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# SHOULD RESULTS INDICATORS, INDUCE OR DIFINE BUDGET ALLOCATIONS?

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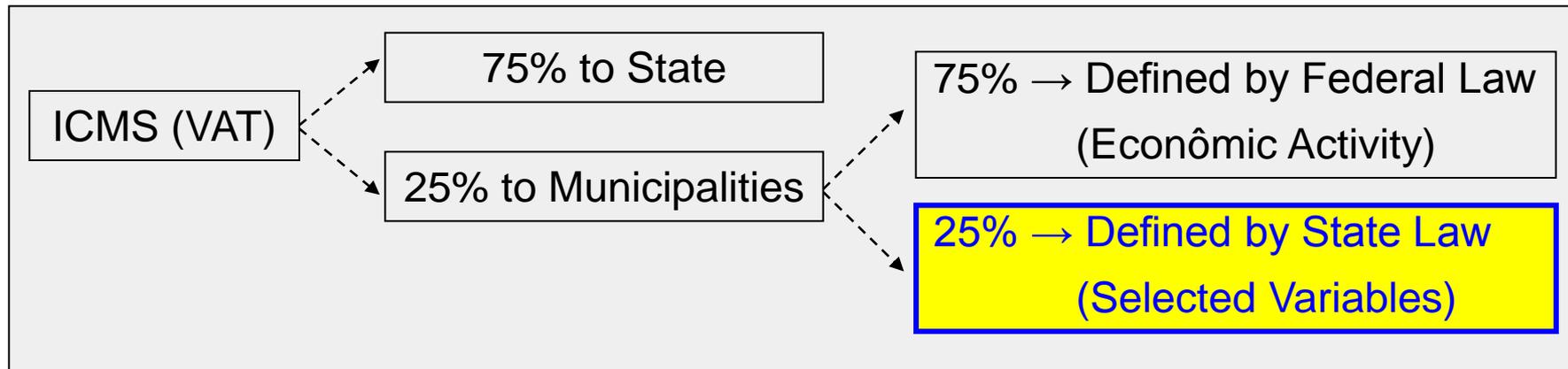
# Results and Incentives

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- ✓ The supply of public goods and services has to be result-oriented.
- ✓ That is, just offer education or health services is not enough. The government needs to delivery results on education and helath.
- ✓ To have results as the main goal of public services supply we need incentives toward a result-oriented budget cycle.

# Results and Incentives

- ✓ An example of such incentive is a *New Law*, signed by the Governor of the State of Ceará on December 17, 2007, that regulate the way the State distribute part of its VAT revenue among its municipalities.
- ✓ In Ceara, as in the rest of Brazil, we have:



\*ICMS is the denomination for the State's Value Added Tax .

# Old Law x New Law

✓ The old law:

25% → Defined by State Law  
(Selected Variables)

5% → Municipality Population

12,5% → Expenditure on Education

7,5% → Equally distributed

✓ The new law

25% → Defined by State Law  
(Selected Variables)

18% → Education (performance of students on standardized exams)

5% → Health (Infant Mortality Rate)

2% → Enviroment (Appropriate Waste Disposal System)

# Components of the coefficients

## ✓ Education:

- Indicators considered in the coefficient:
  - ✓ Student approval rate in first five grades of elementary school
  - ✓ Average grades of Second Year Students in reading exams
  - ✓ Average grades of Fifth Year Students in math and portuguese
- Formula:

$$\text{Coefficient}_i = 0,2 \frac{\text{Approv}_i}{\sum_i \text{Approv}_i} + 0,8 \left( 0,4 \cdot \frac{\text{Level Score}_i}{\sum_i \text{Score}_i} + 0,6 \cdot \frac{\text{Advance } \Delta \text{Score}_i}{\sum_i \Delta \text{Score}_i} \right)$$

\* Score is adjusted for Standard Deviation and the proportion of students that were tested

## ✓ Health:

- Indicator considered in the coefficient: Infant Mortality Rate (IMR)
- Formula:

