini değerlendirmek için kullanılmıştır. Buna göre potansiyel büyümeyi aşan harcama büyümesi genişletici, potansiyel büyümeyi aşan gelir artışları ise daraltıcı kabul edilmektedir. Bütçe dengesindeki değişim ile, potansiyel milli gelirdeki değişimi kıyaslayarak elde edilen mali etki, fiili bütçe açığının hızlı büyümesi durumunda, toplam talebe etkisi bakımından genişleyici olduğu kabul edilir (Chand, 1992).

IMF'nin Dünya Ekonomik Görünümü'nde yaptığı mali etki hesaplaması şu şekildedir (Chand, 1992: 1);

$$\text{Mali Etki} = \left(\Delta G - g_0 \Delta Y_p\right) - \left(\Delta T - t_0 \Delta Y\right)$$

"G" kamu harcamalarını, "g_0" kamu harcamalarının potansiyel GSMH içindeki oranını, "T" kamu gelirlerini, "t_0" kamu gelirlerinin fiili GSMH içindeki oranını ifade etmektedir. Buradan elde edilecek değerin pozitif olması, bütçenin harcama artış hızının, milli gelir artış hızından daha büyük olduğunu ve genişletici etkilerin ortaya çıktığını, negatif çıkması ise kamu gelirlerinin artış hızının milli gelirdeki artış hızından büyük olduğunu ve yıldan yıla bütçenin daraltıcı etkiye sahip olduğunu göstermektedir. Bütçe açığı açısından fiili bütçe açığındaki artışın daha hızlı büyümesinin, mali uyarıcıların genişletici yönde çalıştığını göstermektedir.

OECD mali etki hesaplaması, IMF tarafından yapılan hesaplamaya oldukça yakındır. En önemli farklılık, OECD hesaplamaya ilişkin formülde harcamaların ve kamu gelirlerinin potansiyel milli gelirdeki değişmeye olan esnekliklerinin kullanılmasıdır. Bu durum OECD hesaplamasında otomatik stabilizatörlerin modele dahil edildiğini göstermektedir. OECD mali etki formülü (Heller vd., 1986: 4);

$$\text{Mali Etki} = \Delta G_p - \Delta T_p + \left(\gamma \frac{G_{t-1}}{Y_{t-1}} - \epsilon \frac{T_{t-1}}{Y_{t-1}}\right) \Delta Y^p$$

ΔG_p = Politika değişikliğinden kaynaklanan kamu harcamalarındaki değişim

ΔT_p = Politika değişikliğinden kaynaklanan vergi gelirlerindeki değişim

ΔY^p =Potansiyel milli gelirdeki değişim

γ =Kamu harcamalarının potansiyel gelirdeki değişme gösterdiği esneklik

ϵ =Vergi gelirlerinin potansiyel gelirdeki değişmeye gösterdiği esneklik

Kamu harcamalarındaki değişim ile vergi gelirlerindeki değişime, kamu harcamaları ve vergi gelirlerinin potansiyel milli gelirdeki değişime bağlı olarak gösterdikleri değişimlerin de eklenmesi, mali etkinin ölçümünü IMF hesaplamasından oldukça farklılaştırmıştır.

Maliye politikasının ekonomi üzerindeki etkinliğini ölçmek için kullanılan genel kavram mali çarpandır. Ancak farklı bir bakış açısıyla bütçe açığındaki değişimi, ekonominin fiili ve potansiyel büyümesi ile ilişkilendirerek hesaplanan mali etki katsayısı da IMF ve OECD başta olmak üzere birçok iktisatçı tarafından yaygın biçimde kullanılmaktadır.

4. Yöntem, Model ve Veriler

Bu çalışmada genişletici maliye politikaları ile ekonomik büyüme arasındaki ilişkiyi ortaya koymak için panel veri analizi kullanılmıştır. Panel veri analizi, zaman serisi ve yatay kesit verilerine göre daha büyük bir veri kümesinden yararlanma olanağı vermektedir. Gözlem sayısının artması daha doğru ve daha güvenilir parametre tahminleri üretir. Bu aynı zamanda, daha fazla değişkenlik, değişkenler arasında daha az doğrusallık, daha fazla serbestlik derecesi ve daha etkin bir model sağlamaktadır (Baltagi, 2008; Hsiao, 2003).

Geleneksel bir panel veri modeli denklem 1'deki gibi gösterilebilir.

$$y_{it} = \alpha_i + X'_{it}\beta + u_{it}$$

$$i = 1, \dots \dots \dots, N$$

$$t = 1, \dots \dots \dots, N$$

$$u_{it} = \mu_i + v_{it}$$

(1)

Modelde i ülke, firma gibi yatay kesit boyutunu gösterirken, t ise zaman boyutunu, a_i ise sabit terimi, β Kx1 ve X'_{it} i kesitinde t zamanında K açıklayıcı değişkeninin gözlemini göstermektedir. μ_i gözlenemeyen değişkenleri, v_{it} ise hata terimini göstermektedir. Eğim katsayıları bütün bireyler için aynı olmakla birlikte, μ_i bireyden bireye değişmektedir. Eğim katsayılarında bireysel gözlenemeyen heterojenlik mevcuttur. Bireysel etkiler sabit ya da rassal olabilir (Hsiao, 2003). Bu çalışmada sabit etkiler modeli kullanılmıştır.

2011-2017 yılları arasını ve 33 OECD ülkesini[1] kapsayan çalışmada kullanılan ekonomik büyüme modeli başta Barro, (1996) büyüme modeli olmak üzere literatürdeki diğer çalışmalar göz önüne alınarak geliştirilmiştir. Çalışmada kullanılan model (1) nolu denklemdeki gibi yazılabilir;

$$büyüme = \alpha_i + \beta_1 GSYİH\_kb_{t-1} + \beta_2 mali\_etki + \beta_4 enflasyon + \beta_5 dış\ ticaret + \beta_6 sermaye + \epsilon$$
(1)

Formülde $büyüme$ ekonomik büyümeyi göstermektedir. Modelde GSYİH'nın gecikmeli değeri açıklayıcı değişken olarak kullanılmıştır. Çeşitli büyüme modellerinde GSYİH'nın gecikmeli değerinin yakınsama değişkeni olarak kullanıldığı görülmektedir (Barro, 1996). Şartlı yakınsama teorisi gelir seviyesi düşük ülkelerin gelir seviyesi yüksek ülkeleri gelir düzeyi açısından yakalayacağını öne sürmektedir (Keefer & Knack, 1997). Bu yüzden GSYİH değişkenin beklenen değeri negatiftir.

Çalışmada maliye politikalarının makroekonomik etkilerini ölçmek için kullanılan mali etki (Fiscal impluse) değişkeni kullanılmıştır. Konsept olarak mali etki, kamu harcamaları ve vergi politikalarındaki değişimlerin sonucu olarak kamu bütçesindeki meydana gelen değişmeleri ölçer. Mali etki kökeni mali olmayan olaylara dayanan mali dengedeki değişiklikleri görmezden gelir. Mali etki çoğu zaman maliye politikası çarpanı ile karıştırılır. Uygun şekilde yapılandırılmış mali etki ölçümü hem maliye politikasının bütçe çıktıları üzerindeki etkilerini ölçmede hem de maliye politikasındaki değişiklerin uluslararamasın karşılaştırmasında, -maliye politikasının zaman içinde değişip değişmediği gibi- yararı olur (Schinasi & Lutz, 1991).

Literatürdeki çalışmalarda mali etkiyi ölçmek için farklı yöntemler kullanılmıştır. Bazı çalışmalar yapısal birincil bütçe dengesindeki[2] (CAPB) meydana gelen değişmeyi mali etkiyi ölçmek için kullanmıştır. Bu çalışmalarda CAPB mali durum (Fiscal stance) olarak adlandırılmış ve CAPB artışı genişlemeci bir mali etkiyi temsil etmiştir (Janssen & Philip, 2002). Buna göre mali durum aşağıdaki gibi değişmektedir;

CAPB < 0 ise genişletici FS

CAPB > 0 ise daraltıcı FS

Bu durumda mali etki ise aşağıdaki şekilde hesaplanmaktadır;

$$me = FS_t - FS_{t-1}$$

Mali etkinin pozitif olması mali durumun genişleyici anlamına gelmektedir. Bu çalışmada Uluslararası Para Fonu tarafından yayınlanan Mali Monitör 2018 veri setinde yer alan CAPB verileri kullanarak 33 ülke için mali etki hesaplanmıştır.

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[1] Avustralya, Avusturya, Belçika, Kanada, Şili, Çek Cumhuriyeti, Danimarka, Estonya, Finlandiya, Fransa, Almanya, Yunanistan, Macaristan, İzlanda, İrlanda, İsrail, İtalya, Japonya, Güney Kore, Letonya, Lüksemburg, Meksika, Hollanda, Yeni Zelanda, Norveç, Polonya, Portekiz, Slovenya, İsveç, İsviçre, Türkiye, Birleşik Krallık, Amerika Birleşik Devletleri.

[2] Devresel hareketlerden etkilenmeyen faiz dışı bütçe dengesi.

Literatürde yapılan çalışmalar da dikkate alınarak Model II'ye ve Model IV'e aşağıdaki kontrol değişkenleri eklenmiştir (Barro, 1996; Karadam, 2015; Sala-i-Martin, 1997; Temple, 1999).

Enflasyon: Ekonomi yazınında ekonomik büyüme ile enflasyon arasında tartışmalı bir ilişki olduğu söylenebilir (Temple, 1999). 1960lı yıllarda daha yüksek enflasyon, sermayeyi paraya göre daha cazip hale getirerek daha yüksek sermaye yoğunluğuna ve geçiş döneminde daha yüksek büyümeye yol açacağı düşünülse de ampirik çalışmalar enflasyon ile ekonomik büyüme arasında negatif bir ilişki olduğunu ortaya koymaktadır (Fisher, 1983). Barro (1995) yaptığı çalışmada ekonomik büyüme ile enflasyon oranı arasındaki ilişkiyi incelemiş ve iki değişken arasında negatif yönlü bir ilişki bulmuştur. Dolaysıyla enflasyon oranı (enflasyon), modele kontrol değişkeni olarak eklenmiştir.

Sermaye: Sermaye birikimi, kısa ve orta dönemde tasarruflar ve yatırım kararları ve çeşitleri aracılığı ile ekonomik büyümeyi etkilemektedir (Bassanini vd., 2001; Temple, 1999). Karadam (2015) yaptığı çalışmada brüt sermaye yatırımının GSYİH içindeki payı ile kişi başına düşen GSYİH arasında pozitif yönlü ve istatistiki olarak anlamlı bir ilişki bulmuştur. Dolayısıyla, sermaye değişkeni modele kontrol değişkeni olarak eklenmiştir.

Dış ticaret: Ekonomik büyüme ile dış ticaret (ihracat/ithalat) arasındaki ilişki ekonomi yazınında önemli bir yer tutmaktadır. Bu iki değişken arasındaki ilişkiler ampirik olarak hala araştırılıyor ise de, bu iki değişken arasında pozitif ilişkinin olduğu genel kabul olarak görülmektedir (Ram, 1987; Sağlam ve Egeli, 2018).

İşsizlik: Ekonomi yazınında, işsizlik ile ekonomik büyüme arasındaki ilişki genellikle Okun Kanunu ile açıklanmaktadır. Buna kanuna göre; işsizlik oranı ile büyüme arasında negatif bir ilişkinin olduğu kabul edilmektedir. Okun Kanunu hala en yaygın olarak kabul edilen ekonomi kurallarından biridir (Burda & Wyplosz, 2001).

Çalışmada kullanılan değişkenler Dünya Bankası'nın Dünya Kalkınma Göstergeleri ve Uluslararası Para Fonu veri setinden elde edilmiştir. Tablo 1'de değişkenlerin açıklamaları yer almaktadır.

Tablo 1: Modelde Kullanılan Değişkenler ve Açıklamaları

Değişken Adı	Açıklama	Kaynak
mali_etki	(CAPBt - CAPBt-1) CAPB=Yapısal faiz dışı bütçe dengesi	Uluslararası Para Fonu
büyüme	*Kişi başına düşen GSYİH'nın yıllık büyüme oranı.*	Dünya Kalkınma Göstergeleri
GSYİH	*GSYİH'nın gecikmeli değerinin logaritmik formu*	Dünya Kalkınma Göstergeleri
sermaye	*Brüt sabit sermaye oluşumu (% GSYİH)*	Dünya Kalkınma Göstergeleri
enflasyon	*Yıllık Enflasyon (%)*	Dünya Kalkınma Göstergeleri
dış ticaret	*İhracat birim değer endeksinin ithalat birim değer endeksi içindeki oranı ile hesaplanan net barter endeksi.*	Dünya Kalkınma Göstergeleri
işsizlik	*İşsiz olanların toplam iş gücü içindeki payı.*	Dünya Kalkınma Göstergeleri

Kaynak: Yazarlar tarafından oluşturulmuştur.

5. Bulgular

Maliye politikasının etkinliğinin kişi başına reel GSYİH büyüme oranı üzerindeki etkilerinin araştırıldığı modeller Tablo 2'de gösterilmiştir. Hausman testi sonuçları sabit etkiler model tahminlerinin daha etkin olacağını gösterdiğinden dolayı bulguların yorumlanması sabit etkiler modelinin kullanıldığı modellerin sonuçlarına göre yapılacaktır. Tablo 2'de yer alan modeller 33 OECD ülkesi ve 19 Avrupa Birliği ülkesi için iki ayrı grup olarak tahmin edilmiştir. Model I ve Model II havuzlandırılmış (pooled) modelin, Model II ve Model IV rassal etkiler (random effects) modelinin, Model III ve Model VI sabit etkiler (fixed effects) modelinin sonuçlarını göstermektedir.

Tablo 2: OECD ve Avrupa Birliği Ülkeleri İçin Panel Veri Analizi Sonuçları

	OECD Ülkeleri			Avrupa Birliği Ülkeleri		
	Model I	Model II	Model III	Model IV	Model V	Model VI
GSYİH	-0.331***	-0.365**	-21.49***	-0.404*	-0.469	-30.00***
	(0.118)	(0.183)	(3.933)	(0.213)	(0.339)	(8.581)
mali_etki	-0.169	-0.189	-0.101	-0.427*	-0.479*	-0.280
	(0.132)	(0.124)	(0.124)	(0.224)	(0.210)	(0.226)
sermaye	0.193***	0.190*	0.343***	0.204**	0.151	0.322*
	(0.0595)	(0.0779)	(0.126)	(0.100)	(0.129)	(0.189)
dış ticaret	-0.00280	0.000762	-0.0177	0.0529	0.0582	0.00737
	(0.00686)	(0.0100)	(0.0242)	(0.0418)	(0.0622)	(0.119)
enflasyon	-0.0185	-0.206*	-0.635***	-0.322	-0.290	-0.615**
	(0.108)	(0.119)	(0.143)	(0.216)	(0.205)	(0.243)
işsizlik	-0.0115	-0.0183	-0.287**	-0.0223	-0.0271	-0.473**
	(0.0526)	(0.0731)	(0.139)	(0.0773)	(0.105)	(0.222)
sabit	6.748*	7.720	575.2***	3.889	6.204	794.6***
	(3.644)	(5.452)	(105.7)	(7.269)	(11.08)	(229.1)
R-sqr	0.121	0.0703	0.224	0.198	0.1246	0.229
F test		17.48***			7.66***	
Hausman			47.53***			11.74*
N	198	198	198	114	114	114

Kaynak: Yazarlar tarafından oluşturulmuştur.
Not: Standart hata parantez içinde gösterilmiştir.
* $p<0.1$, ** $p<0.05$, *** $p<0.01$ anlamlılık düzeylerinde istatistiki olarak anlamlıdır.

Analiz sonuçlarına göre; hem OECD ülkelerinde hem de Avrupa Birliği *mali_etki* ile ekonomik büyüme arasında negatif yönlü bir ilişki olmak ile birlikte (sırasıyla -0.101 ve -0.280), çıkan sonuçlar istatistik olarak anlamsızdır. Bu durum 2008 krizi sonrası uygulanan genişletici maliye politikasının ekonomik büyümeyi negatif etkilediğini göstermektedir. Sonuçların istatistiki olarak anlamsız çıkması da genişletici maliye

politikalarının aslında etkinsiz olduğu, yani ekonomik büyümeyi etkilemediği şeklinde yorumlanabilir. Değişkenlerin işaretleri hem OECD ülkeleri hem de Avrupa Birliği ülkeleri için beklenen işaretlerdir. Ancak değişkenlerin anlamlılık düzeyleri ve katsayıları iki ülke grubu için farklılık göstermekledir. Model III 'de ve Model VI 'da yer alan sabit etkiler modelinin analiz sonuçları aşağıdaki şekilde özetlenebilir.

GSYH'nin katsayısı hem OECD ülkeleri hem de Avrupa Birliği ülkeleri için negatif ve 0.01 anlamlılık düzeyinde istatistiki olarak anlamlıdır (sırasıyla -21.49: p<0.01 ve -30.00: p<0.01). Negatif işaret gelir seviyesi yüksek ülkelerin daha yavaş büyüdüğünü, dolayısıyla işaretin gelir seviyesi düşük ülkelerin gelir seviyesi yüksek ülkeleri gelir düzeyi açısından yakalayacağını öne süren şartlı yakınsama teorisi ile uygundur (Herz & Röger, 1995; Keefer & Knack, 1997).

Sermaye değişkeninin katsayısı hem OECD ülkeleri hem de Avrupa Birliği ülkeleri için pozitif yönlü ve istatistiki olarak anlamlıdır (sırasıyla 0.343: p<0.01: 0.322: p<0.1). Çalışma kapsamında yer alan ülkelerin, brüt sabit sermaye yatırımları ekonomik büyümelerini pozitif yönde etkilemiştir. Geçmiş yıllarda yapılan çalışmalarda bu sonucu desteklemektedir (Karadam, 2015; Long & Summers, 1991).

Enflasyon değişkeninin katsayısı hem OECD ülkeleri hem de Avrupa Birliği negatif yönlü ve istatistiki olarak anlamlıdır (sırasıyla -0.635: p<0.001 ve -0.615: p<0,05). Enflasyon ile ekonomik büyüme arasındaki negatif ilişki literatürde yapılan ve yukarıda bahsedilen çalışmalar ile aynı yönde olduğu görülmektedir. Sonuç olarak, düşük enflasyon oranın olduğu ülkelerde yüksek büyüme oranı olacaktır.

Enflasyon değişkenini diğer açıklayıcı değişkenlerden ayıran yönü, para politikasının bir sonucu olarak ortaya çıkmasıdır. Bu kapsamda para politikası değişkeni olarak da görülebilir. Önceki bölümlerde bahsedildiği gibi para ve maliye politikalarının etkinliği ve birbirleri ile olan etkileşimi iktisat yazınında tartışılan bir konu olmuştur. Çalışma kapsamındaki dönemde, ekonomik büyüme üzerinde maliye politikasının etkinliği yok iken para politikasının etkinliği hem OECD ülkelerinde hem de Avrupa Birliği ülkelerinde güçlü bir şekilde gözlenmektedir (Tablo 2 Model III ve Model VI).

