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Evaluation de l'efficacité des règles budgétaires sur l'évolution territoriale des principaux agrégats macroéconomiques

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Résumé

Les règles budgétaires quantitatives constituent une restriction permanente imposée à la politique budgétaire sous la forme d'un indicateur synthétique relatif aux performances budgétaires. Elles consistent à fixer un objectif ou une limite numérique aux agrégats clés des finances publiques, tels que le taux de croissance et le niveau de la dette. L'objectif de ce travail est d'étudier les déterminants des règles budgétaires ainsi que l'efficacité de leur application sur l'évolution des principaux agrégats macroéconomiques (croissance, dette, solde primaire et inflation) dans un Panel de 14 pays ayant adopté des règles de type national sur la période 1990-2013. Après avoir délimité la cartographie des règles budgétaires, on a eu recours à des analyses multivariées de données (tests statistiques, Analyse en Composante Principale) et économétriques en panel (estimation d'une fonction de réaction budgétaire, modélisation qualitative en logit) en vue d'évaluer les performances obtenues après adoption des règles budgétaires notamment en ce qui concerne les principaux agrégats macroéconomiques. Les résultats obtenus ont permis de couronner les déterminants et l'efficacité des règles budgétaires sur l'amélioration des performances.

Abstract

Quantitative fiscal rules is a permanent restriction on fiscal policy in the form of a synthetic indicator on fiscal performance. They are to set a goal or a numerical limit to key fiscal aggregates such as growth rate and the level of debt. The objective of this work is to study the determinants of fiscal rules and the effectiveness of their application to the evolution of the main macroeconomic aggregates (growth, debt, primary balance and inflation) in a panel of 14 countries that have adopted such national rules on the period 1990-2013. After defining the mapping of fiscal rules, we used multivariate analysis of data (statistical tests, Principal Component Analysis) and econometric panel in (estimating a fiscal reaction function, qualitative modeling logit) in order to evaluate the performance obtained after adoption of fiscal rules in particular as regards the main macroeconomic aggregates. The results helped to crown the determinants and effectiveness of fiscal rules on performance improvement.

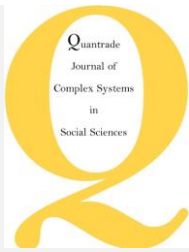
Keywords: Efficacy, Fiscal Rule, Reaction Function, Logit Model, Macroeconomic Aggregates, Panel Data

1. Introduction

En raison de la crise des dettes publiques, les projets visant à instaurer des règles budgétaires sont revenus au premier plan. La politique budgétaire (fiscal policy) correspond à l'ensemble des modifications de l'imposition ou des dépenses publiques. Combinée à la politique monétaire, la politique budgétaire forme la politique conjoncturelle. La politique contra cyclique est un type particulier de politique économique. Elle consiste à stimuler l'économie lorsque celle-ci tend à ralentir, et à la freiner lorsqu'elle s'emballe.

Dans la pratique, il est surtout question des politiques budgétaires de stimulation de l'activité, dans les périodes de creux économique, sous la forme de baisse de l'imposition ou de hausse de certaines dépenses, ce qui conduit à une dégradation du solde public. À l'inverse, dans les périodes de croissance économique élevée (hors période de bulle spéculative), la discipline budgétaire doit permettre de réduire le déficit public, voire de constituer des excédents, qui seront mobilisables ultérieurement.

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La crise a provoqué un fort gonflement des dettes et des déficits publics, en raison du soutien aux banques, des politiques de soutien de l'activité, et surtout de la baisse automatique des recettes fiscales induite par la récession. Pour les marchés financiers, les institutions internationales, beaucoup d'économistes même, la question essentielle est devenue celle des déficits et des dettes publics (et non plus celle de l'instabilité et de l'incontrôlabilité de l'économie mondiale induite par la globalisation financière).

À partir de la mi-2009, les marchés financiers ont prétendu avoir des doutes sur la soutenabilité des finances publiques. Les règles budgétaires : ensembles de règles, procédures et pratiques selon laquelle les budgets sont produits "(Alesina et al., 1999). Ayuso-i-Casals et al. (2006) définissent les règles budgétaires comme "tous les éléments législatives et procédurales qui sous-tendent l'élaboration de la politique budgétaire".

Plus récemment, Dabla-Norris et al. (2010) utilise l'expression «institutions budgétaires» "les structures, les règles formelles et informelles, et les procédures régissant la planification budgétaire, approbation et mise en œuvre ». Dans la littérature, le terme «règle budgétaire» est parfois utilisé dans une autre compréhension, pour signifier la «fonction de réaction budgétaire ». L'exemple classique est la règle budgétaire proposé par Bohn (1998). Il caractérise la conformité d'un pays avec sa viabilité financière à long terme par une équation reliant son solde budgétaire primaire de ses évolutions passées de la dette publique, les cycles économiques fluctuations, un ensemble de variables politico-institutionnelles et les variables de chocs (guerres, catastrophes, etc.)

A partir des années soixante-dix, les politiques budgétaires d'inspiration keynésienne préconisant un accroissement des dépenses publiques pour relancer la demande interne ont été remises en cause par la nouvelle macroéconomie classique. Celle-ci conteste la réalité du multiplicateur budgétaire à moyen terme avec deux arguments théoriques principaux :

- l'éviction financière (Friedman) : la hausse du déficit public provoque une hausse des taux d'intérêt qui comprime en retour la demande privée ;
- l'équivalence ricardienne (Barro, Lucas, Sargent) : les agents réagissent rationnellement à une hausse du déficit public par une augmentation de leur épargne.

Ces nouvelles thèses ont été étayées par l'échec des politiques macroéconomiques conduites durant les années soixante-dix. Les stimulations budgétaires répétées ont conduit au creusement des déficits et à l'accumulation des dettes et n'ont pas suffi à accélérer la croissance du produit intérieur brut (PIB) pour faire disparaître le chômage de masse. Le nouveau paradigme dominant aujourd'hui dans l'ensemble des pays développés préconise de restreindre l'usage de la politique budgétaire, à court terme, au seul jeu des stabilisateurs automatiques.

Les finances publiques devraient plutôt être gérées dans une perspective de moyen terme garantissant le maintien de l'équilibre budgétaire sur l'ensemble du cycle d'activité. Une telle stratégie permet d'éviter le risque d'alourdissement tendanciel du fardeau de la dette publique.

Bref, notre réflexion interpelle les questionnements suivants : Quelle est la portée stratégique des règles budgétaires ? Quel est l'effet de l'application des règles budgétaires sur l'évolution des indicateurs macroéconomiques ?

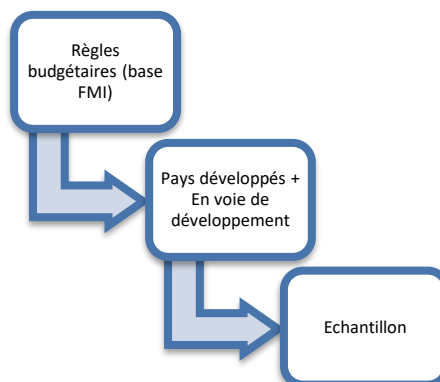
Pour répondre à notre problématique, les objectifs assignés visent à

- Evaluer la réaction des pays qui ont adopté les règles budgétaires, aux variations de l'endettement par rapport à l'ajustement de leurs objectifs relatifs à l'excédent primaire;
- Analyser l'efficacité de l'application des règles budgétaires sur l'évolution des principaux indicateurs macroéconomiques (dette, solde budgétaire, croissance et inflation).

2. Démarche méthodologique

2.1. Echantillonnage

Pour répondre à notre objectif, nous avons adopté un échantillonnage stratifié selon deux critères à savoir : les critères nature et type de règle budgétaire en distinguant les pays développés et les pays en cours de l'être.



Ainsi, notre échantillon a porté sur 14 pays adoptant les règles budgétaires de nature nationale. La répartition de ces pays par type de règle adopté est présentée dans les tableaux qui suivent. En effet, on distingue les pays adoptant les règles de dette (08 pays dont 03 adoptant la règle d'équilibre en plus) et les pays adoptant des règles d'équilibre (09 pays dont 03 adoptant la règle de dette en plus).

Tableau 1 : Echantillon 14 pays (dont 06 pays émergents et 08 pays développés)

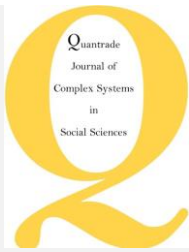
Pays	Type de règle	Année d'adoption	Statut
Australie	Règle de dette	1998	Développé
Bulgaria	Règle de dette	2003	Emergent
Chile	Règle d'équilibre budgétaire	2001	Emergent
Denmark	Règle d'équilibre budgétaire	1992	Développé
Finland	Règle d'équilibre budgétaire	1999	Développé
Pakistan	Règle de dette + Règle d'équilibre budgétaire	2005	Emergent
Luxembourg	Règle de dette	2004	Développé
Namibia	Règle de dette	2001	Emergent
New Zealand	Règle de dette + Règle d'équilibre budgétaire	1994	Développé
Norway	Règle d'équilibre budgétaire	2001	Développé
Panama	Règle de dette + Règle d'équilibre budgétaire	2002	Emergent
Poland	Règle de dette	1999	Emergent
Sweden	Règle d'équilibre budgétaire	2000	Développé
Switzerland	Règle d'équilibre budgétaire	2003	Développé

Source: établi par notre propre soin

2.2. Méthodes d'analyse de données et économétriques appliquées

- Analyse en composantes principales (ACP)

Également nous avons procédé à une analyse en composante principale entre les variables macroéconomiques étudiées ainsi que l'évolution des variables macroéconomiques des pays européens avant et après l'adoption d'une règle budgétaire. L'Analyse en composantes principales (ACP) est une méthode de la famille de l'analyse des données et plus généralement de la statistique multivariée, qui consiste à transformer des variables liées entre elles (dites "corrélées" en statistique) en nouvelles variables décorréelées les unes des autres. Ces nouvelles variables sont nommées "composantes principales", ou axes principaux. Elle permet au praticien de réduire le nombre de variables et de rendre l'information moins redondante.



Il s'agit d'une approche à la fois géométrique (les variables étant représentées dans un nouvel espace, selon des directions d'inertie maximale) et statistique (la recherche portant sur des axes indépendants expliquant au mieux la variabilité - la variance - des données). Lorsqu'on veut compresser un ensemble de N variables aléatoires, les n premiers axes de l'analyse en composantes principales sont un meilleur choix, du point de vue de l'inertie ou de la variance.

- Estimation d'une fonction de réaction budgétaire :

Dans l'objectif d'évaluer la réaction, des pays de l'échantillon qui ont adopté les règles budgétaires, aux variations de l'endettement par rapport à l'ajustement de leurs objectifs relatifs à l'excédent primaire, la fonction de réaction² budgétaire utilisé pour notre modèle est celle de Luiz de Mello (2005)³, modèle qui va de paire avec les objectifs assignés à notre étude. Ce modèle est estimé par une régression de l'excédent primaire $B_i(t)$ sur la dette publique retardée $d_i(t-1)$, définis tous les deux en pourcentage du PIB. Le modèle est comme suit :

$$B_i(t) = a_0 + a_1 b_i(t-1) + a_2 d_i(t-1) + a_3 C_i(t) + \dots + u_i$$

a_0, a_1, a_2, a_3 les coefficients, u_i est une constante

$B_i(t)$: l'excédent primaire, $d_i(t-1)$: dette retardée, $b_i(t-1)$: Solde Primaire retardé....

- Logit en panel avec effets fixes :

Dans l'objectif d'étudier la relation entre les variables macroéconomiques et la règle budgétaire, la variable dépendante « Règle » prend la valeur 1 durant les années où le pays adopte une règle budgétaire nationale et prend la valeur 0 (autrement) durant les années où le pays n'a pas adopté une règle budgétaire nationale. L'échantillon est composé de 14 pays. L'analyse est réalisé sur deux niveaux : (1) les coefficients tels que représentés ne sont pas des impacts marginaux. Seuls les signes sont interprétables ; (2) l'impact marginal dans un modèle logit varie d'une observation à une autre (d'un pays à un autre), il dépend des valeurs des variables explicatives. L'impact marginal d'une variable explicative continue X_i est donné par la formule :

$$\frac{\partial P}{\partial X_i} = \beta_i * Pr * (1 - Pr)$$

β_i est le coefficient de la variable X_i donné par Stata avec la commande logit et Pr est la probabilité prédite.

Dans notre cas, puisque l'impact marginal varie d'un pays à un autre, il faut donc pour des besoins d'interprétation des résultats, calculer un impact marginal moyen qui sera celui d'un pays fictif. Il existe deux méthodes pour calculer l'impact marginal moyen d'une variable⁴ :

- (1) Calculer l'impact marginal pour un pays fictif qui a les caractéristiques moyennes de tout l'échantillon.
- (2) calculer l'impact marginal en utilisant la moyenne sur tout l'échantillon de l'expression $Pr * (1 - Pr)$

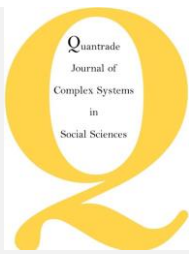
- Les tests statistiques

Les analyses que nous avons effectuées portent sur les données de chaque pays des groupes constitués. Nous avons procédé à la comparaison des différents résultats statistiques des pays dans le même groupe, en analysant profondément

² Dans la littérature, le terme «règle budgétaire» est parfois utilisé dans une autre compréhension, pour signifier la "fonction de réaction budgétaire" L'exemple classique est la règle budgétaire proposé par Bohn (1998). Il caractérise la conformité d'un pays avec sa viabilité financière à long terme par une équation reliant son solde budgétaire primaire de ses évolutions passées de la dette publique, les cycles économiques fluctuations, un ensemble de variables politico-institutionnelles et les variables de chocs (guerres, catastrophes, etc.)

³ Estimating a fiscal reaction function: the case of debt sustainability in brazil- economics department working papers, 2005 no. 423

⁴ Stata dispose de la commande **mfx** qui permet d'obtenir les effets marginaux d'un modèle Logit à l'aide de la première méthode. La commande **dlogit2** disponible sur internet permet également d'estimer les effets marginaux à l'aide de la première méthode.



les paramètres statistiques de position : médiane, moyenne etc. et les paramètres statistiques de dispersion : l'écart type, variance etc. pour chaque pays avant et après l'adoption de la règle⁵.

L'ultime objectif étant d'étudier l'évolution de la volatilité des variables macroéconomique à l'échelle des pays ayant adopté une règle budgétaire (PIB, le taux de croissance, le taux de la dette, le taux d'inflation...).

Nous avons eu recours à la comparaison de moyennes et test t de Student pour deux échantillons indépendants : le recours au test t de Student est justifié par la volonté de comparer les moyennes de deux échantillons (groupes) indépendants. Sa formule varie selon un certain nombre de paramètres, mais il peut généralement être exprimé sous la forme simple :

$$t = \frac{\text{Différences moyenne du groupe}}{\text{Variabilité groupe}}$$

L'hypothèse de départ (hypothèse nulle H0) est celle de l'égalité entre les moyennes observées des deux groupes. En d'autres termes, on pose comme hypothèse de départ que la moyenne du groupe A est égale à celle du groupe B ou, plus exactement :

- Que les groupes A et B sont deux échantillons qui proviennent d'une même population parente et donc doivent avoir une moyenne approximativement égale à celle de cette population mère dont ils sont issus ;
- Que la différence observée entre les deux groupes peut avoir été produite par le simple fait de tirer aléatoirement ces deux échantillons.

1. Si le seuil calculé est inférieur à 0.05, on peut donc rejeter l'hypothèse d'égalité des moyennes et en conclure que les moyennes observées des échantillons A et B sont significativement différentes d'un point de vue statistique (que leur différence est supérieure à la simple erreur d'échantillonnage que l'on pourrait observer dans la grande majorité [95%] des cas) ;

2. Si, en revanche, le seuil observé est supérieur à 0.05, on peut en déduire le contraire⁷

2.3. Variables retenues

Ainsi afin de pouvoir analyser les performances des pays ayant adopté les règles budgétaires, nous avons collecté les données économiques des pays de ces groupes sur la base de données du site officiel du Fond Monétaire International (FMI), qui met à disposition gratuitement les données des 188 pays du monde pour différents agrégats macroéconomiques. Les variables retenues après dépouillement sont : le PIB, la dette, la croissance, le taux d'inflation, et le solde primaire, pour une durée allant de 1982 à 2013 et des données estimées des mêmes agrégats de la période de 2013 à 2018 dans la version actuelle des données qui a été mis à jours en 2014.

Enfin, les résultats de l'étude empirique étayée par une littérature théorique inhérente à la règle budgétaire ont servi de base pour l'élaboration des pistes de réflexion quant aux orientations des politiques budgétaires.

3. Résultats : Les déterminants des règles budgétaires

3.1. Analyses descriptives et statistiques

Middle Il s'avère nécessaire de présenter les analyses descriptives en vue de faire ressortir l'évolution globale des principaux indicateurs macroéconomiques en question (tableau ci-après).

⁵ Après le travail de l'analyse utilisant les statistiques descriptives on a tiré des conclusions à partir des différents résultats obtenus sur chaque pays qui a adopté un type de règle précis et nous a permis d'évaluer l'efficacité de l'adoption d'une règle budgétaire sur l'évolution des grands agrégats macro-économiques.

⁶ Le seuil retenu est retenu est de 0.05 (c'est-à-dire 5 % de chances de rejeter par erreur l'hypothèse nulle).

⁷ que le risque de rejeter par erreur l'hypothèse nulle (donc de conclure in fine à la différence des moyennes) est trop élevé : la différence observée peut être attribuée potentiellement au hasard –processus d'échantillonnage. Dans ce second cas, on conserve l'hypothèse nulle d'égalité des moyennes (quand bien même celles-ci ne sont pas strictement égales).

Tableau 2 : Données générales de l'échantillon

Variable	Obs	Mean	Std. Dev.
dummysup ⁸	336	.2738095	.4465774
Dette	336	41.18527	21.33827
Inflation	336	7.631404	33.89659
soldeprim	336	1.07435	3.491612
croissance	336	3.019039	3.396403
pibdflatin~x	336	91.4812	35.09317
outputgap	336	91.4812	34.63848

Source: calculs basés sur les données de l'étude

a. Règle budgétaire et niveau de la dette

Les pays de l'échantillon ayant adoptés la règle budgétaire de type dette sont Australie, Bulgarie, Chili, Pakistan, Luxembourg, Namibie, Panama, Pologne. L'analyse descriptive de l'effet de l'introduction de la règle budgétaire sur le niveau de la dette au niveau de ces pays retenus, a montré un effet positif sur la diminution de la dette après l'adoption des règles budgétaires de type dette, en ce qui concerne les pays de : Australie, Bulgarie, Chili, Pakistan, et Panama. Alors que le Pologne, le Luxembourg et la Namibie ont davantage eu recours à l'endettement après l'adoption de règle. En effet, la crise de 2008 a provoqué un fort gonflement des dettes et des déficits publics, en raison du soutien aux banques, des politiques de soutien de l'activité, et surtout de la baisse automatique des recettes fiscales induite par la récession.

Il y a lieu de noter l'avantage de l'adoption de ces types de règles 'dette' qui est en lien direct avec la soutenabilité de la dette ainsi que la facilité à communiquer et à contrôler⁹. L'inconvénient d'une règle de dette, quelle que soit la définition de la dette, est le choix arbitraire de la valeur retenue pour la cible. Au Luxembourg, la dette du Gouvernement central doit être maintenue à un niveau faible et toute dette nouvelle peut être émise pour financer des projets d'infrastructures ferroviaires. En Pologne, un plafond de dette de l'ensemble des administrations publiques par rapport au PIB est inscrit dans la Constitution (cible de 60 % du PIB), il est contrôlé par une institution indépendante et des mesures correctrices doivent être proposées par le Gouvernement en cas de dépassement du plafond.

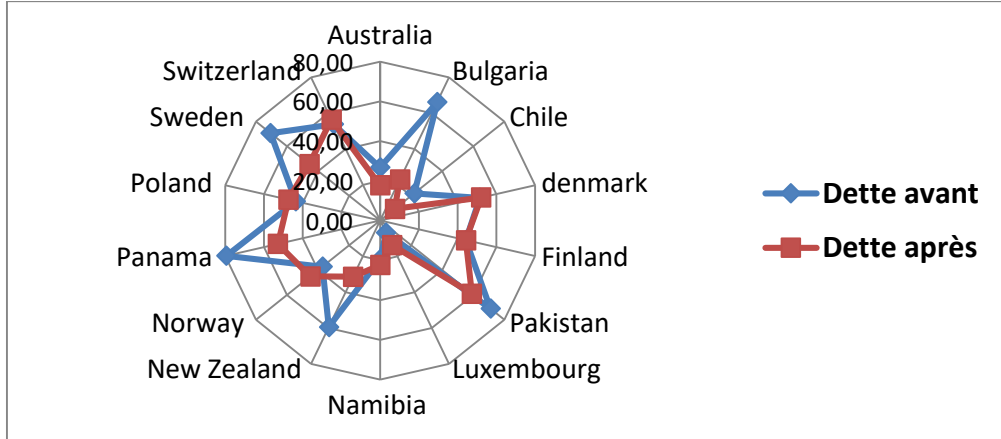
Pour les marchés financiers, les institutions internationales, beaucoup d'économistes même, la question essentielle est devenue celle des déficits et des dettes publics (et non plus celle de l'instabilité et de l'incontrôlabilité de l'économie mondiale induite par la globalisation financière). À partir de la mi-2009, les marchés financiers ont prétendu avoir des doutes sur la soutenabilité des finances publiques. Ils ont réclamé des primes de risques pour détenir les dettes publiques de certains pays de la zone euro. Sont revenus au premier plan les projets visant à imposer aux gouvernements, soit des règles de politique budgétaire, soit des conseils indépendants chargés de juger ou même de fixer la politique budgétaire.

Les règles de dette ont joué un rôle important dans la consolidation budgétaire à la fin des années 1990, et de manière générale, elles améliorent le solde budgétaire structurel primaire. Les résultats de Marneffe et al (2010) suggèrent aussi que des règles budgétaires plus strictes tendent à réduire les déficits publics. Elles ont aussi un effet négatif sur les dépenses publiques mais aucun effet significatif sur les recettes publiques.

⁸ Dummysup : Variable de contrôle (pays adoptant des règles supranational)

⁹ Quelques nouveaux pays membres de l'UE ont défini des limites sur la dette publique locale par rapport à la capacité de remboursement, c'est-à-dire le rapport entre le service de la dette et les recettes budgétaires.

Figure 1: Evolution des niveaux moyens de la dette après adoption des règles

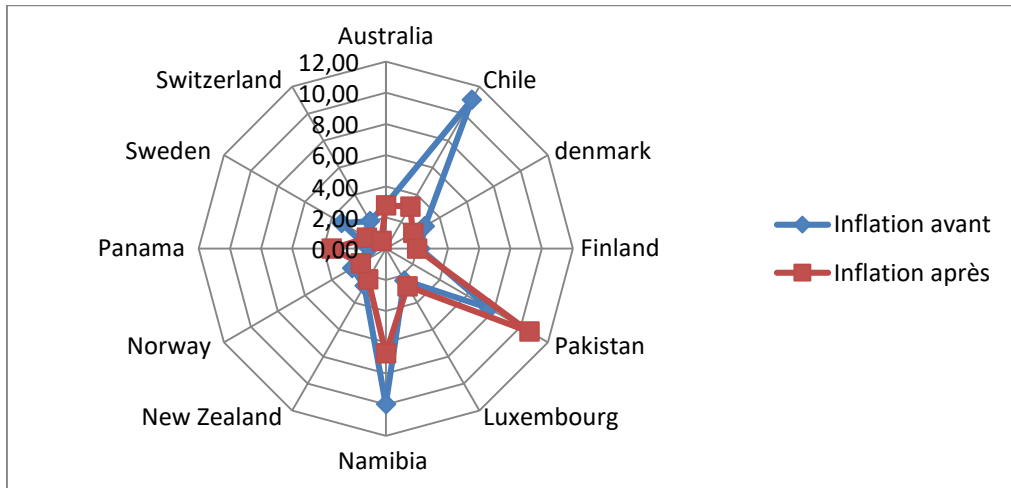


Source: établi par nos propres soins

b. Règles budgétaires et niveau d'inflation

L'analyse de l'effet de l'introduction de la règle budgétaire, de type dette et équilibre, sur le niveau de l'inflation au niveau de ces pays retenus, a montré un effet positif sur la maîtrise de cet agrégat après l'adoption des règles budgétaires. En effet, l'analyse des taux de variation a pu montrer que seuls deux pays, le Pakistan et le Panama, qui n'ont pas maîtrisé les niveaux des prix notamment à partir des années 2008-2009 où les effets de la crise économique semblent affecter.

