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Analysis of the effect of the financial transferts on regional economic growth in Morocco using panel econometric modeling.

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Abstract:

Morocco's adoption of the advanced regionalization project in 2015 has set the country on a new socio-economic development trajectory. This approach aims to ensure convergence on a sustained and balanced regional economic growth path and reduce interregional disparities. The region is considered an essential vector in the success of development strategies. This project requires sufficient and sustained funds through regional tax effort management or increased financial transfers. However, raising the transfer rate may boost regional economic growth or increase dependency. Using econometric modeling and panel data (2004–2016), the study shows that financial transfers positively and significantly enhance regional economic growth.

Keywords: Financial transfers, Regional economic growth, Panel data, The 12 regions of Morocco.

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Introduction

The evolution of growth theories and the extension of their doctrine have contributed to the emergence of the regional growth approach, especially with the development of several economic growth models focusing on the issues of marginal productivity of factors of production and the sustainability of long-run economic growth, to the detriment of cushioning the degree of inter-regional disparities. Indeed, Regional Economic Growth focuses on the question of economic growth as an index for measuring the degree of inter-regional disparities and seeks the factors that can help to reduce this divergence, by focusing on the territorial concept that generates geographic proximity and agglomeration phenomena. In the same vein, it identifies the variables that impact the speed of convergence between regions with different factor endowments, as well as the specific advantages of each region in terms of specialization, scale economies, and the ability to retain business activities.

These variables may be endogenous and provide an absolute advantage specific to the region, such as geographical location, natural and sociodemographic assets, organizational capacity, and local coordination between their specific actors. However, they may also be exogenous and beyond the region's control, like financial transfers, which represent a form of economic redistribution and readjustment at the local level.

Financial transfers represent a key tool in redistribution policy at a subnational scale, either between groups of countries benefiting from similar socio-economic potentials, such as the EU, or between communities in a single country composed of regions at different stages of development. They aim to ensure budgetary equilibrium, boost regional economic growth, and reduce inter-regional gaps.

Local development strategies have led to a growing focus on the value of financial transfers in ensuring the success of territorial projects and the sustainability of regional economic growth, mainly in lower-middle-income countries, which have embraced territorial decentralization policies as a precondition of local governance, These countries, which have recently adopted a territorial decentralization policy as a prerequisite of local governance, are allocating significant funds to their regions, although the outcome of these transfers depends on the type of financial resources involved as well as on the ability of the recipient entities and specifically their actors to invest them in socio-economic stimulus projects.

As a lower-middle-income country (OECD, 2018), Morocco has not escaped the territorial development policy extension and its requirements. The move to extended regionalization is the fruit of a prolonged process of territorial decentralization founded on power and responsibility sharing between the State and its regional subordinates, as well as the externalization of services

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in line with local people's preferences, thus leading to economically viable and territorially homogeneous regions, According to this reflex, the region is not just a means of controlling territories, but the cornerstone of successful territorial projects and socio-economic advancement. However, the development of this consensus highlights problematic financial transfers and their impact on regional growth, given that most regions are still unable to ensure their fiscal independence, and rely on these transfers to exercise their competencies by covering the expenses necessary for their operation, under the constraint of maintaining a balanced budget. This entitlement is justified by the new 2011 Constitution, article 141 stipulating that any transfer of competencies from the government to the regions should be coupled with a corresponding resource transfer. The reform has contributed to an increase in the share of financial transfers in regional GDP, reaching 11% in 2016, compared with 10% in 2004 and 14% in 2010 (official bulletin of public finances, TGR, Morocco). However, despite the increasing volume of financial transfers, a central question remains: do these capital flows truly foster endogenous and sustainable growth in Moroccan regions, or do they simply maintain a form of budgetary dependency?

Exploring the determinants of regional economic growth is a serious current research challenge, due to the limited data and empirical studies on the subject. Moreover, regional growth theory remains relatively limited, mainly founded on: the neoclassical theory (Solow 1956), based on productivity gains as the key driver of regional growth. The theory of endogenous growth, emphasizes the state's contribution to regional growth, focusing on its redistributive capacity and infrastructure investment (Barro 1991) and human capital. The New Economic Geography (NGE, Krugman 1991) integrates the spatial dimension in explaining regional growth and differences in productivity.

This paper aims to explore the effect of government financial transfers on Morocco's regional economic growth, following endogenous growth theory and Barro's model (1991), given that central government financial transfers can generate positive externalities and boost the productivity of local inputs in the long run, mainly in territorially decentralized countries. The adoption of a theoretical approach has enabled the following hypotheses to be advanced:

H_0: Financial transfers have a positive effect on Morocco's regional economic growth.