İşsizlik değişkeninin katsayısı hem OECD ülkeleri hem de Avrupa Birliği negatif yönlü ve istatistiki olarak anlamlıdır (sırasıyla -0.287: p<0.05 ve -0.473: p<0.05). İşsizlik ile ekonomik büyüme arasındaki negatif ilişki literatürde yapılan ve yukarıda bahsedilen çalışmalar ile aynı yönde olduğu görülmektedir.

6. Sonuç

1929 Ekonomik krizinin ardından politika uygulayıcı tarafından kullanımı yaygınlaşan Keynezyen iktisadi politikaların temelinde yatan maliye politikalarının, büyüme, işsizlik vb. makro değişkenler üzerindeki etkisi yaygın bir şekilde tartışılmaktadır. Etkisi ve büyüklüğü itibariyle 1929 Ekonomik Krizi ile karşılaştırılan 2008 krizi sonrası, ülkelerin krizden çıkmak için kullandıkları maliye politikaları, mali etki etrafında analiz edilmiş ve bütçenin milli gelir üzerindeki uyarıcı etkisini ifade eden

mali etki ile büyüme arasındaki ilişki 2008 krizi sonrası için ortaya konulmaya çalışılmıştır.

2008 krizi sonrasında ülkeler genişletici para ve maliye politikaları uygulamaları ile krizin etkisini hafifletmek ve pozitif ekonomik büyümeyi sağlayarak işsizliği azaltmayı hedeflemişlerdir. Çalışma sonucunda mali etki ile ekonomik büyüme arasında söz konusu dönem için negatif yönlü bir ilişki elde edilmiştir. 2008 krizi sonrasında uygulanan genişletici maliye politikalarının büyüme üzerinde olumlu etkisi olmadığını gösteren bu durum, maliye politikalarının beklenen Keynezyen etkileri göstermediğini ortaya koymaktadır. Esasen söz konusu dönem için büyümeyi etkileyen temel faktörler düşük enflasyon, dış ticaret ve sermaye yatırımlarıdır.

Çalışma yapılan analiz sonuçlarına göre; 2008 krizi sonrası dönemde ülkelerin ekonomik büyümelerini maliye politikalarından ziyade para politikaları üzerine kurdukları ve politika tercihlerini para politikasından yana kullandıkları görülmektedir.. Ayrıca, bu dönemde ülkeler brüt sermaye yatırımları ve işsizlik ile mücadele ile ekonomik büyümelerini desteklemişlerdir. Düşük enflasyon ortamı, dışa açık bir ekonomi ve sermaye yatırımlarının arttırılması krizden çıkış yolu olarak kullanılmıştır. Bunun için ülkelerin, bütçelerini ekonomik büyümeyi etkileyen bu değişkenleri dikkate alarak dizayn etmeleri gerekmektedir.

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Doğal Afet Önlemlerinin Politik Ekonomisi[*]

Political Economy of Natural Disaster Measures

Tülin Altun[1]

RESEARCH
ARTICLE

A B S T R A C T

Societies do not take adequate action to prevent/mitigation and transfer of risk against natural disaster hazards. The public sector needs to intervene in market failures arising from problems such as imperfect / asymmetric information, myopia, collective inertia. Thus, the fiscal burden of natural disasters on public finance can be reduced and social welfare can be increased by more efficient allocation of social resources. However, the public sector also fails in this regard. There are political motivations that prevent effective natural disaster risk management. Politicians pay more attention to policies that will provide them electoral support in the short term due to the problem of time inconsistency in public finances. For this reason, they do not make enough regulations and investments for natural disaster measures, if the benefits of the measures appear in the long term and puts a burden on voters in the short term. They prefer disaster aids due to election supports. The solution of the problems arising from political motivations depend on the establishment of institutional mechanisms to increase democratic accountability and raise awareness of the risks of natural disasters.

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[1] Assoc. Prof. Dr., ORCID: 0000-0003-2008-0039, Sivas Cumhuriyet University, Department of Public Finance, Sivas, Turkey, tulinaltun@cumhuriyet.edu.tr

Ö Z E T

Toplumlar doğal afet zararlarının önlenmesi/azaltılması, riskin yayılması için yeterince eylemde bulunmamaktadır. Kamu kesiminin eksik/ asimetrik bilgi, miyopluk, kolektif eylemsizlik gibi sorunlardan kaynaklanan piyasa başarısızlıklarına müdahale etmesi gereklidir. Böylelikle doğal afetlerin kamu maliyesine getireceği mali yük azaltılabileceği gibi, toplumsal kaynakların daha etkin tahsisi sağlanarak sosyal refah artırılabilir. Bununla birlikte kamu kesimi de bu konuda başarısız olmaktadır. Etkin doğal afet yönetimi yapılmasını engelleyen politik motivasyonlar bulunmaktadır. Politikacılar kamu maliyesindeki zaman tutarsızlığı probleminden dolayı kendilerine kısa vadede seçim desteği sağlayacak politikalara daha fazla önem verirler. Bu nedenle eğer önlemlerin faydası uzun vadede ortaya çıkıyor ve kısa vadede seçmenlere yük getiriyor ise, doğal afet önlemlerine ilişkin düzenlemeleri ve yatırımları yeterince yapmazlar. Seçimsel desteklerden dolayı afet yardımları yapmayı tercih ederler. Politik motivasyonlardan kaynaklanan sorunların çözümü, demokratik hesap verebilirliği artıracak kurumsal mekanizmaların oluşturulmasına ve doğal afet riskleri konusundaki farkındalıkların artmasına bağlıdır.

1. Giriş

Doğal afetlerle mücadele kamu kesiminin koşullu yükümlülükleri arasındadır. Deprem, taşkın, yangın, kuraklık, erozyon, fırtına gibi bir olay meydana geldiğinde devlet bir yandan tahrip olan altyapının yenilenmesi gibi açık yükümlülüklerini yerine getirmeye çalışmakta diğer yandan kamuoyu baskısı sonucu doğal afetlerin neden olduğu ekonomik zararları tazmin etmek gibi örtük yükümlülüklerle karşılaşmaktadır. Kamu kesiminin üstlenmek zorunda olduğu bu yükümlülükler bütçeye ek bir yük getirmekte, hatta bazı durumlarda devletin mali krize girmesine bile neden olabilmektedir. Ayrıca toplam bütçede bir değişiklik olmasa bile kaynaklar yeniden tahsis edilmektedir. Bu durum uzun vadede ekonomik kalkınma ve gelir dağılımında adaletin sağlanması gibi nihai hedefler için uygulanacak politikalarda sapmalara ve toplumsal refahta kayıplara neden olmaktadır.

Doğal afetleri engellemek mümkün değildir. Ayrıca doğal afetlerin sıklığı, şiddeti, gerçekleştiği coğrafi bölgedeki nüfus yoğunluğu, ekonomik gelişmişlik düzeyi, gelir dağılımı vb. faktörler afetlerin yarattığı can ve mal kayıplarını ve dolayısıyla devletin mali yükümlülüklerini önemli ölçüde etkilemektedir. Bununla birlikte benzer afet riski ile karşı karşıya kalan ve benzer yapısal koşullara sahip olan toplumlarda afetlerle başa çıkma kapasitesi farklıdır. Sosyal ve ekonomik yönden doğal afetlere karşı adaptif kapasitesi[1] yüksek olan toplumlarda afetler her zaman felaketle

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[1] Uyarlanabilir kapasite, bir ülkenin ekonominin dışından gelen olumsuz şoklarla mücadele etme kapasitesidir. Doğal afetlerde adaptif kapasite, bir doğal afet meydana gelmeden önce toplumun kırılganlığı ve olay meydana geldikten sonra dayanıklılığı olarak tanımlanabilir (Bkz: Dayton-Johnson, 2004).

sonuçlanmamaktadır. Doğal afet zararlarının önlenmesi/azaltılması, riskin yayılması için eylemlerde bulunan toplumlarda can ve mal kayıplarının daha düşük düzeyde gerçekleşmesi mümkündür. Fakat farklı yaklaşımlara (neo-klasik, davranışsal) dayalı olarak yapılan pek çok teorik/ampirik çalışma bu konuda piyasa başarısızlığı olduğunu göstermektedir. Piyasa başarısızlıklarının giderilmesi için ise kamusal eylemlere ihtiyaç duyulmaktadır. Kamu kesimi, piyasa başarısızlığına neden olan asimetrik bilgi, miyop davranışlar, ahlaki tehlike, davranışsal yanlılıklar, kolektif eylemsizlik gibi sorunlara büyük ölçüde çözüm getirebilir. Caydırıcı/yasaklayıcı düzenlemeler yaparak, standartlar belirleyerek, kamu malı sağlayarak, bilgi eksikliğini gidererek, afet fonları oluşturarak, kamu/özel sektör sigortacılığı geliştirerek piyasa başarısızlıklarına müdahale edebilir. Ancak gelir yetersizliği, kurumsal altyapı yetersizliği ve politik faktörler, kamu kesiminin bu konuda başarısız olmasına neden olmaktadır.

Bu çalışmada, ampirik ve teorik literatüre dayalı olarak, doğal afet risklerinin önlenmesi/azaltılması/yayılması önlemlerinin yeterince alınmıyor olmasına yol açan piyasa başarısızlıkları ve kamu kesimi başarısızlıkları incelenmektedir. Çalışmanın ikinci bölümünde doğal afetlerin kısa, orta ve uzun vadede yaratacağı ekonomik ve mali maliyetler örneklendirilmektedir. Üçüncü bölümde doğal afet önlemlerinin eksik olmasına yol açan piyasa başarısızlıkları ve kamu kesimi başarısızlıkları ele alınmaktadır. Dördüncü bölüm sonuç ve değerlendirmedir.

2. Doğal Afetlerin Ekonomik ve Mali Maliyeti

Barro (2006 ve 2009), şiddetli durgunluk, finansal krizler, savaşlar, doğal afetler, salgın hastalıklar gibi gerçekleşme olasılığı düşük olan ve seyrek şekilde meydana gelen felaketlerin ekonomide çok büyük refah kayıplarına neden olduğunu söylemektedir. Doğal afetlerin beşeri ve fiziksel sermayede yarattığı tahribat ve bu tahribatın zincirleme etkileri toplumsal refahı kısa, orta, uzun vadede olumsuz etkileyebilmektedir. Bireylerin ve firmaların sahip oldukları varlıkların ve çalışma kapasitelerinin azalması kısa vadede gelirlerinde önemli bir düşüşe neden olmaktadır. Gelirdeki bu düşüşle başa çıkmak için geliştirilen stratejiler ise uzun vadede refahı olumsuz etkileyebilmektedir. Örneğin eğitim ve sağlık için yapılan harcamaların daha acil ihtiyaçlar için kullanılması bir ailenin refahını birkaç kuşak boyunca azaltabilmektedir. Benzer şekilde afet sonrası yeni harcama kalemlerinin ortaya çıkması kısa vadede bütçe açıklarına neden olurken, beşeri ve fiziksel sermayeyi geliştirmek için yapılacak yatırım harcamaları azalabilmekte, uzun vadede kalkınma hedeflerinden sapmalara neden olabilmektedir.

2.1. Ekonomik Maliyetler

Bir doğal afetin ilk etkisi mortalite, morbidite ve fiziksel altyapı kaybına (konut, yol, telekomünikasyon, elektrik şebekeleri ve diğer altyapı) neden olur. Bu ilk etkilerin

ardından ekonomi üzerindeki etkiler (gelir alanları, istihdam, sektörel üretim kompozisyonu, enflasyon vb.) ortaya çıkar (Cavallo & Noy, 2010). Doğal afetlerin ekonomik etkisi genel olarak doğrudan ve dolaylı etkiler şeklinde kategorize edilir. Bununla birlikte ECLAC (Latin Amerika Ülkeleri Ekonomik Komisyonu-Economic Commission for Latin America and Caribbean) 1991 yılında felaketlerin ekonomik etkilerini değerlendirmek için doğrudan zararlar, dolaylı zararlar ve ikincil etkiler arasında ayrım yapan bir metodoloji geliştirmiştir. Doğrudan zararlar, doğal afet sırasında veya doğal afetin doğrudan bir sonucu olarak tüm sabit varlıklarda (mülkler dahil), mamul ve yarı mamul malların, hammaddelerin ve yedek parçaların sermaye ve stoklarında meydana gelen zarar olarak tanımlanır. Dolaylı zararlar, bir felaketten sonra üretilmeyecek olan mal akışlarına ve sağlanamayacak hizmetlere olan etkisi ile ilgilidir. Fiziksel terimler yerine parasal olarak ölçülürler. Dolaylı zararlar, fiziksel altyapının veya stokların tahrip edilmesinin ardından işletme giderlerini artırabilir. Mal veya hizmet sunumunda alternatif üretim ve/veya dağıtım araçlarının kullanılması gereği nedeniyle ek maliyetler ortaya çıkabilir. Üretim, işletme veya geçim araçlarının tamamen veya kısmen kaybedilmesi durumunda gelir kayıpları yaratabilir. İkincil etkiler, afetlerin genel ekonomik performans üzerindeki etkisidir. Gayri Safi Yurtiçi Hasıla (GSYH), ticaret dengesi, ödemeler dengesi, borçluluk düzeyi, parasal rezerv düzeyi gibi makro-ekonomik göstergeler ve mali göstergeler üzerindeki etkileri ile ölçülürler (Marti, 1997).

Doğal afetlerin doğrudan, dolaylı ve ikincil etkilerinin ekonomi üzerinde olumsuz etkide bulunacağı genel olarak kabul görmekle birlikte, doğal afetlerin makro-ekonomik dinamikleri önemli ölçüde etkilemediği, hatta olumlu etkilerde bulunabileceğini işaret eden bazı çalışmalar da mevcuttur. Örneğin Albala-Bertrand (1993), felaketlerin özellikle inşaat sektörünü uyarabileceğini ve yeniden inşa sırasında GSYH'ye önemli ölçüde katkıda bulunabileceğini söylemektedir. Doğal afetlerin büyüme hızı üzerindeki potansiyel etkilerini analiz ettikleri çalışmalarında, afet sonrası sermaye kaybının ekonomik büyüme hızı üzerinde önemli bir etki yaratmadığı sonucuna ulaşmıştır. Enflasyon oranı değişmemekte, tarım ve inşaat sektöründe üretim artmaktadır. Jha vd. (2018) de, "yaratıcı yıkım" hipotezinden yola çıkarak, afetlerin gelişim açısından olumlu sonuçlar doğurabileceğini belirtmektedir. Felaketler, sermaye stokunun artması, yeni teknolojilerin benimsenmesi, mevcut sistemin esnekliğinin artırılması ve yaşam standartlarının yükselmesi için bir fırsat sunmaktadır. Filipinler örneğini ele alarak yaptıkları ampirik analizde, yaratıcı yıkıma dair kanıtlar bulmuşlardır. Ulusal hükümetlerin, yerel dayanıklılığı artırmak ve yeniden yapılanma için tahsis ettiği mali kaynakların ekonomik büyümeyi güçlendirebileceği ve yoksulluğu azaltabileceği sonucuna varmışlardır.

Bununla birlikte ampirik çalışmaların birçoğu, doğal afetlerin doğrudan, dolaylı ve ikincil etkiler aracılığıyla ekonomiyi kısa, orta ve uzun vadede olumsuz etkileyeceğine ilişkin teorik öngörüleri destekler niteliktedir. Örneğin Murlidharan & Shah (2001), 1980-1995 dönemi için gelişmiş ve gelişmekte olan ülkeler için yaptıkları analizde doğal afetlerin ekonomik büyümeyi kısa ve orta vadede olumsuz etkilediği

ancak uzun vadede etkinin azaldığı sonucuna ulaşmışlardır. Hochrainer (2009), doğal afetlerin orta vadede (afet olayından sonra 5 yıla kadar) ekonomi üzerindeki etkisini analiz etmiştir. Doğal afetlerin ortalama olarak olumsuz sonuçlara yol açtığını (özellikle doğrudan etkiler), büyük şoklar durumunda olumsuz sonuçların daha belirgin olduğunu bulmuştur. Heger vd. (2008), mali ve ticari açıkların büyüdüğü sonucuna ulaşmışlardır. Raddatz (2007), doğal afetlerin gelişmekte olan ülkelerde çıktı dinamiklerini olumsuz etkilediği sonucuna varmıştır. Otero & Marti (1995), kısa, orta ve uzun vadede afetlerin ekonomik kalkınma ve ekonomik performans üzerinde olumsuz etkileri olduğunu, özellikle, kısa ve orta vadeli etkilerin önemli olduğunu göstermişlerdir. Benson & Clay (2004), Dominik, Bangladeş ve Malavi'deki vaka çalışmalarına dayalı olarak, doğal afetlerin uzun vadede sermaye ve emek kaybının yanı sıra, altyapı ve piyasadaki bozulmalarla ilişkili olarak emek ve sermayenin üretkenliğini olumsuz yönde etkilediği sonucuna ulaşmışlardır. Afetler ekonomik istikrarsızlık ve belirsizlik ortamına katkıda bulunarak, potansiyel yatırımları da engelleyebilmektedir.

Afetlerin şiddeti ve ekonomik koşullar da afetlerin etkilerini değiştirmektedir. Noy (2009), gelişmiş ve gelişmekte olan 109 ülke örnekleminde yaptığı ampirik analizde, okuryazarlık oranının, kişi başına düşen gelirin, kamu harcamalarının ve ticari açıklık derecesinin yüksek olduğu ülkelerin felaket şokuna daha dayanıklı olduğu ve makro ekonomik yayılmanın önlenebildiği sonucuna ulaşmıştır. Ayrıca elde edilen bulgulara göre daha fazla döviz rezervine ve daha yüksek yurtiçi kredi seviyelerine sahip olan ülkeler doğal afetlere karşı daha dayanıklıdır. Toya & Skidmore (2007) de daha yüksek eğitim ve gelir seviyesine, daha gelişmiş finansal sistemlere ve daha küçük kamu kesimine sahip olan ülkelerde ekonomik kayıpların daha küçük olduğu sonucuna ulaşmışlardır.