Figure 2: Evolution des niveaux d'inflation après adoption des règles

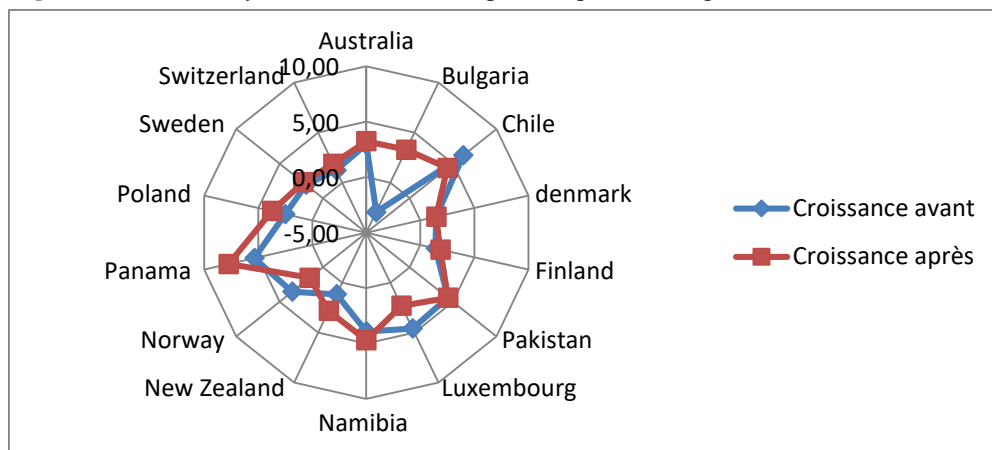


Source: établi par nos propres soins

c. Règle budgétaire et niveau de croissance

Le même constat peut être tiré en ce qui concerne le rapport entre le niveau de la croissance et l'introduction d'une règle de dette et ou d'équilibre, sur de 6 pays, l'introduction de la règle a significativement amélioré le niveau de la croissance dans 80% des pays étudiés.

Figure 3: niveaux moyens de la croissance après adoption des règles

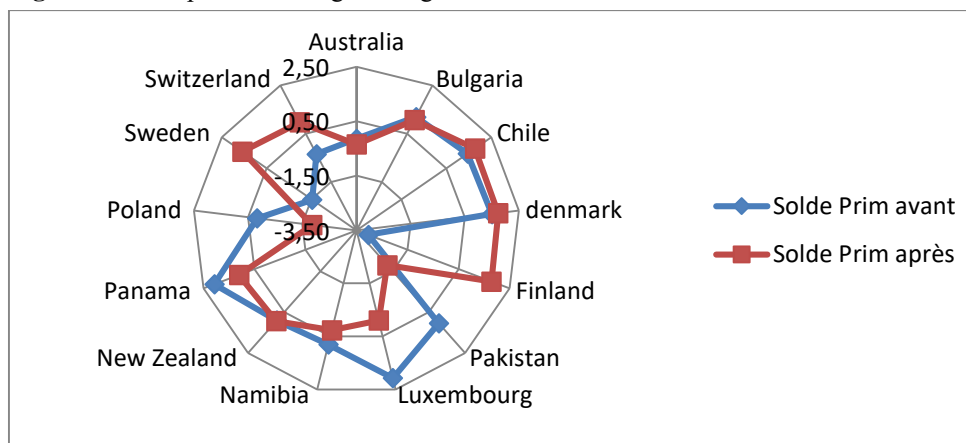


Source: établi par nos propres soins

d. Règle budgétaire et solde primaire

Le solde primaire des pays étudiés semble stabiliser et ou dégager un solde primaire après l'adoption des règles notamment au niveau de : Finlande, Danemark, Bulgarie, New Zélande, Pakistan, Suisse (Switzerland), Suède (Sweden). Il y a lieu de signaler également qu'on assiste à des règles de solde budgétaire primaire. En effet, le solde budgétaire primaire correspond au solde budgétaire à l'exclusion des charges d'intérêt. Lorsqu'un pays est fortement endetté et qu'il cherche à réduire son déficit public, il lui faut dégager un solde primaire largement excédentaire pour compenser le poids élevé des charges d'intérêt dans le déficit public.¹⁰

Figure 4: Solde primaire et règles budgétaires



Source: établi par nos propres soins

e. Effet de l'application des règles budgétaires sur l'évolution des variables macroéconomiques selon les niveaux de développement économique

L'analyse de l'effet des règles budgétaires sur les différents agrégats macro-économiques retenus fait ressortir des résultats probants notamment au niveau de la plupart des pays de notre échantillon. Toutefois, l'évaluation de l'effet des règles sur les niveaux de développement économiques montre que pour les pays sous-développés, tous agrégats ont eu

¹⁰ À la fin des années 1990, la Belgique a suivi une telle règle avec succès (le ratio dette publique / PIB a diminué d'un niveau de 130 % en 1995 à 108 % en 2000). En Hongrie, depuis 2007, le Gouvernement doit présenter un projet de budget au Parlement tel que le budget primaire de l'ensemble des administrations publiques soit en excédent.

des résultats significatifs sur le niveau de la dette, le taux de croissance, l'inflation et le solde primaire. Pour les pays développés, quelques agrégats ont eu des résultats significatifs sur le taux d'inflation et le solde primaire et n'ont pas eu des résultats significatifs après l'adoption des règles pour la dette et la croissance. En effet, les résultats semblent être affecté par les effets de la crise financière de 2008 pour la majorité des pays de l'échantillon où les performances budgétaires et économiques en général ont été négatifs et aurait un impact négatif sur la croissance et sur l'instabilité financière aussi bien au niveau des pays développés que celui des pays en cours de l'être.

En général, les règles ne sont pas efficaces si elles ne sont pas associées à des règles de contrôle des dépenses et de bonne gouvernance.

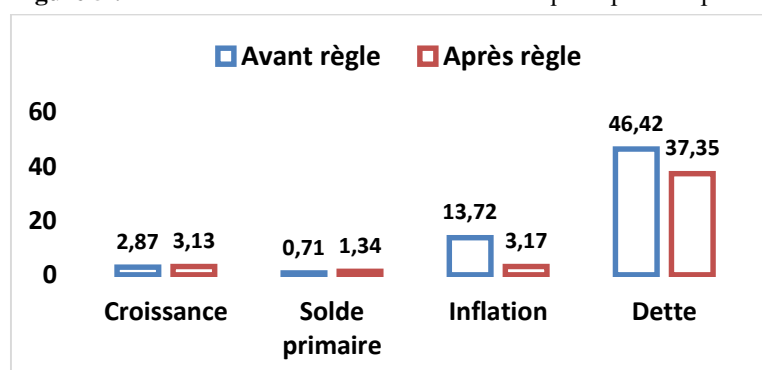
La coexistence des deux types de règles se traduit par des épisodes de consolidation budgétaire de plus grande ampleur et plus durables.

Tableau 3 : Résultats des tests statistiques de Student (Seuils de probabilité associés)

Indicateur	Global		Pays développés		Pays sous-développés	
	après règle	après règle	avant règle	après règle	avant règle	après règle
Solde primaire						
Moyennes	0,71	1,34	0,11	2,08	1,32	0,11
Statistique T de student	0,0522077		0,00058754		0,00103117	
Décision	Significatif (au seuil de 5,3%)		Significatif		Significatif	
Taux de croissance						
Moyennes	2,87	3,13	2,57	2,18	3,17	4,69
Statistique T de student	0,2506304		0,14241256		0,01478416	
Décision	Non significatif		Non significatif		Significatif	
Inflation						
Moyennes	13,72	3,17	3,40	2,003	24,92	5,11
Statistique T de student	0,00232982		0,01043689		0,009552993	
Décision	Significatif	Significatif	Significatif			
Dette						
Moyennes	46,42	37,35	40,31	38,87	52,53	34,84
Statistique T de student	5,19344E-05		0,30629788		2,59395E-06	
Décision	Significatif		Non significatif		Significatif	

Source: établi par nos propres soins

Figure 5 : Evolution des variables macroéconomiques après adoption des règles



Source: établi par nos propres soins

Tableau 4 : Effet des règles budgétaires sur la volatilité des agrégats macroéconomique

Pays	Période	Dette	Inflation	Solde Primaire	Croissance
Australie	Avant	5,35	2,26	1,83	1,92
	Après	6,36	1,06	2,59	0,95
Bulgarie	Avant	4,26	38,10	0,00	6,43
	Après	10,78	3,33	2,69	3,93

Chili	Avant	10,72	7,45	1,89	3,54
	Après	3,81	1,95	3,47	2,13
Danemark	Avant	0,00	0,36	1,03	0,22
	Après	14,89	0,62	2,73	2,20
Finlande	Avant	15,98	1,48	4,81	4,14
	Après	6,12	1,04	3,47	3,51
Pakistan	Avant	4,22	3,76	1,21	1,84
	Après	3,70	3,28	1,52	2,38
Luxembourg	Avant	0,44	1,01	1,44	2,67
	Après	6,67	1,19	1,50	3,21
Namibie	Avant	1,50	2,97	0,00	2,61
	Après	4,13	2,62	3,73	3,16
New Zélande	Avant	2,05	2,34	0,00	2,83
	Après	8,93	1,07	2,82	1,89
Norvège	Avant	9,13	0,82	5,45	1,23
	Après	9,98	0,97	3,30	1,43
Panama	Avant	17,73	0,45	1,11	2,90
	Après	10,17	2,44	2,41	3,05
Pologne	Avant	2,54	185,46	0,48	5,63
	Après	6,66	2,52	1,67	1,81
Suède	Avant	2,54	3,77	5,52	2,28
	Après	6,36	1,15	2,07	2,75
Suisse (Switzerland)	Avant	9,15	1,95	1,81	1,45
	Après	8,87	0,87	0,88	1,68

Source: établi par nos propres soins

L'analyse des écarts types après l'adoption des règles a montré un effet positif sur la diminution de la volatilité des principaux agrégats macroéconomiques, et ce aussi bien pour les pays développés que pour les pays non développés.

La crise de 2008 a provoqué un fort gonflement des dettes et des déficits publics, en raison du soutien aux banques, des politiques de soutien de l'activité, et surtout de la baisse automatique des recettes fiscales induite par la récession. Une règle de budget équilibré n'exclut pas une fonction de stabilisation de la politique budgétaire. Selon Kopits et Symansky (1998), les règles de politique budgétaire ont des effets macroéconomiques globalement positifs. Elles contribuent à une baisse des taux d'intérêt parce que leur adoption accroît la crédibilité des autorités publiques dans le domaine de la discipline budgétaire (c'est un important signal sur leurs préférences budgétaires), ce qui facilite leur accès aux marchés financiers et leur permet d'emprunter avec un coût de financement plus faible.

3.2. Analyse en composante principale (Variables macroéconomiques)

L'analyse s'est effectuée sur les pays de notre échantillon qui ont adopté les règles budgétaires nationales, avec un deuxième échantillon de pays qui n'ont pas adopté les règles budgétaires à savoir le Maroc, la Turquie, la Malaisie, la Tunisie, la Jordanie. L'objectif est de faire ressortir les impacts probables des règles budgétaires.

L'Analyse en composantes principales (ACP) qui est une méthode de la famille de l'analyse des données et plus généralement de la statistique multivariée, a permis de transformer des variables liées entre elles (dites "corrélées" en statistique) en nouvelles variables décorréliées les unes des autres. Ces nouvelles variables sont nommées "composantes principales", ou axes principaux. Elle permet de réduire le nombre de variables et de rendre l'information moins redondante.

L'analyse en composantes principales a permis de donner le degré d'information que représente chaque composante ou bien chaque facteur. Ainsi, On a fait rentrer six variables qui ont été restitué par 6 composantes. Le premier composant représente à lui seul 33% de l'information totale de l'ensemble des variables alors que le 2ème représente 23 % de l'information totale.

Cette première étape de l'ACP montre que les deux composantes restituent la majorité de l'information 56,4 %.

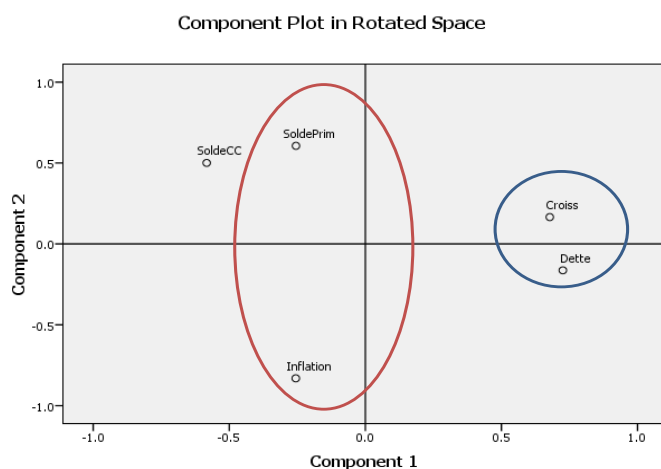
Tableau 5 : Variance totale expliquée

Compo nent	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.654	33.070	33.070	1.456	29.111	29.111
2	1.164	23.284	56.354	1.362	27.243	56.354
3	.853	17.066	73.420			
4	.799	15.971	89.391			
5	.530	10.609	100.000			

Extraction Method: Principal Component Analysis.

La deuxième étape était de distribuer les variables sur le graphe de l'ACP, ceci nous a donné les résultats suivants : la variable dette et croissance sont corrélées positivement avec le 1er axe et le chômage positivement. Pour le deuxième axe le solde primaire est corrélé positivement alors que l'inflation est corrélée négativement.

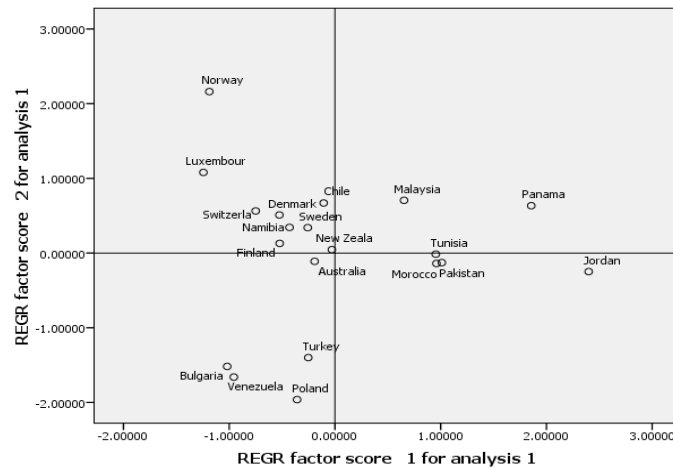
Figure 6 : Distribution des variables sur le graphe de l'ACP (établi par nos propres soins)



Et Comme troisième étape, on peut donc faire une projection des individus (pays) pour voir l'effet global des règles budgétaires sur les niveaux des principaux agrégats macroéconomique retenu. Il ressort ainsi, qu'après l'adoption des règles les pays se sont intéressés davantage à l'amélioration de leur solde budgétaire alors que les pays qui n'ont pas adopté de règles sont liés davantage à leur niveau de la dette publique. Ces résultats confirment les constats de l'effet positif des règles budgétaire sur l'amélioration des performances économiques¹¹.

¹¹ Lorsqu'un pays est fortement endetté et qu'il cherche à réduire son déficit public, il lui faut dégager un solde primaire largement excédentaire pour compenser le poids élevé des charges d'intérêt dans le déficit public

Figure 7 : Projection des individus (pays) sur le graphe de l'ACP (établi par nos propres soins)



3.3. Estimation d'une fonction de réaction budgétaire (en Panel)

Pour évaluer la règle budgétaire plusieurs modèles ont été testés et ont présenté dans un premier temps, un modèle d'ajustement partiel pour modéliser les règles de politiques économiques. On note entre autre le modèle proposé par Clarida, Gali et Gertler (1998), plus tard repris et adapté par Ballabriga et Martinez-Mongay (2002). Clarida, Gali et Gertler (1998). Dans cette représentation les autorités définissent en fonction de différents indicateurs, la valeur cible de leur instrument. Ensuite, Ballabriga et Martinez-Mongay (2002) présentent le solde budgétaire comme l'instrument (dans leur cas, ils ont utilisé une cible de solde primaire). A l'équilibre, le solde est égal à la somme de l'écart passé du ratio dette sur PIB nominal à sa cible et de l'anticipation de la position cyclique de l'économie à la période courante.

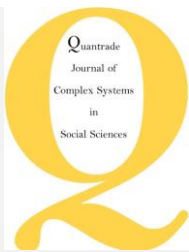
Pomier Sébastien (2004¹²) a étudié l'évolution et asymétries des règles européennes de politique budgétaire et mise en œuvre du Pacte de stabilité¹³ European, Les résultats montrent que le solde primaire devient plus inerte et corrige davantage l'évolution de la Dette. La correction de la dette semble imputable aux politiques discrétionnaires. Les règles budgétaires disciplinées révèlent néanmoins une certaine asymétrie conjoncturelle : la politique discrétionnaire apparaît pro-cyclique durant les ralentissements et acyclique durant les reprises. L'ampleur des stabilisateurs automatiques est également moindre en période de basse conjoncture.

Pour notre étude, Il y a une principale hypothèse à vérifier lors de l'estimation de la fonction de réaction budgétaire est que les pays ajustent l'excédent budgétaire primaire en réponse aux changements de l'endettement de façon à assurer la soutenabilité de la dynamique de la dette dans le temps. Suite à la littérature empirique (Bohn, 1998; Gali et Perotti, 2003), la spécification de la fonction de réaction budgétaire est basée sur la contrainte budgétaire inter temporelle suivante :

$$b_t + (r_t - g_t)d_{t-1} = \Delta d_t + \Delta m_t + (\pi + g_t)m_{t-1}$$

¹² Pomier Sébastien, « Évolutions et asymétries des règles européennes de politique budgétaire et mise en œuvre du Pacte de stabilité », *Economie et prévision*, 2004/1 no 162, p, 95-109 : Cet article examine les tendances récentes des performances budgétaires au Brésil, estime les fonctions de réaction budgétaire pour le secteur public consolidé et les différents niveaux d'administration, et teste la soutenabilité de la dynamique de la dette publique. L'analyse empirique, basée sur des données mensuelles pour la période 1995-2004, suggère que tous les niveaux d'administration réagissent fortement aux changements de l'endettement en ajustant leurs cibles d'excédent budgétaire primaire.

¹³ Le Pacte de stabilité constitue une règle de discipline budgétaire qui recommande l'abandon de l'activisme contra-cyclique au profit des stabilisateurs automatiques pour opérer la régulation conjoncturelle. Cet article tente de représenter les règles budgétaires suivies par les gouvernements européens depuis 1970 afin de tester la fiabilité de cette ligne de conduite.



b : le ratio du solde primaire sur le PIB
 r : le taux d'intérêt réel
 g : le taux de croissance réel du PIB
 d : le ratio de la dette sur le PIB
 m : ratio monétaire de base sur le PIB
 π : l'inflation

❖ **Modèle retenu**

La fonction de réaction budgétaire utilisée pour notre modèle est celle de Luiz de Mello (2005)¹⁴. Ce modèle est estimé par une régression de l'excédent primaire sur la dette publique, définis tous les deux en pourcentage du PIB. Le modèle est comme suit :

$$Bi(t) = a_0 + a_1 bi(t-1) + a_2 di(t-1) + a_3 Ci(t) + ui$$

Le principal paramètre d'intérêt dans l'équation est a_2 , qui devrait être de signe positif, ce qui indique que l'augmentation du ratio de la dette publique est associée à une augmentation de l'excédent budgétaire primaire. Les contrôles standard comprennent l'écart de production (pour saisir l'impact du cycle économique sur la budgétaire, en fonction de la taille des stabilisateurs automatiques) et l'inflation (pour tenir compte des chocs sur les revenus de seigneurage).

Notre objectif à travers l'estimation de la fonction de réaction de Mello (2005) est d'évaluer la réaction, des pays de l'échantillon qui ont adopté les règles budgétaires, aux variations de l'endettement par rapport l'ajustement de leurs objectifs relatifs à l'excédent primaire¹⁵.

❖ **Estimation de la fonction de réaction en Panel (1990-2013) :**

$$Bi(t) = a_0 + a_1 bi(t-1) + a_2 di(t-1) + a_3 Ci(t) + ui$$

Model à effet fixe (Panel) : Variable dépendante : Solde primaire (en % du PIB)

Tableau 6 : Résultats de l'estimation d'une fonction de réaction budgétaire en Panel

Variables explicatives	Modèle 1	Modèle 2
Solde Primaire retardé $bi(t-1)$	0,752*** (P=0,000)	0,741*** (P=0,000)
Dette retardé $di(t-1)$	0,037*** (P=0,000)	0,029*** (P=0,002)
Inflation $I(t)$	---	0,001 (P=0,760)
Inflation retardée $I(t-1)$	0,0003 (P=0,920)	---
Output Gap $OG(t)$	---	0,004 (P=0,234)
Output Gap $OG(t-1)$	0,005 (P=0,177)	---
Constante (ui)	1,745*** (P=0,005)	0,527 (P=0,391)
Within¹⁶ R=	0,57	0,57
Prob F=	0,0025	0,0184

(Modèle 1) $Bi(t) = 1,75 + 0,75bi(t-1) + 0,04 di(t-1) + 0,0003I(t-1) + 0,005OG(t-1) + ui$

(Modèle 2) $Bi(t) = 0,527 + 0,74bi(t-1) + 0,03 di(t-1) + 0,001I(t-1) + 0,004OG(t-1) + ui$

¹⁴ Estimating a fiscal reaction function: the case of debt sustainability in brazil- economics department working papers, 2005 no. 423

¹⁵ Il s'agit de voir cette réaction à l'endettement s'elle a été renforcé au niveau national grâce à l'introduction de la règle de restriction de la dette;

¹⁶ Pour ce modèle à effet fixe, le R2 le plus pertinent est le R2 within car il donne une idée de la part de la variabilité intra-individuelle de la variable dépendante expliquée par celle des variables explicatives. Le R2 between quant à lui donne une idée de la contribution des effets fixes au modèle.

Dans notre cas, puisque l'impact marginal varie d'un pays à un autre, il faut donc pour des besoins d'interprétation des résultats, calculer un impact marginal moyen qui sera celui d'un pays fictif. Il existe deux méthodes pour calculer l'impact marginal moyen d'une variable :

- (3) Calculer l'impact marginal pour un pays fictif qui a les caractéristiques moyennes de tout l'échantillon.
- (4) calculer l'impact marginal en utilisant la moyenne sur tout l'échantillon de l'expression

$$Pr * (1 - Pr)$$

```
dlogit2 rgle dette inflation soldeprim croissance outputgap dummiesup,ro
Marginal effects from logit      Number of obs = 336
chi2(6)      = 101.90
Prob > chi2   = 0.0000
Marginal effects from logit      Number of obs = 336
Log Likelihood = -112.76982      Pseudo R2    = 0.5072
```

Tableau 8 : Résultats de l'estimation et impacts marginaux

Règle	Coefficient	Std. Err.	z	P>z	[95% Conf. Interval]
<i>dette</i>	-.0071163	.0023039	-3.09	0.002	-.0116318 -.0026008
<i>inflation</i>	-.0108977	.0160998	-0.68	0.498	-.0424528 .0206574
<i>soldeprim</i>	.0469974	.0103649	4.53	0.000	.0266825 .0673123
<i>croissance</i>	-.0171718	.0152166	-1.13	0.259	-.0469957 .0126521
<i>outputgap</i>	.02433	.0026719	9.11	0.000	.0190932 .0295667
<i>Dummy supra</i>	.1195284	.0950972	1.26	0.209	-.0668586 .3059154
<i>constante</i>	-1.780253	.2511075	-7.09	0.000	-2.272415 -1.288092

Source: établi par nos soins

Marginal effects evaluated at

```
dette inflation soldeprim croissance outputgap dummiesup _cons
x 41.18527 7.631404 1.07435 3.019039 91.4812 .2738095 1
```

Le coefficient de la variable dette peut être interprété de la manière suivante : une augmentation du niveau de la dette de 10% accroît de 7 points de pourcentage la probabilité qu'une règle budgétaire survive. En dessous du tableau sont représentées les valeurs moyennes auxquelles les impacts marginaux ont été évalués.

Les règles ont eu un impact négatif sur les niveaux de la dette et positif sur le solde primaire. En effet, les années où on a adopté les règles, le solde primaire s'est amélioré pour couvrir l'endettement.