H_1: Financial transfers have a negative effect on Morocco's regional economic growth.

To test the validity of these hypotheses, this study adopts a hypothetico-deductive approach. Drawing on the theoretical framework of endogenous growth, we confront Barro’s (1991) models with the territorial specificities of Morocco. This systematic confrontation between theory and regional empirical data aims to confirm or refute the efficiency of financial transfers in the local economic catch-up process.

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The rest of the paper is organized as follows. The second section presents the main theoretical and empirical studies on the relationship between financial transfers and regional economic growth. The third section sets out the stylized facts relating to financial transfers and regional economic growth in Morocco. The fourth section examines the data, the methods employed, and the main results obtained. The fifth section concludes.

1. Literature Revue

The developments of economic growth theory have led to the emergence of a new branch, namely regional economic growth, which focuses on the factors that can drive local economic growth, and the issue of GDP convergence between regions with different factor endowments. It is characterized by the inclusion of space in the analysis of input productivity, labor, and capital mobility. According to this approach, the spatial dimension is not yet neutral, but impacts the business location, and contributes to the building up of human capital and technology through geographical proximity, which fosters innovation, knowledge transfer, and scale economies.

Furthermore, regional economic growth involves the efficient deployment of the scarce and specific resources available in a constructed territory (the region) to ensure an inclusive and balanced economic development dynamic for all other regions, thereby promoting national economic growth's viability in the long run. Singh (1966) notes that " when some regions lag behind others, national growth is reduced" (p. 274). This duality of equilibrium between national and regional growth is the basis of several theoretical advances that underpin regional growth. First, neoclassical theory, founded on the production function following Solow's (1956) model, states that accumulation of capital and labor productivity gains is the key driver of regional growth, Subsequently, it argues that mobility and long-run factor returns are in decline, and proposes the convergence theory, which holds that regional inequalities are temporary, as the level of growth of rich regions declines, while that of poor regions rises, thus engaging in a process of catch-up and reducing development gaps. Endogenous growth Theory (Romer 1986, Lucas 1988, Rebelo 1991, Barro 1990, Barro and Sala-i-Martin 1995, Romer 1990, Grossman and Helpman 1991) attempted to solve the productivity shortfall of production factors and assumes that the sustainability of regional growth and the reduction of regional disparities require more private investment and the accumulation of physical capital, as well as human capital, public infrastructures, technological advances, and innovation. Such economic activities generate beneficial externalities that enhance factor productivity in the long term. In the final analysis, the theory of the New Geographical Economy (NGE) (Krugman, 1991) proves that the territory can remedy the decline in factor productivity due to regional growth poles that reduce transport costs and increase the diffusion of knowledge and technology.

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Financial transfers refer to funds transferred from a central government entity, such as the State or a group of States, to a decentralized one, i.e. a region, a prefecture, a province, or a commune. Their objective is to support local socio-economic development programs. They can be conditional or unconditional (Majocchi, 2008), and aim to redress financial imbalances, both vertical and horizontal (Johansson, 2017), as well as to fund the expenditures required to promote regional economic growth.

Theoretically, the relation between financial transfers and regional economic growth reveals that the effect of these transfers changes according to three principal factors: i) The capacity of recipient regions to develop their financial resources and thereby ensure their long-term financial independence. ii) how financial transfers fund productive local public expenditure to stimulate regional economic growth iii) The emergence of a specific comparative advantage to each region, given the optimal allocation, based on better management of the local population's needs.

Indeed, fiscal federalism theory (Oates, 1979; Musgrave, 1959) addresses the effect of financial transfers on regional economic growth through the ability of decentralization to achieve public spending goals through allocation, stabilization, and redistribution. From this perspective, fiscal transfers, as a precondition of decentralization, may ensure more efficient public goods and services allocation, and enhance their productivity thanks to two regional mechanisms: geographical proximity and competitiveness.

Correspondingly, financial transfers can have two contradictory outcomes, relying on the behavior of regional actors: i) they increase local public spending and subsequently the regions' revenues; ii) they contribute to the abundance of regional financial resources. This may hinder the deployment of regional players' efforts to develop the region's resources, limiting its financial self-sufficiency and delaying the achievement of locally-based development projects.

According to Solow's exogenous growth model (1956), financial transfers stimulate regional economic growth rates through local investment and accelerate convergence to a steady state in the short run. Nevertheless, the steady-state modification of regional economic growth rate in the long run still depends on the efficiency of the technological factor.

Endogenous growth theory (Barro, Sal-i-Martin, 1991) assumes that the long-term sustainability of regional economic growth can be explained by region-specific local externalities, also by the technological factor's endogeneity and productive public investment funded by government financial transfers. Resource allocation through financial transfers to poor regions speeds up their convergence, on the condition that they have a high potential for economic growth.