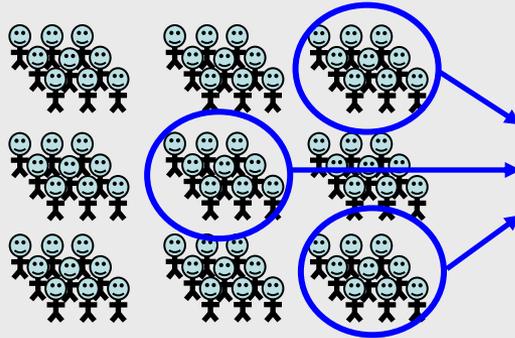
$$\text{Coefficient}_i = 0,5 \frac{\text{Level DM}_i}{\sum_i \text{DM}_i} + 0,5 \frac{\text{Advance } \Delta \text{DM}_i}{\sum_i \Delta \text{DM}_i} \quad \text{DM}_i = 100 - \text{IMR}_i$$

# Two controls for potential “gaming” behavior

## Groups of students

## Results

**Municipality  
A**



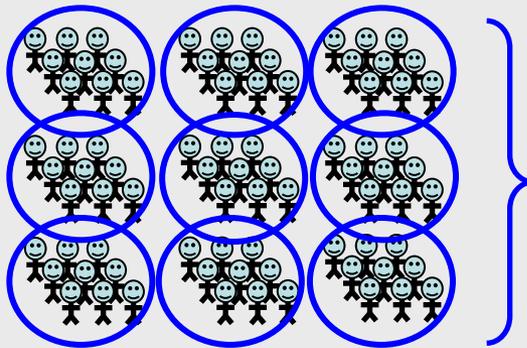
Only some groups receive higher attention, which can raise the average of the municipalities in detriment of the majority of students.

**Average Grade = 200**  
**Standard Deviation = 50**

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$$AG / 0,5 \cdot SD = 8$$

**Municipality  
B**



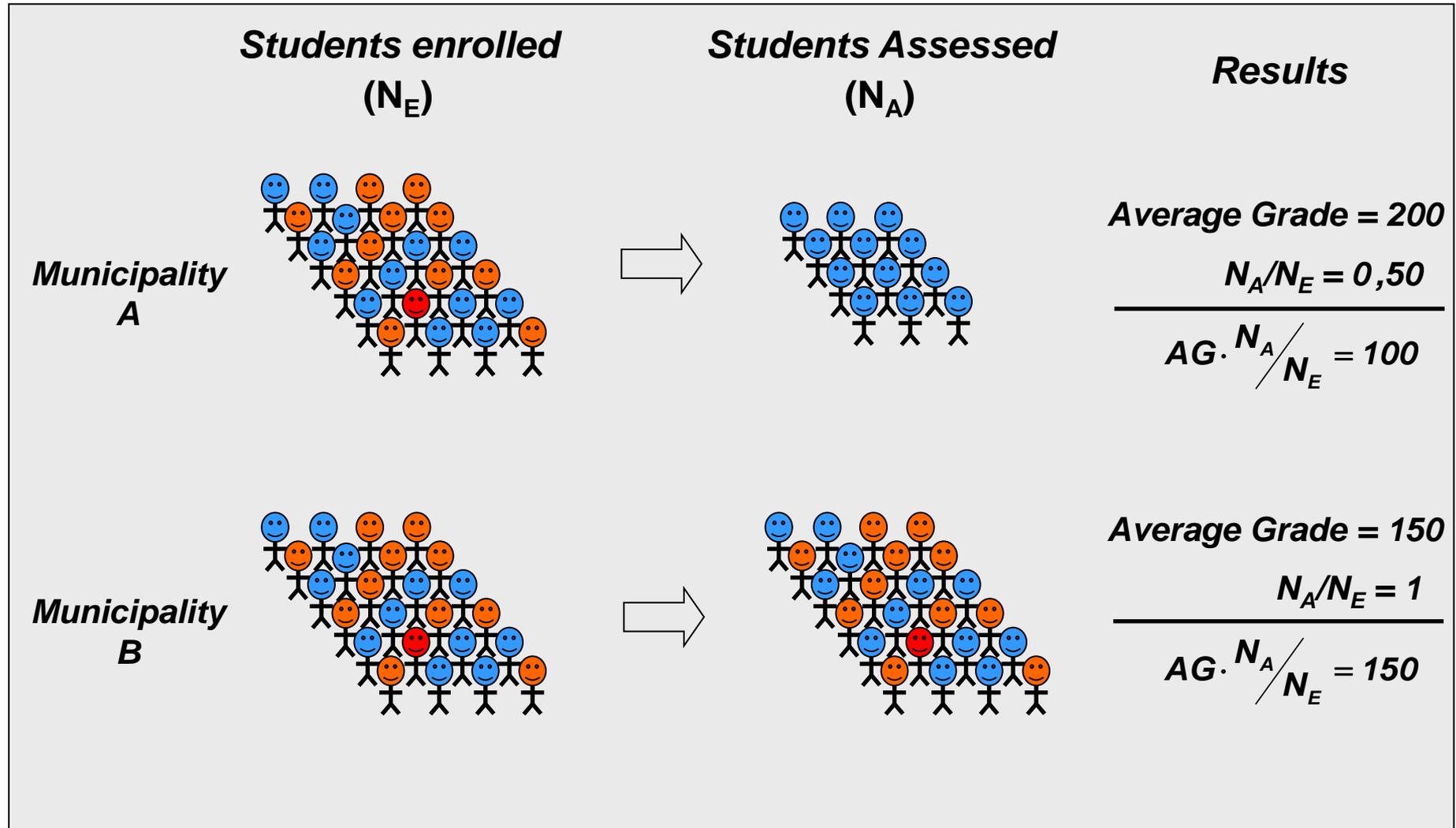
All groups receive attention, reducing the dispersion between the results of students.