- **Qualité de la prédiction :**

Que ce soit après un modèle Logit ou un modèle Probit, on peut faire un tableau de prédiction du modèle pour évaluer sa qualité à prédire les valeurs 0 et 1 de la variable dépendante. On fixe un seuil arbitraire de probabilité et on suppose que si la probabilité prédite est supérieure à ce seuil alors la variable dépendante est égale à 1 (événement) et si la probabilité prédite est inférieure à ce seuil, alors la variable dépendante est égale à 0 (non événement). On compare ensuite ces prédictions aux vraies valeurs prises par la variable dépendante. Le seuil souvent utilisé est 0,5. On peut également utiliser comme seuil la moyenne de la variable dépendante¹⁸.

¹⁸ La commande lstat permet d'obtenir le tableau de prédiction après une estimation avec la commande logit ou probit.

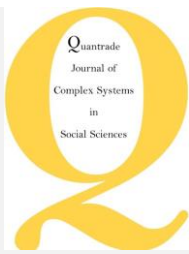


Tableau 9 : Tableau de prédiction du modèle (Logistic model for rgle)

----- True -----			
Classified	D	~D	Total
+	170	35	205
-	24	107	131
Total	194	142	336
Classified + if predicted $\Pr(D) \geq .5$			
True D defined as rgle != 0			

Source: établi par nos soins

Le seuil utilisé est 0,5 c'est le seuil par défaut¹⁹. Le tableau de prédiction montre que pour les années où les pays qui ont adopté les règles budgétaires 170 cas sur 205 ont été bien prédit (probabilité supérieur à 0,5%) et pour les années où les pays qui n'ont pas adopté les règles budgétaires 107 sur 131 ont été bien prédits. Le taux de prédiction du modèle est 82%. Il est égal à la somme des cas correctement prédit rapportée au nombre totale d'observations, soit :

$$100 \cdot (170 + 107) / 336 = 82,44 \% .$$

4. CONCLUSION

L'analyse de la volatilité des principaux agrégats économiques, à savoir la croissance, l'inflation, le solde budgétaire au niveau des pays étudiés, montre que l'introduction de la règle a eu un effet positif dans quelques pays et a échoué à en avoir dans d'autres. Le solde primaire des pays étudiés a pu dégager un excédent après l'adoption des règles et a permis de financer les déficits et la dette publique dans la majorité des cas.

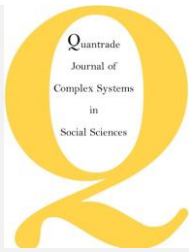
L'analyse en composantes principales a permis de mettre en exergue l'effet global des règles budgétaires sur les niveaux des principaux agrégats macroéconomique retenus au niveau de deux groupes de pays (ayant adoptés des règles budgétaires et n'ayant pas adoptés). Il ressort ainsi, que pour les pays ayant adoptés les règles budgétaires nationales, ils se sont intéressés davantage à l'amélioration de leur solde budgétaire en vue de compenser leurs niveau de la dette publique alors que les pays qui n'ont pas adopté de règles budgétaires sont liés principalement à leur niveau de la dette publique. En effet, lorsqu'un pays est fortement endetté et qu'il cherche à réduire son déficit public, il lui faut dégager un solde primaire largement excédentaire pour compenser le poids élevé des charges d'intérêt dans le déficit public.

L'estimation d'une fonction de réaction en données de Panel ainsi que la modélisation qualitative en Logit ont permis de mettre en relief les déterminants des règles budgétaires au niveau de notre échantillon. En effet, les modèles linéaires et non linéaires utilisés ont permis d'avoir des résultats qui concordent avec les analyses empiriques (FMI 2009, Mello 2005 entre autres) en ce qui concerne les effets positifs des règles nationales sur les performances de la politique budgétaire notamment la dette, l'inflation et le solde primaire. Nonobstant, les règles numériques ne sont efficaces que si elles s'appuient sur des procédures budgétaires qui les rendent contraignantes. Cela implique qu'outre une base légale ou constitutionnelle, une autorité budgétaire indépendante devra surveiller l'évolution des données budgétaires par rapport aux objectifs, en proposant des mesures de redressement lorsque des dérapages budgétaires sont constatés, en évaluant l'efficacité des règles budgétaires en termes de soutenabilité des finances publiques et d'autres objectifs de politique économique.

A cet effet, une règle de politique budgétaire, qu'elle soit numérique ou procédurale, ne suffit pas à garantir la discipline budgétaire. Pour qu'elle soit crédible et efficace, il faut aussi un engagement fort largement partagé.

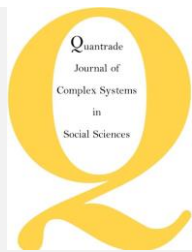
L'évaluation de l'effet des règles sur l'évolution des niveaux des principaux agrégats macroéconomiques économiques fait ressortir qu'ils semblent être affecté par les effets de la crise financière de 2008 pour la majorité des pays de l'échantillon où les performances budgétaires et économiques en général ont été ralenties et auraient un impact négatif sur la croissance et sur l'instabilité financière aussi bien au niveau des pays développés que celui des pays en cours de l'être.

¹⁹ On peut utiliser comme seuil la moyenne de la variable dépendante.



References

- Agénor, P. and Yilmaz, D. (2011). "The Tyranny of Rules: Fiscal Discipline, Productive Spending, and Growth in a Perfect Foresight Model". *Journal of Economic Policy Reform*, 14: 69-99.
- Bergman, U., Michael and Hutchison M. (2015). "Economic Stabilization in the Post-Crisis World: Are Fiscal Rules the Answer?". *Journal of International Money and Finance*, 82: 82-101.
- Farvaque É et al. (2005). "Stabilisation et transparence La règle budgétaire de Taylor et le Pacte de stabilité", *Revue de l'OFCE* (no 92) / 338 pages Editeur : Presses de Scien Po.
- Farvaque E., Huart, F. and C. Vaneecloo (2006). "Taylor's fiscal rule: An exit to the Growth and Stability Pact dead-end", *Acta Oeconomica*, 56(3): 323-340.
- Farvaque E., Huart, F. and Vaneecloo, C. (2005). "Stabilisation et transparence: la règle budgétaire de Taylor et le Pacte de stabilité", *Revue de l'OFCE*, 92: 99-144.
- FMI, (2009) : *Fiscal rule: Anchoring Expectations for sustainable public finances*. Page 46.
- Friedman, M. (1967). *Studies in the quantity theory of money*, University of Chicago Press
- Huart, F. (2010). "Le débat sur les règles de politique budgétaire", *Cahiers français*, La documentation française, 359 : 83-89.
- Huart, F. (2011), "Typologie et impact des règles de politique budgétaire", *Gestion et Finances Publiques - La Revue (ex-Revue du Trésor)*, 11: 822-830.
- Huart, F. (2012). "La règle d'or des finances publiques", *Cahiers français*, La documentation française, 368 : 83-87.
- Huart, F. (2013). "Is fiscal policy procyclical in the euro area?", *German Economic Review*, 14(1): 73-88.
- Huart, F. and Lagadec, G. (2013). "Current account balance and exchange rate adjustment in New Caledonia". *Economics Bulletin*, 33(1): 113-125. in brazil- economics department working papers, 2005 no. 423.
- Kopit, G and Symanski, S. (1998). "Fiscal policy rules". *IMF*, occasional paper, 162.
- Kydland, F. and Prescott, E. (1983). "Rules Rather than discretion: the inconsistency of optimal plans". *Journal of Political Economy*, 91(4).
- Laaribya S., Alaoui A. (2017). Rural women and the forest issues preservation - Case study, Morocco. 10(2) (S2)- *Biological Diversity and Conservation-ISSN 1308-8084 Online; ISSN 1308-5301 Print*.
- Laaribya S., Alaoui A. and Gmira N. (2017), "The Moroccan forest and sustainable development case of the argan tree (*Argania spinosa* (L.) Skeels) in Morocco". 10(2) (S2)- *Biological Diversity and Conservation-ISSN 1308-8084 Online; ISSN 1308-5301 Print*.
- Pommier S. (2004). "Évolutions et asymétries des règles européennes de politique budgétaire et mise en oeuvre du Pacte de stabilité". *Economie and prévision*, 2004/1(162) : 95-109.
- Reuter, W. H. (2015). "National Numerical Fiscal Rules: Not Complied With, But Still Effective?". *European Journal of Political Economy*.
- Tabsoa R. (2012). Inflation Targeting and fiscal rule in developing countries-thèse de doctorat. *Université d'auvergne*.
- Van Aarle B. and Huart, F. (1999). "Monetary and Fiscal Unification in the EU: a Stylized Analysis". *Journal of Economics and Business*, 51(1): 49-66.
- Van Aarle B., Garretsen, H. and Huart, F. (2004). "Policy Rules in the Euro Area and International Interdependencies". *Applied Economics Quarterly*, 50(3): 279-297.
- Webographie** : <http://www.imf.org/external/data.htm>.



Is Middle Income Trap a Threat for BRICS Countries?

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Abstract

The middle income trap implies the economies that cannot show breakthrough after reaching a certain per capita income level and that they are stuck in that income level. The middle income trap prevents economies from reaching a higher income level and eliminating development differences with other countries. For this reason, whether countries are at risk of catching a middle income trap and structural measures should be taken to get rid of it for economies of the countries that are exposed to the trap are important. In this study, it is examined whether BRICS economies are in the middle income trap or not. Gross Domestic Product (GDP) per capita has been used variable. The analysis using the panel data method covers the years 1988-2018. According to the results obtained from the study, it was determined that the BRICS countries examined did not have the risk of middle income trap.

Keywords: BRICS Countries, Middle Income Trap, Panel Data

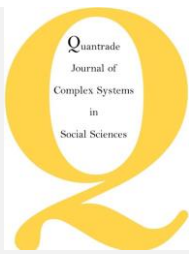
1. Introduction

Middle income trap was developed by the world bank in 2005 while investigating economic development in east Asia, the world bank realized that there was no solid growth direction to policy makers in middle income economies (world bank, 2015). The income per capita intervals defined by World Bank are as follows: the middle income range is between \$1006 and \$3955 for lower-middle income countries, and is between \$3956 and \$12235 for the upper-middle income countries.

Gill et al, 2007 defined middle-income trap in their “An East Asian Renaissance” report and stated that the Middle East and Latin America as examples of middle-income trap that couldn’t get away or escape from the trap for decades. The situation in which a middle-income country that lacks behind in economic growth is the middle-income trap. For instance middle income countries could not accelerate their economic growth and could not compete with high income countries which are characterized with big economic activities and sound technological developments, with low income countries too which are characterized with little expertise task at lowest cost (Garret, 2004). Middle income trap countries are starved with low skilled workforce and minor technological base with inventive economic structure thus the countries lack economic competitiveness and the ability to achieve higher economic growth hence getting stagnant at the middle income trap (Tho, 2013).

Many developed countries completed their transition from low-income to middle-income level however these countries failed to manage it in transition to high-income and stagnated in the middle-income level. This is defined as the middle-income trap which is the inability of the economies to move towards a higher level of income per capita. Middle income trap is a new concept in economic literature and it is a status where economic activities become unable to accelerate or grow (Acaro et al, 2016).

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Middle income trap can be described as experiencing economic decline or downturn of countries which had bigger economic rise previously (Cai, 2012). Middle income trap specify to countries that stagnate after attaining the middle income status. A country stuck for twenty-eight years or higher in lower middle income level is cornered in low middle income trap (Acaro et al, 2016). Economies with high foreign trade quantities in high technology commodities, adequate human capital have a small possibility of getting into economic stagnation thus reducing the possibility to fall into middle-income trap (Xon et al, 2013).

2. Literature Review

The middle-income trap defines a situation that a middle-income country (MIC) falls into economic stagnation and becomes unable to advance its economy to a high-income level for certain reasons specific to MICs according to the study in (Tuğcu, 2015). In study depending on the World Bank income levels classification which are used to decide the countries stuck in middle-income trap is followed to find a way out from the middle-income trap. A binary model was deployed in the study in order to do so. This binary model includes cross-section data of 26 high- and middle-income economies. According to the research, investment in education, health and R&D could be more helpful for a country to achieve high-income level.

Similarly, another review study by (Pruchnik et al, 2017) established a conceptual framework about middle income-trap by presenting an extensive literature review of the middle income-trap concept. The paper also considers different definitions and put together a list of countries that are stuck in the middle income-trap. The work explains how there are significant inconsistencies among the prevailing definitions of the middle income-trap. At least by one definition, 60.2 percent of the countries have been listed as stuck in the trap where as 48.4 percent of the countries are listed as middle-income according to the World Bank classification.

Another literature survey study (Glawe et al, 2016) surveys various middle income-trap literature by laying out different techniques for defining the middle income-trap. The focus of the definitions was emphasized on the distinction between absolute and relative approaches. The paper also presents a classification of the most important empirical studies. The results of the survey indicate that an appropriate, clear, and generally accepted definition remains as one of the major problems of the middle income-trap concept.

Middle income-trap and Turkey (Kesgingöz et al, 2016) is another work that employs the use Philips- Perron (PP) unit root test to investigate whether Turkey is a trap in the middle income-trap or not. The findings of the study indicate that Turkey is currently in the upper-middle income-trap. The paper recommends that for Turkey to exit the upper-middle-income trap and fly into the high-income status there is a need for the country to engage in some economic policies such as providing an opportunity for everyone, setting a sustainable financial system, subsidizing international trade, and providing balanced and sustainable economic growth.

An overview of studies that made in analytical and empirical ways about middle-income trap have been presented within the study by (Agénor, 2017). This study includes descriptive and statistical tests on the middle-income traps. Study also examines the arguments about the existence and persistence of the middle-income traps. Also some public policies have been mentioned in order to avoid and escape from middle-income traps. As conclusion the study provides directions for further theoretical and empirical studies.

3. Features of middle Income Trap

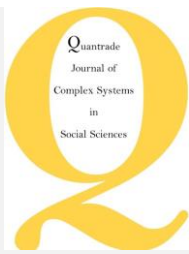
Middle income trap arises when a country attains or achieves the middle income status then fails to accelerate its economic growth and income per capita to the high income level, the Latin American countries constitute the most countries cornered in the middle income trap hence simplifying the middle income trap into "Latin American Disease" (Xue et al., 2014:1).

The middle income trap can be associated with the following features:

1. The rise of income per capita to \$ 16,740, established fixed prices from 2005
2. The income per capita gets to 58% of the USA level
3. The manufacturing industry share of a country reaches 23% (Eichengreen et al, 2011).

Middle income trap has also been associated with following features:

1. An inferior level of economic heterogeneity
2. Small scale level of human and infrastructural development



3. Powerless legal institutions
4. Low sophisticated relationship among sectors of the economy
5. The exportation of low technological goods and lack of diversity for exported goods

The factors above have a considerable high chance of keeping an economy in the middle income trap Felipe, et al, 2012). Middle income trap can be attributed to countries that are not able to acclimate to modern urbanization, these countries lack the capability to develop its human capital and drive economic changes that can lead to economic growth thus get trapped in the middle income level (Jankowska et al, 2012).

3.1. Challenges faced by Middle Income Trap Countries

Countries Stuck in the middle income trap are often faced with many challenges these challenges are what prevent them from reaching their potentials and becoming high income countries. Middle income trapped countries suffer from lack of advanced infrastructure and infrastructural development aids countries to boost their production capacities and promote innovation which in turn will stimulate economic growth however with the deficiency of advanced infrastructure middle income countries find themselves stagnant and not having ability to grow which leads to being trapped in the middle income level (Agenor et al, 2012). Also they are associated with powerless Institutions and following of due processes will turn around economic activities in a country. Advanced institutions will not only attract foreign investments but will create a healthy environment for economic growth (Felipe, et al, 2012). Low level of economic diversification is often linked with such countries the economic structure of such countries plays an important role in the country's growth to the high-income level (Eichengreen, et al, 2013).

Inefficient financial market is also a big obstacle as developed financial markets play an important role in promoting innovation and facilitating the transition of a nation to a high-income level (Agenor et al, 2014). Finally, these countries have Inefficient labor market hat may deter recruiting, increasing the likelihood of falling into the middle income trap.

3.2. Prospects of Middle Income Trap Countries

Middle income trap can be avoided or escaped by putting much value to education together with big emphasis on highly competitive goods export (Kanchoochat et al, 2014). However according to (Agénor et al, 2012) there are two main policies middle income trapped countries can utilize to drive economic growth and escape middle income trap they include:

1. Labor market Improvements: lack of skilled workers will deter economic growth as employees will not be able to get skilled laborers who can do the technical works there by slowing economic activities.
2. Application of Property Rights: Successful innovations from individuals and firms has to be protected, but in middle income countries that is often not the case which leads to discouragement and loss for both the individuals and firms as such property rights should be safeguarded to boost the level of innovation.

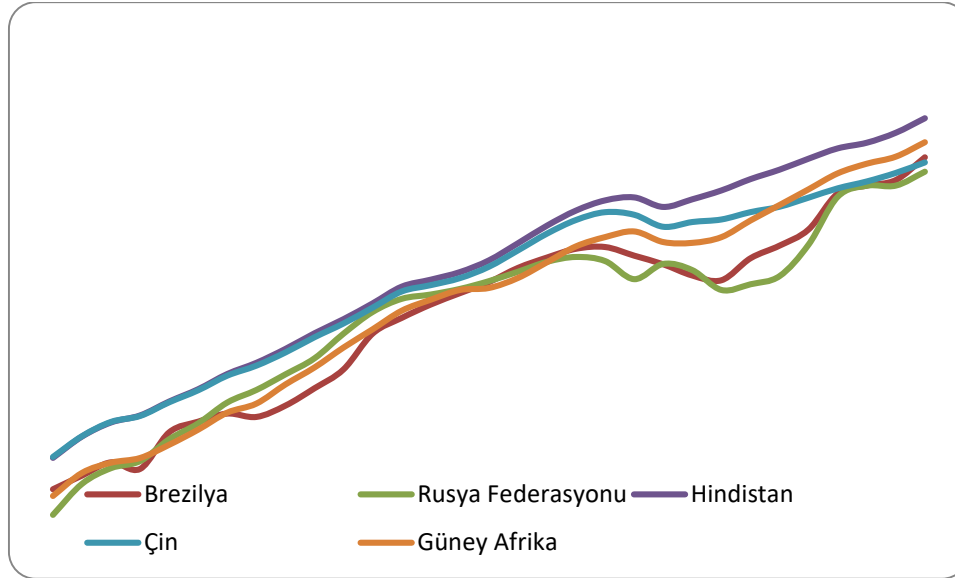
Since 1960, solely 13 countries realized a transition from middle-income to high-income status. 5 of these countries were East Asian countries. Developments in infrastructure networks, mainly in high-speed communication and broadband technologies can be stated as success for these countries. Instead of importing foreign technologies innovating their own technologies has been another crucial factor for their transition to high-income status.

4. Empirical Results

In this study, whether the economies of Brazil, Russia, China, India and South Africa were in the middle income trap between 1988 and 2018 were investigated by using the panel data method. In the study, the United States was taken as the reference country. Based on the study of Robertson and Ye (2013), the gross domestic product per capita value of each country is subtracted from the same value of the reference country. Thus, in empirical analysis, the natural logarithm

of the difference series was used. $\ln GDPPC_{it} = \ln GDPPC_{it} - \ln GDPPC_{USAt}$

Graphic 1: Per Capita Gross Domestic Product Differences between BRICS Countries and U.S.



As obvious in the graph, Russia might be considered as the most fragile economy in the group. The economy depending on energy resources is a big risk especially when the world has a shock in production. The world crises in 2009 hit Russia most. India is the best performing country at all.

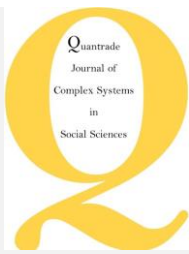
Table 1. Horizontal-Section Dependency Tests

Constant Model	GDPPC Statistics	Probability Value
CD_{lm} (BP,1980)	87.511	0.00***
CD_{lm} (Pesaran, 2004)	17.332	0.00***
CD (Pesaran, 2004)	-2.925	0.00***
LM_{adj} (PUY, 2008)	6.655	0.00***

$$\Delta y_{i,t} = d_i + \delta_i y_{i,t-1} + \sum_{j=1}^{p_i} \lambda_{i,j} \Delta y_{i,t-j} + u_{i,t}$$

Notes: For model, lag length is considered as (p_i) 1. The figures which is ***, **, * show 1 %, 5 % and 10 % levels, respectively

It shows whether the countries forming the panel of horizontal cross-section dependence are affected by each other. It shows that countries forming the panel of zero hypothesis in horizontal cross-section dependence do not affect each other, therefore there is no horizontal cross-section dependence. The alternative hypothesis shows that there is a horizontal cross-section dependence among the countries that make up the panel, so they affect each other. According to the probability values, it was concluded that an alternative hypothesis of 1% significance level was accepted and BRICS countries influenced each other in terms of economic growth. Even it is not a big surprise to see the validity of performing together, that situation is a subject to be investigated in the further studies. Due to the horizontal cross-section dependency, second generation unit root tests should be applied. Therefore, empirical analysis will continue with cross-sectionally augmented Dickey-Fuller (CADF) developed by Peseran (2007). In the CADF test, the null hypothesis is a variable unit



root and is not in the middle income trap. The alternative hypothesis is that the variable has no unit root and is in the middle income trap.

Table 2. CADF Unit Root Test

		Constant		Constant and Trend	
		Lags	CADF-stat	Lags	CADF-stat
Brazil	1	-1.031	1	-1.282	
Russia	1	-2.577	1	-2.583	
India	1	-1.967	4	-3.338	
China	1	-2.074	4	-3.458	
South Africa	3	-0.746	3	-2.298	
Panel		-1.679		-2.592	

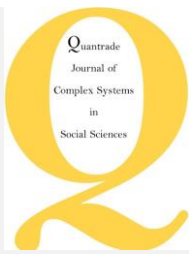
Notes: The maximum delay length is taken as 4 and the optimal delay lengths are determined according to the Schwarz information criteria. CADF statistics critical values, constant model -4.11 (%1), -3.36 (%5) and -2.97 (%10) (Pesaran 2007, table I(b), p:275) ; constant and trend model -4.67 (%1), -3.87 (%5) and -3.49 (%10) (Pesaran 2007, table I(c), p:276). Panel statistic critical values, constant model -2.57 (%1), -2.33 (%5) and -2.21 (%10) (Pesaran 2007, table II(b), p:280) ; constant and trend model -3.10 (%1), -2.86 (%5) and -2.73 (%10) (Pesaran 2007, table II(c), p:281). Panel statistic is average of CADF values.

Based on the results in Table 2 depict that the BRIC countries move together. According to these results, they do not have a middle income trap risk. The countries trapped in the middle-income have some policy alternatives to deploy in order to escape or prevent the middle-income trap. Building modern infrastructure, toughening property rights regulation through patent protection and reforming of labor markets are among these alternatives.

Table 3. Im, Lee and Tieslau (2005) Structural Break Panel Unit Root Tests

GDP	One break model					
	Level shift model: Break in constant			Level and trend shift model: Break in constant and trend		
	Lag	LM-stat.	Break Time	Lag	LM-stat.	Break Time
Brazil	1	-3.524	2008	3	-4.336**	2005
Russia	1	-2.747	2005	3	-3.251	2007
India	1	-3.607	2008	1	-3.664*	2008
China	1	-3.049	2000	1	-3.019	2000
South Africa	1	-3.75	2001	1	-3.785	2001
Panel-LM		-4.801			-3.154	
p-value		0.00***			0.00***	
Two breaks model						
Brazil	0	-5.755***	1994 - 2005	3	-6.338***	1994 - 2005
Russia	3	-5.678***	2001 - 2009	3	-6.752***	2004 - 2008
India	1	-7.140***	2004 - 2009	1	-7.463***	2004 - 2010
China	1	-7.552***	2004 - 2010	1	-8.623***	2004 - 2010
South Africa	1	-5.105**	1997 - 2008	1	-5.256**	2001 - 2012
Panel-LM		-15.218			-13.782	
p-value		0.00***			0.00***	

Notes: Critical values for individual statistics for one break model: -4.604 (1%); -3.950 (5%); -3.635 (10%)



Critical values for individual statistics for two breaks model: -5.365 (1%); -4.661 (5%); -4.338 (10%)

Maximum delay length was taken as 4 and optimal delay lengths were determined by the “t-stat significance” approach. The figures which are ***, **, * show 1 %, 5 % and 10 % levels, respectively

With the implementation of these policies middle income trapped countries will be able to escape the trap and this will lead to more foreign investments flowing into the economy thus accelerating escape from middle income trap. BRICS countries did well in terms of that criteria in the observed period.