The new geographical economy improves the role of financial transfers in mitigating regional inequalities. Krugman (1991) thinks that economies of scale, transport cost savings, and natural

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endowments favor the emergence of an unbalanced regional development model. As a result, financial transfers could play a crucial role in the region's economic growth, as they facilitate the financing of investment expenditures in transport infrastructure, reduce the cost of travel for individuals, and promote regional connectivity and the location of industrial activities with strong positive externalities.

Several empirical studies have explored the connection between financial transfers and regional economic growth. However, the results of these studies vary, making it challenging to reach a clear consensus on the correlation between the two variables. Globally, financial transfers can influence regional economic growth through two complementary aspects of fiscal policy: i) the optimization of financial revenues within the region and ii) the productivity of regional spending. In this context, most of the empirical research reviewed focuses on the impact of financial transfers on local fiscal performance. On the other hand, the direct link between financial transfers and regional economic growth remains relatively underexplored. Accordingly, financial transfers ensure the necessary funding to support local public expenditure and allow lower-income regions to improve their rate of physical and human capital (Yan & Reschovsky, 2021; Di Bella, et al. 2017). Meanwhile, other studies have tried to assess the effect of fiscal transfers on local revenue mobilization and tax efforts by territorial authorities, particularly regions (Awwaliyah et al., 2019; Masaki, 2018; Brun, & El Khdari, 2016; Brun, & Sanogo, 2017; Osiolo, 2016; Yongqiu, et al. 2017). These studies suggest that financial transfers promote local revenues collection and enhance regional financial performance.

Moreover, heavy reliance on central government financial transfers can hurt local revenue mobilization and crowd out regional tax efforts (Kayode, 2020; Liu & Zhao, 2011). This negative effect is found to be more correlated with unconditional transfers (Panao, 2020). According to local expenditure effectiveness, financial transfers, mainly specific grants, encourage regions and other local governments to spend productively (Aritenang, 2019; Bekana, 2020; Blane, 2013; Zárate-Marco & Vallés-Giménez, 2021). On the other hand, the irregularity of financial transfers may cause persistent fluctuations in local spending (Sacchi & Salotti, 2017). In addition, financial transfers can exacerbate regions' budget imbalances as they tend to increase their expenditure to the detriment of the potential of their resources, a phenomenon commonly referred to in the public finance field as the flypaper effect (Yacoub & Lestari, 2019; Tanjung. & al, 2019), 2021; Putri & al., 2020; Yüksel, 2021; Kusuma, 2017; Dick-Sagoe, & Tingum, 2021; Fikri et al., 2020; Marjulas & Syofyan, 2020; Pettersson, 2020; Aritenang, 2019). The study of the direct relationship between financial transfers and regional economic growth leads to some divergences in the results obtained. Research by Anwar & al. (2020), Yushkov (2015), Olayele & Soo (2020), Siliverstovs & Thiessen

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(2015), Freinkman & al. (2011), and Psycharis & al. (2018) suggests that financial transfers have a positive impact on stimulating regional economic growth. However, this positive effect may be conditional. It depends on the economic size of the region and how the transfers are utilized by the recipient regions (Sotiriou & Tsiapa, 2015; Dias, 2015). On the other hand, financial transfers can have a negative effect and therefore may not promote regional economic growth (Koetter & Wedow, 2013; Breidenbach & al., 2016; Baskaran & al., 2017).