2.2. Mali Maliyetler

Doğal afetler sonucu beşeri ve fiziksel sermayedeki kayıpların yol açtığı kısa, orta ve uzun dönemde, doğrudan, dolaylı ve ikincil olumsuz etkiler kamu sektörü için de geçerlidir. Bir doğal afet meydana geldiğinde tıbbi yardımın, yiyecek ve sığınağın sağlanması gibi acil ihtiyaçlar için cari dönemde bütçede ek harcama kalemleri ortaya çıkmaktadır. Hasar gören altyapının inşa edilmesi de devletin açık yükümlülükleri kapsamındadır. Okulların, hastanelerin, yolların yeniden inşa edilmesi için önemli miktarda kamu harcamasına ihtiyaç duyulmaktadır. Ayrıca seçmenlerin ve çıkar gruplarının politik baskısı, devletin bazı örtük yükümlülüklerini gündeme getirmektedir. Örneğin bir deprem olduğunda bireyler konut ve gelir yardımı sağlanması için, kuraklık, sel, dolu gibi doğa olaylarından etkilenen çiftçiler zararlarının tazmin edilmesi için, afetten etkilenen sanayi sektörü sübvansiyonların ve/veya vergi indirimlerinin yapılması için talepte bulunmaktadırlar. Kamuoyunun afet hasarlarının sorumluluğunun kimde olduğuna ilişkin algıları, çıkar gruplarının politik güçleri, örtük yükümlülüklerin kapsamını genişletebilmektedir. Kamu kesimi bu tür toplumsal talepleri yerine getirmeye çalışırken bir yandan harcamalardaki artışlarla, diğer yandan

gelirlerinde azalmayla yüzleşmektedir. Afet sonrası ekonomik faaliyetlerin azalması, vergi tabanını ve gelir, tüketim, gümrük vergisi gelirlerini olumsuz etkilemektedir. Gelirlerin giderleri karşılamaması bütçe açıklarını ve kamu borç stokunu artırmaktadır. Kısa vadede ortaya çıkan bu tür etkiler, orta ve uzun vadede de etkisini sürdürmektedir. Örneğin Otero & Marti (1995) afet sonrası bütçe kaynaklarının yeniden tahsis edilmesinin ve gelirdeki azalışın orta ve uzun dönemli etkilerine vurgu yapmaktadır. Kısa vadede mali açıklar ve dış ticaret açığı uzun vadede kalıcı mali dengesizliklere yola açmaktadır. Mali dengenin bozulması, uzun dönemde hükümetlerin belirli kamusal faaliyetleri sürdürmelerini ve/veya iyileştirmelerini etkileyerek, kamu hizmetlerinin kalitesini bozmaktadır. Hatta mali dengenin bozulmasının, şarta bağlı borç veren uluslararası kuruluşlar ile yapılan mali düzenlemeleri de etkileyebileceğini belirtmektedirler. Benson & Clay (2004: 19-26) afet sonrası yardımlar ve yeniden yapılanma harcamalarının artmasının, planlanan yatırımların iptal edilmesi ya da ertelenmesi, kamu hizmetlerinin sunumunun azalması gibi önemli fırsat maliyetleri yarattığını söylemektedirler. Afet sonrası ithalat ve ihracattaki net düşüşler, ekonomik aktivitelerdeki azalma vergi gelirlerinin azalmasına ve vergi gelirlerinin tahsilâtında gecikmelere neden olmaktadır. Hükümetler döviz rezervlerini azaltarak, iç ve dış borç seviyelerini artırarak, emisyon hacmini artırarak afetlerle ilgili artan maliyetlerin üstesinden gelmeye çalışabilmektedir. Döviz kurunun artması ve ek harcamalar gelecekteki borç servisi ödemelerini artırabilmektedir.

Doğal afetlerin ekonomik etkisi gibi yol açtığı mali maliyetler de büyük oranda ülkeye özgü makroekonomik koşullara ve gelir kaynaklarının yapısı, kamu harcamaları gibi mali koşullara bağlıdır. Pelling vd. (2002), kamu gelirlerinin, döviz transferlerinin ve yabancı kaynakların yeniden inşa maliyetlerini karşılamak için yeterli olmadığı durumlarda, özel bankalara finansman sağlama ve enflasyona dayalı para tabanını artırma yönündeki baskının uzun vadeli iç dengeyi bozacağını belirtmektedirler. Noy & Nualsri (2011), genel olarak gelişmekte olan ülkelerde afet sonrası harcamaların arttığını ve gelirlerin azaldığını ifade etmektedirler. Bu dönemsel mali dinamikler, doğal afetlerin orta ve düşük gelirli ülkeler üzerindeki olumsuz etkilerini daha da kötüleştirebilmektedir. Benali vd. (2018), orta gelirli ülkelerde doğal afetlerden sonra hükümetlerin kamu harcamalarını, bütçe açıklarını ve kamu borç stokunu artırarak yeniden yapılanma faaliyetlerinde bulunduğu sonucuna varmışlardır. Akar (2013), Türkiye'de Marmara, Düzce ve Van depremlerinin ekonomik büyüme, enflasyon, dış ticaret dengesi, merkez bankası rezervleri üzerinde yarattığı olumsuz etkinin yanı sıra vergi ertelemeleri, tahsil edilemeyen vergiler nedeniyle kamu gelirlerindeki azalmanın, hasarların tazmini için yapılan kamu harcamalarındaki artışın kamu maliyesi üzerinde büyük bir yük yarattığını göstermiştir. Hochrainer-Stigler vd. (2018), sadece gelişmekte olan ülkelerde değil, sanayileşmiş ülkelerde de doğal afetlerden kaynaklanan risklerin mali istikrar ve orta ve uzun vadeli ekonomik büyüme için önemli bir tehdit oluşturduğunu belirtmektedirler. Gelişmekte olan ülkeler için doğrudan etkiler, gelişmiş ülkelerde dolaylı etkiler daha önemli bir risk kaynağıdır.

3. Önlemlerin Yetersizliğinin Nedenleri: Piyasa ve Kamu Başarısızlıkları

Doğal afetlerin ekonomik ve mali maliyetleri, ekonomik gelişmişlik düzeyi, gelir dağılımı, demografik ve coğrafik faktörler gibi yapısal koşullara göre değişebilir. Yapısal koşulları değiştirmek uzun vadeli kalkınma politikalarının bir parçasıdır.

Riskli bölgelerde yaşayan hanehalklarının, sanayi, hizmet ve tarım sektöründe faaliyet gösteren firmaların yerleşim yerlerinin değiştirilmesi, afetlere karşı alınabilecek en etkili önlem türlerinden biridir. Ancak bunu yapmak oldukça güçtür. Coğrafi kısıtlılıklar, parasal kaynakların yetersiz oluşu ve birtakım ekonomik ve sosyal teşvikler nedeniyle bireyler ve firmalar yerleşim yerlerini değiştirme imkanına ya da motivasyonuna sahip değildir. Örneğin gelir düzeyi düşük olan bireyler yerleştikleri bölgenin doğal afetler açısından riskli olduğunu bilseler bile taşınmaları için yeterli kaynağa sahip olmayabilirler. Küçük çiftçilerin tarım yaptıkları araziyi değiştirmesi imkanı olmayabilir. Düşük gelirliler, doğal afetlere karşı önlem almak için yapılacak yatırımların ya da sigorta poliçeleri için ödenecek primlerin maliyetini karşılayamayabilir. Bu gruplar için barınma, beslenme, sağlık ihtiyaçları için yapılacak harcamaların refaha katkısı çok daha yüksek olabilir. Gelir yetersizliği kamu sektörünün de bu konudaki yetersiz yatırımlarını açıklayabilir. Kamu kesimi sınırlı kaynaklarını sosyal refahı artırma kapasitesi açısından daha öncelikli alanlara yönlendirebilir. Özellikle gelişmekte olan ülkelerde gelir yetersizliği, önlemlerin yeterince alınmıyor olmasının bir açıklayıcısı olabilir. Kenny (2009) gelişmekte olan ülkelerde, afet korumasının ekonomik açıdan lüks bir mal olabileceğini belirtir. Çünkü bu tür koruma faaliyetleri diğer yatırımlara kıyasla daha düşük ve belirsiz getiri sağlayabilir. Bu nedenle Pelling vd. (2002); Dayton-Johnson (2004) gibi yazarlar afet politikalarının kalkınma politikalarına entegre edilmesi gerektiğini belirtirler.

Doğal afet önlemlerinin yetersiz alınmasının nedeni yapısal faktörler olduğunda, kısa vadede bireyler, firmalar ve kamu kesimi açısından alınan bu tür kararlar, fayda maliyet açısından etkin olabilir. Ancak kısa vadede, olumsuz yapısal koşullara rağmen, bazı kurumsal faktörleri iyileştirerek doğal afetlerin yarattığı can kayıplarını ve ekonomik ve mali zararları azaltmak mümkündür. Alınacak önlemler doğal afet gerçekleşmeden öncesi ve sonrası olmak üzere farklı boyutlarda ele alınabilir. Farklı afet türlerine göre afet öncesi alınacak önlemler değişmektedir. Bununla birlikte genel olarak binaların afetlere karşı dayanıklı hale getirilmesi, barajların, setlerin, kanalların inşa edilmesi, erken alarm sistemlerinin oluşturulması, uzun dönem hava tahmin raporlarının ve mahsul modelleme araştırmalarının kullanılması gibi mühendislik çözümlerine yatırım yapılması gerekmektedir. Bu yatırımlar özel sektör tarafından yapılabileceği gibi kamu sektörü tarafından da yapılabilir.

Afet sonrası için alınacak önlemler ise zararların tazmin edilmesi ve riskin yayılması için finansal kaynakların oluşturulmasıdır. Sigortalar en sık kullanılan finansal kaynak sağlama aracıdır. Bireysel tasarruflar, acil kullanım için ayrılan fonlar, krediler gibi araçlar da afet sonrasında kullanılabilir. Aşağıdaki tabloda, mikro, orta ve makro ölçekte risk finansman düzenlemelerine ilişkin örnekler gösterilmektedir.

Tablo 1: Mikro, Orta ve Makro Ölçekte Risk Finansman Düzenlemeleri

	Mikro Ölçek (Hanehalkları, KOBİ'ler/Çiftçiler)	Orta Ölçek (Sigorta Şirketleri, Finansal Kurumlar, Bağış Veren Organizasyonlar, STK'lar, Tarım Endüstrisi, Kooperatifler)	Makro Ölçek (Devlet)
Sigorta Araçları	Mülkiyet temelli garantiler, mahsul ve hayat sigortası, endeksli mülkiyet, hayvancılık ve mahsul sigortası, hava durumu finansal korumaları, ulusal sigorta programları	STK'lar ve kooperatifler için parametrik sigortalar, sigorta şirketleri için reasürans, felaket bonoları, geçici reasürans (sidecars)	Devlet risk transferi (örneğin devlet reasüransı, felaket bonosu, geçici reasürans), koşullu krediler, bölgesel felaket havuzları
Dayanışma	Kamu yardımı, insani yardım	Kamu garantileri, kurtarmalar (bailouts)	İki yanlı, çok yanlı yardımlar, AB dayanışma fonları
Tasarruf ve Krediler	Tasarruflar, mikro tasarruflar, mikro krediler, elverişli varlıklar, gıda depoları, borç verenler	Acil likit fonlar	Rezerv fonlar, afet sonrası krediler
Informel Risk Paylaşımı	Akrabalık ve diğer karşılıklı düzenlemeler, bağışlar		Bütçe programlarından diğer sapmalar

Kaynak: Linnerooth-Bayer vd., 2019.

Yukarıda kısaca bahsedildiği üzere, doğal afet öncesi ve sonrası için hem kamu kesimi hem de özel kesim tarafından alınabilecek çok çeşitli önlemler vardır. Bu önlemler için yapılacak yatırımlar bazı durumlarda fayda maliyet açısından etkin olmayabilir. Ancak doğal afet önlemlerinin yetersiz olmasında tek faktör rasyonel kararlar değildir. Felaket risklerine karşı yapılan fayda maliyet analizleri, insan yaşamının değeri, felaketin şiddetinin ölçülmesi, inşaat maliyetlerinin hesaplanması vb. birçok faktörü kapsayan tahmin ve varsayımları içerir. Bu nedenle bu tür hesaplamalarda büyük oranda belirsizlik ve değişkenlik söz konusudur. Ancak Kenny (2009), bu konuda yapılmış birçok çalışmayı referans göstererek faydaların maliyetlerden fazla olduğuna işaret etmektedir. Dolayısıyla çoğu durumda doğal afet önlemlerinin yeterince alınmaması irrasyonel kararlardan kaynaklanmaktadır. Bireyler ve firmalar irrasyonel bir şekilde doğal afet öncesi ve sonrası için eksik yatırım yapmakta ve piyasa başarısızlığına neden olmaktadır. Kamu kesimi çeşitli politik araçlar ile piyasa başarısızlıklarına müdahale edebilir. Ancak bir yandan gelir yetersizliği, teknolojik altyapı yetersizliği, idari sorunlar gibi yapısal koşullar, diğer yandan politik motivasyonlar, kamu kesiminin de bu konuda başarısız olmasına neden olmaktadır.

3.1. Piyasa Başarısızlıkları

Bireylerin afet risklerine karşı neden irrasyonel şekilde yetersiz yatırım yaptığını açıklayan çeşitli yaklaşımlar bulunmaktadır. Asimetrik bilgi, miyopluk, kolektif eylem sorunları, "tanrının eylemleri" anlayışı, davranışsal yanlılıklar gibi bazı sorunlar piyasa başarısızlıklarına neden olmaktadır. Rasyonel karar alındığı varsayımında da ahlaki tehlike problemi yine yetersiz önlem alınmasına neden olan bir piyasa başarısızlığı olarak ortaya çıkabilmektedir.

Afet öncesi alınabilecek en etkili önlemlerden biri dayanıklı binalar inşa etmektir. Ancak inşaat piyasalarında satıcılar ve alıcılar arasında büyük bir bilgi asimetrisi söz konusudur. Bireyler felakete dayanıklı binalara yatırım yapmaya istekli olsalar bile binanın afetlere karşı dayanıklılığı konusunda belirsizliklerle karşı karşıyadırlar. İnşaat bittikten sonra binanın dayanıklılığının bilinmesi güçtür. Ancak inşaat sürecindeki denetimler binanın dayanıklılığını ortaya koyabilir (Neumayer vd., 2014). Anbarcı vd. (2005), Akerlof (1970)'in bilgi asimetrisi sorununu binaların afetlere karşı dayanıklılığına uyarlar ve Gresham kanunun bir başka versiyonunun burada işlediğini belirtirler. Binalara ilişkin düzenlemeler yoksa ya da mevcut düzenlemeler etkin şekilde uygulanmıyorsa kötü binalar iyi binaları kovacaktır. Asimetrik bilgi, inşaat firması ile mühendisler ve mimarlar arasında da söz konusu olabilir. Güvenli olmayan inşaat tasarımları inşaat firmasından gizlenebilir (Kenny, 2009). Ayrıca yatırımcılar dayanıklı bina yapmak isteseler bile, afetin şiddetini ve etkisini tam olarak bilemezler. Güvenli tarafta olmak için beklenen en yüksek tehlike seviyesinden daha fazla yatırım yapmaları gerekir ki, bu da yatırımları olması gerekenden daha pahalı hale getirir (Neumayer vd., 2014).

Doğal afet hasarlarını önleme ve azaltma faaliyetleri kolektif eylemi gerektirebilir. Risk analizleri, erken alarm sistemleri, ağaçlandırma, setler ve barajlar inşa etmek vb. altyapıya ilişkin hazırlıkların yapılması için bireysel olarak değil topluluk olarak harekete geçmek gerekir. Ancak bu tür önlemler kamu malı oldukları için ortak havuz problemi ortaya çıkar. Aynı zamanda bu tür önlemlerde pozitif dışsallıkların yanı sıra negatif dışsallıklar söz konusudur. Pozitif dışsallıklar nedeniyle, bireyler, bireysel fayda ve maliyetlerine göre rasyonel bir şekilde doğal afet önlemleri için yatırım yapmamaya karar verse bile bu durum toplumsal refah açısından etkin olmayabilir. Negatif dışsallıklar ise bireysel olarak alınan önlemlerin etkisini azaltabilir/yok edebilir. Örneğin bir deprem meydana geldiğinde bir binanın depreme karşı dayanıklı olması tehlikeyi başlı başına engellemez. Depreme dayanıksız komşu bina dayanıklı binanın üzerine çökebilir.

Doğal afetlerin kontrol edilemez oluşu, insanların bunu tanrının eylemleri olarak değerlendirmesine neden olur. Hatta bazı durumlarda tanrının bir cezası olarak bile algılanabilmektedir. Praeter & Lindell (2000), bu fikir nedeniyle insanların doğal afetlere karşı alınacak önlemlerin fayda ve maliyetlerini doğru şekilde değerlendirememelerine neden olabileceğini belirtir.

Doğal afetler konusunda deneyimin azlığı ve olasılığın düşüklüğünden kaynaklanan sezgisel düşünme, sistematik önyargılar, sosyal normlar ve sosyal karşılaştırmalar, öğrenme hataları gibi davranışsal başarısızlıklar da yetersiz önlem alınmasını açıklayabilir. Davranışsal teori, doğal afetler gibi gerçekleşme olasılığı düşük ancak büyük risk içeren olaylarda sezgisel düşünme biçiminin yaygın olduğunu kabul eder. Sezgisel düşünen bireyler, fayda maliyet analizini optimal bir şekilde yapamamaktadırlar. Afet öncesi binaların güçlendirilmesi için ya da herhangi bir hasar olasılığına karşı sigorta yaptırmak için yapılacak harcamaların faydası kısa vadede ortaya çıkmaz. Bu nedenle bireyler bu tür yatırımları boşuna yapılan harcamalar olarak değerlendirebilmektedirler (Kunreuther, Meyer & Michel-Kerjan, 2013; Kuntreuther & Pauly, 2014; Kunreuther, 2015; 2016, Altun, 2018). Doğal afetin belirsizliği de, cari döneme, gelecek dönemden daha fazla ağırlık verme, belirsizlik durumunda seçim yapmayı erteleme, risk olasılıklarını aşırı iyimser şekilde değerlendirme, statüko yanlılığı gibi sistematik önyargılara yol açmaktadır. Sistematik önyargılar bireylerin risklerin boyutu ve olasılıklarını, önlemlerin fayda ve maliyetini doğru değerlendirememelerine neden olmaktadır (Kahneman & Tversky, 1979; Laibson, 1997; Johnson vd., 1993; Tversky & Shafir, 1992; Kahneman, 2003). Sosyal normlar ve sosyal karşılaştırmalar, kişilerin rasyonel fayda maliyet analizine göre değil, kalabalığın aklına göre önlem alıp almama kararı vermelerine neden olmaktadır. Başkalarının önlem almadığını gören bireyler bundan etkilenmektedir. Ayrıca bir doğal afet sonrası kendi refah düzeylerindeki kayıpları başkalarının kayıpları ile karşılaştıran bireyler, büyük bir hasara maruz kalmış olsalar bile öznel iyi oluşlarını daha yüksek düzeyde değerlendirebilmektedirler (Friedl, Lima de Miranda & Schmidt, 2014). Afetlerin nadir gerçekleşen olaylar olması da yetersiz deneyime neden olmaktadır (Kunreuther vd., 2013). Deneyimin yetersizliği, ne gibi önlemler alınması gerektiği konusunda bir belirsizlik yaratmaktadır.