When the break dates are considered, for all countries the global crises affects BRICS economies in general but Brazil. Brazil after 2002 reached a different government and mostly adapted to market economy even there were critics. Apart from that, the interest rates were the highest as %19,75. Those domestic problems already cause a sharp decrease in Brazil economy. All other countries had a shock in recession but Brazil felt it a bit earlier, so did not respond sharply. 2004 on the other hand is a great year for especially emerging markets, with the global funds, even the petrol prices were high, the world in general had a high growth rate.

5. CONCLUSION

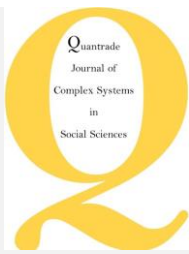
Middle Income trap is a problem faced by many countries, it can be tricky because at first those countries were at the lower income level but over time grew steadily and reached a stagnation at the middle income level hence finding it difficult to move to higher income level, even though the high income and middle income share a lot of similarities in their economic structure only a few could cross over and avoid the middle income trap. After former World Bank President Robert Zoellick had introduced China 2030 program, Middle income trap gained a significant popularity.

BRIC countries, Indonesia, Malaysia, and Vietnam.

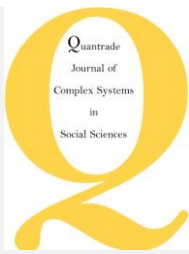
Nowadays, many countries have been trapped in middle-income but not the countries from the emerging market group alone like the BRIC countries, Vietnam, Malaysia and Indonesia, as some studies show the countries with an upper-middle-income level such as Poland and Turkey, and even some high-income countries like Greece. It is an important criteria to find out if those countries have a risk in terms of Middle income trap. According to the data between 1988 and 2018 and by using the panel data method our findings suggest that, BRICS countries as of 2019 do not have a middle income trap risk.

References

- Acaro, H. and Fak, B. (2016). *An Empirical Remark about Middle Income Trap Problem for Turkey* * Yrd. Doç. Dr. Ayşen ALTUN ADA. 7–11.
- Agenor P., Canuto O. and Jelenic M. (2012). “Avoiding Middle-Income Growth Traps”. *World Bank Policy Research World Bank Other Operational Studies*. No. 16954, The World Bank.
- Agénor, P., Canuto O. and Jelenic M. (2012). “Avoiding Middle-Income Growth Traps”, *Economic Premise*, 98: 1–7. 4.
- Agénor, P. R. (2017). “Caught in the Middle? the Economics of Middle-Income Traps”. *Journal of Economic Surveys*, 31(3): 771–791. <https://doi.org/10.1111/joes.12175>.
- Breusch, T., Pagan, A., (1980). *The Lagrange multiplier test and its application to model specification in econometrics*. *Rev. Econ. Stud.* 47: 239–253.
- Cai, F. (2012). Is There a Middle Income Trap? Theories, Experiences and Relevance to China, *China & World Economy*, 20(1): 49-60.
- Eichengreen, B., Park, D. and Shin, K. (2011). When Fast Growing Economies Slow Down: International Evidence and Implications for China. *NBER Working Paper*. 16919.
- Felipe J., Abdon A. and Kumar U. (2012). “Tracking the Middle-income Trap: What is It, Who is in It, and Why?” *ADB Economics Working Paper*. Series No. 306 and No. 307, Asian Development Bank.
- Garret G. (2004). “Globalization’s Missing Middle”. *Foreign Affairs*, 83: 84–96.



- Gill I. and Kharas H. (2007). "An East Asian Renaissance: Ideas for Economic Growth." *The World Bank*.
- Glawe, L. and Wagner, H. (2016). "The middle-income trap: Definitions, theories and countries concerned - A literature survey". *Comparative Economic Studies*, 58(4): 507–538. <https://doi.org/10.1057/s41294-016-0014-0>.
- Im, K. S., Lee, J. and Tieslau, M. (2005). "Panel LM unit-root tests with level shifts". *Oxford Bulletin of Economics and Statistics*, 67(3): 393-419.
- Jankowska A., Nagengast A. and Ramon J. (2012). "The Product Space and the Middle-income Trap: Comparing Asian and Latin American Experiences". *OECD Development Centre Policy Insights*. No. 311, OECD.
- Kanchoochat, V. and Intarakumnerd, P. (2014). "Tigers Trapped: Tracing the Middle-income Trap through the East and Southeast Asian Experience". *Berlin Working Papers on Money, Finance, Trade and Development*. No: 04.
- Kesgingöz, H. and Dilek, S. (2016). "Middle Income Trap and Turkey". *The Empirical Economics Letters*, 15(7):657-666.
- Lee, J., and Strazicich, M. C. (2003). "Minimum Lagrange multiplier unit root test with two structural breaks". *Review of Economics and Statistics*, 85(4): 1082-1089.
- Lee, J. and Strazicich, M. C. (2004). "Minimum LM unit root test with one structural break. Manuscript", *EconPapers*, No 04-17. Working Papers from Department of Economics. Appalachian State University. 1-16.
- Paper, W. (2015). "The Middle-Income Trap Turns Ten". Documents & Reports (August). *The World Bank*.
- Pesaran, M. H. (2004). "General Diagnostic Tests for Cross Section Dependence in Panels". *University of Cambridge Working Paper*. No: 0435.
- Pesaran, M. H. (2007). "A simple panel unit root test in the presence of cross-section dependence". *Journal of Applied Econometrics*, 22(2): 265-312.
- Pesaran, M. H., Ullah, A. and Yamagata, T. (2008). "A bias-adjusted LM test of error cross section independence". *Econometrics Journal*, 11: 105–127.
- Pesaran, M. H. and Yamagata, T. (2008). "Testing slope homogeneity in large panels". *Journal of Econometrics*, 142(1): 50-93.
- Pruchnik, K. and Zowczak, J. (2017). *Middle-Income Trap: Review of the Conceptual Framework*. Retrieved from <https://www.adb.org/publications/middle-income-trap-mit-review-conceptual-framework>.
- Robertson, P. E. and Ye, L. (2013). On the existence of a middle income trap. *University of Western Australia Economics Discussion Paper*. No: 13.12.
- Westerlund, J. (2007). "Testing for error correction in panel data". *Oxford Bulletin of Economics and Statistics*, 69(6): 709-748.
- Tho, T.V. (2013). "The Middle-Income Trap: Issues for Members of the Association of Southeast Asian Nations". *VNU Journal of Economics and Business*, 29(2): 107-128.
- Tugcu, C. T. (2015). How to escape the middle income trap: international evidence from a binary dependent variable model. *Theoretical and Applied Economics*, 22(1): 49–56.
- Xon, J. G. D., Hoong, Y. L., Ting, T. L., Chin, K. T. and, Kuan, L. W. (2013). "Middle-income Trap: From the Perspective of Economic Growth", Bachelor of Economics (Hons) Financial Economics. *University Tunku Abdul Rahman*.
- Xue, J., Umali, C.L., Tetsuya, F., Ohara, A. and Wang, J. (2014). Economic Growth and Middle Income Trap: An international comparative research based on field survey. *The Research Institute of Southeast Asia*, Faculty of Economics, Nagasaki University Departmental Bulletin Paper, 46: 1-145.



Problematic of budget deficit and sustainability in Morocco

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Abstract

Many authors have addressed the issue of the budget deficit. This is a question which poses a problem due to the absence of a consensual conceptual and theoretical framework accepted by everyone, on both theoretically and empirically plans.

In the case of the Moroccan economy, it turns out that budget deficit policy prevails because of its adoption as an instrument of economic policy. Indeed, from the 1970s to the present day, the imbalance between expenses and revenues poses the problem of budget deficit in worrying proportions with the constraints of financing economic growth and the multiple economic and social requirements. The main problem that remains is the persistence of the budget deficit qualified as structural, which more than ever imposes its sustainability in an objective manner. The purpose of this article is to shed light on the problem of the budget deficit and the question of its sustainability.

The analysis of the current budget deficit situation in Morocco through this study unfortunately leads us to draw several conclusions, the important one of which is its structural, dynamic character and its negative impact on economic growth and development in Morocco. Reducing the budget deficit, improving it or at least reducing its impact on the economy is an imperative that is needed more than ever. In this sense, drastic and rigorous measures must be taken into consideration by the authorities concerned, such as the improvement of tax and non-tax revenues, without penalizing the productive system, the rationalization of operating expenses and the improvement in investment spending. In other words, adopting and implementing good governance practices in public finance is imperative and decisive.

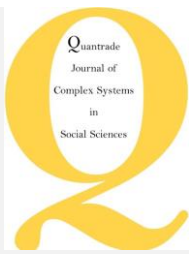
Keywords: Budget Deficit, Debt, Revenues, Expenses, Sustainability

1. Introduction

Although the beginnings of discussions on the sustainability of public finances go back to the work of JM Keynes (1923), this question really constituted the cornerstone in research work only with the debates which focused on the harmful consequences that generates massive indebtedness at the national and international levels, in particular "with regard to the crowding-out effect and the rise in interest rates which can lead to a slowdown in private sector investments" (Blanchard et al., 1984), which can lead to slower overall economic growth.

Moreover, the failure of the solvency approach can be explained, among other things, by the partial vision of the debt problem that it involves. By developing an analysis centered on the interests of creditors, this vision considers the debtor as the main, if not the only one responsible for his debt situation. In this context, the sustainability approach intends to

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complete it by adopting a more balanced treatment of the issue. This approach is fully justified if one keeps in mind the causes which led to the outbreak of the crisis in 1982. (Combarnous, 2007:10).

Thus, the increase in deficits and public debt in many countries in recent years has led to renewed concerns about the level of the budget deficit and that of the public debt.

Like other countries, "the critical level of the budget deficit observed in Morocco since 2011 leads straight to unsustainable public debt which jeopardizes the future of coming generations" (Berrada, 2015). Indeed, in the Moroccan case, it turns out that budget deficit policy as the instrument of economic policy predominates. From the 1970s to the present day, the budgetary imbalance between expenditure and revenue poses the problem of budget deficit in worrying proportions with the constraints of financing economic and social growth.

The consequence of such a situation is precisely the persistence of the budget deficit qualified as structural. More than ever, such a situation calls on the public authorities to take the necessary measures effectively and efficiently to analyze its sustainability in an objective manner with a view to even to what extent it is possible to seek the proportions or limits within which this budget deficit cannot hinder the mechanisms of growth and development. The purpose of this work is precisely to shed light on the problem of the budget deficit and the question of its sustainability.

2. Working Methodology

Dealing with the issue of budget deficit is not an easy task, but rather complex. On the one hand, this is a problem which, both theoretically and empirically, poses a problem due to the absence of a consensual conceptual and theoretical framework accepted by everyone, and on the other hand there are controversies on the way of solving it concretely and objectively and specifying how it is necessary to determine the proportions of its sustainability according to its magnitude and its dynamics.

To address this problem in the Moroccan case, we deemed it necessary to focus and articulate our work on several questions:

- ❖ A first point recalls the theoretical benchmarks of two main currents of economic thought, namely the Keynesian paradigm and the classical paradigm in order to identify the theoretical foundations of each current on the budget deficit. The first is mainly based on the foundations of the Keynesian multiplier and the need for the State as a regulator of the economy and that budget deficit does not pose a problem for economic growth. The classical paradigm, on the other hand, advocates the need a healthy liberal economy of any budget deficit.
- ❖ A second point explains the origins and explanatory causes of the budget deficit in Morocco;
- ❖ As for the third, it addresses the definition of budget deficit, public policy in terms of budgetary policy, the size and dynamics of the structural balance;
- ❖ The fourth point is devoted to the analysis of the unstable and irregular nature of public revenues;
- ❖ The fifth relates to the study of the upward and structural trend in public spending.
- ❖ budget deficit between the grip of multiple economic and social requirements, economic growth and the constraint of sustainability;

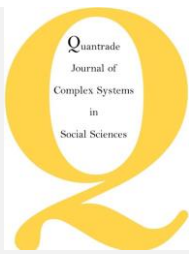
With regard to the last point, it deals with the problem of the sustainability of the budget deficit and the need for its budgetary recovery.

2.1. Theoretical References

Referring to the currents of economic thought relating to the role of the state in general, it turns out that the Keynesian and classical schools predominate with, however, completely opposite approaches and visions, far from being consensual. For classical economists, the role of the state must be limited to the exercise of its sovereign functions and the guarantee of the free functioning of the market. Above all, it must not intervene in the economy, otherwise it will destabilize self-regulatory mechanisms.

For Keynesians, to meet the needs of growth, the state must intervene in the economy to correct market dysfunctions. Thus, the state can play a decisive role in economic recovery.

In budgetary policy, if the classic theses castigate the existence of a budget deficit outside certain circumstances such as wars and drought for example, the Keynesian positions are rather favorable to the use of this budget deficit, which according to them can have a positive impact on growth and consequently the creation of wealth. So what are these two paradigms about budget deficit?



2.1.1. Keynesian Paradigm

As a regulator of economic activity, the state can influence public spending regardless of the size of the revenue. In other words, the budget deficit created by the importance of public expenditure in relation to revenue, is justified by the fact that this instrument can have a multiplier effect on national income. According to the proponents of this paradigm, an effective increase in public investment spending constitutes a source of wealth creation, and therefore has a positive effect on Gross Domestic Product (**GDP**) according to the Keynesian multiplier theory.

According to this Keynesian discourse, the public deficit is the most appropriate instrument for managing the level of aggregate demand. The authorities must accept and even accentuate a spontaneous deficit in times of depression (Sterdyniak, 1983).

Conforming to Keynesian logic, the impact of the increase in indebtedness, as a means of financing, on growth is considered positive. In other words, budget deficit does not cost either for present or future generations, on the contrary, it has the capacity to stimulate economic growth provided that it is used to finance investments. This logic draws its foundations from the theory of global demand and the Keynesian multiplier.

Indeed, a budget deficit favoring economic recovery generates by the accelerating effect a more than proportional increase in investment, which in turn causes an increase in production and therefore a higher cost of the economy. In other words, the expenditure multiplier has the same effect as the income investment multiplier according to the following logic:

$$\Delta R = \frac{1}{1-c} \Delta I = \frac{1}{1-c} \Delta G$$

With :

- c : The marginal propensity to consume ;
- R : revenue ;
- ΔR : variation of revenue ;
- G : Public expenses;
- ΔG : variation of public expenses ;
- I : Investment;

ΔI : Variation of Investment.

2.1.2. Classic Paradigm

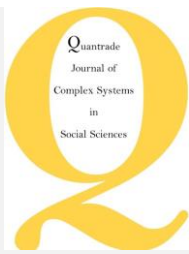
Middle The classical school takes a completely opposite view to the Keynesian approach. The classical approach, on the contrary, advocate the need for a healthy liberal economy of any budget deficit. According to the classical economists, the public deficit is responsible for inflation, higher interest rates and therefore lower investment (Sterdyniak, 1983). This deficit is then prohibited since it generates public debt which is itself a cost for present or future generations, hence the need to remove the tax burden in order to repay the debt that results from this deficit.

Contrary to the Keynesians, the proponents of the classical school do not believe in the benefits of debt on economic activity and consider that the budget deficit is pernicious and should not be encouraged by denouncing public borrowing because it leads to unproductive consumption, destruction of capital, the interests of which are paid by the population. What in reality about the two schools of economic thought relating to budget deficit?

In the cases of the underdeveloped countries, the facts and the reality clearly show that the Keynesian theoretical positions have shown their limits on budget deficit. The deficit on question has continued to have a negative impact on public finances and economic growth in significant proportions, with serious consequences especially on employment and poverty. This situation forced several countries to seek more fiscal consolidation and adjustment, and structural adjustment programs were revealing in this regard in most of the underdeveloped countries, including Morocco.

To be able to fight efficiently against budget deficit, or at least reduce its impact or circumscribe it in reasonable proportions and limits (Question of sustainability) because of its structural nature, it is important to first determine the origins and causes. In this sense, can we say that the budget deficit in Morocco is totally due:

- Bad economic conditions?
- As a direct and cyclical consequence of insufficient public revenue?



- Poor governance of public finances?
- What is the nature of the determinants of the budget deficit in Morocco?

2.2. Origins and causes of budget deficit in Morocco

The budget deficit in Morocco is a function of debt. Already at the end of the 19th century Morocco found itself in a critical debtor situation with regard to certain European countries which had succeeded in imposing their hegemony on it and subsequently the protectorate system.

After independence Morocco began to restructure and rebuild its economy. During the period 1974-1975 there was an increase in the prices of phosphate and moreover, Morocco had achieved an exceptional agricultural harvest. The Moroccan state, benefiting from a surplus of income, has embarked on a program of considerable expenditure: "The volume of public investment was multiplied 3.4 from 1974 to 1977 and a 26% increase in wages was granted to civil servants" (Lahbous, 2014).

After the difficulties of the immediate after Independence marked by a crisis in public finances in 1964 and therefore by an IMF International Monetary Fund (IMF) mission, the excellent agricultural campaign of 1968 opened up prospects and restored all possible hopes. This is how Morocco embarked, from this date, on an ambitious investment program within the framework of the five-year plan 1968-1972. According to Oulhaj (2015) when the producers, notably Arab oil producers, engaged in a political war at the end of 1973 by economic means by increasing their prices vertiginously, Morocco believed to do the same for phosphates by increasing the ton from 16 to 64 dollars. Our country then accelerated the investment effort under the new 1973-1977 five-year plan.

However, the downturn in international economic conditions and the ensuing collapse in phosphate prices, a few months after the rise, led the public authorities to massive external debt, which was moreover facilitated by the excess liquidity situation of international banks. This debt at increasingly exorbitant interest rates soon precipitated our country into insolvency, the consequences of which began to be felt at the end of the 1970s (Oulhaj, 2015).

With a view to re-establishing macroeconomic, budgetary and external balances, Morocco, from 1982-83, adopted the Structural Adjustment Program (PAS) imposed under the leadership of the International Monetary Fund (IMF) and the Bank world. This program targets the drastic drop in public spending, particularly social spending, which has led to many alarming consequences: deterioration of social education and health services and worsening of the unemployment problem among young people.

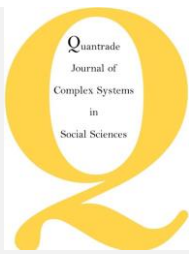
In a second step, based on structural reforms aimed at liberalizing the economy, particularly privatization, deregulation, and monetary reforms, Morocco was able in some ways to restore the macroeconomic balances that allowed it to maintain a moderate budget deficit until 'in 2011.

However, since 2011, there has been a reversal of the situation described as worrying. Indeed, the deficit in the current account, like the budget deficit and public indebtedness were beginning to take on proportions that exceeded recognized standards. Within this framework of reforms, the budget deficit, becoming structural and far from being cyclical, is an instrument of economic policy of the public authorities. Public spending has thus increased sharply since the early 2000s, reaching 33.9% of GDP in 2013 after reaching the threshold of 36.1% in 2012, and currently far exceeds this percentage, which challenges imperative the question of sustainability.

The consequences of such a situation led to the tightening of fiscal policy between economic and social requirements, economic growth on the one hand and the constraint of sustainability of the budget deficit on the other. Within this framework of policy research on the basis of budgetary balance, the necessary questions relate to the formulation of economic and social policies under the constraint of a certain level of budget deficit. It is a question of knowing to what extent it is possible to meet economic and social requirements while ensuring a certain budgetary balance or, ultimately, a sustainable budgetary deficit. However, the effectiveness of fiscal policy remains conditioned by a certain number of factors, in particular, its ability to adopt a counter-cyclical behavior, to optimally manage the trade-off between revival of activity and debt sustainability at long term.

2.3. Definition, extent and dynamics of the structural balance

Several authors emphasize that theoretically, the evolution of the budgetary balance reflects both economic policy decisions and the impact of cyclical developments. When actual GDP is higher than its potential, a surplus of revenue is recorded with lower expenditure, on the other hand, when the level of GDP is lower than its potential level, a deficit in tax revenue, as well as a surplus of expenses appear.



To better objectively measure the budgetary balance, account must be taken of the structural balance and not the economic balance (the case of Morocco). A budgetary balance that does not depend on economic fluctuations, which takes into account the economic cycle, the conjuncture, as well as exceptional and temporary measures. In other words, the structural balance is an indicator of the real fiscal adjustment made at the level of public finances.

Budgetary balance is meant the difference between public revenue (PR) and public expenditure (PE); ($BB = RP - PE$), three cases are then possible:

- ❖ 1st case: $PR > PE$, this situation corresponds to a surplus balance;
- ❖ 2nd case: $PR = PE$, this equality explains a equitable balance;
- ❖ 3rd case: $PR < PE$, this inequality designates a deficit balance.

In the Moroccan case, we speak of budget deficit of a structural nature as we have mentioned above, in other words public expenditure outweighs public revenue. This situation poses problems in very worrying proportions and which requires more than ever draconian measures to hope to find a certain budgetary balance by taking into consideration the questions of economic growth and social and economic requirements.

On the eve of the Structural Adjustment Program (PAS), the budget deficit stood at 14% of GDP, leading to a massive use of external debt, which ultimately led to a cessation of payment. The recovery in public finances from 1983 to 1992 resulted in a reduction of the deficit from 9.2% to 2.2% of GDP. In the process, even if the structure of the financing of the Treasury deficit was profoundly modified in favor of internal sources of financing, the weight of external debt in the total debt of the Treasury (The General Treasury of the Kingdom of Morocco) remained preponderant (67%), (El Mokri et al. 2015).

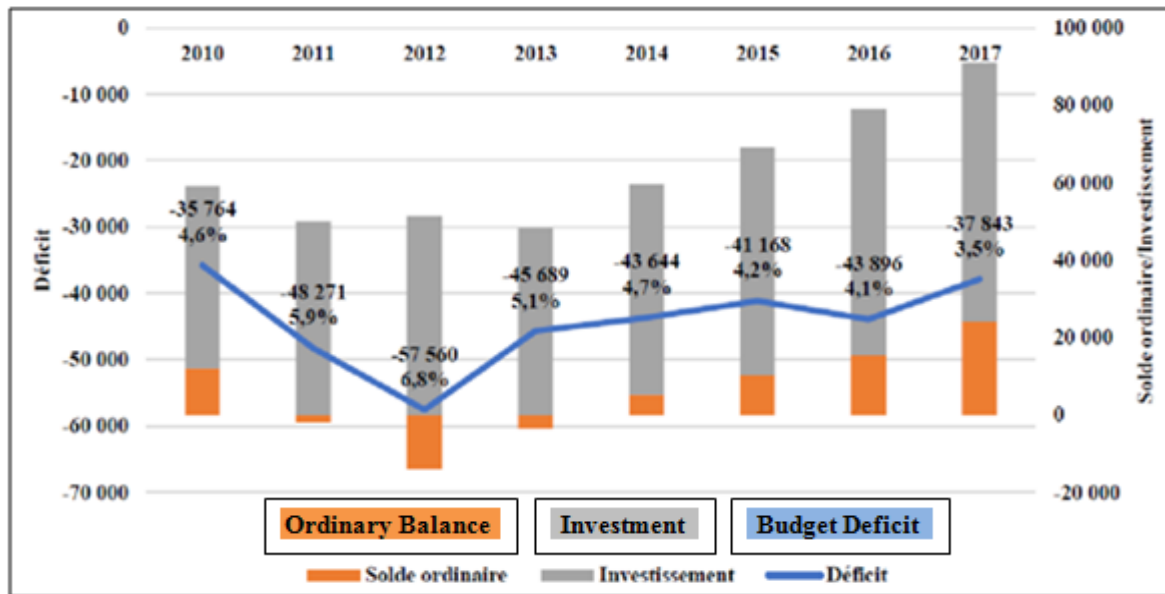
However, between 1993 and 2008, and under the effect of factors (drought, privatization receipts, voluntary departure and fluctuations in the prices of raw materials), public finances generated structural budget deficit which are either mitigated or accentuated. From 2009, it is clear that budget deficits have continued to worsen to the present day, as a result of several complex and even interdependent factors.

Indeed under the effect of the constraints of social and economic requirements, the weakness of national savings, the weakness of investment, the weakness of receipts and the absence of governance at the level of public expenditure, the budget deficit continues to increase and worsen with the problem of external debt. Contrary to expected results, the first attempt at budgetary stabilization in 1978, the debt level and the budget deficit are respectively 60% and 12% of the GDP. The post adjustment period was characterized by the maintenance of macroeconomic balances and by the growth of public spending. Despite the efforts made in this direction, the budget deficit problem has not been resolved due to the persistence of fixed expenses, the capping of the tax burden and the size of the debt.

