DEBT LIMITS AND PUBLIC INVESTMENT: EVIDENCE OF MUNICIPAL GOVERNMENTS IN COLOMBIA

1. INTRODUCTION

This dissertation contributes to the literature of political economy analyzing the relationship between debt thresholds as local fiscal rules and the public investment in Colombian municipalities.

1.1 Research Questions

- ¿How debt rules affect public investment in municipal governments in Colombian?
- ¿Does accomplishment of debt rule induce a compensation effect in municipalities?
- ¿What is the marginal effect of the accomplishment of debt rule by municipal categories?

1.2 Hypothesis

The main hypothesis of this thesis can be summarized as follows:

- The effect of the compliance of debt rules indicators (measured by solvency and sustainability indicators of debt in Law 358 of 1997) over the public investment will change depending on the municipal category.

- Municipalities with fewer revenues and populations that belong to the category fifth and sixth will be penalized when complying with the indicator of solvency and sustainability defined by law 358 of 1997. These municipalities will have less public investment.

- There is no certainty about the effect of compliance with the indicators over the public investment in municipalities with higher incomes that belong to the first, second and special category but it is expected to have a bigger compensation effect over the investment than those municipalities with fewer incomes.

2. Methodology

Based on panel data analysis from 1091 municipalities between 2003 and 2013 . I estimate a fixed-effects model to understand the correlation of Law 358 compliance and investment levels in Colombian municipalities. Besides, I include marginal effect at different categories of municipalities based on population size. Therefore, the model includes interactive variables to measure the marginal effects.

$$y_{it} = \mu_{it} + \beta_1 law358_{it} + \beta_2 (law_{358_{it}} cat_{it}) + \beta_3 incomek_{it} + \beta_4 Homicides_{it} + \beta_5 kidnappings_{it} + \beta_6 deptransf\ cat6 + \beta_7 lpop_{it} + u_{it}$$

y_it is the total amount of public investment, measured in thousands of millions and deflated at prices of 2015

law358_it as the indicator for the law 358 of 1997 that specifies the fulfilment of the rule.

law_(358_it) cat_it represent the interaction between each category of the municipality and the compliance of lay 358.

incomek_it is the capital income.

Homicides_it and **kidnappings_it** are control variables for measure the effect of violence on investment.

deptransf cat6 is an interaction between the dependence on transferences and the sixth municipal category

lpop_it is the natural logarithm of the total population

3. Results

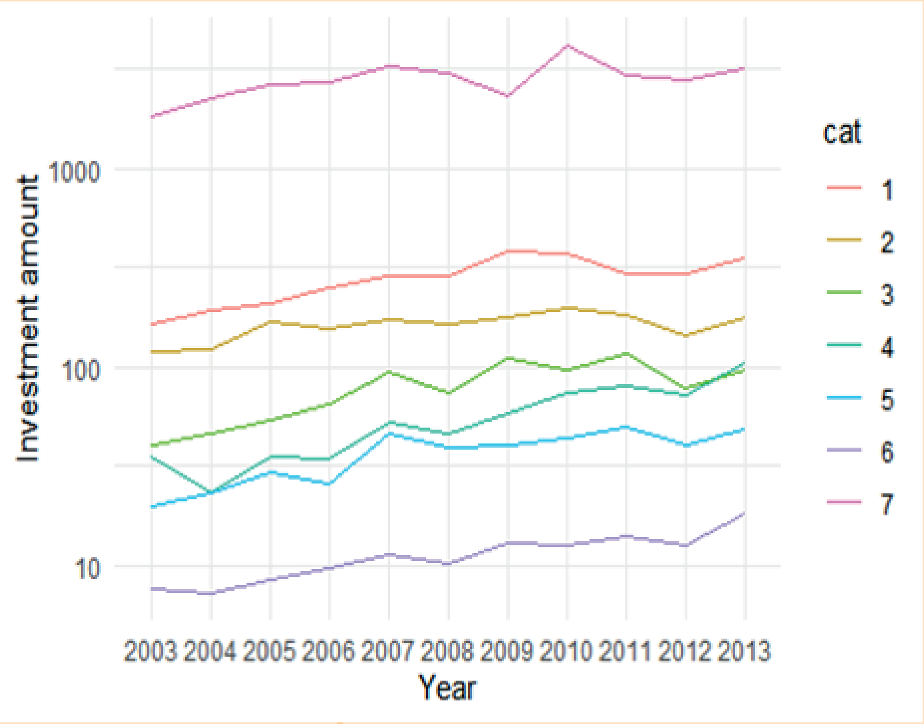
This investigation provides empirical evidence about the impact of fiscal rules as debt rules on total investment. The empirical results show the difference of lagged municipalities behind investment spending. Lower category municipalities spend more on investment, compared to category 5 and 6 municipalities, offsetting the effect. The richest municipalities make their debt more flexible, there is a greater compensation effect over the investment than those municipalities with fewer public revenues. Even though fiscal rules at the local level improve fiscal discipline, it does it by deepening inequality, resulting in an inefficient allocation of resources in the Pareto sense.