Doğal afetler konusunda devletin birçok açık koşullu yükümlülüğü bulunur. Bununla birlikte devletin açık bir şekilde yükümlülüğü altında olmayan, kamuoyunun beklentileri neticesinde ortaya çıkan örtük yükümlülükleri de söz konusudur. Evleri, işyerleri yıkılan, hasar gören, gelir kaynakları yok olan vatandaşlar eski refah düzeylerine dönebilmek için devletten yardım beklerler. Solidarist bir anlayışa göre devletin vatandaşlarının kayıplarını tazmin etmek için eylemde bulunması doğaldır. Bununla birlikte afet risklerini azaltmak için yatırım yapma kapasitesine sahip olan (önlemlerin karşılanabilirliği sorunu ile yüzleşmeyen) bireylerin bu yardımlara güvenmesi ahlaki tehlikenin özel bir durumuna yol açar. Bir doğal afet gerçekleştiğinde devletin yardım yapacağını uman bireyler doğal afet önlemleri için yeterince yatırım yapmayabilirler. Bu tür bir problem Buchanan (1975) ve Kunreuther vd. (2013) tarafından yardım ikilemi (samaritan dilemma), Raschky & Weck-Hanneman (2007) tarafından yardım tehlikesi (charity hazard) olarak adlandırılır. Bu durum hem kamu kesimine çok fazla yük getirerek mali riskler yaratabilir hem de kaynakların fayda maliyet açısından daha etkin olan afet önlemleri yerine hasarların tazmini için kullanılması nedeniyle uzun vadede sosyal refahın azalmasına yol açar.

Yukarıda çoğunlukla birey örnekleri üzerinden verilen asimetrik bilgi, miyopluk, kolektif eylemsizlik, davranışsal yanlılıklar ve ahlaki tehlike gibi piyasa başarısızlıklarına yol açan sorunlar, iş çevresi, yerel yönetimler ve ulusal yönetimler için de geçerlidir. Örneğin uzun vadeli bir stratejiye göre, tarım ve sanayi sektöründe faaliyet gösteren firmaların faaliyetlerini riskli bölgelerden taşımaları gereklidir. Ancak firmalar kısa vadeli riskleri ve getirileri göz önünde bulundurarak riskli bölgelerde kalmaya devam ederler (Perrow, 2007: 32). Kuraklık, sel gibi doğal afet risklerine karşı hava tahmin raporlarının, risk tahmin araştırmalarının geliştirilmesi, risk haritalarının çıkarılması gerekir. Yangın riskine karşı erken alarm sistemleri oluşturulabilir. Tek bir firma için yüksek maliyet gerektiren bu tür araştırmalar ve kurulan sistemler, ilgili tüm sektör açısından uygun maliyetli olabilir. Aynı şekilde birkaç bölgeyi birden ilgilendiren doğal afet tehlikeleri için yerel yönetimlerin ortak önlemler alması maliyet etkin olabilir. Ancak kolektif eylem sorunları bu tür faaliyetlerin yapılmasını engelleyebilir. Bireyler rasyonel bir karar ile afet risklerine karşı sigorta poliçesi yaptırmak isteseler bile sigorta arzı yeterli olmayabilir. Sigorta şirketleri afet riskine tabi olmayan kişileri sigortalayamayacakları için uygun bir risk havuzu oluşturamayabilirler. Asimetrik bilgi problemi ters seçim ve ahlaki tehlike problemine yol açarak piyasa etkinliğini bozabilir. Bu konuda prim farklılaştırması yapılabilir (Rothschild & Stiglitz, 1976). Düşük riskliler ve afetlere karşı önlem alanlar için düşük primler uygulanabilir. Ancak öncelikle risklerin tespiti gereklidir ki bu da maliyetli tekniklerin kullanıldığı gelişmiş tahmin modellerinin geliştirilmesini gerektirir. Sigorta şirketleri pazar küçük olduğunda, sigorta/reasürans sağlamak için yüksek sabit maliyetli teknolojilere yatırım yapmayı karlı bulmayabilir (Auffret, 2003). Aynı şekilde sigorta şirketlerinin tüketicilerin aldığı önlemleri değerlendirecek teknikler kullanması maliyet etkin olmayabilir. Davranışsal başarısızlıklar sigorta şirketi yöneticileri için de geçerli olabilir. Riskler aşırı ya da eksik algılanabilir (Kunreuther, 2015). Gelişmekte olan birçok ülkede, bir felaketin ardından ek dış yardımın geleceği varsayılır. Bu tür bir yaklaşım zayıf planlamaya neden olabilir (Benson & Clay, 2004: 39). Afet hasarlarını azaltma/önleme ya da riski yaymak için ülkenin kaynaklarının kullanılmaması, bunun yerine afet sonrası dış yardımlara başvurulması rasyonel bir karar gibi görünebilir. Bununla birlikte afet sonrasında yapılacak uluslararası yardımın miktarı ve bunun ne kadarının hibe ne kadarın kredi şeklinde verileceği çoğunlukla önceden garanti altına alınmaz. Bu belirsizlik ve muhtemel borç stoku artışı kamu maliyesini olumsuz yönde etkileyebilir. Yerel yönetimler afet sonrası ulusal yönetimin yardım yapacağını bildikleri için yeterince önlem almayabilirler.

Tüm bu sorunlar doğal afet risklerinin önlenmesi/azaltılması ve yayılması konusunda yürütülecek faaliyetler için kamusal eyleme duyulan ihtiyacı gösterir.

3.2. Kamusal Müdahaleler

Doğal afetlere karşı alınan önlemlerin yetersizliğine neden olan asimetrik bilgi, miyop davranışlar, ahlaki tehlike, kolektif eylemsizlik, davranışsal yanlılıklar gibi

sorunların çözümü için kamu kesiminin üstlenebileceği önemli roller bulunmaktadır. Devlet, kolektif eylem ve bilgi asimetrisi sorununa karşı, doğal afetlere dayanıklı bina standartları güçlendirilip sıkı bir şekilde uygulayabilir. Miyop davranışlar için yüksek riskli bölgelere yerleşimi ve bu bölgelerdeki üretim faaliyetlerini caydırabilir, yasaklayabilir. Baraj inşaatları, sel uyarı sistemleri, yangın söndürme tesisleri vb. uygulamalar ile kamu malı sağlanabilir (Kenny, 2009; Carsell vd., 2004; Neumayer vd., 2014). Afet tehlikesi bulunan bölgelerde konut ve endüstriyel alanların inşa edilmesi önlenemediğinde sübvansiyonlar ve diğer teşvikler aracılığıyla binalar ve yerleşim yerleri güçlendirilebilir (Dayton-Johnson, 2004: 31).

Anbarcı vd. (2005), 1960-2002 yılları arasında dünya çapında meydana gelen 269 büyük depremi analiz ettiği çalışmasında kolektif eylemsizliğin, depremlerin yarattığı fiili zararlar üzerinde doğrudan rol oynadığı sonucuna ulaşmışlardır. Bina kodlarının oluşturulması, uygulanması, profesyonel lisanslama, depreme dayanıklı imar ve yapıların güçlendirilmesi gibi kolektif eylemlerin depremlerin yıkıcı etkisini önemli ölçüde azaltabileceğini ortaya koymuşlardır. Bununla birlikte gelişmekte olan ülkelerde binaları güçlendirecek mühendislik çözümler yüksek maliyetli olabilir. Ancak bu tür ülkelerde düşük maliyetli tekniklerin geliştirilmesi ve yaygınlaştırılması, bina denetimlerinde takdir yetkisinin sınırlandırılması ve şeffaf düzenlemelerin hayata geçirilmesi, kamu binaları için düzenleyici uygulamaların kalitesinin artırılması, devlet sözleşmelerine afet risk azaltma önlemlerinin alınmasına ilişkin maddeler konulması gibi basit uygulamaların yüksek getiri sağlaması mümkündür (Kenny, 2009). Ancak Spence (2004), bina kodları ve mevcut bina stoğunun iyileştirilmesine yönelik düzenlemeler karmaşık olduğunda ve/veya pratikte uyulmadığında etkisinin olmayacağını belirtmektedir. Bu nedenle kamu kesimi çok kapsamlı bir mevzuat oluşturmak yerine basit ancak sıkı bir şekilde denetlenen düzenlemeleri hayata geçirebilir.

Perrow, doğal afet riskleri ile mücadele için yapılacak regülasyonların yerel insiyatiflerin güvenilir olmaması nedeniyle merkezi düzeyde yapılmasını önerir. Asimetrik bilgiden dolayı yerel makamların (yasa koyucular, şehir yetkilileri, planlama kurulları) mülkiyet çıkarlarına açık kapı bırakabileceklerini, katı standartlar olsa bile, bina içi şartlarda kamuya açıklanmayan feragatlar sağlayabileceklerini belirtir. Bu nedenle bina ve arazi kullanımı standartlarının ulusal düzeyde yüksek olması gerektiğini vurgular (2007: 35-37).

Doğal afet önlemleri konusundaki asimetrik bilginin yanı sıra, doğal afet risklerinin kamuoyunda yeterince bilinmemesi yani eksik bilgi de piyasa başarısızlığına neden olan faktörlerden biridir. Pelling vd. (2002), tehlikelerin, risklerin ve azaltma stratejilerinin kamuoyunda bilinirliğinin artmasının, bu sorunların ele alınmasında anahtar faktör olduğunu belirtirler. Bu görüşü destekleyen bir bulgu Poussin vd. (2014) tarafından ortaya konulmuştur. Fransa'da hanehalklarının sel tehlikelerine karşı risk azaltma faaliyetlerini etkileyen faktörleri inceledikleri çalışmalarında, kamu tarafından alınan önlemlerin ve sigorta şirketleri tarafından verilen teşviklerin bireysel korunma

eylemlerini pozitif etkilediğini tespit etmişlerdir. Bunun nedenini önlemlere ilişkin bilgilere erişime bağlamışlardır. Dolayısıyla özel sektörün doğal afet riskleri konusundaki farkındalıklarının artırılması ve uygun risk yönetim araçlarını benimsemesi için kamusal destek sağlanmalıdır. Bu tür bilgiler miyop davranışları da azaltabilme potansiyeline sahiptir. Benson & Clay (2004: 28,40), bir hükümetin riskleri yönetmek için güvenlik açığının çeşitli yönlerini kapsayan entegre bir risk stratejisi geliştirmesi için risk haritalama, izleme, değerlendirme ve yayma konusunda yeterince yatırım yapılmasını, bilginin kolayca, anlaşılır ve kullanılabilir şekilde aktarılmasını önerirler. Devlet ayrıca sübvansiyonlar ve vergi indirimlerini kullanarak afet öncesi koruma önlemlerinin alınması için müdahalelerde bulunabilir.

ABD Federal Acil Durum Yönetimi Ajansı'na (FEMA) göre, afet hasarlarını azaltmaya yönelik afet öncesi önlemler için yapılan harcamalar, afet sonrası hasar tazmini için harcanacak olanların yarısı kadardır (Dayton-Johnson, 2004: 31). Bununla birlikte riski yaymak için alınacak önlemler de afetlerin yol açtığı ekonomik kayıpları azaltarak ve kamu maliyesi üzerindeki baskıyı azaltarak sosyal refaha katkı sağlayabilir. Kamu kesimi, afet fonları oluşturarak, özel sigorta piyasalarını destekleyerek, kamu-özel sigortaları oluşturarak riskin yayılmasını sağlayabilir. Benson & Clay (2004: 53), bu araçların potansiyel faydalarını aşağıdaki şekilde belirtirler:

- Mali denge ve dış denge üzerindeki baskıyı azaltır.

- Afetlerin finanse edilmesinde kamu kontrolünü artırır.

- Yardım ve yeniden yapılanma yönetiminde kamu kesimi önceliklerini belirlerken daha fazla kapasiteye sahip olur.

- Yardımlar ve fonların kullanımında şeffaflık artar.

- Belirli indirimler teklif edilerek risk azaltma eylemleri teşvik edilir.

Afet hasarlarını tazmin etmek için afet fonları oluşturan çeşitli ülkeler vardır. Bu ülkelerde, bu fonların finansman mekanizması ve işlevleri farklılık göstermektedir[2].

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[2] Örneğin Meksika'da 1996 yılında kurulan FONDEN isimli fon vergi mükellefleri tarafından finanse edilmekte ve afet sonrası harcamalar için kullanılmaktadır. 1994 yılında Porto Riko'da mülkiyet sigortası primlerinin bir kısmı vergi indirimi de yapılarak afet zararları karşılığı olarak ayrılmaya başlanmıştır. Kolombiya'da federal hükümet ve bölge yönetimleri bütçelerinin bir kısmını doğal afet fonuna ödemekle yükümlüdür. 1999 yılında Kosta Rika ve Nikaragua'da kurumsal afet yönetim sistemi reformu kapsamında ulusal afet fonu yaratılmıştır. Avustralya'da Doğal Afet Yardım ve Kurtarma Düzenlemeleri (National Disaster Relief and Recovery Arrangement-NDRRA) kurulmuştur. Bu fon afet öncesi altyapının iyileştirilmesi için azaltma ve sonrası zararların tazmini için harcamalar yapmaktadır. NDRRA finansman düzenlemeleri kapsamında, Avustralya Hükümeti, eyaletlere yardım ve kurtarma yardımı için uygun harcamalar konusunda yüzde 75'e kadar mali yardım sağlamaktadır. ABD'de Florida Kasırgası Felaket Fonu (Florida Hurricane Catastrophe Fund-FHCF) vardır. Özel sigorta şirketlerinin gelecekteki kasırga kayıpları için düşük maliyetli reasürans sağlamaları amacıyla FHCF'ye katılmaları gerekmektedir. Avusturya'da ulusal bütçeden, sermaye gelirlerinden ve kurumlar vergisinden finanse edilen felaket fonu (Katastrophen Fonds) vardır. Fon öncelikle risk önleme faaliyetlerini finanse etmekle birlikte afet hasarlarını tazmin etmek için de kullanılır. Türkiye'de de 1959 yılında çıkarılan bir

Doğal afet sigortalarında hem talepten hem de arzdan kaynaklanan piyasa başarısızlıkları ve davranışsal başarısızlıklar nedeni ile özel sigorta kapsamı eksik kalmaktadır. Bir yandan özel sigortacılık piyasasına yönelik teşvikler ve regülasyonlar ile diğer yandan kamu-özel ortaklıkları ile bu başarısızlıkların düzeltilebilmesi imkanı bulunmaktadır. Auffret (2003), Karayip bölgesi üzerine yaptığı analizden yola çıkarak piyasa başarısızlıkları için aşağıdaki maddelerde belirtilen bazı kamu politikaları önerir. Bu öneriler doğal afet sigortalarında ortaya çıkan aksaklıklar için yapılmış olmakla birlikte, birçoğu doğal afet risklerini azaltma/önleme eylemlerinin yetersizliği için de kullanışlı olabilir. Bunlar:

- Bilimsel araştırmayı teşvik etmek, mevcut teknolojiyi geliştirmek, sonuçların risk yönetimi kurumlarına ve nihai kullanıcılara yayılmasını sağlamak

- Arazi kullanım düzenlemelerinin ve bina kodlarının olmadığı yerlerde bunları oluşturulmak, mevcut olduğu yerlerde uygulamak

- Doğal afet riskine karşı doğru bilgi sağlamaya yönelik bilgi kampanyaları düzenlenmek, afet sigortası alımı için vergi indirimi sağlamak, risk azaltma önlemlerine yatırım yapılmasını teşvik etmek

- Yabancı sigorta şirketleri ile ilgili kısıtlamaları ortadan kaldırılmak, yerel sermaye piyasalarını geliştirmek

Birçok ülkede kamu-özel sektör işbirliğine rastlanılmaktadır. Ma & Jiang (2018), Çin örneğinde yaptıkları analizde doğal afet riskini azaltmada ve paylaşmada kamu-özel sektör işbirliğinin pareto-etkin olduğu sonucuna varmışlardır. Kamu-özel ortaklıklarının çeşitli avantajları vardır. Örneğin sigorta şirketlerine devlet reasürans sunabilir. Büyük çaplı yükümlülük ortaya çıktığında garantör rolü üstlenebilir. Riske dayalı primler talep edebilir. Resmi standartlar geliştirip düzenlemeler yapabilir. Eğitim ve uygulamalı araştırma programları, aktüeryal hesaplamaları destekleyecek kamu veri tabanları ve risk modelleri sunabilir. Ölçek ekonomisinden ve sermayeye daha ucuz erişimden dolayı maliyetleri düşürebilir (Noy vd., 2017).

Dünyada doğal afetler için özel sigortacılık sektörünü sübvanse eden, kamu-özel sigortalarını uygulayan ya da özel sigorta şirketlerine reasürans sağlayan pek çok ülke bulunmaktadır. Türkiye'de DASK, Tarsim, ABD'de Ulusal Sel Sigortası Programı (National Flood Insurance Programe-NFIP), Teksas Federal Mülkiyet Birliği Sigortası (Catastrophe Property Insurance Association)[3], Florida Rüzgar Fırtınası Sigortacıları Derneği (Florida Winstrom Underwriting Association-FWUA), Kaliforniya Deprem Otoritesi (California Earthquake Authority-CEA), Meksika'daki Doğal Afetlere Karşı Yardım Bileşeni (CADENA), İspanya'da sigorta şirketlerini tazmin etmek için kurulan Sigorta Tazminatı Konsorsiyumu (Consorcio de Compensacion de Seguros-CCS), Yeni

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kanun ile oluşturulan afet fonu bulunmaktadır. Bkz. Linnerooth-Bayer & Mechler (2006); Auffret (2003); Australian Government Department of Home Affairs (2018); McAneney vd. (2016); Hanger vd. (2018), R.G. (1959), Tarih: 25/5/1959, Sayı: 10213.

[3] 1997 yılında programın adı Texas Winstrom Sigorta Birliği (TWIA) olarak değiştirilmiştir.

Zelanda'da Deprem Komisyonu (The Earthquake Commission-EQC), Japonya'da Deprem Reasürans (JER) programı, Fransa'da Merkezi Sigorta Fonu (French Caisse Centrale de Reasurrance-CCR), Romanya'da zorunlu konut sigortası sistemi, Hindistan'da Tarım Sigorta Şirketi (AIC) bunlar arasında sayılabilir.

3.3. Kamu Başarısızlıkları

Kamu kesimi, yukarıda sayıldığı üzere, caydırıcı/yasaklayıcı düzenlemeler yaparak, standartlar belirleyerek, kamu malı sağlayarak, bilgi eksikliğini gidererek, afet fonları oluşturarak, kamu/özel sektör sigortacılığı geliştirerek piyasa başarısızlıklarına müdahale edebilir. Ancak gelir yetersizliği, kurumsal altyapı yetersizliği ve politik faktörler, kamu kesiminin bu konuda başarısız olmasına neden olmaktadır.