According to expectations in 2017, public finances should end the year 2018 on a slightly accentuating budget deficit, after a period of rebalancing which made it possible to reduce this deficit by 5.1% of GDP in 2013 to 3.4 % in 2017. To cover this deficit, the State uses external and internal loans. Thus, the overall debt ratio of the treasury would drop from 65.1% of GDP in 2017 to 65.7% in 2018, far exceeding the threshold of 58.1% of GDP recorded during the period 2010-2015. As a result, and taking into account guaranteed external debt, the overall public debt rate should increase further to reach 82.6% of GDP in 2018.

However, the absence of operating conditions and the importance of leaks (Savings, tax and import leaks) in the mechanism of the propagation of income flows greatly limit the scope and effectiveness of the policy of budgetary imbalance and It must be said that in reality the reduction in the budget deficit is largely explained by exceptional revenues than by real consolidation of public finances. What are the peculiarities of this budget deficit? Two most important aspects, namely the instability and regularity of public revenues and the upward and structural trend in public spending, in particular that of operating expenditure.

Figure 1: Evolution of the budget deficit and the contribution of the ordinary balance to the financing of investment expenses (2010-2017 in MDH)



Source: Ministry of Economy and Finance (MEF) 2018

2.4. The unstable and irregular nature of public revenue

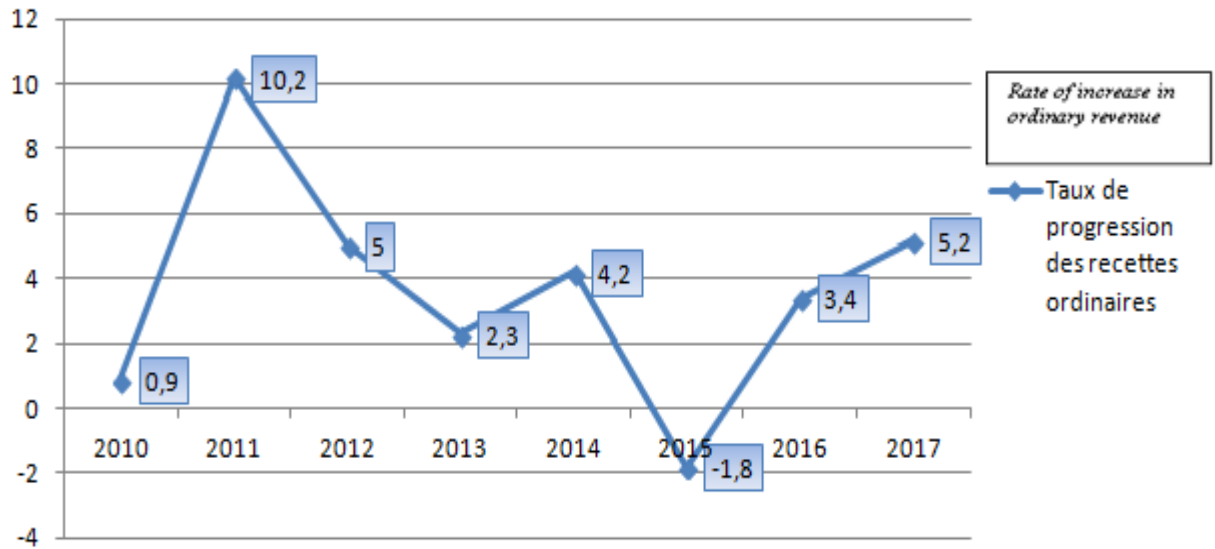
In Morocco, tax policy remains one of the most controversial policies and is constantly the subject of tax reforms without however leading to an optimal allocation of resources. The main features of this policy can be summed up in several points:

- ❖ a stable tax pressure which slightly exceeds the 24% threshold, can allow sustained economic growth, but which remains focused on a very limited number of actors (consumers, employees and a limited number of companies), which actors still protest the impact of this tax on their activity;
- ❖ a tax structure still marked by the primacy of indirect taxes on consumption;
- ❖ low elasticity in relation to GDP and a downward trend in ineffective and inequitable tax expenditure which is cutting back their performance;
- ❖ lack of transparency and social equity;
- ❖ the extent of tax fraud and tax evasion;
- ❖ Rigidities of public finances (problem of recovery, derogatory provisions);
- ❖ the rate of coverage of public expenditure which is deteriorating due in particular to the size of the incompressible state charges, especially the wage bill;
- ❖ a very small contribution to the reduction of regional inequalities

For several decades the tax burden remains without significant change. Indeed, according to official data from the Ministry of Finance and the Economy, the tax pressure was on average for the years 1980 to 1985, from some 19% of GDP, it then rose with the reform to 21.7% between 1987 and 1993 to stabilize at the end of the 1990s at 22%, a rate which remained stable since it was the same at the end of 2004, the date after which they experienced an increase, but which remains insignificant.

Ordinary revenues should therefore be limited to 21% of GDP in 2018, instead of an average of 22.1% between 2013 and 2017. This is mainly the result of the decline in tax revenues which would reach 18.7% of GDP and non-tax revenues, which would continue to evolve on a downward trend to reach 1.9% of GDP in 2018 instead of an average of 2.9% of GDP during the period 2013-2017, (Ministry of Economy and Finance (MEF), 2017).

Figure 2: Rate of increase in ordinary revenue

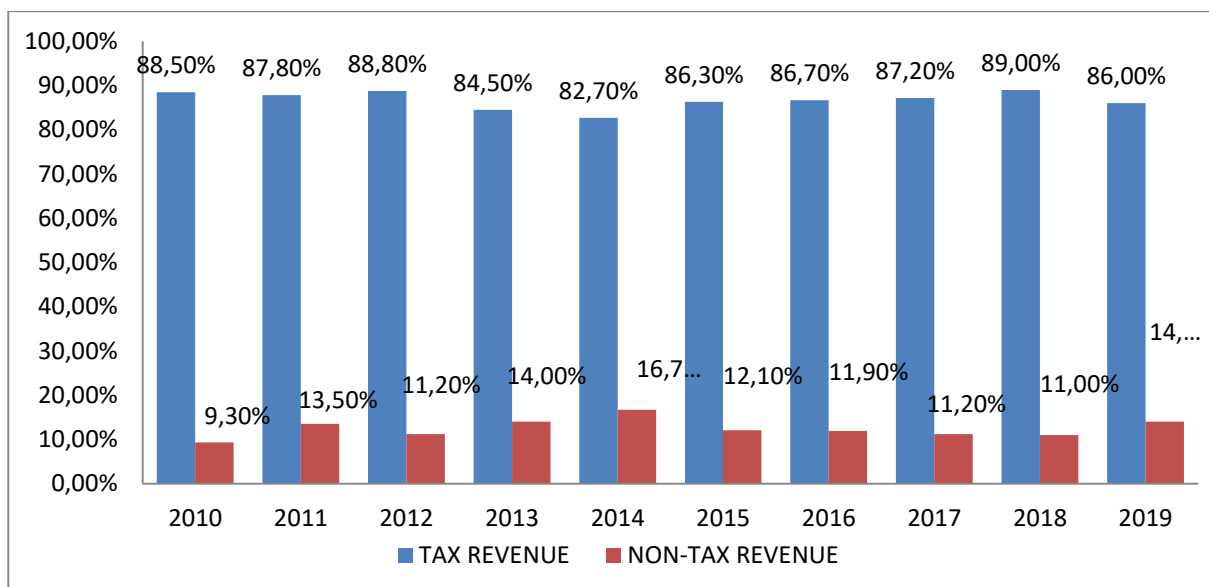


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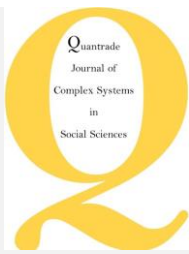
The analysis of Figure 2 clearly shows the trend increase in ordinary revenue between 2010 and 2017, but an increase which remains insignificant and with an irregular rate of development and which has gone through five phases:

- ❖ A 2010-2011 phase which recorded an increase of 9.3%;
- ❖ A phase 2011-2013 which saw a drop from 10.2% in 2011 to 2.3% in 2013;
- ❖ A 2013-2014 phase which recorded a slight increase, from 2.3% to 4.2%;
- ❖ A 2014-2015 phase which recorded a decrease ranging from 4.2% to -1.8%;
- ❖ A 2015-2017 phase which experienced an increase ranging from -1.8% to 5.2%;

Figure 3: Evolution of the share of tax and non-tax revenue in ordinary revenue:



Source: produced by us



The behavior of non-tax revenue remains marked by its erratic nature. It is, in fact, correlated to the economic situation which impacts the products coming from Public Establishments and Enterprises, to exceptional payments linked to assistance funds and to possible privatization operations. They increased by 0.6 point of GDP between the two periods 2000-2007 (2.1% of GDP) and 2008-2016 (2.6% of GDP). They only represented 11.20% in 2017.

Tax revenue stood at 189.6 billion dirhams in 2016, up 4.1% a year earlier, tax revenue increased by 6.1% on average per year. The increase concerned both the return on direct taxes and that of indirect taxes, an average annual rate of 7.6% and 6.2% respectively. They represented 87.20% in 2017 and therefore monopolize the share of far in ordinary revenues.

2.5. Upward and structural trend in public spending

The role of public spending in terms of economic growth is a subject that has always motivated many theoretical studies. As we have previously pointed out with regard to the budget deficit, the conceptual divergence relating to the role of public spending in economic growth is also noticeable in the results of empirical work.

If we consider that a public expenditure can have a lasting influence on the growth rate of the economy. The big question is which way? Positively or negatively? In this context, various studies based on econometric approaches have attempted to assess the contribution of public spending to economic growth. These empirical studies have yielded divergent conclusions:

- according to some authors, the increase in public spending is accompanied by a slowdown in growth. (Landau, 1986; Scully, 1989);
- according to others, there is a positive relationship between public spending and growth (Ram, 1986);
- while some authors claim that there is no significant relationship between public spending and growth (Kormendi and Meguire, 1985; Diamond, 1989);
- If we accept the existence of a positive correlation between public expenditure and economic growth, in other words, if the expenditure multiplier makes it possible to highlight the effects of the variation in expenditure on the national economy . Do these variations have positive effects on production and income and therefore on the economy? Theoretically, budget deficits, arising from the imbalance between expenditure and revenue, must exert these privileged effects on the national economy insofar as they are generated by a variation in the volume of public expenditure not accompanied by a variation in that of revenue (Bouslihim, 2014).

A comparison of the evolution of treasury operations and that of GDP and the calculation of the multiplier allow us to see the impact of this policy on the national economy. Statistical data show that the correlation between the expansion of public spending and the size of budget deficits is indisputable. The link that may exist between the expansion of public spending and the size of the budget deficit on the one hand and the change in GDP on the other is not obvious.

Indeed, the years when the rate of change in GDP was high, did not necessarily correspond to the years which recorded the most rapid expansion of public spending and the large amount of budget deficits. Even if the effect of variation in public spending and deficits is not felt on GDP until a certain delay, no relationship can be found between these variables. Empirical studies have demonstrated the weakness of the public expenditure multiplier, which proves the ineffectiveness of the policy of budget deficits.

Table 1: Evolution of the public expenditure multiplier

Year	68-72	73-77	78-82	83-90	91-2000	2001-2010
Multiplier	1,2	1,05	1,7	1,4	1,5	1,3

Source : Bouslihim, 2014

The obvious question then is to identify the factors limiting the multiplier effect of public spending? Three factors are predominant (Bouslihim, 2014).

❖ The limits linked to economic structures:

The Keynesian model assumes the existence of unused production capacity so that the variation in public spending finds an adequate response from supply to additional demand. However, the Moroccan economy is characterized by the rigidity of the supply which is due to the scarcity of the capital factor, to the degradation of natural resources and to competitiveness. In this case, the policy of the budget deficit produces effects contrary to those of the Keynesian model and the level of production is determined by demand. As a result, the variation in demand

following the existence and worsening of the budget deficit would only result in increased pressure on domestic demand, which can only find solutions in increases in imports and prices.

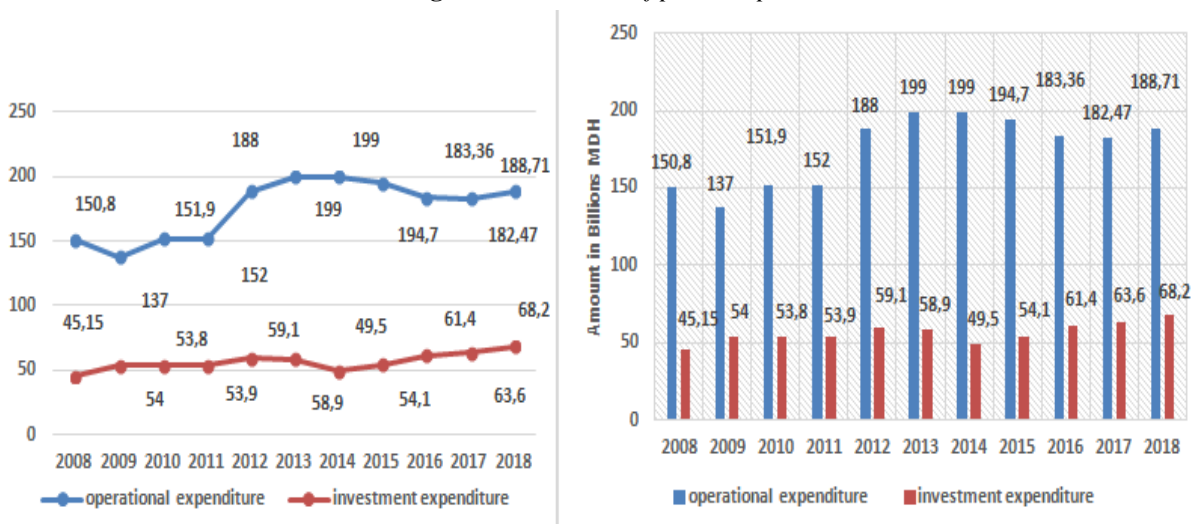
❖ **The limits linked to the extrovert of the economy:**

These limits greatly reduce the expansion of incomes induced by the variation in public spending. The ratio of imports to GDP which gives a precise idea of the degree of dependence of the national system of production over the outside is revealing in this regard. (Haavelmo effect), the greater the marginal propensity to import relative to the marginal propensity to consume, the effect of public spending on income is reduced or canceled out because of the importance of imports. In other words, the fruits of spending on growth are canceled out under the effect imports.

❖ **Limits linked to the structure of public expenditure:**

Certainly, it has been shown that capital spending has a higher multiplier effect than other spending. In Morocco, unfortunately, the structure of expenditure clearly shows the predominance of operating expenditure, the management of which poses a problem of poor governance over investment expenditure (Fig. 4), which hinders the achievement of a level of desirable growth.

Figure 4 : Evolution of public expenditure



Source: produced by us

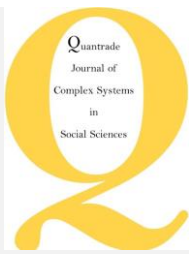
In order to satisfy social and economic requirements, expenditure has constantly experienced significant increases to the detriment of revenues. Unfortunately, these expenses relate mainly to operating expenses, the impact on growth of which remains very low, to which is added the problem of poor governance (waste, embezzlement). Investment spending, which was to act as a catalyst for growth and development, has not received particular attention from those responsible for economic policy (Bouslih, 2014).

Spending on Gross Domestic Product in 1990 registered a level of 25.6% of GDP to reach the threshold of 33.2% of GDP in 2014. Despite the effort in terms of investment spending and the progress made, economic performance has remained below levels achieved by similar economies. This problem can be justified by the fact that public spending has several limits which can be summarized in the following points:

- The issues of embezzlement and embezzlement;
- the absence of good governance;
- the irrational use of expenses: Fictitious expenses, oversized expenses

2.6.. The budget deficit between the grip of multiple economic and social requirements, economic growth and the constraint of sustainability

The imperative of economic growth and the search for the satisfaction of economic and social requirements, must be done within the framework of a balanced budget or ultimately a sustainable or tolerable budget deficit to avoid the perverse



effects of public investment spending A budget deficit which wants to be viable must take into account both social and economic requirements, but also its ability to be sustainable (Dione, 2016). The big question that remains is what are the limits of a sustainable budget deficit?

It is a question of knowing to what extent it is possible to satisfy economic and social requirements while ensuring a certain budgetary balance or, ultimately, a sustainable budgetary deficit. However, the effectiveness of fiscal policy remains conditioned by a certain number of factors, in particular, its ability to adopt a counter-cyclical behavior, to optimally manage the trade-off between revival of activity and debt sustainability at long term.

2.7. The budget deficit sustainability issue

The question of budget deficit sustainability remains complex given the absence of a consensual theoretical framework for measurement accepted by everyone, due to the overlapping of several explanatory factors. First of all, it is a question of defining sustainability to define its content.

2.7.1. Sustainability and recovery of budget deficit

Regarding sustainability, a fiscal policy is sustainable if it ultimately ensures the solvency of the State. In other words, the budget deficit will not grow in excessive proportions such that the State can no longer ensure its reimbursement. Thus imbalances are accepted provided that they are not systematic or that they are compensated by future surpluses; In other words, a fiscal policy is sustainable if it ultimately ensures the solvency of the State. So sustainability guarantees a lasting solvency of the State. But this does not mean that the state alone must be solvent, but it also takes into consideration the reaction of the private sector and the outside towards this situation (Lahbous, 2014). thus, several factors argue for a balanced budget deficit or at the limit sustainable so as not to impede economic growth. In this framework of analysis, several following factors can be cited:

- ❖ Excessive debt;
- ❖ The worsening of the deterioration of public finances;
- ❖ The negative impact on economic growth;
- ❖ The worsening of the social situation of the middle and poor classes;
- ❖ The scale of the informal economy;
- ❖ Others such as unemployment and inflation.

In a fiscal policy framework, the two authors Hakkio and Rush (1991) suggest that fiscal sustainability is satisfied if there is a cointegrating relationship between revenue and total public spending. Other authors point out that public finances are sustainable if the debt / GDP ratio converges to an equilibrium position which is determined by the nominal growth rate.

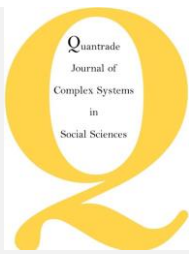
As for the two authors Budina and van Wijnbergen (2007), they proposed a probabilistic prospective assessment of fiscal sustainability and debt by introducing uncertainty. These approaches provide an indication of the budgetary effort required following stochastic simulations to restore fiscal balance.

Adopted by the IMF, the approach of Celasun et al. (2006) offers a probabilistic assessment of debt sustainability through a methodology allowing the risks surrounding the debt dynamics to be taken into account through stochastic simulations covering a wide range of potential shocks.

2.7.2. Prospective analysis of budget deficit sustainability

The prospective analysis of the sustainability of the budget deficit in Morocco as recommended by the various IMF reports, shows that the budget deficit of Morocco is globally weakly sustainable. If we refer to the known phenomenon of snowball Effect, we understand that the amount of deficits increase the need for debt financing, which increases debt charges, which in turn leads to deficits and thus sets in motion the cumulative process of increasing debt charges thereby aggravating the budget deficit.

Approaches based on budget deficit stationarity tests argue in favor of weak fiscal policy sustainability. This is explained by the fact that the Moroccan state has chosen to finance its repeated budget deficits by borrowing. Also, the increase in interest expenditure has led the public authorities to practice a budgetary policy that is difficult to establish the solvency of the State and therefore ensure the sustainability of budget deficit in the long term. Will this trend continue? Perhaps yes, unless there is a miracle, the explanation is based on the following elements (Lahbous, 2014):



- ❖ Budgetary resources, as well as public expenditure and debt in Morocco. Indeed, fiscal resources remain dominant compared to operating revenues and monopolies;
- ❖ With regard to expenditure, operating expenditure monopolizes the lion's share, ahead of investment expenditure due to the weakness of national savings and the limits of external debt;
- ❖ In addition, the structure of the Moroccan economy remains dominated by the primary sector, which means that internal demand remains weak, not allowing the multiplier effect of investment capital in a country linked to both capital and to foreign technology;

Such a situation can only worsen and worsen the problem of budget deficit and consequently hampers growth more and more, whatever the size of the investments. There is therefore a need to reverse the trend and at least restore budgetary balance through a political will displayed and where all stakeholders (State, municipalities, regions, private sector, population, civil society) must be objective. and responsibility for achieving the expected objectives. To do this, draconian measures are needed more than ever. It should be mentioned:

- Need for political will on the part of the State and local authorities;
- Improving tax and non-tax revenues through transparent and fair taxation and combating tax fraud and tax evasion;
- Fight against rigidities in public finances (tax base, derogating provisions and difficulties in collecting taxes);
- Rationalization of expenses, in particular those of operation;
- Good governance and strengthening of the profitability of investment expenditure;

Fight against the rent economy.

3. GENERAL CONCLUSION

The problem of the budget deficit and its sustainability is a complex issue. According to several studies, budget deficit is a reality and a structural phenomenon that hinders economic growth and development in Morocco. The reduction of the budget deficit, Improving it or at least reducing its impact on the economy is an imperative that calls on all stakeholders without exception and cannot be the business of the State alone.

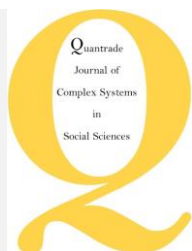
Certainly the political will of the State must be clearly displayed in its economic policy aimed at achieving major macroeconomic balances through the strengthening and good governance of investment spending and the rationalization of operating expenditure. However, the other actors in particular, the companies, must assume their responsibility (economy of the rent, tax evasion, tax fraud, etc.). These measures require an effort in the fair distribution of wealth and social equity.

Efforts have been made in this direction, several national and international organizations and institutions have emphasized a slight decrease in the budget deficit in recent years following several measures undertaken by the authorities concerned in the image of better fiscal performance, the good dynamics of ordinary revenue and better control of spending. These efforts will continue this year and in 2021 will notably aim to increase social spending for a more inclusive development model and to institute more rigorous and prudent debt management. In doing so, the budget deficit, supported by the domestic market, fell to 3.6% of GDP in 2019, would reach 3.3% in 2021.

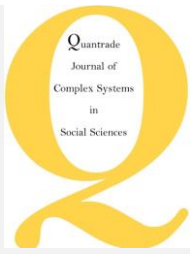
However, despite the efforts made by the public authorities to reduce the impact of the budget deficit, it must be said that these efforts remain below the expectations sought. Indeed, several economic and social indicators such as the continuity of the predominance of operating expenses, the low level of investment expenses, the extent of fraud and tax evasion and the extent and dynamics of public debt, the size of the trade deficit, as well as other factors, have clearly indicated that this political will of the State to find concrete solutions for the budget deficit is far from being realized concretely and in the right direction. In our opinion, the consequence of this situation can only worsen the situation of the budget deficit.

References

- Berrada, A. (2015). "Les finances publiques du Maroc : Un bilan du gouvernement Benkirane à mi-parcours (2012-2014)". *Dossier: Pratique du droit et propriétés au Maghreb*.
<https://journals.openedition.org/anneemaghreb/2595?lang=en>
- Bouslihim, A. (2014). Problématique du déficit budgétaire. *Revue d'évaluation et d'anticipation des politiques publiques*.



- Budina, N. W. (2007). "Quantitative approaches to fiscal sustainability analysis: a new World Bank tool applied to Turkey". *Policy Research Working Paper*. Series 4169. The World Bank.
- Celasun, O., Debrun, X. and Ostry, J.D. (2006). "Primary Surplus Behavior and Risks to Fiscal Sustainability in Emerging Market Countries: A 'Fan-chart' Approach", *FMI*, Documents de travail, WP/06/67.
- Combarrous, É. B. F. (2007). "Une autre lecture de la soutenabilité de la dette". dans *Revue Tiers Monde* 2007/4 (no: 192), pages 789 à 813, <https://www.cairn.info/revue-tiers-monde-2007-4-page-789.htm>Vous.
- Diamond, J. (1989). "Government Expenditures and Economic Growth: An Empirical Investigation". *IMF Working Paper*. WP/89/45 (Washington: International Monetary Fund, May 1989).
- Hakkio, C. S. and Rush, M.. (1991). "Is the Budget Deficit 'Too Large'?" *Economic Inquiry*, 29: 429-445.
- Sterdyniak, H. (1983). "Théories et pratiques du déficit public". *Observations et Diagnostics Economiques*, Revue de l'OFCE, pp. 65-90, p. 65.
- Kormendi, R. C. and Meguire, P. G. (1985). "Macroeconomic determinants of growth: Cross-country evidence". *Journal of Monetary Economics*. 16(2): 141-163.
- Landau, D. (1986). "Government and Economic Growth in the Less Developed Countries: An Empirical Study for 1960-1980. Economic Development and Cultural Change". *The University of Chicago Press Journals*, 35(1): 35-75.
- Dione, Leon-Amath. (2016). "Composition des dépenses publiques et impacts sur la croissance économique: analyses théoriques et empiriques sur des panels de pays développés, émergents et en voie de développement". *HAL archives-ouvertes*. en Economies et finances. Université de Bourgogne Français. NNT: DIJOE004.
- Lahbous, M. (2014), Déficit budgétaire au Maroc, un problème structurel ou instrument de la politique de l'Etat. *Revue d'évaluation et d'anticipation des politiques publiques*.
- Ministry of Economy and Finance (MEF) (2017), *Direction de la politique économique*, Rapports annuels.
- OCDE (2009). "Soutenabilité budgétaire". dans *Government at a Glance 2009*, Éditions OCDE, Paris.DOI: <https://doi.org/10.1787/9789264061675-21-fr>.
- Oulhaj, (2015), Cadre théorique général de la politique budgétaire. *Ouvrage collectif réalisé entre la FSJES Agdal*. Rabat et OCP policy center.
- Ram, R. (1986), "Government Size and Economic Growth: A new Framework and some Empirical Evidence from Cross-section and Time Series Data", *American Economic Review*, 76: 191-203.
- Scully, G. W. (1989). The Size of the State, Economic Growth and the Efficient Utilization of National Resources. *Public Choice*, 63(2): 149-164.
- El Mokri K., Ragbi A. and Tounsi S. (2015). "Politique budgétaire et activité économique au Maroc: une analyse quantitative". *OCP Policy Center et FSJES-Rabat-Agdal*, pages 1-112.