**Average Grade = 150**  
**Standard Deviation = 30**

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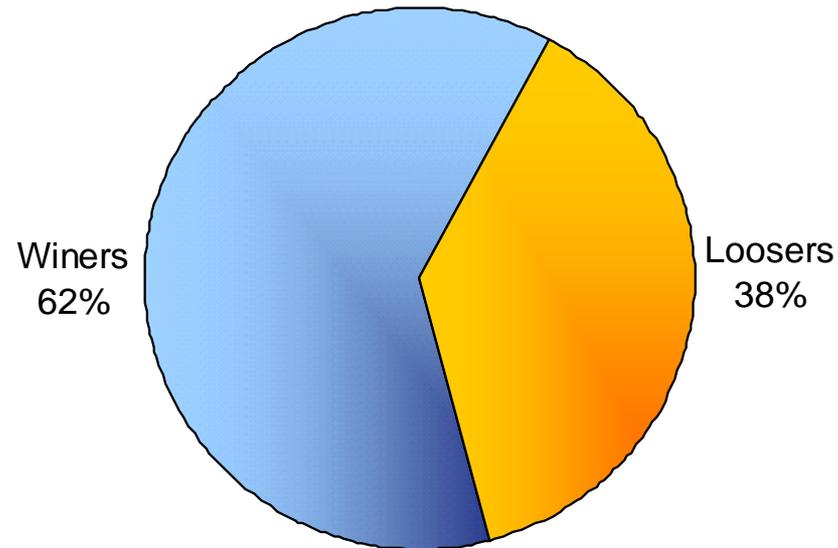
$$AG / 0,5 \cdot SD = 10$$