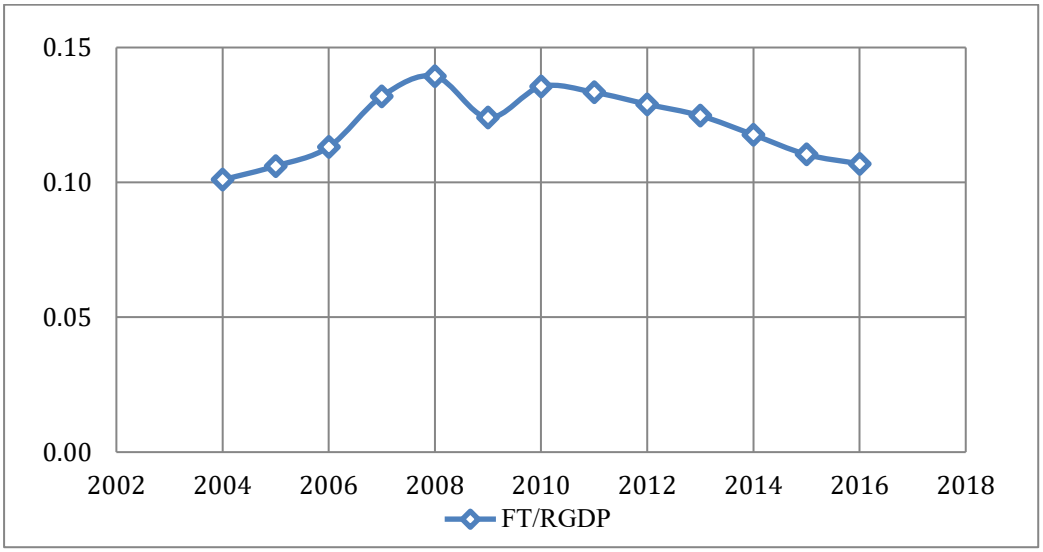
2. Some stylized facts

Morocco's constitutionalization of advanced regionalization in 2011 crowned a gradual process of deconcentration aimed at renewing a balanced decentralization approach in which regions can play a decisive role in optimizing local growth potential in a context of cooperation, equilibrium, and homogeneity of the Moroccan territory. Thus, the region, endowed with legal personality and administrative and financial autonomy, has been able to move away from its traditional role of controlling and supervising territories in favor of an economic function and territorial development based on the success of projects that require the participation of all stakeholders. As a driver of inclusive and balanced local development, the region holds its competencies, shared competencies with the state, and competencies transferred to it by the state. However, the successful execution of these responsibilities is dependent on the adequacy of the financial resources transferred.

Based on the principle of subsidiarity, financial transfers contribute to the strengthening of regional financial resources and, consequently, increase economic growth while reducing the level of regional disparities. According to Article 188 of Organic Law No. 111-14 relating to regions, "The state allocates to the regions, through the finance laws, progressively set rates: 5% of the corporate tax revenue, 5% of income tax revenue, and 20% of the revenue from the insurance contract tax, in addition to credits from the general state budget, to reach a ceiling of 10 billion dirhams by 2021." The rate of financial transfers for each region varies according to several criteria, such as area, population density, and socioeconomic development level.

The evolution of the share of financial transfers in regional gross domestic product reveals two main trends (Figure 1): an upward trend of 4% on average from 2004 to 2008, followed by a downward trend of 3% from 2008 to 2016. These changes can be attributed to several reforms related to decentralization efforts in Morocco, such as the restructuring of the territorial organization, moving from 16 regions to only 12, the reform of local taxation in 2015, and the reduction in the share of VAT in favor of the revenue from the insurance contract tax within the financial resources transferred to the regions.

Figure 1: Share of financial transfers in regional GDP 2004-2016



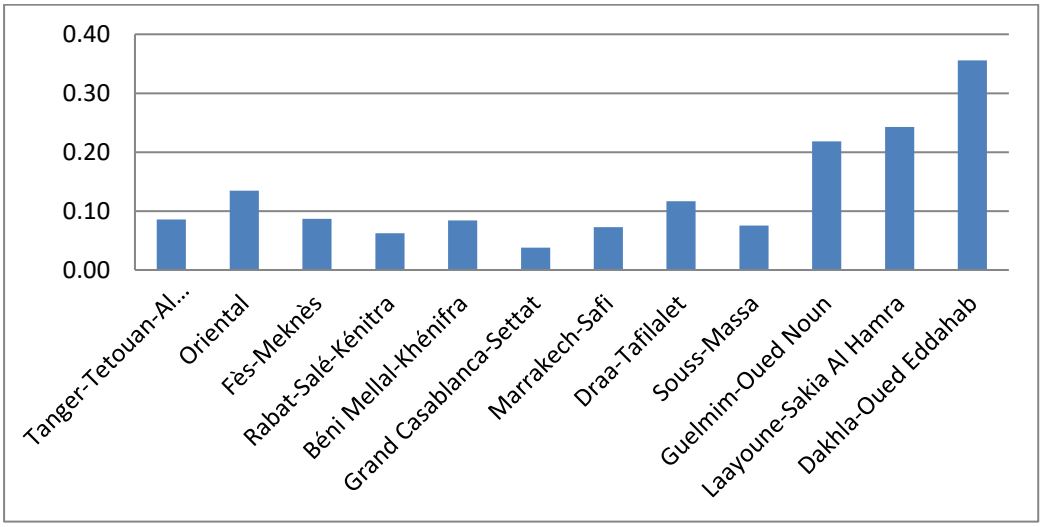
Source: author's computation based on data of the ministrie of economic and finance.