Social Media and Political Participation

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Abstract

Today, it is seen that people have the opportunity to access and use political information more quickly through the information age and possibilities of new media. Advances in New communication technologies have led to the emergence of the concept of social media, along with the concepts of new media and Web 2.0. This has set the stage for the production of interactive, two-way communication content by users on social media networks. Studies on this subject focus on the innovations, benefits and harms of new media platforms and technologies in terms of politics and political participation. Social media is a crucial factor in participatory democracies, making it easier for citizens to participate in politics. The effectiveness of social media tools in directing the public has been tested in the public uprisings against the Middle Eastern regimes such as the Arab Spring. The aim of this study is to explain the changes, innovations and opportunities created by social media as a method and scope in "Political Participation", which is one of the most fundamental subjects of political science.

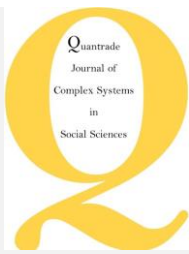
Keywords: Social Media, Political Participation, Public Opinion

1. Politics and Participation

The main part of politics is shaped by our ideas, values and assumptions about how society should be organized, and our fears and hopes for the government. The beliefs, symbols and values we have about the society we live in are vital for legitimacy and political stability. The assumption that beliefs and values are a part of political culture has gained weight since the 1950s. Political culture; It is the "orientation structure" of political objects in the context of beliefs, symbols and values such as parties, government, constitution. It points to a different concept from the public in that it is the result of values that have been set for a very long time from the reaction to certain policies and problems (Heywood, 2007: 289-290). Political socialization is the name given to the process of learning the culture of the society. During the socialization process, children often learn life-long patterns. It is adapted to behaviors such as swearing loyalty to the flag, singing national anthems, and obeying authority. Family is the leading factor in socialization. It is the fact that parents who affect political behavior the most affect the psychological structure of the individual for decades. More purposeful socialization occurs at school. It was observed that participation and interest increased as the level of education increased. It is an element that affects political values in friends and close environment. It is a very effective tool recently in terms of socialization in mass media. However, there are claims that this effect is negative. If the state itself can finally provide rising living standards, it is a means of socialization. Government activities are also used as a tool to build loyalty (Roskin etc., 2013:156-159).

Political Participation, on the other hand, is a concept that determines the status, attitudes and behaviors of the community members in the face of the political culture they live in. It would be incomplete and incorrect to consider it just to vote. Because participation behavior covers a wide range of activities, ranging from simple curiosity to intense action. According to Robert Dahl, the dimensions of political participation explain "interest", "caring", "knowledge" and "action" (Kapani, 2017:144). It does not have the same importance and degree for all individuals, nor does it lead to the same kind of actions and behaviors. Although the most well-known participation behavior seems to be voting, a number of action types such as election activities, lobbying, organizational efforts, private contacts, and violent actions can also be covered in this context. Considering that there are certain tendencies and attitudes behind each action, it is normal to have certain political attitudes and tendencies behind the political participation behavior (Dursun, 2008:236).

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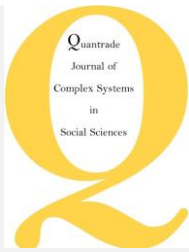


Individuals may have a certain knowledge of the functioning of the political system. This information can undoubtedly complement individual compliance with the system as a whole. On the other hand, the individual can reject the system under the influence of his family or friends. It may not suit emotionally the imposed things. Or the individual may subject the system to a moral evaluation. For example, the individual's democratic norms may lead to the conclusion that the system does not respond adequately to political demands. These three dimensions of cognitive, emotional and judgmental have an interconnectedness (Sarıbay, 2008:82). However, considering that individuals do not show the same degree of interest in politics, it should be kept in mind that there are variables that lead to these different perspectives. For example, one of the psychological factors affecting political participation appears as a "sense of activity". It was seen that political participation decreased or increased when the "sense of activity", which emphasizes whether the person believes that he can influence his own actions and thoughts and the flow of events, is weak or strong (Kapani, 2017:146). The sense of political activity is also related to political culture. Local culture is a system in which the individual does not have an expectation from the political system in which he is interested in events that develop within a narrow environment, and therefore different political types are not observed. In national culture, individuals show a passive level of participation as they do not think that they will be effective on the system. In participatory culture models, individuals are in intensive contact with both input and output of politics. In this case, local culture can provide a harmonious environment in traditional systems, nationalist culture in authoritarian systems and participatory culture in democratic systems (Almond ve Powell, 1993:17-23). Although it is seen that political participation is much higher in democracies than in other systems, it can also be said that it depends on emotions rather than rational choices. Because a significant part of society does not have ingrained convictions. They're ambivalent about a lot of things, and they don't even know what's going on. Considering all this, the effect of mass media on changing old opinions and instilling new opinions is revealed (Kapani, 2017:165-166).

2. Media and Participation

As a result of destructive wars in the last century, the need of ideologies to reach the highest audience in the fastest way has prompted them to produce messages that stimulate emotional reactions and spread them through media technologies. The development of mass media has enabled political communication to gain importance and political parties to reach larger masses after World War II. With its broadest content, political communication covers the entire area of interaction for political purposes, from propaganda to gossip, from bottom-to-top relationships to public relations, from open news to news sessions, from brainwashing to political advertising (Çankaya, 2015:13). In the tense environment of the 1930s, which approached the Second World War, the importance given by the states to radio and radio broadcasting as a mass media has increased. There has been a significant increase in radio stations broadcasting to the public in both the European countries and the United States. In the same period, the interest of the public and the public institutions in the news increases and the radio has a superiority over the newspapers for the first time. Britain's well-known radio station BBC news bulletins were limited by time and content by newspapers and news agencies. Before the war, restrictions on the BBC are removed with the support of the UK Ministry of Information; Thus, news bulletins have become more widespread (Yüksel, 2007: 2010). Radio broadcasting, which first started in the USA in 1921, was used at the end of the First World War during the Presidential elections in the United States. The radio, which has a very important function as a propaganda tool, also played an important role in the Nazis coming to power in Germany during the Second World War. Germany used the radio as an effective propaganda tool to persuade the masses (Tokgöz, 2014:37). In 1932, for example, Roosevelt, who ran his election campaign via radio, was elected president with 57% of the vote. 42 of the 48 states favored Roosevelt (Topuz, 1991:133).

The fact that radio and television, which started broadcasting after the newspaper, was installed in the middle of our homes and increasing its effectiveness, has become the most important leisure time activity of modern societies. The fact that television broadcasts are free and accessible and creates a false sense of participation has made it a producer and distributor of the popular element of popular culture. Since the 50s, television has become a mass media. The number of buyers, which was three million in the USA in 1950, reached 57 million in 1961. In the same years, 11 million TV channels have been watched in Great Britain, 4.6 million in Germany and 1.9 million in France (Frederic and Lavenir, 2001:264-270). It is known that the performance of presidential candidates in the television discussion programs in United States, which is the most watched country in the world, affects the outcome of the presidential elections. For example, in the 1952 presidential election, it has been suggested that Eisenhower's televised election speech determined the outcome (Aziz, 2007:113-114). As in United States, political communication has become effective with the spread of television in France. Television in France entered political life with the 1960s. But it was in 1974 that politicians met in a television debate. This first period of television consisted mostly of De Gaulle using it unilaterally in the creation of public opinion (Çankaya, 2015:154-155). Although the election campaigns in Turkey are limited, these campaigns cannot be considered



as effective works, although they have been carried out from the single party period to the present day. It can be said that a serious political communication campaign was carried out for the first time in the general elections held in 1950. The Democratic Party, which was founded in 1946, ran for a second election in 1950 and ran an extensive and intense campaign against its rival, the Republican People's party. Radio was used as an effective means of Mass Communication under the conditions of that period. In addition to current developments and news via radio, time and space are devoted to opposition and ruling party news and propaganda speeches. In 1950 elections, which were considered the turning point of political life in our country, flyers and posters hung on the walls were used by the opposition parties except for the radio. With the amendments made in the Political Parties Law for the purpose of propaganda in the elections of 1950, it was given the right to make radio election speeches for the first time in radio broadcasts, including the opposition parties. Because of the ban imposed, the opposition parties could not use the radio, which was the only electronic means of mass communication, in the elections held after 1957. Therefore, the election campaigns of the opposition parties have been limited to rallies, posters and the support of pro-party newspapers. (Aziz, 2007:136-138). Television and other facilities began to be widely used in the 1970s.

As a result it can be said that, in this period, mass media has become: not only a propaganda tool of totalitarian systems, but also an important element of political competition in democratic systems. The increasing importance of mass media has created the newest dimension of the relationship between technological developments and politics. In order to reach the audience in the shortest way and to deliver effective messages, mass media has become an attractive channel. The power of mass communication to manipulate large audiences has received critical acclaim over time. Marxist theory has suggested that Mass Communication in capitalist societies is not just a “communication” technique. In particular, the Frankfurt School has treated mass media as cultural and ideological stories. According to them, the media is actually spreading the ideology of the ruling class to the society by imposing certain meanings on the events it deals with.

3. Social Media

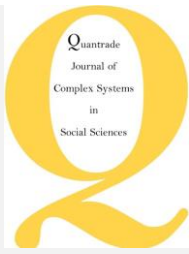
With the transformation in the field of communication and informatics, the transition from traditional media to new media has accelerated; analog systems have been replaced by digital systems. The new media, called information and communication technologies or information technologies, began to take shape, especially after the developments in the field of computer and computing after the 1970s were adapted to the field of communication (Törenli, 2005:88).

Social media are computer-mediated tools that allow people to create, share or exchange information, ideas, and pictures/videos in virtual communities and networks. Social media are different from traditional or industrial media in many ways, including quality, reach, frequency, usability, immediacy, and permanence. Social media operates in a dialogic transmission system, (many sources to many receivers). This is in contrast to traditional media that operates under a mono-logic transmission model (one source to many receivers). Social media describes websites that allow users to share content, media, etc. (Udoka, 2015:135-136). In this sense; It is a type of media that communicates with computer, television and mobile phones over the internet network. In this communication, individuals instantly share messages / messages simultaneously. These social networks, which are supported by Internet Web software, can bring together people from similar and different classes on their platforms. These networks, which were originally established as an innocent dating site, later on; has taken the process of influencing individuals and societies organized or unorganized. In these networks known as social media, a large number of information accesses of all kinds can be accessed and users can communicate on social media. These networks, which can be partially audited and managed in terms of security and ethics, have brought along multi-directional interaction recently. Social media has become a well-organized public communication tool, on the one hand, where industrial products are marketed (Alav, 2014:3).

Social media shows itself as one of the most ideal channels for communication in terms of its features such as being continuously updated, being open to multiple use and enabling virtual sharing. People can write their daily thoughts on social media, discuss these thoughts and come up with new ideas. They can also share various photos and videos, search for jobs, and also live the real world in a virtual environment without getting bored. (Bat and Vural, 2010:349).

Social media tools find themselves in a wide perspective. These;

- Social networks such as Facebook, MySpace, LinkedIn, Friendster, Hi5, Friendfeed, Formspringa, Xing,
- Sites like news networks such as Twitter
- Video sharing networks such as Youtube, Dailymotion, Google Videos, Yahoo Video
- Photo sharing networks such as 1x, Flickr, Deviantart, photosig, Fotocommunity, Photo, Photodom,
- Wiki style information sharing networks such as Wikipedia, Intelipedia,



- Company blogs, blogs such as Cnet, TheHuffington Post, BoingBoing, Techcrunch.

It should be said that internet-based social media has different functions than traditional media. Some important differences can be listed as follows.

- Anyone else who produces content in traditional media is the users who consume it. They are users who both produce and consume content on social media.
- While there is a bi-directional, simultaneous and interactive communication in social media, there are no such features in print publications such as newspapers and magazines in traditional media.
- Social media is fast and provides instant access to the masses. There is quite a big difference in speed with regards to the delivery of news and the formation of perception.
- Social media provides a wider audience than traditional media.
- Social media is a freer platform because censorship and filtering are out of the question. (Özutku and etc., 2014:83-84).

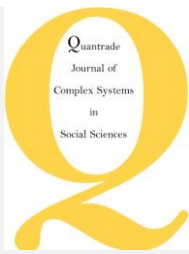
Unlike mainstream media, individual-centered social networks transmit messages to wider audiences much faster and provide a boost because the message once delivered can be repeated many times over. Unlike the mainstream media, the internet and social networks, and individuals and provides an interactive dialog to make other people share their ideas heard, debate, democratization information briefly to other like-minded people and break the spiral of silence and braver to pursue to be aware of rights preparing the ground (Türk, 2013:6). In this sense, the impact of social media on the transmission of political ideas to large audiences and its success in mobilizing large audiences are important. One of the main advantages of social media compared to traditional propaganda tools is that this method is either free or very low cost compared to traditional propaganda tools. Therefore, this new method removes politics from the monopoly of a limited number of elites, making it an area for anyone who thinks about socio-political problems and thinks about influencing the political system to deal with. Because it is a very costly event to carry out an election program that will be extended to the country, especially in general elections. Both rallies and leaflets that are meant to be delivered to the people are very difficult for an ordinary citizen to handle by his own means. Despite all these costs, reaching the electorate remains a major challenge for all parties (Köseoğlu and Al, 2013:116). Social media has become coordinated tools within almost all the world's political movements. The use of social media in political marketing has evolved severely over the past decade. Platforms such as Facebook, YouTube and Twitter have clearly enhanced the power of social media in terms of delivering campaigns and candidates to voters (Okan and etc., 2014:135). Of course, the growing impact of social media is related to the increasing rate of use.

Two-way communication has a big role in engaging social media. When preparing a message on a topic on social media, it is important that the alternatives of the message are prepared and given to the recipient, not a coding technique that serves their own ideology, opinion or benefit. Thus, the receiver receive different messages from the same channel on the same topic directed at the reaction that react to individual responses rather than thought out because it will be the speed of the process of social media communication, democratic structure, an open-source contact being open, the reaction is positive or negative message or an instant message that can be received as soon as Grant makes a powerful and attractive features such as social media. On social media the individual is both inside and outside of social media. Social media also carries with it dangers. Many dangerous criminal organizations and products that can make harmful habits masquerading as innocent images (marketing) can make social media dangerous (Alav, 2014:5). It is very important for political advertising to facilitate access to the internet and to increase the number of internet users from year to year. Now more than half of the world's population is actively using the Internet

Table 1: Usage USers and Populations

Internet Usage	Internet Users	World Population %
November 2000	361,000,000	5,8
September 2010	1,971,000,000	28,8
December 2019	4,574,150,134	58,7

(<https://www.internetworldstats.com/stats.htm>)



Considering the features of the new media, the main reasons why political parties and leaders especially started to use Web 2.0, which enables the sharing and dissemination of content that is interactive and user-derived, can be listed as follows:

- • Promoting themselves and their discourses of political parties and leaders,
- • To inform voters about party activities with regular information flow,
- • Organizing voters' opinions on certain issues by gathering them together,
- • To raise financial support for the party to the extent permitted by political regulations,
- • Supporting and monitoring the activities of the political party and / or leader in offline environments. (Çetin ve Elmasoğlu, 2014: 224).

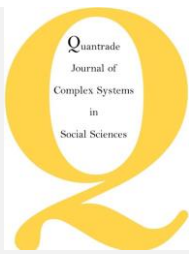
4. Social Media and Politics

In the intervening two decades, nearly sixty percent of the world has access to and use the internet. According to the “wearesocial.com” datas; worldwide, there are 3.80 billion social media users in January 2020, and that number has risen more than 9 percent (321 million new users) since last year. More than 5.19 billion people worldwide use mobile phones, and the number of users increased by 124 million (2.4 per cent) last year. An internet user spends 6 hours and 43 minutes online every day on average. Despite several challenges over the past few years, Facebook is still the most popular site socially. Trends in user numbers reported in the company's earnings announcements indicate that the platform should already have passed the historic 2.5 billion monthly active users (Mau) mark, with user numbers continuing to grow steadily in most countries through 2019.

Therefore, the new medium where politics is carried is social media. USA is the first country where internet based political communication applications, which we can call online politics' or 'political chat', are implemented. The magical world of social networks discovered by politicians since the 2000s, especially with the transition to Web 2.0 technology, reached its climax with the 2008 US Presidential elections and constituted a “milestone” in this field. In the preselections of the USA in 2008, the first black American presidential candidate Barack Obama from the Democratic Party witnessed the struggle of the first female Presidential candidate Hilary Clinton (Genel, 2012:24-25). Social media provides voters with the opportunity to question, ask accounts, determine content and respond to every word of the politician. Youtube's Worldview channel also creates an interactive environment between high-level politicians and voters, such as President Abdullah Gül, US President Barack Obama, EU Commission President Jose Manuel Barroso, and Israeli Prime Minister Benjamin Netanyahu, and the most voted questions from other users. He asks a guest politician through a journalist and offers the opportunity to obtain information (Türk, 2013:57).

Using the right to protest, one of the democratic rights of the people, has also emerged as a functional tool in social networks. The agenda set by the mainstream media and the created silence spiral is broken by people who exchange information and have awareness through social networks. In addition, new media technologies provide people with an easily organized environment. In addition, it is seen that social movements or actions are not announced by the mainstream media or partially published after the government made a statement. Social networks play an important role in the announcement and dissemination of events and provide an appropriate environment for people to organize and seek rights. The explosive effect of social media lies mostly in the emergence of the opposition style, which leads to the questioning of protest and dominant forms of power. For example, with the motto of “We Open Governements” of Wikileaks, the US bureaucrats' correspondence with each other and the secret policies of multiple states, especially the USA, with the world public led to a situation defined as the “September 11” of diplomacy. Correspondence among these documents, especially concerning the Middle East, has led to the consolidation of the hatred and hatred feelings of the peoples of the region that already exist against their own presidents. This situation was the factor that led to the transformation of emotions into actual actions in the stalemate created by oppression and contempt (Sargöl, 2015:205-206).

An important example of the power of social media to influence the masses is the social media event known as one of the biggest public movements in the 21st century and called the "Arab Spring". The movement that started with the burning of Muhammed Buzazi, a university graduate from Tunisia on 17 December 2010, The masses, which were organized through social media in a short time, rebelled against the social injustice, unemployment and poverty in the country and took to the streets. On January 16, 2011, Tunisian prime minister Zeynel al-Abidine Ben Ali fled abroad and the people declared victory. The citizens of other countries inspired by this movement have also caused political power to change hands in Libya and Egypt, organized through Facebook and Twitter. The fact that the popular movements organized over social media sites reach and overthrow the oppressive government and dictators show that social media has an important role in politics and popular movements. On the internet network platforms, organizing actions were initiated by



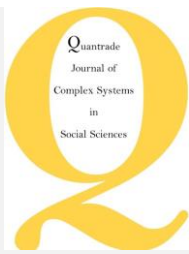
establishing the group "We Are All Khaled Said" in memory of the young man who was killed in Alexandria. 1,123,065 users became members of the Facebook group, 2,004,057 users liked, and 91,656 of these members reported that they would take action (<https://tr-tr.facebook.com/elshaheed.co.uk/>). Studies investigating the impact of social media on the Arab Spring have achieved striking results. For example in a study The average age of the people participating in the organization is 28.5. 75.4% of the users are men and 24.6% are women. 60.3% of the users are college or license, 9.6% of them are master's degree, 14.1% stated that they received secondary or lower education It has. 80% of users have access to social media networks at home found internet, 52% of the internet on mobile phones accessed from the bases. 36% of users participate in the organization operation on the first day. 34% was poured into squares in the following days. 51% of users are Facebook, 12% of users used blogs (Tüfekçi and Wilson, 2012:364-370). The impact of social media on events has also been effective in naming revolutions. The revolution in this country has been called the "Twitter Revolution" since Twitter was used extensively in the uprisings in Tunisia. The revolts in this country were named as "Servebook / Revolution book" because of the Egyptian youth's interest in Facebook (Kışlakçı, 2013:79).

Another action in the center of social media is Gezi Park events. The process started with the establishment of tents in the park on May 27, 2013, with 50 people who wanted to react to the 'Pedestrianization Project' approved by the Municipal Assembly, has been included in the literature as Gezi Park Protests. The politicization phase refers to the two-week period between June 1 and June 15, 2013, when Gezi Park protests reached their peak. The distinctive feature of this phase has been the rapid and comprehensive transformation in terms of both the objectives, the geographical features of the shows and the demographic quality of the audience. The events started by an activist group of about 50 people spread throughout the country since the night of May 31. With this development It has gained the character of an anti-government demonstration, which also includes the objectives of Gezi Park but expresses more general claims and demands (Ete and Taştan, 2013:20-23). The Prime Minister's description of social media as a "nuisance" shows the power of social media, which has a great contribution to the organization of the people in Gezi Park events and the spread of the actions throughout the country. According to a survey by Konda consulting and Research Company, 69% of Taksim Gezi Park activists said they heard the events on social media (Kongar, 2013:33).

Twitter use during action in Turkey tabled by New York University's Laboratory of Social and Political Participation. According to the report released by the university, 2 million tweets about the demonstrations were posted on Friday, May 31, between 16.00 and 00.00. While #resistancezipark is on the labels with 950 thousand tweets, then #occupygezi (170 thousand tweets) and #geziparki (50 thousand tweets) came. Rapporteur on the night of 3 thousand tweets per minute even after half continued to be taken to the disposal specified, 90 percent of disposable tweet was stated that Turkey was sourced. In the report, which was reminded that these figures occurred despite the 3G connection being broken or weak in the places where the shows were organized, it was also stated that the workplaces in the area removed the wireless modem passwords. The report also underlined that this intensity was due to the media's lack of communicating events (Radikal, 04.06.2013). 1.599.977 different messages were analyzed in detail from the messages shared with the #direnceziparki tag on Twitter. 523,126 of these messages were shared on 2 June, the day of the most severe events. 386,275 of these messages were sent with photos, 10,592 of them with video content. It has been determined that 2,620 are Spanish and 318 are Russian. When 465.556 different messages were analyzed in detail from messages shared with the tag #occupygezi; 149,499 of these messages were shared on June 2, the hardest day of events. It was determined that 121.919 of the 466 thousand shared messages, 4.117 of them were sent with video content, 159.712 of them were in English, 16.918 of them were in German, 8.195 of them were in French, 8,547 of them were in Spanish and 412 of them were in Russian. When 154.645 different Twitter messages were analyzed in detail from messages shared with the tag #direnankara; Of these messages, 110,298 of these messages were shared on June 2, the day when the events were the harshest. Shared with 31,425 photos and 1,051 videos posted It was determined that 5,769 of approximately 155 thousand messages were in English, 214 were in German, 91 were in French, 199 were in Spanish and 5 were in Russian. (Banko and Babaoğlu, 2013:17-26).

Facebook, like Twitter, has become an effective network platform in Gezi Park events. For example, 94,198 people liked the "Taksim Gezi Park Association" group page and 2,215 people talked about the group page. The collapse of Gezi Park at night hours on May 28 was first announced on this Facebook group page via social media. 43,521 people liked the group page in June. "Everywhere Taksim Everywhere Resistance" group page was established on June 2, 2013. The group liked 223.966 people and 231 talked about the group page. The group page was liked most in early June. Diren Gezi Park group was established on 31 May 2013. 655,385 people liked its page, 26,177 people talked about the group page. In June, 50,468 people liked the group page (Yeniçikti, 2014:276-278).