Örneğin arazi kullanımı planlaması, bina kodları gibi düzenlemelerin yapılması ve uygulanması, yoksulluk ve idari verimsizlikler nedeniyle sorunlu olabilmektedir (Pelling vd., 2002). Kenny (2009), gelişmekte olan ülkelerde bina düzenlemelerinin yolsuzluktan ya da sınırlı kapasiteden dolayı yeterince uygulanamadığını, benzer nedenlerle kamu binalarının da düşük kaliteli inşa edildiğini söylemektedir. Yapının denetimini yapan görevli, yasalara uygun olmayan uygulamaları tam anlamıyla denetlemeyebilir. Rüşvet ve yolsuzluklar nedeniyle uygun olmayan izinler verebilir. Sorumluluğun net bir şekilde tanımlanmaması da etkili denetimin önündeki engellerden biridir. Denetim görevlilerinin afetin gerçekleştiği gelecek bir dönemde başka bir pozisyonda görev yapıyor olabilir. Bu kişiler inşaat firmalarını kendisini aldatmakla suçlayabilir. Sonuç olarak bu kişilerin ciddi ceza riski ile karşı karşıya gelmemeleri muhtemeldir (Kenny, 2009). Ayrıca yerel yönetimlerde binalara ve imara ilişkin kurallarının çıkar gruplarının taleplerine göre tasarlanması ya da denetimlerin gevşek tutulması ihtimali bulunmaktadır. Gülkan (2001), Türkiye'de, belediyelerde binaların tasarım kontrollerini yapacak uygun nitelikte personelin olmaması, prosedürlerin karmaşık olması, sorumluluk sisteminin sürekli olmaması, ihmalkarlığı bulunan inşaatçıları kovuşturmak için yeterli sistemin olmaması vb. faktörlerin Türkiye'de etkin bina kalite güvence sisteminin oluşmamasına neden olduğunu belirtmektedir. Kahn (2005), ekonomik olarak daha gelişmiş ve yüksek kaliteli kurumlara sahip olan demokratik ülkelerde doğal afetler sonucu ölüm oranlarının daha düşük olduğu sonucundan yola çıkmıştır ve hükümetlerin yozlaşması, yolsuzluk gibi faktörlerin, altyapının, bina kodlarına ilişkin uygulamaların, imar düzenlemelerinin kalitesini etkileyebileceğine işaret etmektedir.

Doğal afet risklerini yaymak ve belirli koşullarda azaltmak için fonlar ve sigortacılık sektöründeki düzenlemeler teorik olarak pek çok fayda sağlamaktadır. Bununla birlikte bu konuda piyasa başarısızlıklarını düzeltecek kamusal müdahaleler her zaman başarılı sonuçlar doğurmaz. Örneğin doğal afet fonları, acil ihtiyaçların karşılanması için işlevsel olabilmekle birlikte bu fonlar oldukça yetersiz kaynağa sahiptir. Pelling vd. (2002), uluslararası mali rezervlerde tutulan kalıcı bir afet fonunun

oluşturulmasının ciddi mali kısıtlamaları olan ülkeler için gerçekçi olmadığını belirtir. Ayrıca fonlar afet önlemleri için değil, büyük oranda afet sonrası yardımlar için kullanılmaktadır. Bu durum bir yandan yardım tehlikesi problemine yol açarken, diğer yandan yardımların politik saiklere göre dağıtılmasına ya da yolsuzluklara açık kapı bırakmaktadır.

Afet sigortaları doğrudan ve kısmen dolaylı afet zararlarının azaltılmasında daha etkili bir finansal araç olabilir. Ancak özel sigortacılık sektörüne sağlanan sübvansiyonlar ya da kamu-özel sektör işbirlikleri talep ve arz yetersizliğini çözememekte ve çeşitli etkinsizliklere yol açmaktadır. Kamu tarafından aşırı sübvanse edilen programlar ya da kamu-özel ortaklıklarında primler risklerle orantısız olmaktadır. Özel sektör sigorta talep edenlerin risk azaltıcı önlem alıp almamalarına göre fiyat farklılaştırması yapmamakta ve ahlaki tehlike problemine neden olabilmektedir. Aynı zamanda bu durum düşük risklilerin yüksek risklileri sübvanse etmesi anlamına gelmektedir. Üstelik afet sigorta havuzlarında toplanan primler yetersiz olduğunda hasarlar yeterince tazmin edilememektedir. Belirli risk durumları için kamu garantisi verildiğinde ise kamu maliyesine ek yük getirmektedir. Kamu tarafından sağlanan reasüranslar riski çeşitlendirmek yerine ülke içinde yoğunlaştırmaktadır.

Bu gibi gelire, kurumsal altyapıya ilişkin sorunlar ve yolsuzluk gibi faktörlerin dışında bir de afet riskini azaltıcı, yayıcı önlemlerin önünde politik motivasyonlardan kaynaklanan engeller bulunmaktadır. Politikacıların kısa vadede hem özel sektöre hem de bütçeye yük getirecek, faydası ise uzun vadede ortaya çıkacak önlemleri benimsemesi, bu konuda politika geliştirmesi, toplumsal fayda-maliyet açısından daha etkin olabilir. Ancak Neumayer vd. (2014), politikacıların uzun vadede etkili olacak önlemler yerine kısa vadede politik desteklerini artıracak olan afet yardımlarını tercih edeceklerini söylemektedirler. Bunun nedeni para ve maliye politikalarında "zaman tutarsızlığı" (Kyland & Prescott, 1977; Alesina & Tabellini, 1990; Persson & Svensson, 1989) sorunu olarak bilinen hükümetlerin kısa görüşlülüğü sorunudur. Politik ekonomi literatüründe, seçmenlerin asimetrik bilgi nedeniyle miyop davranışlar sergilediğini, başka bir ifade ile faydasını kısa vadede görecekleri politikalara daha fazla değer verdiğini gösteren modeller bulunmaktadır (Bkz. Buchanan & Tullock, 1962; Rogoff, 1990: 21-36). Politikacıların miyop davranışlarının nedeni ise bilgi eksikliğinden değil, tam tersi uygulayacakları politikaların etkisini tam olarak bilmelerinden kaynaklanmaktadır. Politikacılar seçimlerde kendilerine en çok oy getirecek olan politikaları tercih etmektedirler. Doğal afet politikaları için de benzer tercihler söz konusudur. Bu nedenle seçmenler eğer bir afet gerçekleştikten sonra afet yardımı yapan politikacıları oy vererek ödüllendiriyorsa, afet gerçekleşmeden önce önlem alan ancak seçmenlerin bütçesine ek yük getiren politikacıları cezalandırıyor ise hükümetler afet öncesinde önlem almak yerine sonrasında yardım yapmayı tercih edeceklerdir. Seçmenlerin miyop olduğu ya da birtakım davranışsal yanlılıklara sahip oldukları, örneğin hiperbolik indirgeme (Hiperbolik indirgeme konusunda Bkz. Laibson, 1997: 443-478) yaptıkları varsayımında, politikacılar afet risklerini azaltıcı, yayıcı yatırımlar

yapmak ya da düzenlemeleri hayata geçirmek yerine afet yardımı yapmayı tercih edeceklerdir.

Neumayer vd. (2014), kamu kesiminin doğal afetlere karşı hasarı önleme ve/veya azaltma faaliyetleri için yatırım yapma davranışını doğal afet eğiliminin yüksekliği (afetlerin ortaya çıkma olasılığı ve şiddeti) ile ilişkilendirmektedir. Vergi mükelleflerinin, hükümetin uyguladığı maliyetli önleme ve azaltma önlemlerini nasıl algıladığı önemlidir. Bu tür yatırımların gereksiz ve fazla maliyetli, israf olduğunu düşündüklerinde hükümetlere olan politik destekleri azalabilmektedir. Vatandaşların ve çıkar gruplarının desteklerini kaybetmek istemeyen politikacılar bu yatırımları yetersiz yapabilirler. Doğal afet tehlikeleri ile daha sık karşılaşılan ülkelerde ise rasyonel aktörlerin, felaket riskini önleme ve azaltma faaliyetleri için daha fazla yatırım yapma teşvikleri vardır. Çünkü bu tür yatırımların politik maliyeti düşüktür. Bununla birlikte yüksek afet eğilimi olan ülkelerde bu tür yatırımların doğal afet hasarını tam olarak önleyebilmesi mümkün değildir. Küçük çaplı hasarlar kaçınılmazdır. Ayrıca bu tür ülkelerde şiddetli bir doğal afet yaşanması olasılığı yüksektir. Böyle bir durumda afet hazırlıklarının kapasitesi yetersiz kalabilir ve büyük hasarlar ortaya çıkabilir.

Healy & Malhotra (2009)'a göre vatandaşlar afet sonrası harcamalara, afet öncesi hazırlıklar için yapılan harcamalardan daha fazla önem atfetmektedir. Bunun olası nedenlerini aşağıdaki şekilde maddelendirmişlerdir:

- **Kolektiflik:** Afet sonrası harcamalar çoğunlukla doğrudan ödemelerdir. Hazırlık çalışmaları ise çoğunlukla kamu mallarıdır. Seçmenler özel mallara kamu malından daha fazla önem verebilirler.

- **Gözlemlenebilirlik ve Medya:** Bir afet yaşanmadan önce hazırlık harcamalarının faydasını gözlemlemek zordur. Afet sonrası yardımlar ise belirgindir ve faydası hemen gözlemlenebilir. Ayrıca medyanın afet öncesi hazırlık çalışmalarına çok fazla yer vermemesi, afet sonrası yardım çalışmalarını ise dramatik bir şekilde hikâyeleştirmesi politikacıların tutumunu etkileyebilir. Medyada daha fazla görünür olmak isteyen politikacılar yardımlara daha fazla önem verebilir.

- **Karşılıklı Hesaplama:** Vatandaşların afet öncesi hazırlık çalışmaların etkisini hesaplaması zordur. Yardımların etkisi ise kolayca hesaplanabilir.

- **Miyopluk:** Vatandaşlar uzun vadede faydası ortaya çıkacak ancak kısa vadede maliyet getirecek hazırlık harcamalarını tercih etmeyebilirler.

Ampirik literatür de, hükümetlerin afet risklerini azaltma ve hasarları önleme yatırımları yapma konusunda caydırıcı teşviklere sahip olduğuna ve afet yardımı yapmayı tercih ettiklerine işaret etmektedir. Achen & Bartels (2004), seçmenlerin kuraklık, sel hatta köpekbalığı saldırıları için görevdeki hükümetleri cezalandırdıklarını söylemektedir. Seçmenler, olayın sorumluluğunu hükümete atfetmekte ve demogojik söylemlerden etkilenerek başka partilere oy vermektedir. Bu bulgudan yola çıkarak, hükümetlerin doğal afetlere karşı önlem almaya çalışacağı düşünülebilir. Ancak

hükümetler sorumluluklarını yerine getirmediği için değil, kontrollerinde olmayan doğa olayları nedeniyle cezalandırılmaktadır. Dolayısıyla yazarların da belirttiği üzere seçmenlerin geçmişe dayalı bilgiler ile rasyonel seçime dayalı oy vermemesi, demokratik hesap verebilirlik mekanizmasının işlemediğini göstermektedir. Bu durumda politik çıkar motivasyonu doğal afetlere karşı oluşturulacak politikaları yönlendirmektedir. Gasper & Reeves (2011), seçmenlerin ABD'de şiddetli hava koşullarından kaynaklanan felaketlerin tazmini için politikacıları sorumlu tuttuğu sonucuna ulaşmışlardır. Seçmenler hem yerel hem de ulusal yönetimi eyleme geçmediği takdirde seçimlerde cezalandırmakta, yardım yapan politikacıları ise ödüllendirmektedir. Gasper & Reeves (2011)'in elde ettiği bulgular bunun hem yerel hem de ulusal düzeyde görevdeki politikacılar için geçerli olduğunu göstermektedir. Healy & Malhotra (2008; 2009), ABD'de seçmenlerin görevdeki partiyi afet yardımı harcamaları için oyları ile ödüllendirdiklerini ancak afet öncesi yatırımlar için ise ödüllendirmediklerini aksine bu yatırımlar için harcama yapmadıklarında ödüllendirdiği bulgusuna ulaşmışlardır. Yüksek riskli bölgelerde yerleşimin ya da ticari faaliyetlerin yasaklanması, bina standartları gibi uygulamalar, bireyler tarafından ek bir yük olarak algılanacağı için, politikacılar bu tür politikaları tercih etmemektedir. Bu politik teşvikler, hükümetlerin felakete hazırlık amacıyla yetersiz yatırım yapmasına neden olmaktadır. Yazarlar ayrıca hazırlık için harcanan 1 doların gelecekteki zararı hafifletmek için harcanacak olan 15 dolara eşit olduğunu[4] tahmin etmişlerdir. Bu durum önemli sosyal refah kayıplarına neden olmaktadır. Anbarcı vd. (2005), 1999 depreminin ardından Türkiye'de parlamentonun mevcut bina kodlarını uygulama ve sağlam olmayan binaları güçlendirme gibi tedbirlerin, vergi mükelleflerinin imkanlarının ötesinde olduğuna karar verdiğini ve bu tür önlemlerin yerine deprem sigortası programı uygulamaya karar verdiğini belirtmektedir. Afet yardımları da politik motivasyonlara göre dağıtılabilmektedir. Garrett & Sobel (2003), ABD'de 1991-1999 döneminde FEMA afet yardımı ödemelerinin neredeyse yarısının ihtiyaçtan ziyade politik düşüncelere göre yapıldığı sonucuna ulaşmıştır. Bulgularına göre başkan için siyasi olarak daha önemli olan eyaletler daha fazla afet bölgesi olarak ilan edilmekte, FEMA gözetim kurullarında daha fazla kongre temsilcisi olan eyaletler daha fazla afet yardımı almaktadır.

Afet riskini yaymak için sigortacılık sektörüne yönelik düzenlemeler de politik motivasyonlara göre yapılabilmektedir. Kamu sektörü hem özel sigorta şirketlerine yaptığı aşırı sübvansiyonlar aracılığıyla hem de kamu-özel sigorta programlarında riskten bağımsız şekilde primleri düşük tutmaya çalışabilmektedir. Primlerin düşük olması yüksek riskli ancak düşük gelirli bireyler açısından karşılanabilirlik problemini çözebilir ve bir sosyal politika olarak düşünülebilir. Ancak primlerin tüm gelir gruplarında riskleri yansıtmaması, bir yandan piyasada etkinsizliklere yol açmakta, diğer yandan yüksek gelirli kişilere doğru kaynak transferine yol açabilmektedir.

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[4] Healy (2008)'de önleme harcamaları için yapılan harcamaların tahliye için yapılan 10 dolarlık harcamadan daha değerli olduğu sonucuna ulaşılmıştır.

Kunreuther (2016), karşılanabilirlik problemini çözmenin en etkin yolunun, düşük gelirliler için genel vergilerden karşılanan sübvansiyonlar olduğunu söylemektedir. Bununla birlikte politikacılar, politik kaygılarla hareket ederek, seçmenlere yük getirmeyecek şekilde, tüm gelir grupları için primleri düşük tutmaya çalışabilmektedir.

Afet yardımları, politikacıların yeniden seçilme şansını artırabilir. Düşük primli sigorta düzenlemelerinin politik bir maliyeti olmayabilir. Ancak bu tür uygulamalar kaynakların etkinsiz dağılımından dolayı sosyal refaha zarar verir. Üstelik bu uygulamalar daha önceki bölümlerde belirtilen ahlaki tehlike ve yardım tehlikesine yol açarak piyasadaki etkinsizlikleri daha da şiddetlendirebilir. Ayrıca bir doğal afet meydana geldiğinde afet yardımları ve sigorta programlarının karşılayamadığı zarar tazminatları için mali alana ihtiyaç vardır. Yeterli mali alana sahip olmayan devletler büyük bir doğal afet meydana geldiğinde mali krizle karşı karşıya kalabilir. Jaffe ve Russell (2013), sigorta yoluyla risk paylaşımına kıyasla afet yardımlarının Pareto etkin olduğu varsayımında bile, kamu maliyesi açısından ikinci en iyi çözümlerin göz önünde bulundurulması gerektiğini belirtirler.

4. Sonuç ve Değerlendirme

Doğal afetler sonrası harcanan toplumsal kaynaklar, ülkelerin ekonomik büyüme, kalkınma, gelir dağılımında adalet gibi öncelikli hedefleri için yapacakları faaliyetlerde sapmalara neden olabilmektedir. Üstelik yeterli mali kaynak olmadığında mali riskler yaratmaktadır. Bu nedenle kamu kesimi sosyal refahı artırmak ve mali kriz risklerinden kaçınmak için doğal afet risklerinin önlenmesi/azaltılması ve riskin yayılması için müdahalelerde bulunmalıdır. Uzun vadede yapısal koşulları değiştirmek için yatırımlar yapabilir, afet politikalarını kalkınma politikalarına entegre edebilir. Kısa vadede regülasyonlar ve teşvikler aracılığıyla piyasa başarısızlıklarını çözebilir. Teorik olarak devletin elinde birçok araç bulunmakla birlikte pozitif politik-ekonomik koşullar bu konuda politika geliştirilmemesine neden olmaktadır. Politik motivasyonlardan kaynaklanan sorunların çözümü, demokratik hesap verebilirliği artıracak kurumsal mekanizmaların oluşturulmasına ve toplumun doğal afet riskleri konusundaki farkındalıklarının artmasına bağlıdır. Doğal afet tehlikelerinin boyutu ve önlemlerin etkinliği konusunda bilgi sahibi olan seçmenler, seçimsel rekabet koşullarında, politikacıları optimal politikalar geliştirme konusunda motive edebilir.

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Impact of Fiscal Decentralization on Local Autonomy in Sudan: Experience of Gadarif State

Sharif Ismail M. Bongo[1]

RESEARCH
ARTICLE

A B S T R A C T

Based on state data of the periods (1997-2012), this study aimed at evaluating the fiscal decentralization experience of Gadarif state of eastern Sudan in the context of different aspects of fiscal decentralization, namely expenditure assignment, revenue assignment, and intergovernmental transfers. To accomplish these objectives, many local fiscal indicators have been calculated, and parameters of regressions of both revenues and expenditures have been estimated. The results reveal that the experience of fiscal decentralization of the state came out with poor fiscal situations indicated by higher dependence on the federal transfers and higher vertical imbalance and consequently the failure of the state government to perform its responsibilities of delivering the basic services to its constituents. Moreover, none of both local expenditure neither local revenues respond to federal transfers, indicating the failure of these transfers to realized their objectives.