The interregional analysis of the share of financial transfers in regional GDP from 2004 to 2016 (Figure 2) reveals a convergence trend with a coefficient of variation decreasing from 88% in 2004 to 58% in 2016, representing a 30% reduction in interregional disparity over a 13 year period. This finding aligns with the objectives of financial transfers in terms of promoting balanced and inclusive regional development.

Moreover, five regions have a "financial transfers to regional GDP" ratio higher than 10% during the period from 2004 to 2016: Dakhla-Oued Eddahab (36%), Laayoune-Sakia Al Hamra (24%), Guelmim-Oued Noun (22%), the Oriental (13%), and Draa-Tafilalet (12%). In contrast, the remaining seven regions show ratios lower than 10%, ranging from 4% for the Grand Casablanca-Settat region to 9% for Tanger-Tétouan-Al Hoceima and Fès-Meknès.

It turns out that financial transfers benefit poorer and less populated regions more than relatively wealthier and more densely populated ones. This is due to the latter's ability to generate their financial resources for development, which can strengthen their financial autonomy in relation to the state.

Figure 2: Share of financial transfers in regional gross domestic product 2004-2016

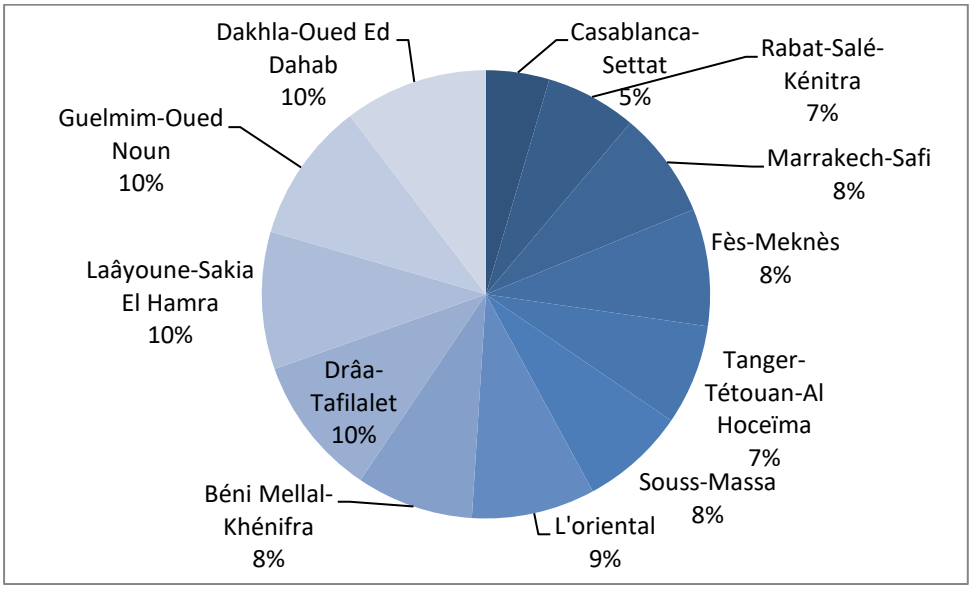


Source: author's computation based on data of the ministrie of economic and finance.

In 2020, the distribution of the share of financial transfers in total revenues by region (Figure 3) shows that this indicator ranges from 5% for the Casablanca-Settat region to a maximum value of 10% for the four southern regions: Dakhla-Oued Eddahab, Laayoune-Sakia El Hamra, Guelmim-Oued Noun, and Draa-Tafilalet. This observation demonstrates that financial transfers aim to correct economic and territorial imbalances, with a greater focus on supporting the fiscal sustainability of the less developed regions.

Similarly, this indicator is lower in the more economically developed and densely populated regions, such as Rabat-Salé-Kénitra and Tanger-Tétouan-Al Hoceima. This can be explained by these regions' capability to generate higher budget revenues, primarily through tax receipts, compared to others such as the Oriental, Souss-Massa, and Béni Mellal-Khénifra.