Another social media-centered action took place in the United States in 2011. The movement, which started in Zucotti Park on September 17, 2011 to protest Wall Street, the financial center in New York, is known as Occupy Wall Street as it started in social media. This Social movement aimed at economic inequality and the financial companies in Wall Street



to come to the point where the state controls. To highlight the injustice of the income distribution among the remaining 99% people with the 1% highest level of welfare in the United States, as its main motto is “we are the 99%!” was chosen. The movement, which started with about 200 people, became famous with the establishment of a mail group and the creation of the OccupyWallSt.org site. (<http://occupywallst.org/>). The most used tags in the Occupy Wall Street process are #OWS, #OccupyWallStreet, #OccupyWallSt, #OccupyWallStNYC and #NYPD. Looking at 15,784,639 messages shared with these tags, it is possible to see that 11,126,729 of these messages are shared with the #OWS tag, 3,669,708 of them with the #OccupyWallStreet tag, 500,672 of them with the #NYPD and 462,063 of the #OccupyWallSt tag. The total number of messages shared with the #OccupyWallStNyc tag is 14,124. The events in New York were a process that spanned months and even years, and continued for over 4 months with over 1 million message sharing. Canada, Britain, Egypt, Spain, Australia and France are the countries that support the actions that started to be experienced as of September 17, 2011 and partially whose relatives on social media continue. While examining these external supports, it should not be forgotten the effect of the echoes in the homeland of the minorities living in America. Although the total number of messages shared in the Occupy Wall Street process is quite low compared to the Gezi Park Events, the number of people it has affected on social media is 25 Billion since it has been going on for almost two years (Babaoğlu and Banko, 2013:27-31). Newyork Marketing Company measured that Occupy Wall Street organizations were used more intensively in New York between September 10 and October 10, 2011. The public mostly exchanged information via Twitter. Accordingly, users of New York; - 82.5% Twitter, 12.6% of their blogs, 2.8% Facebook, 0.8% is Flickr, 0.6% News, 0.5% used Youtube. It is the low rate acquired in the use of traditional mass media during the actions, which draws attention with the company's analysis. The Occupy Wall Street movement has taken very little place in traditional media, but it has taken up a lot of space on social media platforms (Güler, 2015:350).

It is also seen that organizations made through social media cause resignations and affect politics. In Ukraine, social media played an important role in the anti-government protests that began after the decision not to sign the Free Trade and Cooperation Treaty with the European Union was taken. Among the most important social media tools used in Ukraine are Facebook, Twitter and VKontakte. In fact, there have been differences among certain age groups about the content of social media shares. According to survey results from two researchers, Tamara Martsenyuk and Olga onuch, who participated in protests on behalf of a British research company, the majority of social media users in the riots in Ukraine were 30 years of age and older, but 30 years of age and under used social media more consciously. According to the study, students and the younger generation under 30 make better use of terms familiar to the media. The terms they use refer to abstract concepts such as “EU membership,” Global Human Rights “and” freedom.” He resigned from the position of Prime Minister of Ukraine Mikola Azarov on January 28, 2014, when confusion increased (<http://turksam.org/ukrayna-daki-ayaklanmalarda-sosyal-medya>).

The Communist Party won the 2009 elections in Moldova. However, the opponents who claimed that the elections were involved in cheating started protests. The young people who were mostly involved in the protests turned out to be organized using the blessings of technology without the direct assistance of the opposition parties. It was provided by social networks such as Twitter and Facebook. Since mobile phone networks and television broadcasts in the country have been interrupted or tightly regulated, young people have been organized using social networks on the Internet (<https://www.ntv.com.tr/dunya/moldovada-teknolojik-devrim,hjYfn-9CFU2C3IQ0m-0AYg>). This event was called the Twitter revolution.

With its easy access and attractive use, social media is especially popular among the young population. Today, it is the star of the social media, which provides easy and cheap opportunities for socializing and sharing information. However, there are also comments on their negative aspects. The focus of these comments are (Eren and Aydın, 2014:202-203);

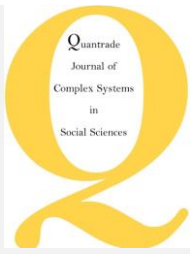
Social engineering attacks: the fact that social media allows the rapid and easy organization of social events makes it easier to organize social engineering attacks from within and outside the country, or both, based on cooperation.

Provocation, disinformation and incitement: although these methods are also used in social engineering attacks, these possibilities find a wider use.

Addiction: the future of countries is the younger generation. Making these generations dependent on games, movies or social media tools is a big threat in itself.

It can be used independently from time and place with smartphone applications: In addition to the widespread use of social media, it has been possible to receive, use and disseminate information wirelessly from mobile networks with the fact that smart phones, which are similar to a desktop computer, are available to the public.

Dangerous Information Sharing and Manipulation: One of the biggest risks of social media is dangerous information sharing and manipulation. Although it offers individuals broad freedoms in the field of information and communication,



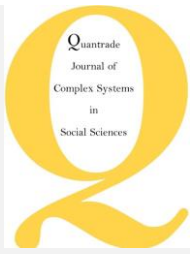
social media also poses great risks in terms of social order, stability and security as it mediates the sharing of dangerous information without passing a certain audit filter.

5. CONCLUSION

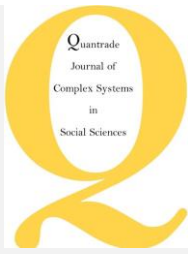
Internet and social networks are among the most preferred communication tools of the 21st century. The internet and social networks play an important role in ensuring communication between individuals and sharing their ideas. In this context, individuals establish political communication with their friends and other people through the internet and social networks, they can form political attitudes and behaviors and engage in political participation activities at various levels within the scope of the information they obtain in these channels. Internet and social networks play a role in various ways in the political participation of individuals. An example of the impact of these digital technologies on political attitudes and behaviors is that the person follows political news through the internet and social networks, engages in intellectual discussions on political issues with other people, communicates with political candidates, participates in and supports political activities over the internet, and supports them. . Even the mobility and political action styles created by social networks have brought up the concept of digital hype as a new style. Protest actions organized worldwide with the impressive power of social media are also an interesting example of political participation. However, social networks may have negative effects on forming a public opinion or reveal a logic of use that needs to be considered in terms of the risk of misleading. The question of whether new media and social networks can be a developing force for democracies has also emerged in the world where all political systems are clogged.

References

- Alav, O. (2014). "Sosyal Medyanın Birey ve Toplumsal Yapıya Etkileri". *Elektronik Sosyal Bilgiler Eğitim Dergisi*, 1(1): 1-22.
- Almond, G. and Powell, G. B. (1993). *Comperative Politics: A Developmental Approach*. Little Brown and Company. Boston.
- Aziz, A. (2007). *Siyasal İletişim*. Ankara: Nobel Yayın Dağıtım.
- Banko, M. and Babaoğlu. A. R. (2013). *Gezi Parkı Sürecine Dijital Vatandaş'ın Etkisi*. İstanbul: Kişisel Yayınlar.
- Barbier F. and Lavenir, C. B. (2001). *Diderottan İnternete Medya Tarihi*. Çev: Kerem Eksen. İstanbul: Okuyanüs Yayınları.
- Bat, Mikail and Vural B. A. (2010). "Yeni Bir İletişim Ortamı Olarak Sosyal Medya: Ege Üniversitesi İletişim Fakültesine Yönelik Bir Araştırma". *Yaşar Üniversitesi Dergisi*, 20(5): 3348-3382.
- Çankaya, E. (2015). *Siyasal İletişim*. Ankara: İmge Yayınları.
- Çetin, S. and Elmasoğlu K. (2014). Politik Propaganda Aracı Olarak Sosyal Medya: Siyasilerin Gezi Parkı Olayları Etnasında Twitter Kullanım Pratikleri Üzerine Bir İnceleme. *Teoriden Uygulamaya Siyasal İletişim*. Ed: Samet Kavoglu, Ankara: Nobel Yayınevi, (223-239).
- Dursun, D. (2008). *Siyaset Bilimi*. İstanbul: Beta Yayınları.
- Eren, V. and Aydın A. (2014). "Sosyal Medyanın Kamuoyu Oluşturmadaki Rolü ve Muhtemel Riskler", *KMÜ Sosyal ve Ekonomik Araştırmalar Dergisi*, 16: 197-205.
- Ete H. and Taştan C. (2013). *Kurgu ile Gerçeklik Arasında Gezi Eymeleri*, Ankara: SETA Yayınları.
- Genel, M. G. (2012). "Siyasal İletişim Kampanyalarında Sosyal Medyanın Kullanımı (12 Haziran 2011 Seçimleri "Twitter" Örneği)". *The Turkish Online Journal of Design, Art and Communication – TOJDAC*, 2(4): 23-31.
- Güler, M. A. (2015). "Kriz ve Yeni Toplumsal Hareketler: "İşgal Et" Örneği". *Gazi Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, 17(3): 330- 362.
- Heywood, Andrew, (2007), *Siyaset*. Çev: Zeynep Kopuzlu, Ankara: Adres Yayınları.
- Kapani, M. (2017). *Politika Bilime Giriş*. İstanbul: BB101 Yayınları.



- Kışlakçı, T. (2013) *Arap Baharı*. İstanbul: Mana Yayınları.
- Kongar, E. (2013), *Gezi Direnişi, Türkiye'yi Sarsan Otuz Gün*. İstanbul: Cumhuriyet Kitapları.
- Köseoğlu, Y. And Al H. (2013). “Bir Siyasal Propaganda Aracı Olarak Sosyal Medya”, *Akademik İncelemeler Dergisi*, 8(3): 103-125.
- Özutku, F., Küçükıylmaz, M. M., Çopur, H., İilter, K. Sığın, İ. and Arı, Y. (2014). *Sosyal Medyanın ABCsi*. İstanbul: Alfa Yayınları.
- Roskin, M. G., Cord, R. L., Medeiros, J. A. And Jones, W. S. (2013). *Siyaset Bilimi*. Çev: Atilla Yayla. Ankara: Adres Yayınları.
- Sarıbay, A. Y. (2008). *Politik Sosyoloji*. İstanbul: Everest Yayınları.
- Sarıgöl, A. (2012). Arap Baharı'nın Son Darbesi Suriye'de Muhtemel Bir Kürt Oluşumunun Türkiye'ye ve Ortadoğu'ya Etkileri, Ed: B. Adıbelli. *Emperyalizm Oyununda İkinci Perde Arap Baharı ve Suriye*. İstanbul: IQ Kültür Sanat Yayıncılık, (197-272).
- Tokgöz, O. (2014). *Siyasal İletişimi Anlamak*. Ankara: İmge Kitabevi Yayınları.
- Törenli, N. (2005). *Bilişim Teknolojileri Temelinde Haber Medyasının Yeniden Biçimlenişi: Yeni Medya, Yeni İletişim Ortamı*. Ankara: Bilim ve Sanat Yayınları.
- Tüfekçi, Z. and Wilson, C. (2012). “Social Media and the Decision to Participate in Political Protest: Observations From Tahrir Square”. *Journal of Communication*, 62: 363–379.
- Türk, G. D. (2013). “Demokrasinin Dördüncü Kuvveti Yeni Medya Teknolojileri”. Türkiye'de İnternet Konferansı, *İNEDT*, XVIII: 55-60.
- Udoka, U. E. (2015). “Social Media and Political Effects: A Case Study of the 2015 Nigeria's Presidential Election”. *International Journal of Social Science and Humanities Research*, 3(2): 134-141.
- Yeniçıktı, N. T. (2014). “İletişimsel Eylem ve Facebook: Gezi Parkı Olaylarında Sosyal Medyanın Gücü”. *Selçuk İletişim Dergisi*, 4(2): 263-284.
- Okan, E. Y., Topcu, A. and Akyüz, S. (2014), “The Role of Social Media in Political Marketing: 2014 Local Elections of Turkey”. *European Journal of Business and Management*, 6(22,): 131-140.
- Yüksel, A. (2007). *İletişim Bilgisi*. Eskişehir: Anadolu Üniversitesi Yayınları.
- www.wearesocial.com Erişim Tarihi: 12.01.2020.
- <https://tr-tr.facebook.com/elshaheed.co.uk/> Erişim Tarihi: 14.01.2020.
- <http://turksam.org/ukrayna-daki-ayaklanmalarda-sosyal-medya> Erişim Tarihi: 02.02.2020.
- <https://www.ntv.com.tr/dunya/moldovada-teknolojik-devrim,hjYfn-9CFU2C3IQ0m-0AYg> Erişim Tarihi: 04.02.2020.
- <https://www.internetworldstats.com/stats.htm> Erişim Tarihi: 04.02.2020.
- <http://occupywallst.org/> Erişim Tarihi: 07.02.2020.
- Radikal, 04.06.2013. http://www.radikal.com.tr/gezi/tum_haberler-69/ Erişim Tarihi: 17.



The Effect Of The Construction and Repair Progress Payments Spanning Years Account-35 on The Market Value of a Company in The Financial Statements Prepared According to International Financial Reporting Standards¹

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Abstract

The laws and regulations that guide the accounting system in Turkey bringing forth different applications compared to the international accounting system caused users to experience difficulties. The aim of the companies is to facilitate the access to understandable and comparable company information for investors and other financial statement users by preparing their financial statements showing their financial position in accordance with International Financial Reporting Standards. National and international investors have been allowed to closely monitor the financial position of publicly traded companies in Turkey through Istanbul Stock Exchange (BIST). Market value of businesses has become one of the issues of increasing importance in financial markets. There are several factors that affect the market value of businesses. In this study, the effect of the 35 Construction and Repair Progress Payments Spanning Years item used by the sample companies operating in the construction sector (whose construction work lasts more than one year) at the Public Disclosure Platform is examined. As a result of the study, it cannot be said that there is a direct positive relationship between 35 Construction and Repair Progress Payments Spanning Years account group and the market value of the business considering the other factors which affect the market value. However, when other factors are ignored, if the progress payments increase, it is concluded that the company has a business in its hand and is active in its field and that its market value may increase.

Keywords: International Financial Reporting Standards, 35 Construction Repair Progress Payments Spanning Years Account, Market Value

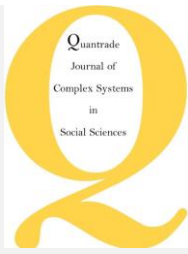
Introduction

Just like the use of a common international language, with the effect of the globalizing world, a common accounting language has been required to be comprehensible by everyone in order to maintain a single order within the accounting system and to reduce the costs of communication and computing (Rayy & Ball, 2006). This language, which is called accounting standards in the world, is translated as Turkish Accounting Standards (TAS) and Turkish Financial Reporting Standards (IFRS) in Turkey. The international accounting standard used in construction business activities is approached as Revenue from IFRS-15 Customer Contracts in Turkey (POA, 2019).

Construction sector is one of the most important and dynamic economic sectors of our country. In our country, the construction sector includes flat for land construction and construction and repair activities spanning years (MNE, 2011). Construction and repair activities spanning years cover more than one calendar year. The market value is affected by many factors such as changes in payment plan, commitment times, disasters, government attitude, company

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performance and investment considerations due to the activities of the companies traded in the construction sector. As there are many factors affecting the market value of the companies, many factors are involved in the activities of the construction companies. In this study, the effects of market value on the results were examined by considering factors such as obtaining the final progress payment and extending the costs to years.

The general name given to all systematic and interrelated activities performed by using materials, equipment and workmanship in order to create a real estate is defined as “construction” (Ministry of National Education [MNE], 2008). Constructions is the plural of the word “construction”, which refers to the construction that has not yet been completed (MNE, 2008).

On the other hand, Aydın has defined construction as all the activities related to the building part of a real estate created by the use of materials and labour (Aydın, 2015). There is no definition of the word construction in the Zoning Law No. 3194, only the description of the concept of construction is included. According to the definition in the law “a structure is fixed and mobile facilities which include temporary or permanent, official and private underground and above-ground construction and their additions, alterations and repairs, on land and water.” In the Zoning Law No. 3194, the description of the term building entering into the structure is as follows: Buildings are structures that can be used on their own, covered and people can enter into, for people to sit, work, have fun or rest or worship, and for the protection of animals and items (CL, 1985). In the Public Procurement Law No. 4734, the term construction is defined and is included as follows: Construction: All kinds of construction work such as buildings, highways, railways, highways, airports, docks, ports, shipyards, bridges, tunnels, subways, viaducts, sports facilities, infrastructure, pipe transmission lines, communication and power transmission lines, dams, power plants, refinery plants, irrigation facilities, soil improvement, flood protection and pickling, and related activities, installation, manufacturing, export, transportation, completion, major repair, restoration, landscaping, drilling, demolition, strengthening and assembly activities and similar construction activities (Public Procurement Legislation, 2002).

The construction work taking less than one year includes the types of construction started in the same year and completed and delivered by the end of the year. According to Gümüş (2015), construction, which is not completed over the years, is referred to as contracting work. If the duration of the construction contracting and repair activities covers more than one year, it is defined as the contracting and repairing work spanning years. (Aydın, quoting from Şenlik 2013, 2015: 4). According to Akça (2016), these activities are defined as construction, earthwork, dams, roads, bridges, tunnels, subways, contracting and repair work, which are carried out under contract, based on a contract and lasting more than one year in duration (Akça, 2016). The completion of the construction activities and the completion of the production are important in two aspects. It is the determination of cost by taxation and the determination of profit and loss from the work.

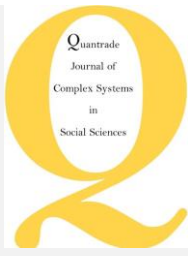
In the completion of the construction activities, it is determined that the construction is extended to years or months, considering the year of commencement and end of construction. The construction activities of the months are completed within a period and the tax is calculated by calculating profit-loss for that period. In construction activities, if the work is completed in the year it is started, general provisions should be applied and taxed within that year. For example, if work was started in January 2018 and finished in 2018, this work is not considered as construction activity extending to years, and earnings should be taxed as earnings for the relevant year (Selimoğlu, 2011). In construction activities extending into the years, the subject of taxation differs from other construction types as well as construction and repair activities that span months. This is done in the year that the work is completed in construction activities that extend into years. Article 42 of the Income Tax Law No. 193 contains the following provisions:

“The profit or loss from construction and repair activities that span more than one calendar year is determined at the year in which the work is completed, and all of them are counted as income of that year and shown in the declaration of the year in question. Taxpayers, in cases covered by this article, are obliged to indicate the revenues and expenses of each construction and repair work in a separate book or in separate pages of the books they keep, and to submit their declarations by the evening of the fifteenth day of March of the year following the calendar year in which the activities are completed. And according to Article 94, the company is required to make a withholding cut of 3%

for each payment made to the subcontractor.” (INCOME TAX LAW, 1960).

As stated in the Law, it contradicts the principle of periodicity, which is the basic concept of accounting in construction activities that span years. Taxes are not calculated for each period and the taxes calculated in the year the work is completed must be paid on the required dates in the following year.

In paragraph 1 of Article 94 of the Income Tax Law, who are obliged to withhold tax is stated, and in paragraph 3 of the same law article, “there is a provision stating that 5% income tax will be withheld from the amounts paid to those who do these activities (including institutions) within the activities covered by Article 42.” (ITL, 1960).



Profit is calculated by subtracting the costs incurred in the same period from the income obtained in a certain period. In construction work, the calculation of profit differs from that of other businesses, especially since the construction and repair activities that span years take a long time. There are two methods for determining the profit in construction activities: (Tosunoğlu and Cengiz, 2018).

- Percentage of Completion Method
- Completion Method

According to the completion method, contract revenue is matched with the costs incurred until reaching the targeted completion stage, and it requires that the work in question be completed in order to record income, costs and profit or loss. This is the reporting of income, expense and profit of the completed work. The Percentage of Completion Method, on the other hand, is based on the fact that in the construction and contracting activities that span years, the percentage of completion of income and earnings occurs as the work progresses in a certain way (Epstein and Jermakowicz, 2010: 289).

According to Aydın (2015), it is accepted that profit-loss occurs during the phases in which the construction work is progressing. The percentage of completion method allows the calculation of profit and loss before construction activities are completed.

When construction and repair contracts spanning years can be reliably estimated, the revenue and expenses of the contract will be considered as income and expense according to the completion phase of the contract activity (Gümüş, 2015).

The percentage of completion is calculated by dividing the costs incurred to date by the estimated cost specified in the total contract (Aydın 2015). In this method, the following formula is used (Şen, 2012).

- Percentage of Completion (Ratio) = Actual Cost / Estimated Contract Cost

If the company wishes, contract costs and contract revenue can be calculated with the help of the percentage of completion as a result of this formula.

- Term Contract Revenue = Total Contract Price x Percentage of Completion
- Term Contract Cost = Estimated Total Contract Cost x Percentage of Completion

In this method, it is assumed that profit and loss will occur if the work is completed or if there is very little left. According to the completion method, it is sufficient to determine the profit, the total cost of the work and the actual cost figures calculated from the progress payments received during the construction work process (Gencoglu and İşseveroğlu, 2018).

Accounts Used For Construction Contracting And Repair Activities Spanning Years In A Uniform Chart Of Accounts

In the uniform chart of accounts (UCA) used in our accounting system, the costs of construction and repair progress payments spanning years are arranged in such a way that the costs of progress payments of more than one construction can be monitored separately.

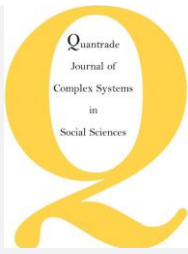
In the accounting process, the costs incurred are accumulated in 17-Construction and Repair Costs Spanning Years Account. The progress payments obtained are deposited in 35-Construction and Repair Progress Payments Spanning Years Account. When the work is completed, the total progress payments and expenses are transferred to the profit and loss account, and the total profit or loss is found (Aydın, 2015).

It is the process of long, complex and systematic work as a result of the activities of the construction companies. Progress payment is the sum of the transactions collected by the contractor company at certain times for the right earned in return for the service provided in accordance with the relevant articles of the contract signed between the employer and the contractor company. (Akgün, 2016).

Progress payments are divided into two (MNE, 2011)

- Temporary Progress Payments
- Final Progress Payments

Temporary Progress Payment



These are progress payments made at intervals after the acceptance of the work. They are monitored in the Uniform Chart of Accounts by crediting 35-Construction and Repair Progress Payments spanning years.

Final Progress Payment

These are progress payments made after the temporary acceptance of the work (Aydın, 2015). These are progress payment reports prepared in the light of the information obtained in the final progress payment construction work. They are organized at the end of the work (Akça, 2016). In case the construction activities are completed, and the final progress payment is obtained, 35-Years of Construction and Repair Progress Payments Spanning Years Account is debited, and the account is closed, and the income account is credited.

Short-Term Foreign Liabilities

This is shown in the section of SHORT-TERM FOREIGN RESOURCES in CONSTRUCTION AND REPAIR PROGRESS PAYMENTS SPANNING YEARS ACCOUNT group in The Uniform Chart of Accounts. Businesses acquire assets from two types of sources, known as equity and foreign sources. It is shown in the balance sheet under three groups. This distinction helps many factors such as financial analysis, financing structure and determination of solvency of the business. Foreign resources are divided into two, which are short-term and long-term. Short-term borrowings, which are used synonymously with debt, cover liabilities less than one year, which the company uses to finance its assets and other needs. Uniform chart of accounts is divided as follows (Acar, 2013)

UCA 35 Construction and Repair Progress Payments Spanning Years Account Group

This is shown in the Uniform Chart of Accounts in the 3** Short-Term Foreign Resources Section of the 35* Construction and Repair Progress Payments Spanning Years account group. Construction Repair Progress Payments Spanning Years with the code 350-357 in the chart of accounts as 350, 351, 352, 353, 354, 355, 356, 357 were given in the short-term foreign resources section to allow separate follow-up of each construction carried out in the construction activities.

Construction and Repair Progress Payments Spanning Years Account Group Operation and Its Relation with Other Accounts

The accounting period in construction activities spanning years is not a calendar year, and the date of the start of construction and the calendar period in the contract in which the provisional acceptance is made are considered as the period until the completion of construction. This is expressed in parallel accounts as construction activities costs and progress payments. 17- Construction Repair Costs Spanning Years Account and 35- Construction and Repair Progress Payments Spanning Years work reciprocally. The costs incurred are expressed in account codes between 170-177 in order to monitor each individual construction. The expenses related to the construction up to the completion of the construction activity are followed in these accounts. The day the construction ends, total expenses incurred with the related construction are credited to the 741- Reflection Account for Cost of Production of Services against the 17- Construction Repair Costs Spanning Years Account. It is then transferred to the 622- Cost of Goods Sold Account, which is the income statement account, and included in the financial statements of the construction company. Its operation in the progress payments accounts against costs is as follows: Advances and progress payments received at the time of the contract are shown as debts in the balance sheet. According to Yereli, profit or loss from construction work is calculated when the construction is completed and reflected to the income statement by using the completion method when accounted (Yereli, 2011).