1. Introduction

Fiscal decentralization – the devolution of taxing and spending powers to lower levels of government has become an important theme in governance in many countries

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[1] Department of Economics, ORCID: 0000-0002-7824-2953, University of Gadarif, Sudan, sharifbongo25@hotmail.com

in recent years. Accordingly, restructuring of governmental functions and finances between the national and lower levels of government has entered the core of development debate. That is because "in most countries, the national government has failed to ensure regional equity, economic union, central bank independence, a stable macroeconomic environment, and local autonomy" (Shah, 2004).

Sudan was the largest country in Africa with a high level of diversification in ethnicity and resources. It ruled by central elites mostly in military fashion, controlling economic resources and political powers. These central minded elites consider the movement towards the decentralization as a threat to that legitimacy that may lead to fragmentation of political power and economic resources among different ethnic groups and regions. However, the move to the decentralization in Sudan is a result of the presser and resist to a dictatorship that causes conflicts and political instability.

The first step towards decentralization in Sudan was in 1948 when rural councils formed to hold the responsibility of delivering some services and collecting some revenues. The process of decentralization continues, and by the time, the sub-national governments have assigned more expenditures and revenues responsibilities.

The significant step for fiscal federalism in Sudan was after signing the Comprehensive Peace Agreement (CPA) between the government of Sudan and the Sudan People Liberation Movement (SPLM) in 2005. The agreement constitutes a set of institutional arrangements that should improve the federal system in Sudan. Thus, it is stated in the Wealth Sharing Protocol of the Agreement "decentralization and empowerment of all levels of government are cardinal principles of effective and fair administration of the country".

Nevertheless, the Sudanese experience of decentralization reveals the overwhelming existence of vertical and horizontal fiscal imbalance reflected in the failure of the lower levels of government to perform their assigned responsibilities in one hand and the existence of large fiscal disparities among different states of the country on the other hand.

Gadarif state is one of the 17 states of northern Sudan. It constitutes with Kassala and the Red Sea what was called the Eastern Region. The state experienced decentralization since 1995 when a republican decree issued increasing the number of states from 9 to 26 with the assignment of powers and revenues responsibilities. There are two levels of government, the state, and the local level. The number of localities reached 10 in 2008 and 12 in 2010.

In spite of that the constitution addresses the intergovernmental fiscal relations between the different levels of government, determining which taxes should be collected by which level of government and the expenditure to be carried out by different tiers of government, on one hand, the State government mandated to be responsible of much expenditure with narrow tax bases and fixed rates. On the other hand, buoyant taxes are assigned to the federal government and the state left with very low-income taxes. As a result, the vertical fiscal imbalance is expanded, reflecting the low performance of basic services delivery.

Since the implementation of the federal system, the state faced many challenges in performing its responsibilities toward its constituents. Thus, the delivering of basic services of health, education, and water need to be financed by the state government under the federal system. The increasing of the dependence of the state government on the transfers of the central government put the state and local governments on the great challenge of performing its development projects in various localities. Thus, the actual assignment of responsibilities of health and education is not clear.

This study attempts to provide policy recommendations that would help to construct broad economic development strategies for the state with the aim of evaluating the process of fiscal decentralization comprehensively in Gadarif state during the period (1997-2012). To accomplish these goals the study addresses the following questions:

i. How fiscal decentralization experience of Sudan affects the financial situations in Gadarif state?

ii. What is the causes and size of fiscal imbalance in Gadarif state?

iii. Does the current system of fiscal transfers of the country acquire its objective of horizontal equity from the viewpoint of Gadarif state?

iv. At what extent the objective of local autonomy is realized in the state.

The study is organized as follows: section two reviews the theoretical and empirical literature. Section three outlines the historical background of fiscal decentralization experience of Sudan. Section four offers the summary of socioeconomic features of Gadarif state. Section five provides the empirical findings of the study. Section six concludes.

2. Conceptual Framework

Wallace Oates developed the basic work on fiscal decentralization in 1972. The major assumption underlying his theory is that a central government, due to imperfect information, will produce a uniform level of public goods across districts. While uniform provision is appropriate for goods with national benefits, such as national defense, it may be inappropriate for goods that are local in scopes, such as school funding and health clinic construction. Uniform funding for health clinic construction, for example, may be inefficient because it ignores heterogeneous tastes and preferences across districts. Perhaps one community wants more funding for health-related activities, while another prefers the money spent on local schools. Local governments can obtain better information about preferences, costs, and other idiosyncrasies unique to their constituency, at a lower cost (Oates, 1972).

From a public expenditure standpoint, Musgrave and Musgrave (1984) assert that public goods should be produced by the level of government whose constituents benefit from that provision. If the benefit is felt nationally, the public good should be produced by the central government. If the benefit accrues at the local level, local

governments should provide the good. This is due not only to the informational advantage but also because local governments are closer to real resource costs.

In the event of a positive spillover—a situation in which one district benefits from the provision of the public goods of another district at no cost—the central government can internalize that spillover with the least amount of transaction costs (Smoke, 2001).

The substantial issue of fiscal decentralization is that of assigning responsibilities to the low levels of government. In this context, Oates (1999) argues that these responsibilities which range from the design to the implementation of various aspects of intergovernmental fiscal relations, raise several questions on the ground of which known in the literature of fiscal decentralization as the 'four basic building blocks or pillars' outlined as follows:

1. The assignment of expenditure responsibilities: what types of spending should be conducted by what levels of government?

2. The assignment of tax and revenue sources to different levels of government: what types of revenue should be raised and what tax rates should be set by what level of government? Also, which level is responsible for tax administration and the public expenditure management system?

3. Intergovernmental fiscal transfers: how should intergovernmental grants and revenue sharing be used to fill the gap between expenditures and revenues at sub-national levels and provide the right incentives to sub-national governments? The fundamental question here is how the transfers are designed?

4. Sub-national borrowing: Which level should be able to finance its spending by borrowing from domestic or external sources, private or public?

The literature of fiscal decentralization focuses on studying the impact of fiscal decentralization on different aspects: economic efficiency, services delivery, poverty, economic growth, macroeconomic stability, and factors of governance etc. (Akai and Sakata, 2002). Regarding the issue of intergovernmental fiscal transfers, the emphasis is on in one hand, assessment of its impacts on sub-national governments' incentives and equalization. On the other hand, designing an appropriate system of transfers is the main issue perused by theoretical and empirical studies.

That said, evaluating the experience of fiscal decentralization of any country should come out through the above questions. However, the key issue in decentralization is "the coordination of intergovernmental fiscal relations, which has puzzled theoreticians and practitioners in recent years. Given increased complexity in coordinating government actions when lower levels of government enjoy greater autonomy of policymaking, the key policy challenge in decentralization programs is to design and develop an appropriate system of multilevel public finances in order to provide local public services effectively and efficiently while, at the same time maintaining macroeconomic stability" (de Mello, 2000).

2.1. Expenditure Assignment

The expenditure responsibilities assignment defines who does what – which function is assigned to different government levels. There is no optimal assignment of expenditure responsibilities among different levels of government in the literature. However, the key principle in this context is what known in fiscal decentralization as the "subsidiarity principle". This principle suggests that government functions should be assigned to the level that is capable of efficiently undertaking this function. In general, this principle results in "a situation where, as far as possible, the area where a benefit of government service is felt coincides with the government boundaries at each level of government" (UNDP, 2005: 3).

The theoretical framework in this context generates several predictions. In particular: decentralization of expenditure responsibilities improves efficiency especially in countries with inter-regional heterogeneity of preference for public goods. Moreover, "the benefits of expenditures decentralization is higher the more local revenues are independents, and the better quality of governance at the local level is" (UNDP, 2005: 3). However, the subsidiarity principle suggests that three types of functions are the best performing by central government:

1- Provision of public goods and services that benefit the whole country (defense etc.);

2- Income redistribution or social policies (pensions, unemployment insurance)

3- Government activities that involve spill-overs or externalities between local governments

Regional or states governments are often assigned the provision of important public services, such as health, education, and police. Local governments (localities) provide local public services such as local roads, agriculture, water and sanitation, and recreation facilities.

This assignment of responsibilities is based on efficiency or equity reasons in the manner the particular expenditure program is designed and delivered. On efficiency ground, three sorts of arguments apply. First, program benefits may spill over to other communities; second, decentralized decision making can lead to inefficiencies because they distort cross-boundary transactions in product or factors. Third, fiscal competition among different sub-national governments may lead to the inefficient choice of expenditure programs. On the other hand, equity issues apply to state-level governments, which are responsible for providing public services such as health, education, and welfare, which can achieve redistributive goals that may be of national policy objective.

In general, the degree of discretion to lower levels of government differs from federation to another as does the manner at which that discretion constrained.

2.2. Revenues Assignment

While the assignment of expenditure responsibilities among different tiers of government is mostly similar in different countries, the assignment of revenues sources varies widely among federations. In this context, the key question is what revenue sources assigned to sub-national governments? The answer to this question is related to the assignment of expenditure responsibilities: finance should follow function. In this regard, Shah (1991: 13) determined the consideration of revenue sources assignment as follows:

- Progressive redistributive taxes should be central.

- Taxes suitable for economic stabilization should be central.

- Lower level taxes should be cyclically stable.

- Tax bases distributed highly unequal between jurisdictions should be centralized.

- Taxes on mobile factors of production are best administered at the center residence.

- Based on taxes such as sales of consumption goods to consumers or excises are suited for states.

- Taxes on completely immobile factors are best suited for local levels;

- Benefit taxes and user charges might be appropriately used at all levels.

In general, tax assignment in various federations confirm to these guidelines, although there are individual cases of departure from these norms). Nevertheless, "one problem regarding the assignment of revenue sources in many countries is that while sub-national governments need to have at least some revenue discretion to fully benefit from fiscal decentralization reforms, central governments often seem unwilling to provide a significant degree of real revenue autonomy to sub-national governments" (UNDP, 2005: 4-5). In these cases, intergovernmental transfers become necessary to fill the revenue gap.

2.3. Intergovernmental Transfers

Intergovernmental fiscal transfers are a dominant feature of sub-national finance in most countries. They are used to ensure that revenues match the expenditure needs of various levels of sub-national governments. They are also used to advance national, regional and local objectives outlined in the literature as follows:

- Correcting or adjusting vertical imbalances: closing the fiscal gaps between expenditure assignments and revenue assignment.

- Compensating sub-national governments for complying with central government requirements of implementing delegated central government programs.

-Correcting or adjusting horizontal imbalances: transfers can be used to "equalize" the level of service delivering among different sub-national governments.

-Correcting or adjusting externalities with public goods provision. Grants may be used to compensate local governments for services they deliver, which influence areas of near jurisdictions.

-Setting national minimum standards to preserve the internal common market and attain national equity objectives.

2.4. Types of Intergovernmental Transfers

There are two types of transfers to sub-national governments: conditional and unconditional. Conditional grants are also known as specific purpose grants, block, sectoral, categorical or earmarked grants. Unconditional grants, on the other hand, are also known as united or general- purpose grants.

When assessing a system of intergovernmental relations, there are two important policy questions to answer. First: is the system of intergovernmental fiscal relations fair to each level of government by providing sufficient resources to cover expenditure responsibilities? This question refers to vertical fiscal imbalances. Second: are there large fiscal disparities among different regions? This case refers to the horizontal fiscal imbalances (Vazquez, 2002).

This study seeks to evaluate the experience of fiscal decentralization of Gadarif state during the period (1997-2010) with special focus on expenditure assignment, revenue assignment and federal transfers to the state.

3. Methodology

According to the objectives of this study, different methods being utilized to attain these objectives. Thus, ratio analysis of some fiscal decentralization indicators will be carried out to evaluate the fiscal decentralization experience of Gadarif state in the context of the countries. Therefore, the following indicators are used:

Vertical Imbalance (VI), due to Hunter (1977):

$$VI = 1 - \frac{Own\ Revenue}{State\ Expenditure}$$

Revenue Effort (RE):

$$RE = \frac{Total\ Revenue}{GDP}$$

Concerning the objective of evaluation of the fiscal impact of the decentralization on the state, the study will use the following indicators:

Tablo 1: Summary of Fiscal Decentralization Indicators

Variables	Indicators	Description	Level of Measurement
Sub-national government expenditures	Government expenditure share	The ratio of Sub-national government spending to total government spending	Ratio Level
	Government Size	The ratio of Sub-national government spending to GDP per government level	
Sub-national government revenues	Sub-national Tax autonomy	The ratio of tax revenue to total revenue of sub-national government's	Ratio Level
	Sub-national non-tax autonomy	The ratio of non-tax revenues to total revenues of sub-national governments	
Intergovernmental transfers	Vertical imbalance	The ratio of intergovernmental transfers to total sub-national revenues	Ratio Level

Source: IMF, 2000.

In addition, regression analysis used to evaluate the experience of expenditure assignment, revenue assignment and intergovernmental transfers of the state. In this context, the following two simultaneous equations of total expenditure and own revenues are attempted:

$$TE = \alpha_0 + \alpha_1 Trans + \alpha_2 GDP + \mu_t \qquad (1)$$

$$Strev = \alpha_0 + \alpha_1 Trans + \alpha_2 GDP + \mu_t \qquad (2)$$

Where

TE: the Total Expenditure

Trans: the Federal Transfers to the state

GDP: the GDP of the state

μ_t: The random variable; and

Strev: State own revenues.

Equations (1) and (2) explain at what extent the total state expenditure and own revenue respond to the variations in federal transfers and the GDP of the state.

4. Fiscal Decentralization in Sudan: An Overview

Sudan had experienced decentralization since 1948 when rural councils formed to hold the responsibility of delivering some services and collecting some revenues. A major decentralization policy change was initiated with the introduction of the 1951 Act.

Under this Act, the government created councils with legal corporate status and clearly defined responsibilities (Elbattahani, 2008).

In 1972 the country witnessed another significant development in the government structure as a result of Addis Ababa peace agreement signing. Consequently, the Government of the Southern Region formed and granted a substantial degree of autonomy including tax levies. (Elshibly, 1990).

In 1974 the People` Local Government Act introduced important measure toward decentralizing the country. Accordingly, the country is divided into ten provinces and some functions like education, health and livestock shifted from the central government to the local councils with the same taxing powers.

The Regional Government Act of 1980 introduced further measures of decentralization. Hence, new regional governments created, given and granted a substantial degree of autonomy. No additional taxing powers are given to these regions other than previously performed by local councils and provinces (Elshibly, 1990).

The process of real fiscal decentralization in Sudan began in 1995 when a republican decree issued increasing the number of states from 9 to 26 with the assignment of powers and revenues responsibilities. The system proceeds with three tiers, federal, state and local. Accordingly, states governments have four sources of revenues as set in the constitution. These sources are:

Transfers from the federal budget through the Northern States Subsidy Fund (NSSF).

Off-budget transfers from the federal government of 43% percent of VAT collections and 10% of public enterprise profits.

(i)   Revenues collected directly by the states through taxes, fees, and user charges; and

(ii) Loans and borrowing by the constitution.

On the other hand, local government revenues are a component of taxes on property, local transportation, local livestock production, and other local taxes or duties.

The significant step toward fiscal federalism in Sudan was after signing the Comprehensive Peace Agreement (CPA) between the government of Sudan and the Sudan People Liberation Movement (SPLM) in 2005. The agreement constitutes a set of institutional arrangements that should improve the federal system in Sudan. Thus, it is stated in the Wealth Sharing Protocol of the Agreement "decentralization and empowerment of all levels of government are cardinal principles of effective and fair administration of the country". That is of course in a decentralized system with significant devolution of power to the different levels of government, i.e., section (113) of the protocol states that "An expenditure function should be assigned to that level of

government whose jurisdiction most closely reflects the geographical served by that function. The delivery of a particular service (expenditure assignment) may be carried out exclusively by a given level of government or by two or more".

On the revenues side, according to section (114) of the same protocol, "states levels of the government shall have the right to determine without national inference the structure of revenue base and the level of the charge or tax rate applied to that base". Moreover, the wealth-sharing protocol "provides a detailed breakdown of own source revenue for schedules all levels of government must radically reform their budgetary process"(Bell and Ahmed, 2005: 9).

To perform the task of implementing fiscal decentralization proceed as outlined above, many constitutional bodies and agencies established; i.e., Northern State Support Fund (NSSF) created to set criteria of distribution of the current and development transfers. The NSSF is based on nine criteria: financial performance, population density, natural resources, human resources, infrastructure condition, per capita income, education, and health and security situations. Each factor receives 10 percent weight except the financial performance, which receives 20 percent.

The Fiscal and Financial Allocation and Monitoring Commission (FFAMC) have been structured to ensure appropriate utilization and sharing of resources both vertically and horizontally, transparency and fairness in the allocation of funds among the states and to monitor and ensure that equalization grants from the national government are through a specific criterion based on the following:

1. Population size

2. Minimum expenditure responsibilities

3. Human Development Index – social indicators

4. Geographical areas

5. Fiscal efforts; and

6. The effect of the war factor.

The greater challenge in this context is how can the FFAMC perform, i.e., some questions may arise such as: how the allocation of such grants will be determined, how will be funded, by which level of government, etc. what sort of vertical and horizontal equalization is intended and how will be achieved? Bell and Ahmed (2005). However, political consideration still dominates the full implementation of the formula, which in turn jeopardizes the overall approach.

National Reconstruction and Development Fund (NRDF) is created to develop the war affected areas and the least developed areas taking the effect of war and level of development as the main criteria.

Building on the Comprehensive Peace Agreement, the Joint Assessment Mission (JAM) formed in 2005 to develop a framework aiming at meeting the Millennium Development Goals (MDGs) for the people of Sudan, especially those in the south and other war-affected areas. The common themes of this framework include "the focus on broad-based and inclusive economic growth and empowerment of the people through a decentralized system of governance and services delivery" (JAM, 2005: 3).

According to the Interim National Constitute of (2005) the following table details the own revenue sources of the state level:

Tablo 2: Own Revenue Sources Assigned to States

Revenue Type	Revenue Items	Determination of Collection/Allocation
Own Source Revenue	State land and property tax and royalties; service charges for state services; state personal income tax; levies on tourism; state government projects and national parks; stamp duties; agricultural taxes; grants-in-aid and foreign aid; excise duties; border trade charges or levies in accordance with national legislation; other state taxes, which do not encroach on National or Southern Sudan Government taxes, many other taxes, many other tax as may be determined by law.	Combination of fiscal base and effort and effort by individual states. Potential bases provided by Article 193 of the INC
Shared Revenue	2 percent of petroleum revenues by derivation	The state share of revenue based on derivation Basis (and other criteria), established by CPA
Grands and Transfers	Current earmark transfers: Wages (Judiciary, Police, High Education) Social subsidies transfers Current block transfers: agricultural taxes compensation Current transfers (largely for wages Emergency and Ad hoc transfers Development transfers: State development projects (local component) State development projects (foreign component) Development and Reconstruction Funds for war-affected areas.	May be determined by a formula, existing establishment costs (e.g., wages), or are in a sense ad hoc and discretionary.
Borrowing	Loans/borrowing by the constitution	

Source: The Interim National Constitute of the Republic of the Sudan, 2005.