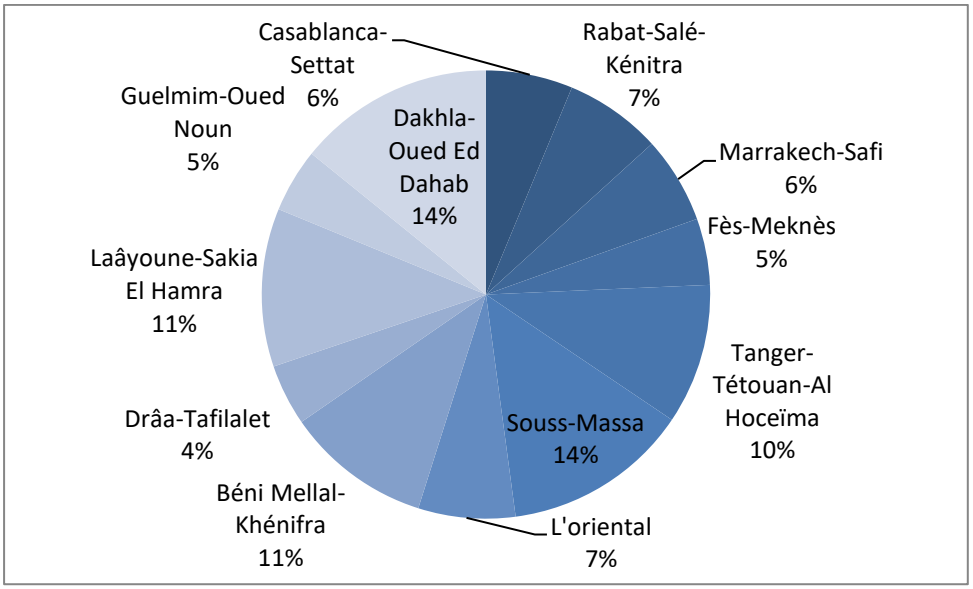
Figure 3: Financial transfers as a percentage of total revenues, by region in 2020



Source: author's computation based on data of the ministrie of economic and finance.

Meanwhile, the share of investment expenditures in financial transfers by region in 2020 (Figure 4) shows that only five regions were able to utilize this type of resource to stimulate regional economic growth, primarily the Dakhla-Oued Eddahab and Laayoune-Sakia El Hamra. This indicates a strong dependence of these regions on state transfers to the detriment of their financial autonomy, which is better managed by other metropolitan regions such as Casablanca-Settat and Rabat-Salé-Kénitra.

Figure 4: The share of investment expenditure in financial transfers 2020.



Source: author's computation based on data of the ministrie of economic and finance

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3. An essay in panel data modeling

Panel data is an econometric tool that integrates a two-dimensional representation of statistical data (both individual and temporal). It enables the simultaneous analysis of the evolution of multiple variables across different periods.

The use of panel data in economic studies is justified by its usefulness in comparing the behavior of economic variables over time and their sensitivity to the specific characteristics of each country, which provides more realistic conclusions and, in turn, facilitates the implementation of the most appropriate economic policies both over time and across different regions.

The choice of this modeling tool offers the advantage of providing an efficient estimation of the parameters of the variables robustly, with less complexity compared to other estimation methods such as time series. Hsiao (2003) states that panel data ensures a sufficiently large number of observations, which increases the degrees of freedom and reduces the risk of collinearity among the explanatory variables.

Panel data also helps to cope with the individual's complexity by accounting for their heterogeneity and provides a better analysis of their behavior over time. It addresses issues noted in time series studies, such as variable stationarity, cointegration, and various model validation tests, making the modeling process more flexible.

Similarly, they ensure a precise prediction of individual outcomes compared to time series by observing and comparing the behaviors of the studied individuals, as well as through a sufficiently representative number of observations.

3.1 Presentation of Variables and Model Specification

The analysis of the relationship between financial transfers and regional economic growth in Morocco involves a panel consisting of N=12 regions and spans a period of T=13 years (2004-2016), resulting in a total of N*T=156 observations.

The model specification and the choice of variables are derived from the research reviewed in the empirical literature, primarily the work of Psycharis et al. (2018), in which the authors adopt the neoclassical β-convergence model proposed by Barro (1991). The model to be estimated combines variables in a linear form, augmented by the logarithm, in which the GDP per capita of each region is a function of financial transfers per capita, population density, primary value-added, and secondary value added.

$$\ln\left(RGDP_{\text{perc}}\right)_{\text{it}} = \alpha_0 + \beta_1 \ln\left(\text{FT}_{\text{perc}}\right)_{\text{it}} + \beta_2 \ln\text{PVA}_{\text{it}} + \beta_3 \ln\text{SVA}_{\text{it}} + \beta_4 \ln(\text{PD})_{\text{it}} + \varepsilon_{\text{it}}$$

With; i : the number of regions $= 1, \ldots, 12$ **et** t: the time horizon $= 2004, \ldots, 2016$

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All variables are measured in millions of dirhams (MD) and are sourced from the database of the Ministry of Economy and Finance of Morocco, except for the variable of population density by region, (PD), which is calculated by the authors using data series from the High Commission for Planning (HCP) and the Ministry of National Territorial Development, Urban Planning, Housing, and City Policy (MNTDUPHCP).