# Two controls for potential “gaming” behavior

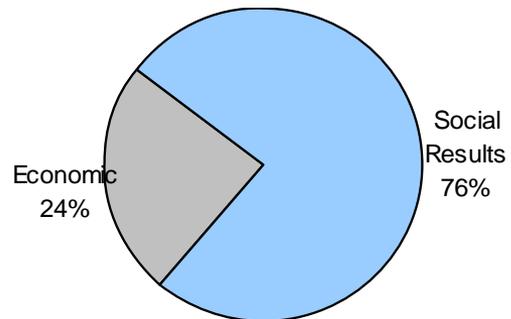


# Initial Results

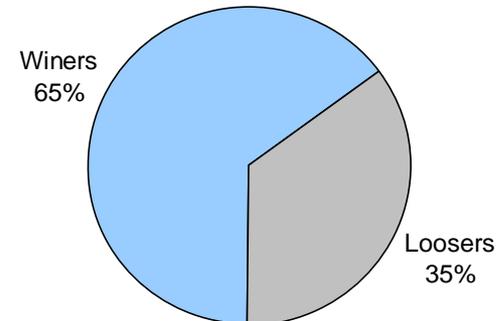
## Winers and Losers



## The winners income come from...

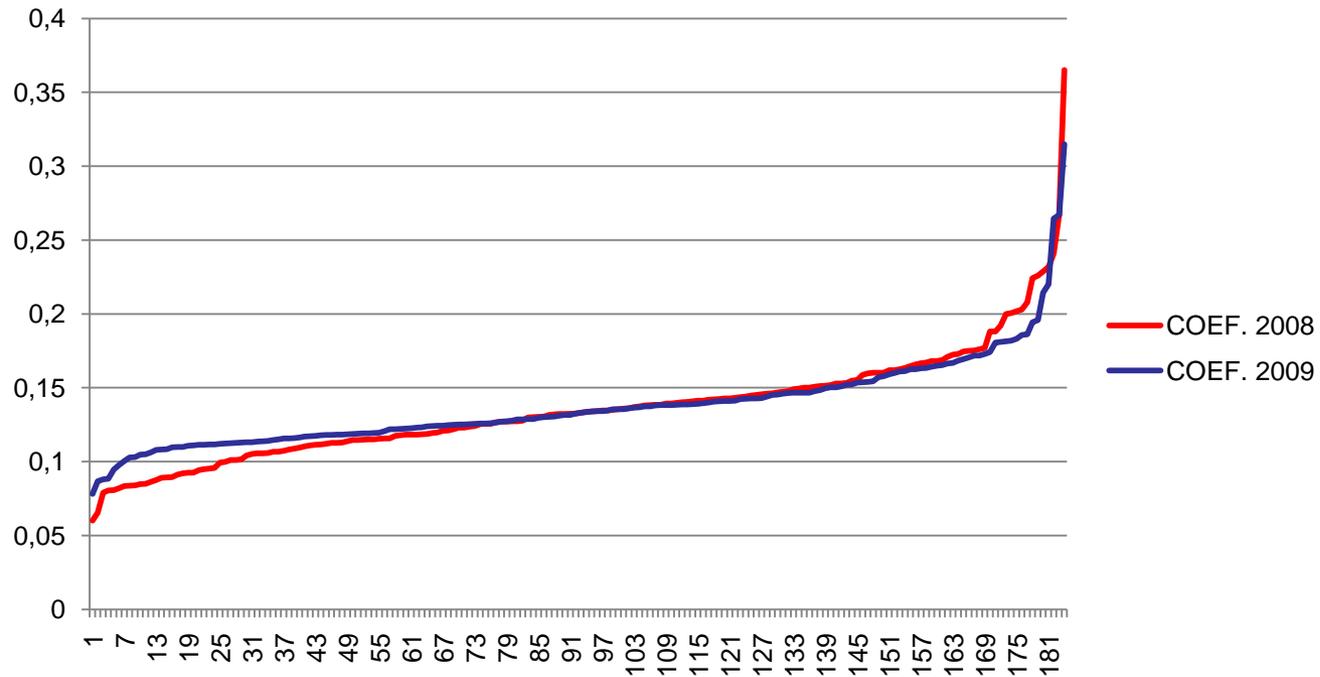


## Taking only the poorest 60's



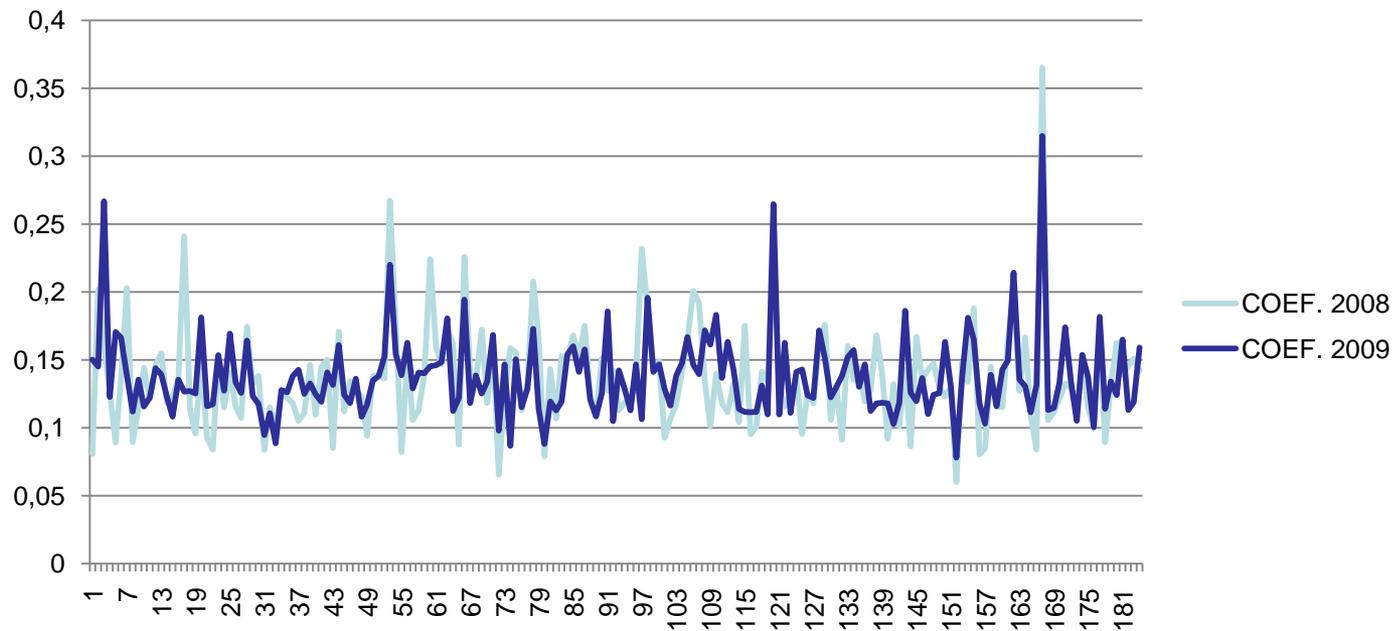
# Initial Results

Coefficients of distribution by Municipality ( $\sum$  Coef. = 1)