5. The Empirical Literature of Fiscal Decentralization in Sudan

The fiscal trends of local governments in Sudan are characterized by many features. On the one hand, "the increase in demand on services coupled with the low share of development spending raises several questions regarding the states' commitment to long term development and macroeconomic stability. In addition to the administrative problems related to taxes, the local government may refrain from raising taxes too high due to political reason, adverse effects on both the people, especially the poor local economic development. The forms of taxation can be imposed on subsistence economies are very limited" (Gangi & Ibrahim, 2008).

On the other hand, intergovernmental fiscal transfers in Sudan – with its six types (current transfer, development transfers, and additional support transfers, value-added taxes (VAT) and Benzene Transfers) increase as percentage of federal revenues from 2.7% in 1996 to 30% in 2005 suggesting that the ability of sub-national governments to finance their expenditure from their revenues declined from 92% in 94/1995 to about 36% in 2005" (Elbaawi & Suliman, 2007). Consequently, sub-national governments became increasingly dependent on central transfers, i.e., it reached 36% in 2006 and 38% of the federal government expenditure in 2007.

Furthermore, data on state level about the own source revenue collections which are available suggest that own source revenues shares in 2005 ranged from 66% in the Red Sea to 12% in North Darfur (World Bank, 2008). The level of reliance on transfers is greater, for the locality level in Gezira and North Kordofan states, over 80% of locality high share of the transfers that are earmarked.

Ali (2007) compared the current system of federal transfers of Sudan with that proposed by FFAMC according to its criteria; he concluded that under this assumption, all states, except the Nile state, would be receiving federal transfers, which are much higher than what the current system gives them.

On his analysis of fiscal decentralization in post-session Sudan, Mohamed (2017) argue that in the vertical aspect, the results have shown the overwhelming fiscal imbalance in the lower tiers of the government of Sudan. Moreover, the regression results revealed that none of the predictor variables, suggested by the FFAMC responds to the federal transfers indicating the failure of the transfers system of the country to reflect the need considerations.

However, most of the researches conducted in Sudan on the issue of fiscal decentralization ended with consistent results. Thus Elbattahani & Gadkarim (2017) concluded that States and localities have only limited autonomy to make fiscal decisions, and accountability is missing. Local government officials are not accountable to local taxpayers. Recent government expenditures have been concentrated in the urban centers, which have been captured by politically connected elites. This continues the disenfranchisement, not only of the rural poor but also have large segments of the middle class in the peripheries.

However, there is a large gap in the literature of fiscal decentralization in Sudan in the lower levels of governments, namely states and localities. This study attempts to take place in this gap.

6. Gadarif State: A Socioeconomic Review

Gadarif State, together with Kassala and Red Sea States, comprise the region of East Sudan as defined by the Eastern Sudanese Peace Agreement and consequent administrative arrangements. The state is located between longitudes 33º 30' and 36º 30' to the East, and latitudes 12º 40' and 15º 46' to the North. Gadarif shares an international border with Ethiopia to its East. Nationally, Kassala and Khartoum State to the North, El Gezira State to the West and Sennar State to the Southern border the state.

The state's total population estimated to stand at some 1.35 million (Central Bureau of Statistics 2008) with an annual growth rate of 3.87%. Over two-thirds of the populations live in rural areas and population density on a statewide basis stands at around 19 person perkm2. The total area of Gadarif state is calculated to be around 71,000 km². The State is divided into twelve administrative localities.

6.1. Population

Table 3 below shows the statistics of the state populations and their growth according to different population censuses of the country.

Tablo 3: Population of the State According to the Different Censuses

Year	Population	Growth rate %
1973	580000	-
1983	742000	28%
1993	1148262	55%
2008	1334947	16%

Source: CBS Office-Gadarif State, 2008.

Table 3 above shows the rapid increase of the populations of the state especially in the period (1983-1993) when the population increased by 55%. This rapid increase is attributed to the great flow of immigrants from different parts of the country and the neighbor countries especially the African Horn countries for the reason of the great famine and drought destructed the region in this period. Tables 4 below shows the distribution of the populations of the state among different localities.

Table 4: Distribution of population among different localities

No.	Locality	Population	% of Total
1	Baladiyat El Gadarif	269.395	20
2	Gadarif Center	111.669	8.3
3	El Butana	71.092	5.3
4	El Fashaga	120.835	9
5	El Fao	176.662	13
6	El Rahad	135.682	10
7	El Mafaza	60.756	4.5
8	East Gallabat	113.334	8.4
9	West Gallabat	91.875	7
10	Basonda	47.562	3.5
11	El Gurreisha	83.394	6
12	Gala El Nahal	66.122	5
Total		**1.348.378**	**100**

Source: Central Bureau of Statistics – Gadarif State.

6.2. Selected Human Development Indicators

Table 5 bellow exhibits some human development indicators for Gadarif state compared to that of the whole country.

Table 5: Selected Human Development Indicators for Gadarif State Compared to Sudan in 2012

Indicator	Gadarif	Sudan
Mother Mortality Rate (each 100000)	564	417
Child Mortality Rate <5 years (for each 1000)	20.8	22.2
Total Fertility Rate	4.8	3.9
Poverty Rate	50.1	46.5
Unemployment Rate	15	15.9

Source: Central Bureau for Statistics – 2011.

6.3. GDP

Figure 1 below shows the GDP of the state during the period (2006-2012). The growth rate in this period is averaged 5.4% (Ministry of Finance and Economy, Gadarif state 2014).

Figure 1: GDP Of Gadarif State İn SDG Millions in the Period (2006-2012)
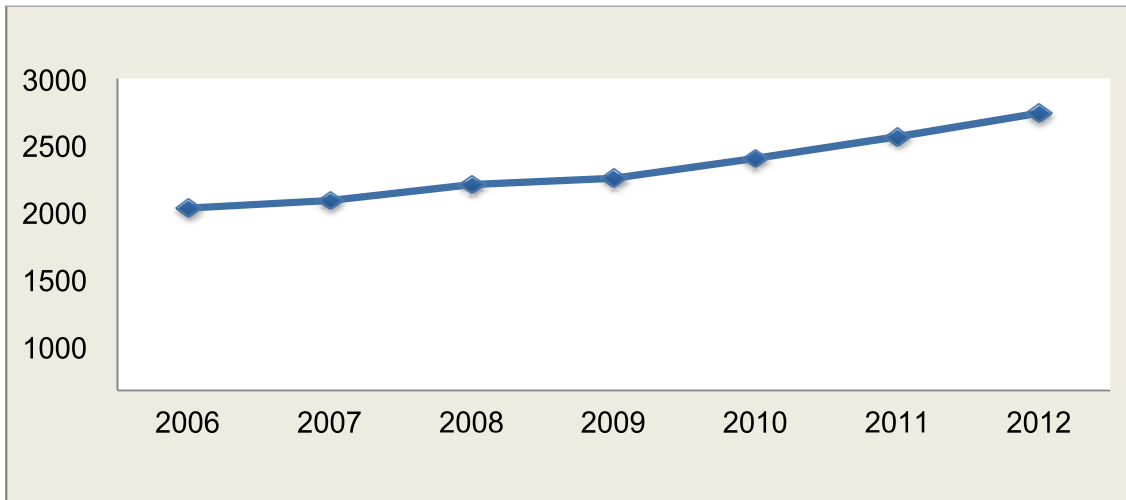
Source: Author' elaboration.

Agriculture is the main sector in the state economy; it contributes to about 79% in the GDP as shown below in Figure 2. Services sector constitutes 15% of the GDP of the state. The weakest sector in the state economy is the industrial sector, which contributes only 6% in the GDP during the period above in spite of the huge agricultural and livestock production of the state. This situation attributed to the weak infrastructures and absence of incentive policies and strategies encouraging the sector in the state.

Figure 2: Percentage Average Contribution of Different Sectors in GDP of Gadarif State During the Period (2006-2012)
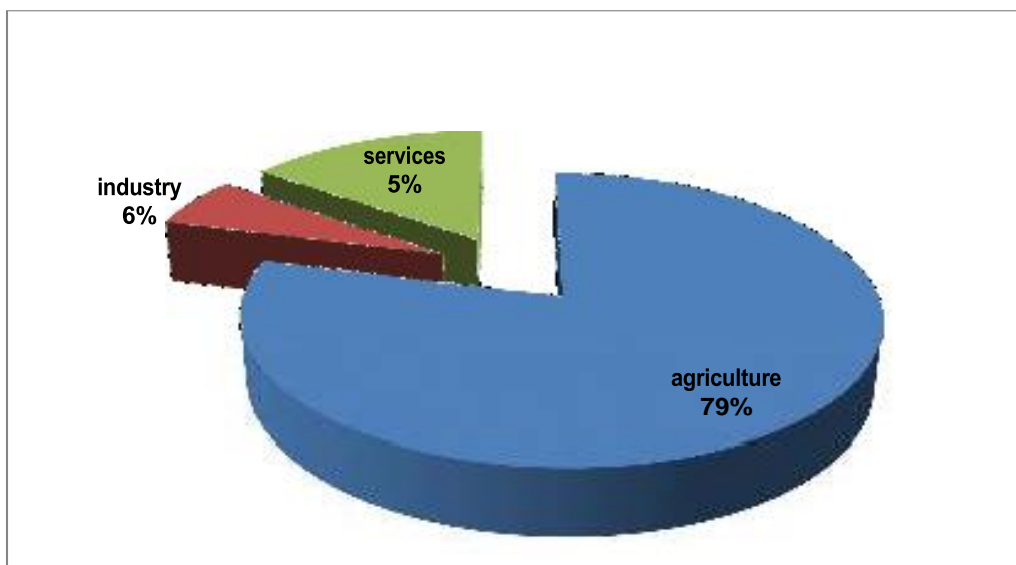
Source: Author' elaboration.

6.4. Agricultural Systems

Agriculture is constituted as the main activity in Gadarif state. Hence, about 70% of the populations are working in the agricultural sector. The cultivable area is about 11.3 million feddans of improved and fertile lands. The rate of rain falling is about 100-500 millimeter in the year in the northern and western areas of the state and of about 500-900 in the east and south areas, which lay in the rich Savanna region.

There are two major types of agricultural systems in the state: the Rain fed and irrigated agriculture. Irrigated agriculture exists in the Rahad Scheme. The other type of agriculture is the Rain fed. It is divided into two types, traditional and mechanized farming. The former type is covering the most rain fed areas. Thus, the state is considered as the pioneer for this type of agriculture in Sudan. It started in the area of Gadambelya – 45 Km west Gadarif city in the 1940s and then expanded to the most rain fed areas and became the main producer of Sorghum and Sesame in the country. Nevertheless, this type of agriculture is commercially oriented and most farmers depend on bank credits to finance their activities.

The traditional rain-fed agriculture, on the other hand, is existed around the villages in small farms known as (Bildat). The main crops cultivated here are Sorghum, Millet, and Sesame for subsistence purposes. Farmers in this type of agriculture use traditional forms of finance to run their activities. These forms are Sheil, Katafally, and Kasir). But these types of finance are highly cost and do force farmers to be in perpetual indebtedness.

The total agricultural land (11.3 million feddan) is distributed among the different types of farming and forestry as follows:

- Total arable land   8.602.600 *feddan*s

- Forestry   2.732.700 *feddan*s

- Grazing   4.200.000 *feddans*

7. Analysis of Fiscal Decentralization in Gadarif State

In this section, the implementation of fiscal decentralization in Gadarif state will be outlined and evaluated on the ground of revenues assignment, expenditure assignment and intergovernmental transfers to the state during the period (1998-2012).

7.1. Assignment of Expenditure Responsibilities in Gadarif State

Table (6) below explains the trends of total expenditure in Gadarif state during the period (1998-2012).

Table 6: Budgeted and Total Expenditure of Gadarif State in the period (1997-2012) in Millions SDGs

Year	Budgeted Total Expenditure	Actual Total Expenditure	% of Actual/budgeted
1998	44.1	28.8	65%
1999	44.9	45.4	101%
2000	59.3	41	70%
2001	71.7	48.4	67%
2002	70.9	56.4	79%
2003	70.2	73.7	82%
2004	118.1	102	90%
2005	158.1	138	87%
2006	216.4	192	77%
2007	252.2	188	87%
2008	460.2	200	40%
2009	520.2	296	52.3%
2010	566.7	354.9	42.7%
2011	265.2	237.7	90%
2012	321.8	297.7	93%
Average			**75%**

Source: Ministry of Finance & Labor Forces – various Economic Reviews.

Table 6 above and Figure 3 below show the instable fluctuations of the percentage of actual to the budgeted expenditure of the state, i.e., in 1999 it reported 101%, while in the years 2008, 2009 and 2010 reported 40%, 52.3% and 42.7% respectively suggesting the weaker capability in preparing the budget in the state.

**Figure 3: Budgeted and Actual Expenditure in Gadarif State (1998-2012) in Millions SDG**
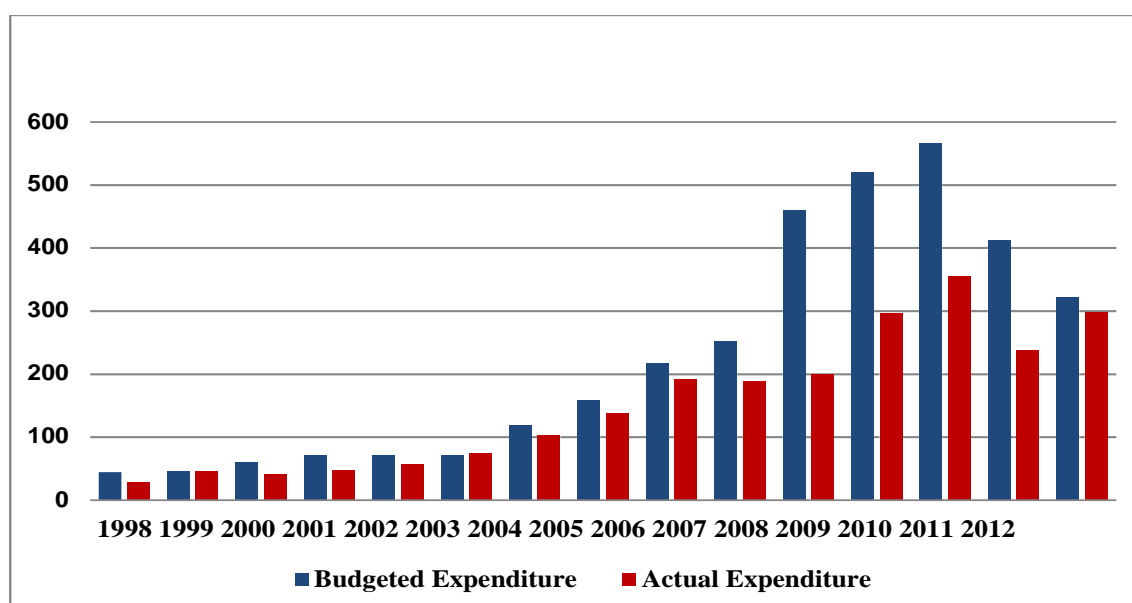
Source: Author' elaboration.

7.1.2. Expenditure Allocation in the state

Figure 4 below shows the structure of the expenditure of the state in terms of its different chapters during the period (1998-2012). Chapter One indicates the salaries and wages; Chapter Two is of government expenditure on goods and services, chapter three exhibits capital goods and chapter four is of the development.

Figure 4: The Percentage Share of Different Chapters of the Budget in the Total Expenditure of the State in the period
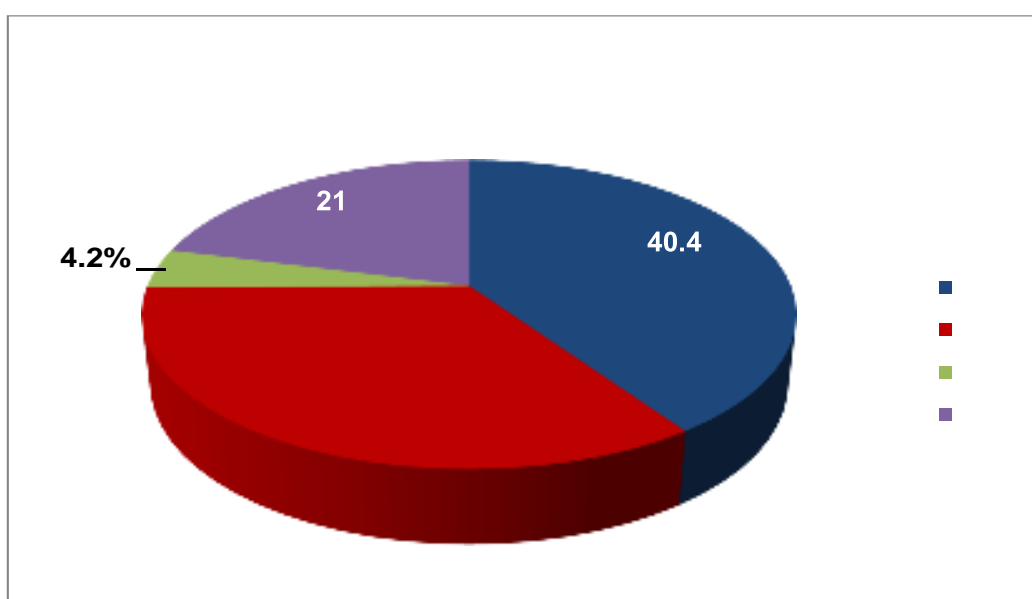
Source: Author' elaboration.

The table and the figure above indicate that only 21% of the budget devoted to the development in this period suggesting the poor performance of the services in the state, namely water, health, and education — furthermore, chapter one of the wages and salaries averages of the 40.4% of the budget.

7.1.3. Regression Analysis

In this context, two simultaneous equations will be attempted to investigate the expenditure and the revenue response to federal transfers and GDP of the state during the period (1998-2012). The importance of fiscal responsibility of the sub-national government analysis stems from that it is forecasting the impact of different transfer's designs on local fiscal behavior, which estimates both the level of transfers required and the impact of the transfers on their objectives. The similar analysis found in Bahl and Lin (1992), Gramlich (1977) and Mushkin & Cotton (1968).