Table 1: Description of Variables and Data Sources

Code	designation	variable type	Data source
$(\mathrm{RGDP_{perc}})_{it}$	Regional gross domestic product per capita (MMAD)	Endogenous variable	MEF
$(\mathrm{FT_{Perc}})_{it}$	Financial transfers per capita and per region (MMAD)	Exogenous variable	MEF
$\mathrm{PVA_{it}}$	Primary value added by region (MMAD)	Exogenous variable	MEF
$\mathrm{SVA_{it}}$	secondary value added by region (MMAD)	Exogenous variable	MEF
$(\mathrm{PD})_{it}$	Population density per region	Exogenous variable	HCP/ MNTDUPHCP

Source: prepared by authors

3.2 Results and Discussion:

3.2.1 Descriptive Statistics

Before proceeding with the statistical tests and interpretation of the results, it is necessary to examine some statistical characteristics of the variables, in terms of dispersion and concentration. Indeed, according to (Table 2) below, the total number of observations is (N = 156), with a number of individuals (n = 12) regions, spanning a period of (T = 13) years.

Regional GDP per capita, the endogenous variable, has a modest standard deviation of 0.30 and an aggregated average of 3.15 for all regions examined between 2004 and 2016. which suggests that regional GDP in all regions evolved relatively during the studied period, as the values of this variable are less dispersed and tend to cluster around the sample mean. Similarly, per capita financial transfers varied minimally over time, with a controlled standard deviation of 0.72 and an average of 5.25. This can be explained by the constancy of the fiscal transfers granted to the regions during that time.

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Additionally, the other factors, like the value added in the primary sector, the value added of industry, and population density, have modest standard deviations (1.01, 1.93, 1.74) but still show more variability than regional GDP and financial transfers. Such variation can be explained by the divergence in regional economic structures and the ability of some regions to attract more people and economic activities. Regional GDP per capita shows less variability at the intra-regional level compared to the inter-regional one. The reduction in variability between intra-regional and inter-regional levels can be attributed to the diverse characteristics of each region.

Table 2: Descriptive Statistics of the Model Variables

Variable		Mean	Sd	Min	Max	Observations
$\ln(\mathrm{RGDP_{perc}})_{it}$	Overall	3.146475	0.2975534	2.627502	4.31397	N = 156
	Between		0.2175669	2.925247	3.640561	n = 12
	Within		0.2118191	2.556265	3.819884	T = 13
$\ln(\mathrm{FT_{Perc}})_{it}$	Overall	5.248314	0.7223029	3.943263	6.79691	N = 156
	Between		0.6942685	4.535891	6.547877	n = 12
	Within		0.2775421	4.625625	5.520423	T = 13
$\ln\mathrm{PVA_{it}}$	Overall	8.635668	1.01477	6.115892	9.88405	N = 156
	Between		1.010418	6.830744	9.580507	n = 12
	Within		0.2964012	7.733205	9.462207	T = 13
$\ln\mathrm{SVA_{it}}$	Overall	8.953723	1.393488	5.293305	11.72253	N = 156
	Between		1.408393	6.018866	11.39017	n = 12
	Within		0.3343705	7.686239	9.965262	T = 13

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$\ln(PD)_{it}$	Overall	3.632834	1.735011	-0.2755983	5.889949	N = 156
	Between		1.804774	0.1019654	5.782481	n = 12
	Within		0.072295	3.255271	3.969657	T = 13

Source: Authors' calculations using STATA software

3.2.2 Specification test

For estimating the outcomes, the Hausman test makes it possible to distinguish between the fixed effects model (FEM) and the random effects model (REM). The alternative hypothesis is accepted since the test's corresponding probability has a p-value less than 5% (P = 0.0000), supporting the fixed effects model's selection.

Table 3: Hausman test

Hypotheses	$Chi^2(4)$	$Prob > Chi^2$	Decision
H_0 : The choice of random-effect model	43.10	0.0000	choice of FEM
H_1 : The choice of fixed-effect model			

Source: Authors' calculations using STATA software

3.2.3 Estimation results

The estimation results (Table 4) show that the F-statistic is sufficiently large, with a value of F(15.140) = 326.90 and a corresponding p-value of p = 0.0000 < 0.05, indicating the consistency of the chosen model. Indeed, the independent variables in the model jointly and significantly explain regional GDP per capita. Furthermore, the adjusted R-squared (R^2 = 0.96) indicates that more than 96% of the variability in regional GDP per capita across the 12 regions from 2004 to 2016 is explained by the model's variables. All explanatory variables show a significant effect at the 5% level concerning regional GDP per capita.