Table 1 Empirical results of the two models

	Fixed-effects regression with Driscoll-Kraay standard errors	Fixed-effects regression with Cluster standard errors.
Law358	-15.95**	-15.95***
	(5.362)	(6.129)
Law358Cat1	40.47**	40.47
	(15.94)	(49.90)
Law358Cat2	-0.349	-0.349
	(4.143)	(14.00)
Law358Cat4	18.66***	18.66***
	(3.635)	(7.083)
Law358Cat5	13.11*	13.11*
	(6.361)	(6.888)
Law358Cat6	15.60**	15.60**
	(5.342)	(6.119)
Law358Cat Special	276.4***	276.4***
	(54.27)	(92.47)
incomer	1.012***	1.012***
	(0.117)	(0.246)
Homicides	-0.376**	-0.376*
	(0.120)	(0.203)
kidnappings	-4.129***	-4.129
	(1.175)	(2.673)
population	19.07**	19.07
	(7.357)	(19.09)
deptransf	-30.19**	-30.19**
	(9.647)	(13.86)
deptransfCat6	33.00***	33.00**
	(8.054)	(13.17)
Constant	-131.0	-131.0
	(73.31)	(173.4)
Observations	11,610	11,610
R-squared	0.52	0.529
Number of groups	1,091	1,091

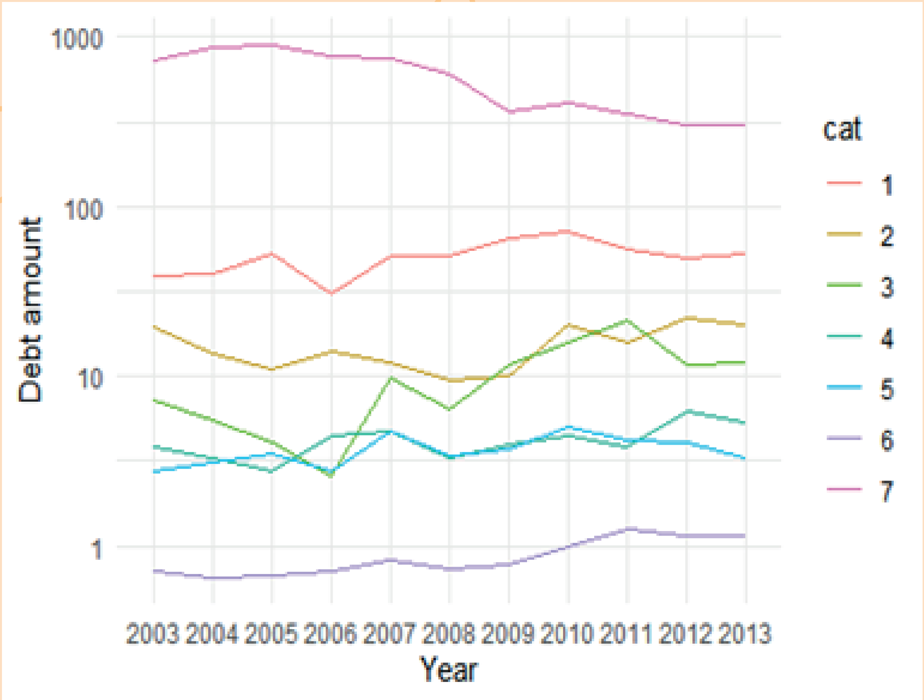
Note: Standard errors in parentheses*** p<0.01, ** p<0.05, * p<0.1
Source: Own estimations

Graph 1 Investment amount by category over the years



Source: Own elaboration based on the "Effective cash operations" data from the Regional Development and Decentralization Directorate of The Colombian Planning Department (DNP)

Graph 2 Debt amount by category over the years



Source: Own elaboration based on CGR-DNP-SF data.

4. Discussion

Results are according to the empirical assumption about debt fiscal rules behavior. Richest municipalities will have a well fiscal rule behavior since they need it to contract new debt and investment. Despite this, small municipalities will reduce their investment if they comply with the fiscal rule. This result shows how the compliance with fiscal rules reduces the flexibility of fiscal management and deepens inequalities in the national territory.

The newness of this study stalks from the analysis of debt fiscal rule in Colombian municipalities designed to influence local indebtedness, but focuses on the response if there is an investment municipal effect by category? Interestingly, within a specific municipal category (such as the first or sixth category), not all categories are equally affected. The effect in current investment leads to a decrease in investment in small municipalities (measured by population and revenues), while an increase in investment in municipalities withhigher incomes and population.

5. Conclusions

The empirical results show the difference of lagged municipalities behind investment spending. Lower category municipalities spend more on investment, compared to category 5 and 6 municipalities, offsetting the effect. The richest municipalities make their debt more flexible, there is a greater compensation effect in these municipalities than in those with lower incomes.

In conclusion, addressing the heterogeneity of the local territories to analyze the effect of the compliance of fiscal rules into the total investment, it is evident that the effect is different depending on the municipal category and those municipalities that belong to the richest categories will have a bigger compensation effect over the investment than those municipalities with fewer incomes and quality of life. Variables as violence and capital incomes explain the behavior of the investment and transferences have an important role in the finances for the sixth municipal categories.

6. References

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