7.1.4. State Expenditure Response

In this context, the total expenditure of the state is regressed to GDP and federal transfers of the period (1998-2012) to investigate the impact of federal transfers on expenditure by estimating the grant elasticity which indicates whether the transfers have stimulation or substitution impact on the state expenditure. To accomplish this objective, the following equation will be estimated:

$$TE = \alpha_0 + \alpha_1 Trans + \alpha_2 GDP + \mu_t$$

Where

TE: is the Total Expenditure of the state

Trans: is the Federal Transfers to the state GDP: is the GDP of the state; and

μt: is the random variable

Time series data of the above variables of the period (1998-2012) have been used to investigate the factors affecting the total expenditure of the state. Results of the estimates of the equation are shown in Table 7 below:

Table 7: Results of Total Expenditure Equation Estimation of the period (1998-2010)

Dependent Variable	Independent Variable	Coefficient	T-Value	Sig.	R^2	F Change
Log TE	(Constant)	-9.6	-3.4	00	0.89	37.4*
	Log GDP	1	3.9	00		
	Log Trans	-0.06	-0.3	0.8		

Source: Author' elaboration.
* Significant at 1%

Results of Table 7 above show that an increase in one SDG in GDP associates with an increase in the total expenditure by the same value. About the transfers, it is found insignificant to total expenditure indicating that the increase in transfers has no substitution impact on the expenditure of the state. This result can be interpreted as that the central government deeply intervene in control and directing the federal transfer, affecting the fiscal autonomy of the state.

7.2. Decentralization of Revenue Sources of the State

In this part, the analysis will be emphasized on the performance of different revenues sources of the state, revenue effort, fiscal imbalance and the impact of federal

transfers in the period (1997-2012). Figure 5 below shows the budgeted and the actual total revenues of the state during the period (1997-2012).

Figure 5: Budgeted and Total Actual Revenues in Gadarif State in the period (1999-2012) in Millions SDG
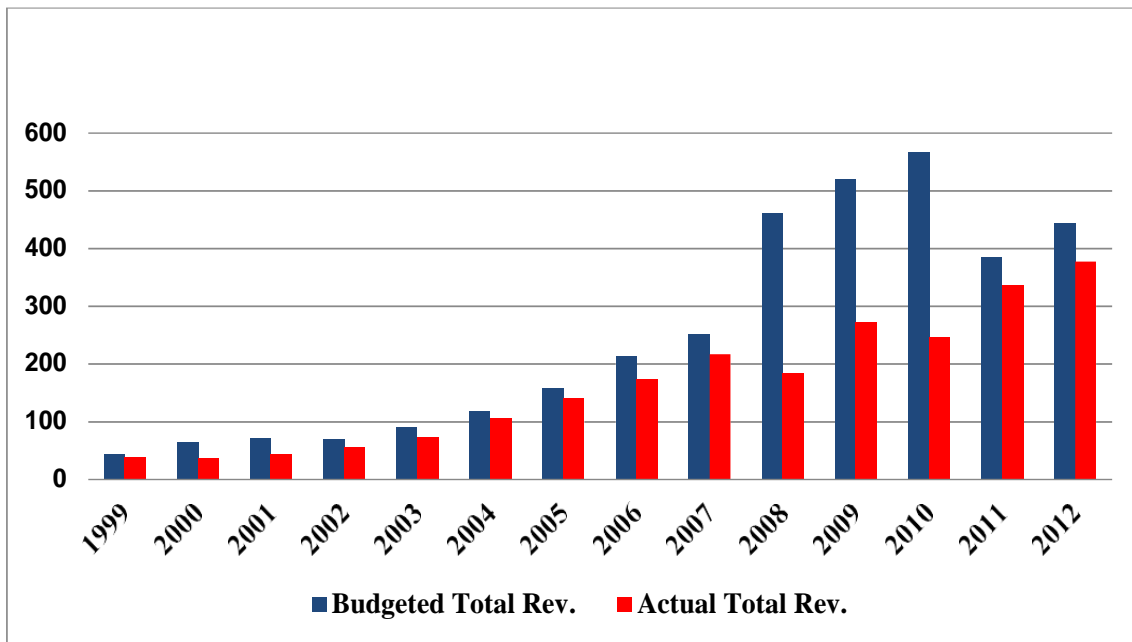
Source: Author' elaboration.

Figure 5 above shows that the actual total revenues of the state reported a weak performance in this period. For example, it accounted 71% of the budgeted total revenue and then witnessed a rapid deterioration in the next three years (2008, 2009 and 2010) constituting of only 47%, 52%, and 44% respectively. To promote the revenue performance of the state, detailed data of all revenue bases should be provided to set realistic and achievable revenues in the budget.

7.2.1. Share of Different Sources in Total Revenues of the State

Figure 6 below shows the share of different sources of revenues of the state during the period of the study.

Figure 6 explains that the gap between the own revenues of the state and the federal transfers is rapidly expanding by the time. Thus, in 1997 and 1998 the state is self-dependent. However, this situation is rapidly gone worst when the federal transfers reached 73% of the total state revenues in 2012. This deterioration in the total revenue of the state is attributed mainly to the republican decree of 2001, which removed the tax on agriculture. As the state's economy is agricultural (about 89% of GDP of the state),

the own revenue declined while the compensation made by the federal government failed to recover the fiscal imbalance made.

Figure 6: Contribution of Different Sources in Total Revenues of the State in the period (1997-2012)
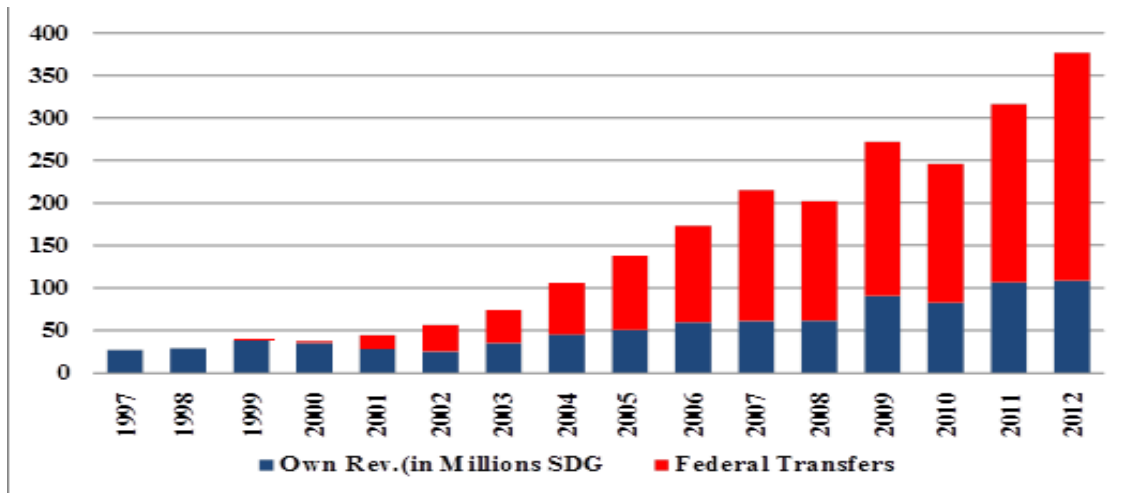
Source: Author' elaboration.

The figure below shows the percentage average shares of the own revenues of the state and the federal transfers in the period (1997-2012). It averages 56% and 44% respectively.

Figure 7: Percentage Average Share of Different Revenue Sources of the State (1997-2012)
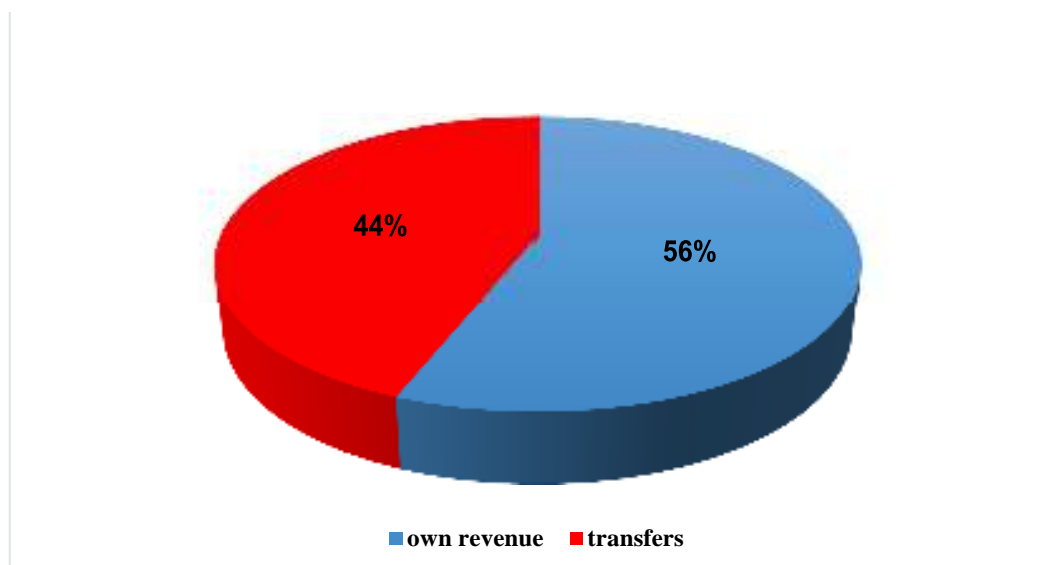
Source: Author' elaboration.

7.2.2. Fiscal Imbalance in Gadarif State

Table 8 below shows the vertical imbalance (VI) of the state during the period of the study. It is calculated as follows:

$$VI = 1 - \frac{Own\ Revenue}{Total\ Expenditure}$$

Table 8: Vertical Imbalance of Gadarif State during the period (1998-2012)

Year	(1) Own Rev.(in Millions SDGs)	(2) Total Expenditure (in Millions SDGs)	(3)Imbalance (1/2)	(4)Vertical Imbalance 1-(3)
1998	28.8	28.8	1.00	0
1999	38.3	45.4	0.84	0.16
2000	34.9	41	0.85	0.15
2001	27.9	48.4	0.58	0.42
2002	25.1	56.4	0.45	0.55
2003	34.8	73.7	0.47	0.53
2004	45.o	102	0.44	0.56
2005	50.3	138	0.36	0.64
2006	59.3	192	0.31	0.69
2007	60.8	188	0.32	0.68
2008	61.3	200	0.31	0.69
2009	90.4	296	0.31	0.69
2010	75.3	354.9	0.21	0.79
2011	106.1	237.7	0.45	0.55
2012	108.2	297.7	0.36	0.64
Average				**0.52**

Source: Author' elaboration.

Figure 8: Own Revenues and Total Expenditure of the State in the period (1998-2012)
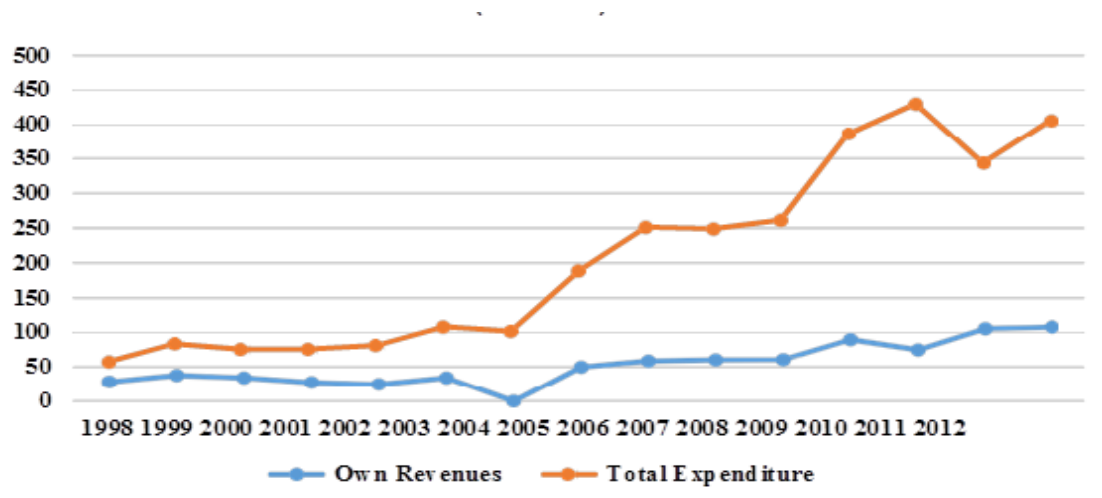
Source: Author' elaboration.

Table 8 and Figure 8 above show that the vertical imbalance in the state is rapidly increasing, i.e., it growths from 16% in 1999 to 79% in 2010 indicating the higher deterioration of the fiscal performance of the state under fiscal decentralization. However, it averages of 52% in this period. This situation reflects the failure of the state to attain the fiscal autonomy and perform its responsibility of services provision to its constituents.

7.2.3. Revenues Effort in Gadarif State

Revenues effort is calculated as the ratio of total revenues of the state to GDP. It used to investigate whether the revenues collection reflects the economic activities in the state. Table 9 below presents the revenue effort of the state in the period (1998-2012).

Table 9: Revenue Effort in Gadarif State during the period (1998-2012)

Year	(1) GDP Millions SDGs)	(2)Total Revenue (Millions SDGs)	(3) Revenue efforts (2)/(1)
1998	1022.5	27.1	0.03
1999	1113.3	28.8	0.03
2000	1314.5	38.9	0.03
2001	1236.1	37.6	0.04
2002	1542.9	44.6	0.04
2003	1532.6	56.3	0.05
2004	1597	73.8	0.07
2005	1720	106.8	0.08
2006	1752.8	140	0.10
2007	1826	173	0.12
2008	1980	216.4	0.09
2009	2039.3	183.8	0.13
2010	2230.9	271.9	0.11
2011	2440.4	337.1	0.14
2012	2667.4	376.8	0.14
Average			**0.08**

Source: Author' elaboration.

Table 9 above shows the poor performance of revenues effort of the state. Hence, it averages only 8% in the above period. This situation can be attributed to the inadequate assignment of revenues sources, i.e., most revenues sources assigned to the state level were inefficient and highly conflicting with the constituents. Moreover, the higher tax evasion, weak personnel, and wide exemptions were also responsible for the weak performance of the revenue effort of the state.

7.2.4. Share of Tax and Non-tax Revenues in total State Revenues

Table 10 below shows the share of tax and non-tax revenues in total revenue of the state in the period (1997-2012).

Table 10: Tax and non-tax Revenues (in a million SDGs) in Gadarif State (1997-2012)

Year	Tax Rev.	%of State Rev.	Nontax	% of State Rev.
1997	6.4	23.5	20.7	76.5
1998	5.8	20.1	23	79.1
1999	8.7	22.7	30.2	77.3
2000	5.1	13.7	23.9	86.3
2001	4.7	16.8	39.9	83.2
2002	4.9	19.5	51.4	80.5
2003	5.9	17	67.9	83
2004	7.2	16	99.6	84
2005	9.1	18	130.9	82
2006	13.6	23	159.4	77
2007	15.8	26	200.6	74
2008	17.2	29	166.6	71
2009	27	29.9	244.9	70.1
2010	29.2	35.5	216.7	64.5
2011	36.2	10.7	301	89.3
2012	50.1	13.3	326.7	86.7
Average		**20.9**		**79.1**

Source: Author' elaboration.

7.2.5. Calculation Using Data of the Ministry of Finance & Labor Forces-Gadarif State.

Table 10 and Figure 9 explains the higher distortion of the revenue structure of the state reflected by the rapid deterioration of the tax revenues compared to the non-tax revenues, which averages of 79.1% of the total revenue of the state in the above period. This situation is mostly due to the removing of the agricultural tax in 2001. However, the failure of revenue assignment is also responsible for this situation.

Figure 9: Percentage Share of Tax and Non-tax Revenue in Own revenues of the State (1997-2012)
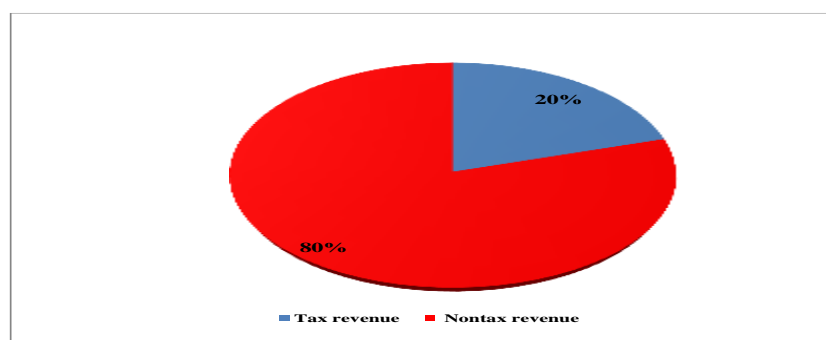
Source: Author' elaboration.

7.2.6. Impact of transfers on the state revenues (regression analysis)

In this consider, data of state revenues ($Strev$), transfers from the federal government ($Trans$) and the GDP of the state of the period (1998-2012) will be used to examine the response of state revenues to federal transfers. Thus, the parameters of the following equation will be estimated:

$$Strev = \alpha_0 + \alpha_1 Trans + \alpha_2 GDP + \mu_t$$

Using OLS technique for data of the above variables in logarithmic form, table (11) presents estimates of the above equation.

Table 11: Estimates of state revenues equation of the period (1998-2012)

Dependent Variable	Independent Variable	Coefficient	T-Value	Sig.	R^2	F Change
logStrev	(Constant)	-6.511-	-2.719	.024	73%	12*
	LogTrans	-.134	-1.455	.18		
	LogGDP	2.616	3.325	.01		

Source: Author' elaboration.

* Significant at 5%

Results shown in Table 11 reveal that variations in state revenues are not responding to the federal transfer's variations (it found insignificant), indicating the failure of one of the basic objectives of the federal transfers of inducing the local revenues - by directing the transfers to productive channels. However, the GDP is found significant at 1% with higher elasticity (2.6)

8. Concluding Remarks

This study aimed at evaluating the experience of fiscal decentralization of Gadarif state in the period (1997-2012). Therefore, expenditure decentralization, revenue decentralization, and fiscal imbalance were analyzed in the context of the fiscal decentralization objectives. To accomplish these objectives, different methods have been utilized. Indicators of revenue effort and fiscal imbalance were calculated to evaluate the performance of revenue and expenditure assignment in terms of fiscal autonomy and fiscal imbalance. Time series regressions of data for the period (1998-2012) were attempted to investigate the response of revenue, expenditure, and transfers to their different arguments.

Results of the study revealed that the fiscal situation of the state had rapidly deteriorated since the implementation of the fiscal decentralization system in 1995. Thus, no fiscal autonomy has been realized as the federal transfers constituted of about 73% of the total state revenues in 2012 and the revenue effort is reported only to 8% of GDP as the average of the period (1998-2012). The vertical imbalance averaged 52% in the same period. The regression results also indicated that the state revenues were not responding to federal transfers.

To promote the fiscal decentralization system and to overcome the poor situation concerning revenue and expenditure of Gadarif state, emphasis should be directed to different aspects. These policy measures recommended are:

- Revenue administrators should be empowered to increase their revenue to acquire fiscal autonomy.

- Provision of detailed information about the different revenue source bases to help to set achievable targets for revenues in the budget.

- Local administrations should be given clear assignments about their revenue and expenditure responsibilities.

- Directing the transfers to productive channels.

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