Table 4: Fixed-effect model estimation results

$\ln RGDP_{perc}$	Coef.	Std.Err.	t	P > |t|
$\ln FT_{Perc}$	0.2235291	0.0236052	9.47	0.000
lnPVA	0.2566127	0.0235736	10.89	0.000

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lnSVA	0.3514989	0.0190306	18.47	0.000
lnPD	-0.5090527	0.0799694	-6.37	0.000
C	-1.478157	0.2705963	-5.46	0.000

$$\text{Nber of obs} = 156$$

$$R^2 = 0.9693$$

$$F(15, 140) = 326.90$$

$$\text{Prob} > F = 0.0000$$

Source: Authors' calculations using STATA software

Financial transfers have a positive and significant impact on regional economic growth. Indeed, a 1% increase in financial transfers contributes to a more than 0.22% rise in the regional gross domestic product (GDP) per capita. This result confirms the findings of both theoretical and empirical literature, which suggest that financial transfers promote regional economic growth. In the case of Morocco, this finding can be explained by the Moroccan region's high dependence on financial transfers to achieve their budgetary balance and finance local expenditures. At the same time, value added in the secondary sector has a positive effect of more than 0.10%, compared to value added in the primary sector, on regional economic growth. This reflects the reorganization of the regional economic structure, which is increasingly focused on locating investment in the industrial sector. Furthermore, population density is negatively correlated with regional economic growth, with an elasticity greater than 0.50%. This contradicts agglomeration theory, which suggests that densely populated regions are more likely to achieve high productivity rates. However, this does not appear to be the case in Morocco, where there are significant disparities in population distribution between regions. At the same time, growing regional disparities in human capital and its low quality are hampering regional economic growth.

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4. Discussion of results

The study of the relationship between financial transfers provided by the central government and regional economic growth presents a significant research challenge due to the scarcity of previous studies on this topic and the lack of reliable and up-to-date statistical data. In this study, we aimed to reveal the effect of financial transfers on regional economic growth in Morocco by utilizing a robust econometric tool related to panel data modeling, covering the twelve Moroccan regions from 2004 to 2016.

The results of our model allow us to verify the initial hypothesis, which assumes that financial transfers can have a positive and significant effect on regional economic growth in Morocco. Indeed every 1% increase in financial transfers contributes to a more than 0.22% increase in regional GDP per capita. These results align with the theoretical framework of our study, particularly the endogenous growth model, which demonstrates that in a decentralized territorial organization, financial transfers generate positive externalities that offset the decline in the productivity of production factors, thereby promoting long-term regional economic growth. In terms of empirical evidences, our estimation results are consistent with those found in several previous studies, especially those by Anwar et al. (2020) and Psycharis et al. (2018), which highlights that financial transfers stimulate regional economic growth.

In addition to the effect of financial transfers, this study allowed us to distinguish the impact of other variables that reflect the structure of the regional economy and affect regional economic growth, such as secondary and primary value added. These factors can contribute to regional economic growth stimulation in decentralized countries. Since the agricultural sector is the primary source of employment in developing countries, the industrial sector enables economies of scale and productivity of production factors through the attractiveness of foreign direct investment and the dissemination of expertise and technology.

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Conclusion

The acceleration of the territorial decentralization process and the constitutionalization of the advanced regionalization project have led to the establishment of a new development approach in Morocco, which is primarily focused on reducing the intensity of regional disparities and enhancing the potential of each territory through the successful implementation of territorial projects, that requires the participation of all stakeholders, particularly the local population.

According to Article 3 of the Organic Law relating to regions, the region is one of the levels of decentralized territorial organization of the Kingdom based on advanced regionalization. Through the principle of subsidiarity, it exercises its competencies and shared competencies with the state, the execution of which requires sufficient financial resources. However, the inability of regions to mobilize their funds and the underutilization of their fiscal potential makes the transfer of funds from the state to the different regions legitimate.

The financial transfers granted to the various regions are primarily aimed at ensuring the budgetary sustainability of these local authorities, accelerating their economic growth process, and correcting interregional socio-economic imbalances. The analysis conducted within this research has allowed us to verify the initial hypothesis regarding the impact of financial transfers on regional economic growth in Morocco. This conclusion helps confirm several theoretical contributions that demonstrate that financial transfers can stimulate regional economic growth.

Empirically, the results of the econometric approach using panel data from 2004 to 2016 show that financial transfers have a positive and significant impact on regional economic growth in Morocco. A 1% increase in financial transfers leads to a 0.22% increase in regional growth. This finding contributes to the enrichment of the empirical literature, which affirms the essential role of financial transfers in the productivity of local expenditures and the stimulation of regional economic growth.

In terms of research perspectives, an empirical analysis employing panel data at the municipalities, provinces, and prefecture levels would be beneficial to further explore the relationship between financial transfers and local economic growth, it would also be beneficial to research how financial transfers affect local governments' tax efforts.

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