That is, if the construction company operates in accordance with the Tax Procedural Law, it receives temporary progress payments on certain dates specified in the contract, and receives final progress payment at the end of construction and closes the accounts. According to TAS-11 (Turkey Accounting Standard), the estimated cost is determined after the guarantee is given in the construction contract. The percentage of completion of the work on the following dates is measured by division of expenses incurred in the period, from the time contract was made until then, by estimated cost.

Impact of Construction Repair Progress Payments Spanning Years Account Group on Micro and Macro Economy

The construction sector is known as a comprehensive economic activity and is one of the most vital sectors of the economy. The activities in this sector are known as economic activities, including not only the construction of buildings but also infrastructure investments such as road, railway, air route, port, dam, bridges, etc. which have a great economic impact on the country. It is accepted that there is a close relationship between construction investments and economic growth. The construction sector plays an important role, especially in developing countries such as Turkey. Employment has been achieved through the development of the construction sector in our country, and it has had a high impact on value added and share in GDP.

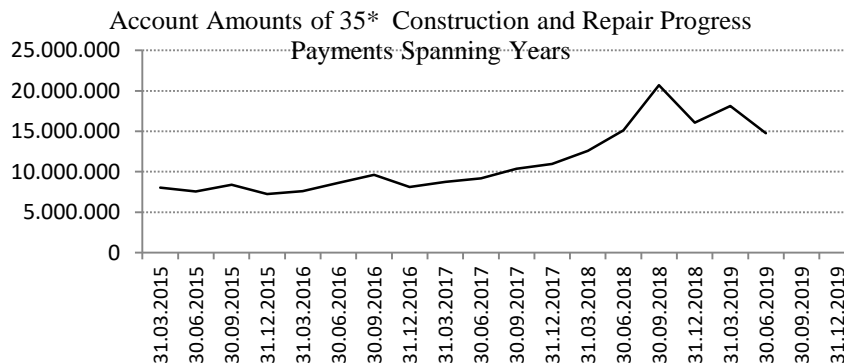
Turkey also has an importance place in the export of construction materials in the economy. The international contracting business is strikingly competitive in the international market. Building materials that provide input to construction sectors such as cement, rebar, ceramics, glass, paint, marble are competitive in terms of their quality worldwide. This situation has been the center of attention of many researchers and they have been interested in this closely. As a result of the research, it is concluded that the construction sector is closely related to economic growth. (Kaya, V. vd, 2013).

Effect Of Construction And Repair Progress Payments Spanning Years Account Group On The Company Market Value (Total Progress Payment - Stock Value Comparative Analysis)

ENKA

In our study, invoiced construction progress payment totals for the quarterly periods between 2015-2019 of ENKA which operates in the field of construction contracting, and the company's stock values in the same period were used to prepare a table; and their relations with each other were interpreted on the graph created using the data in the table. The stock value was taken from the figures published on the BIST-based website of the related company, and construction progress payment items were taken from the financial statements published in the Public Disclosure Platform (PDP).

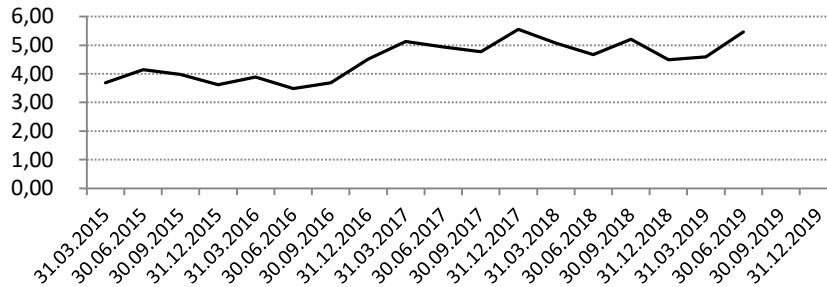
Figure 1: Graph of ENKA Account amount by years



When the figure is analyzed, the data of the 35-Construction and Repair Progress Payments Spanning Years Account group (In the footnotes of the statement of financial position of the entity prepared in accordance with IFRS application, it is named as "Invoiced Progress Payments for Construction Activities") and the stock value data are compared. As a result of the information obtained from the graphs, despite the fluctuations in stock values in the period of 03.2015-06.2017, positive momentum was gained. There was a positive jump on 09.2018. In 09.2016 and 06.2019, there is a negative decline in the stock band when there is an increase in progress payment accounts. It is observed that all periods except these dates move in the same direction with fluctuations with each other.

Figure 2. ENKA Stock Value Graph by Years

ENKA Stock Values



It is observed that there are developments in different directions and construction progress payments do not act in accordance with the sector conditions in the specified periods, and the difference is understood to be due to factors affecting other stock. However, when examined in detail, it is seen that the differences in variation are not remarkably high. In all other periods, when the progress payments of the enterprise for ongoing construction projects increase, the market value has increased, and the market value has decreased in the same manner when a decrease is observed.

TEKFEN

In our study, invoiced construction progress payment totals for the quarterly periods between 2015-2019 of TEKFEN which operates in the field of construction contracting, and the company's stock values in the same period were used to prepare a table; and their relations with each other were interpreted on the graph created using the data in the table. The stock value was taken from the figures published on the BIST-based website of the related company, and construction progress payment items were taken from the financial statements published in the Public Disclosure Platform (PDP).

Figure 3. TEKFEN Account Figures by Years

Account Amounts of 35* Construction and Repair Progress Payments Spanning Years

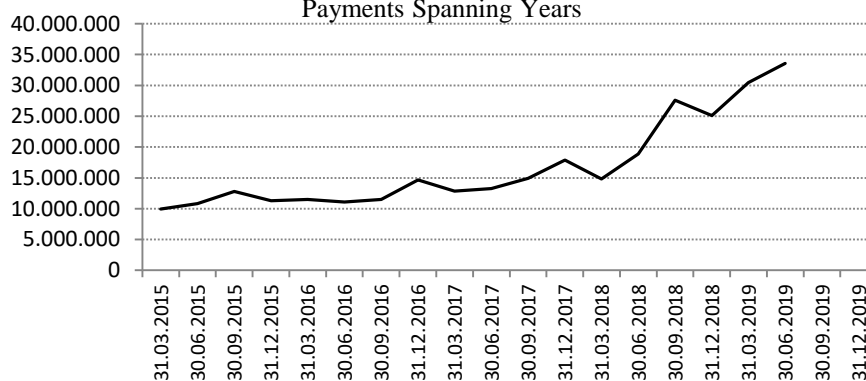
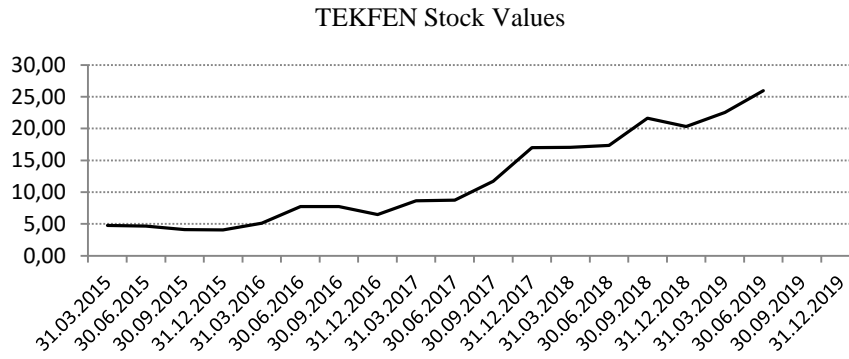


Figure 4. TEKFEN Stock Values by Years

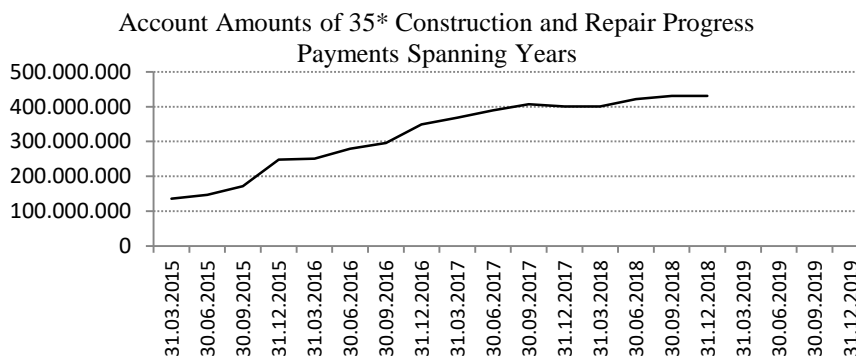


When the figure is analyzed, it is seen that the data of the 35-Construction and Repair Progress Payments Spanning Years Account group (In the footnotes of the statement of financial position of the entity prepared in accordance with IFRS application, it is named as "Invoiced Progress Payments for Construction Activities") and stock value data move in the same direction in all periods except the period 06.2015-03.2017. In the periods when developments are seen in different directions, it is seen that the construction progress acts in accordance with the sector conditions, and it is understood from the data that the parallel continuing band positively affects the stock value. However, when examined in detail, it is observed that there is no big difference in the amount of change differences. In all other periods, when the progress payments of the enterprise for ongoing construction projects increase, the market value has increased, and the market value has decreased in the same manner when a decrease is observed.

YEŞİL YAPI

In our study, invoiced construction progress payment totals for the quarterly periods between 2015-2019 of YEŞİL YAPI, which operates in the field of construction contracting, and the company's stock values in the same period were used to prepare a table; and their relations with each other were interpreted on the graph created using the data in the table. The stock value was taken from the figures published on the BIST-based website of the related company, and construction progress payment items were taken from the financial statements published in the Public Disclosure Platform (PDP).

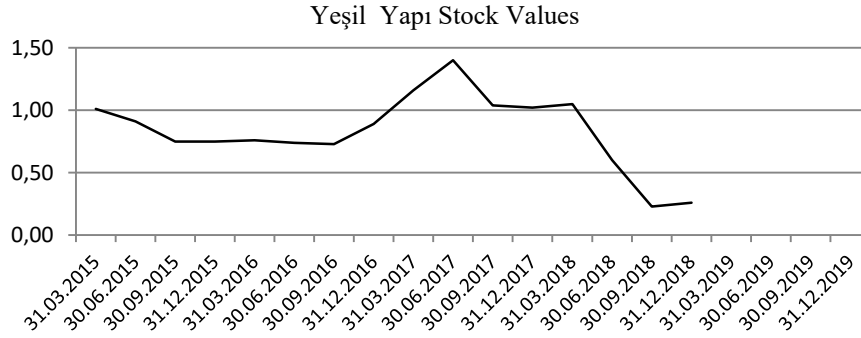
Figure 5. Yeşil Yapı Account Amounts by Years



When the figure is analyzed, it is seen that the data of the 35-Construction and Repair Progress Payments Spanning Years Account group (In the footnotes of the statement of financial position of the entity prepared in accordance with IFRS application, it is named as "Invoiced Progress Payments for Construction Activities") and stock value data move

in the opposite directions in all periods except the period 12.2016-09.2017. In 06.2017, there was a positive jump in stock value, and this is expected from companies in the construction sector. In the periods in which developments in different directions are seen, it is observed that the construction progress payments did not act in accordance with the conditions of the sector. However, when analyzed in detail, it is understood that the sudden change differences between the periods 03.2018-09.2018 are caused by other factors affecting the stock.

Figure 6. Graph of Yeşil Yapı Stock Values by Years



YDA

In our study, invoiced construction progress payment totals for the quarterly periods between 2015-2019 of YDA, which operates in the field of construction contracting, and the company's stock values in the same period were used to prepare a table; and their relations with each other were interpreted on the graph created using the data in the table. The stock value was taken from the figures published on the BIST-based website of the related company, and construction progress payment items were taken from the financial statements published in the Public Disclosure Platform (PDP).

When the figure is analyzed, it is seen that the data of the 35-Construction and Repair Progress Payments Spanning Years Account group (In the footnotes of the statement of financial position of the entity prepared in accordance with IFRS application, it is named as "Invoiced Progress Payments for Construction Activities") and the stock value data are opposite to the account values and stock value band in the period of 06.2015-06.2016. In the period 12.2017, the stock value gained positive momentum in proportion to the account amount.

Between 12.2017 and 06.2018, there is a decrease in the value of stocks, and this is due to the decrease in the account amounts on the same dates. On the other hand, the fact that the stock values moving in opposite directions with the account amounts on 06.2015-06.2016 was found to be another factor affecting the market value. It is seen that construction progress payments act in accordance with sector conditions. However, when examined, the differences in the change decrease remarkably. In all other periods, when the progress payments of the enterprise for ongoing construction projects increase, the market value has increased, and the market value has decreased in the same manner when a decrease is observed.

Figure 7. Graph of YDA Account Amounts by Years

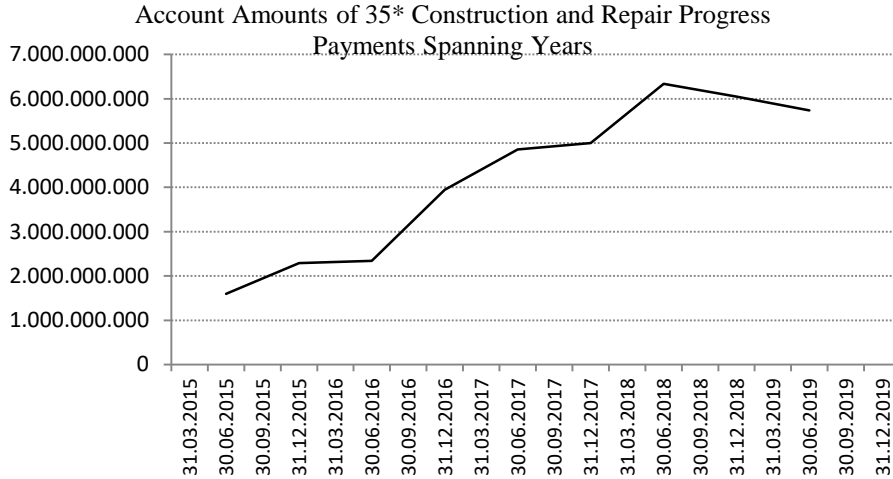
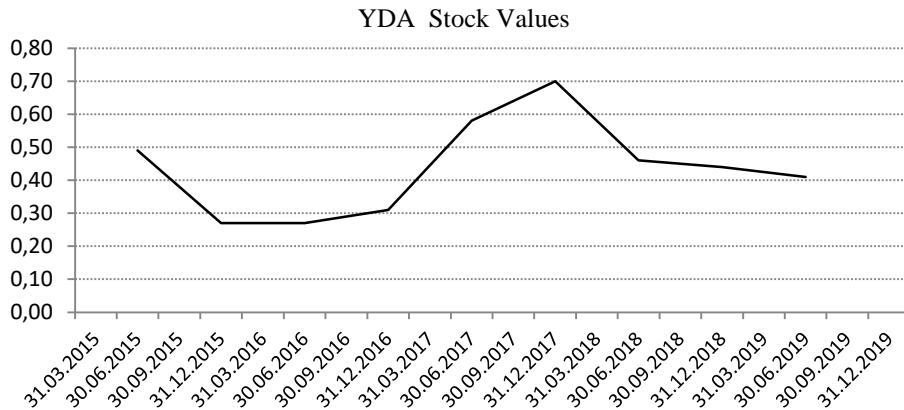


Figure 8. Graph of YDA Stock Values by Years



YAYLA ENERJİ

In our study, invoiced construction progress payment totals for the quarterly periods between 2015-2019 of Yayla Enerji , which operates in the field of construction contracting, and the company's stock values in the same period were used to prepare a table; and their relations with each other were interpreted on the graph created using the data in the table. The stock value was taken from the figures published on the BIST-based website of the related company, and construction progress payment items were taken from the financial statements published in the Public Disclosure Platform (PDP).

Figure 9. Yayla Enerji Account Amounts by Years

Account Amounts of 35 * Construction and Repair Progress Payments Spanning Years

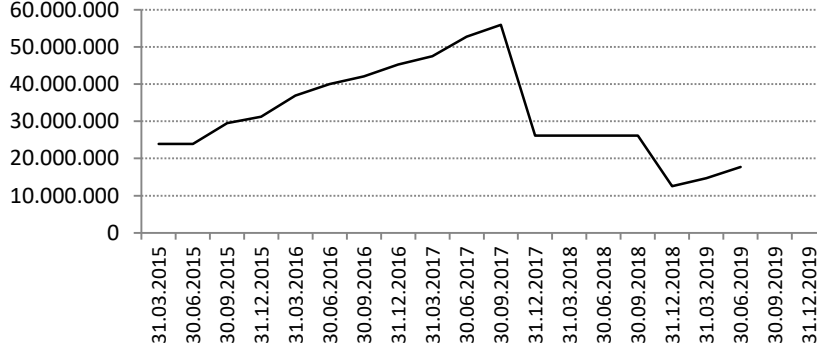
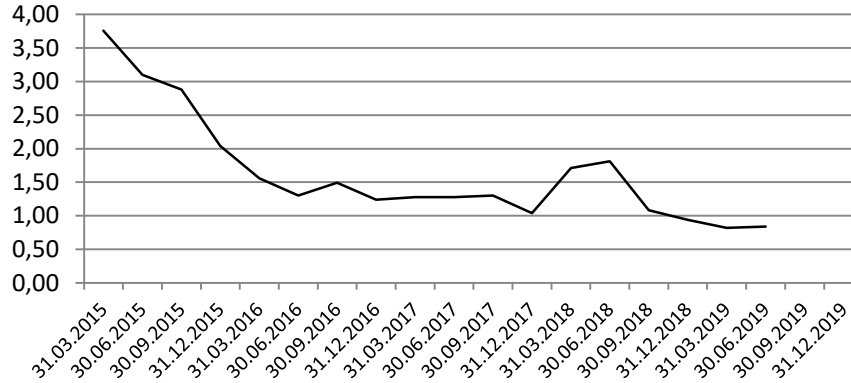
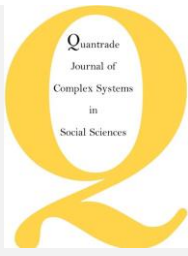


Figure 10. Yayla Enerji Stock Values by Years

Yayla Enerji Üretim Turizm ve İnşaat Stock Values



When the figure is analyzed, it is seen that the data of the 35-Construction and Repair Progress Payments Spanning Years Account group (In the footnotes of the statement of financial position of the entity prepared in accordance with IFRS application, it is named as "Invoiced Progress Payments for Construction Activities") and stock value data and account amounts moved at the same rate in the period of 12.2017-12.2018. Except for these periods, it is observed that they move in different directions with each other in all periods. In the periods when developments in different directions are observed, it is seen that the construction progress payments do not act in accordance with the sector conditions, and the difference appears to be caused by other factors affecting market value.



CONCLUSION

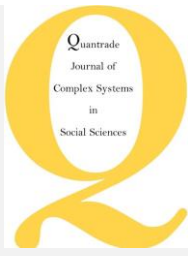
In this study, the effect of 35 construction and repair progress payments spanning years item, which is used especially in businesses whose construction activities last more than a year, was examined. There are several factors that affect the market value of businesses. A business operating in the field of construction contracting invoicing the account of construction progress payments and reflecting them in its financial statements means that the business has ongoing construction work in progress. This indicates that the business continues its activities in the field, tends to complete the activities it is carrying out, and that as the business progresses, the billed progresses payments are obtained. Therefore, this shows that the company has the capacity to undertake jobs in new markets and finish the work it receives. Construction businesses that can get new jobs and complete the jobs they receive have a strong reference in the market, and will continue to gain value thanks to the positive references they have. The brand value of a valued enterprise will increase. A construction company with high brand value will be able to open up to new markets and receive jobs under more favorable conditions, using the advantage of being a more reliable and well-known company in the new construction tenders to be held. And this will allow it to do its business more profitably.

On the other hand, the absence of construction progress payments of a company operating in the field of construction contracting means that there are no ongoing construction activities in the hands of that company. This shows that the activities of the company in its field are disrupted and that the company is having trouble completing the work in hand. Therefore, this situation shows that the company's capacity to receive and complete work in the markets is low. Construction companies that cannot receive new jobs and cannot complete their work have a negative value in the market, and will lose reputation due to negative references about them. The brand value of a business that has lost reputation will decrease. A construction company with a low brand value will have difficulty in bidding due to its more disadvantageous position in the new construction tenders to be held, and will be able to take the work under more adverse conditions. This will result in the company doing its business with less profit.

As a result of the study, it cannot be said that there is a direct positive relationship between 35* Construction and Repair Progress Payments Spanning Years account group and the market value of the business considering the other factors affecting the market value. However, when other factors are ignored, if the progress payments increase, it is concluded that the company has a business in its hand and is active in its field and that its market value may increase, and in the light of the data used in our study, our view was supported.

References

- Akça, S. (2016). *An application for accounting of construction and repair operations spanning years in terms of Tax Procedure Law and Turkish accounting standards*. Unpublished master's thesis. Adnan Menderes University Institute of Social Sciences. Aydın
- Akgün, A. (2016). *Progress payment regulations in contractor construction companies and building information modeling (BIM) applications*. Published master's thesis. Istanbul Technical University, Institute of Science and Technology, Istanbul.
- Gümüş, E. (2015). *Comparison of income and costs arising from construction contracts in terms of Turkish tax legislation and Turkish accounting standards (TAS), and accounting application*. Published master's thesis. Marmara University Institute of Social Sciences, Istanbul.
- Aydın, Ş.(2015).*Construction activities spanning years and accounting*. Unpublished master's thesis. Okan University Social Sciences Institute Istanbul.
- Ball, R. (2006). International Financial Reporting Standards (IFRS): Pros and Cons for Investors Accounting and Business Research, Forthcoming. *University of Chicago Booth School of Business*,65
- Durmuş Acar, Nilüfer Tetik, (2013) *General Accounting*, Detay Yayıncılık, 11thEdition, Ankara



Epstein & Jermakowicz. (2010) *Interpretation and Application of International Financial Reporting Standards*

Esmer, Y. (2012) Uluslararası Finansal Raporlama Standartları Literatür Taraması: 2011-2012.4. Uluslararası Türk Coğrafyası UFRS Sempozyumu.

İşseveroğlu, G. & Gençoğlu, Ü.(2018). Financial reporting in construction contracting companies in terms of tax regulations and accounting standards in Turkey. *International Journal of Social Inquiry*, 11(2).

Kaya, V., Yalçınkaya, V., Hüseyini, Ö. (2013). The role of the construction sector in economic growth: the case of Turkey (1987-2010). *Atatürk University Journal of Economics and Administrative Sciences*, 27(4), 148-168.

Ministry of National Education (2011). *Construction Operations*. Ankara: Megep

Ministry of National Education (2008). *Construction Operations*. Ankara: Megep

Uzay, Ş. & Seval K. Selimoğlu, (2007), *Accounting Control* Gazi Bookstore, Ankara

Şen, İ.(2012). Percentage of Completion Method According to IAS 11 - Construction Contracts. *Çukurova University Journal of the Faculty of Economics and Administrative Sciences*, 16(2) 83-84.

Şenlik, M. (2011). *Construction accounting*. (4thEdition). Ankara: Finance and Law Publications

Tosunoğlu, B., & Cengiz, Selim. (2018). Accounting practices of construction and repair operations spanning years under IFRS 15, TAS 11 and TPL. *Çankırı Karatekin University Journal of the Institute of Social Sciences*, 9(8).

Yereli, A, Kayalı, N, Demirlioğlu, L.(2011). Accounting of construction contracting activities in accordance with Turkish accounting standard (Tas 11) for construction contracts spanning years.. *Dokuz Eylül University, Journal of Social Sciences Institute*

Public Oversight Authority. Accessed on March 1, 2019 at http://www.kgk.gov.tr/Portalv2Uploads/files/DynamicContentFiles/T%C3%BCrkiye%20Muhasebe%20Standartlar%C4%B1/TMSIFRS2019Seti/IFRS/IFRS_15.pdf.

"Income Tax Law No. 193 dated 31.12.1990", **Official Gazette** 06.01.1961 / 10700.

"Zoning Law No. 3194 dated 03.05.1985 ", **Official Gazette**, 09.05.1985 / 18749

"Public Procurement Law No. 4734 dated 04.01.2002" , **Official Gazette**, 22.01.2002 / 7 24648