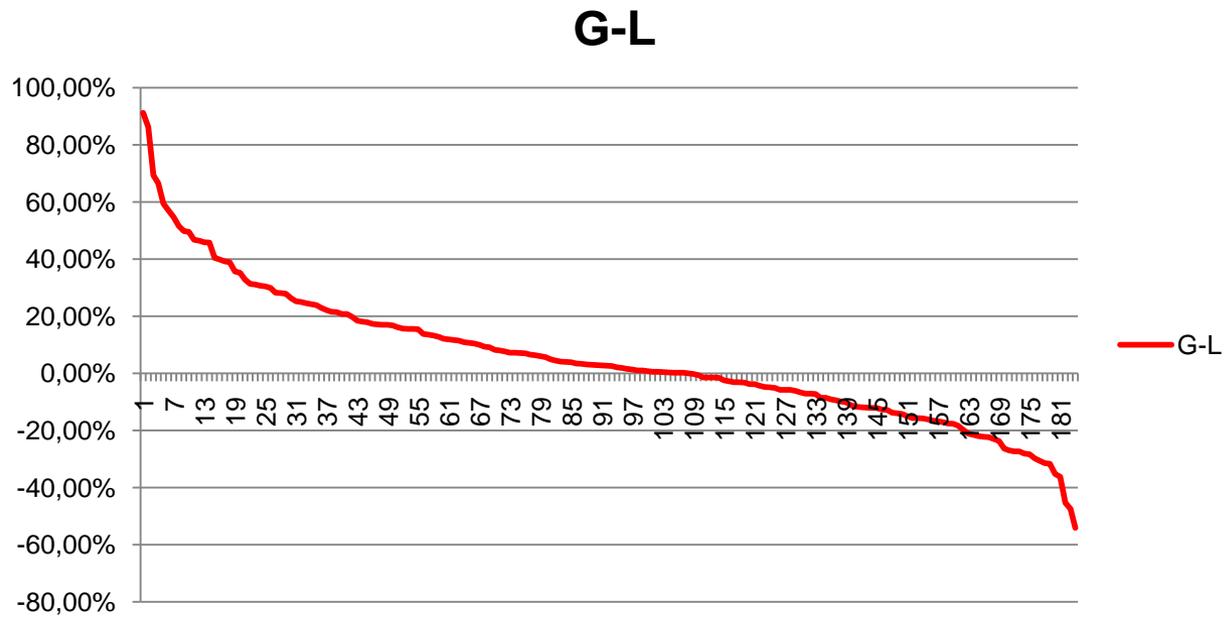
# Initial Results

## Dispersion of Coefficients of distribution



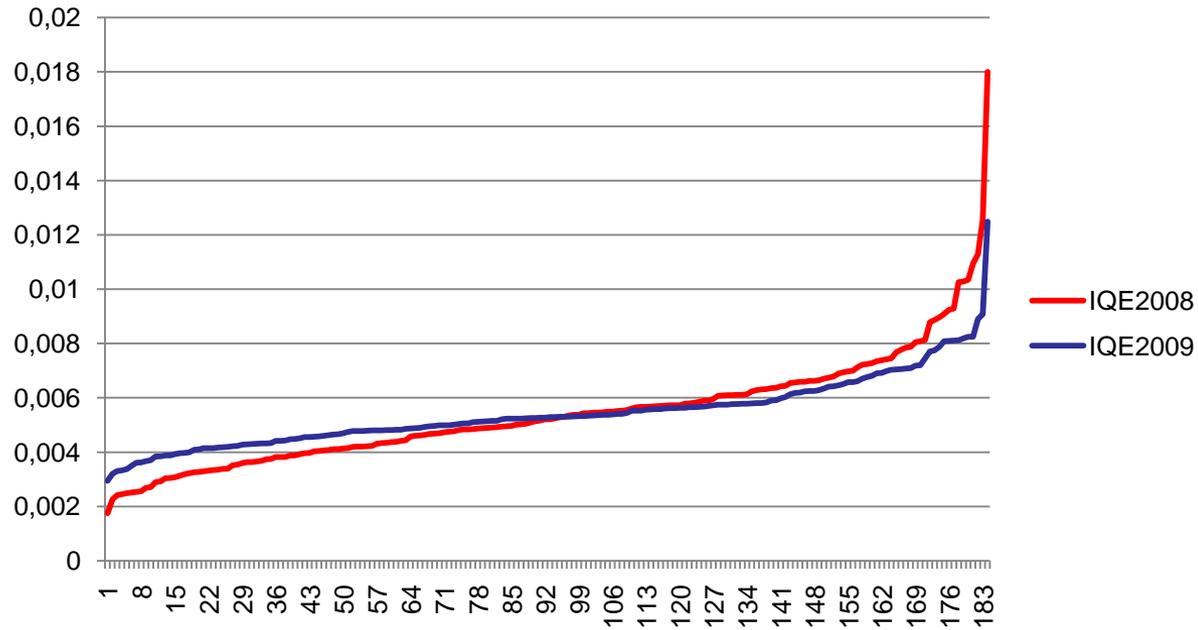
# Initial Results

## Distribution of the Gains and Losses by Municipality



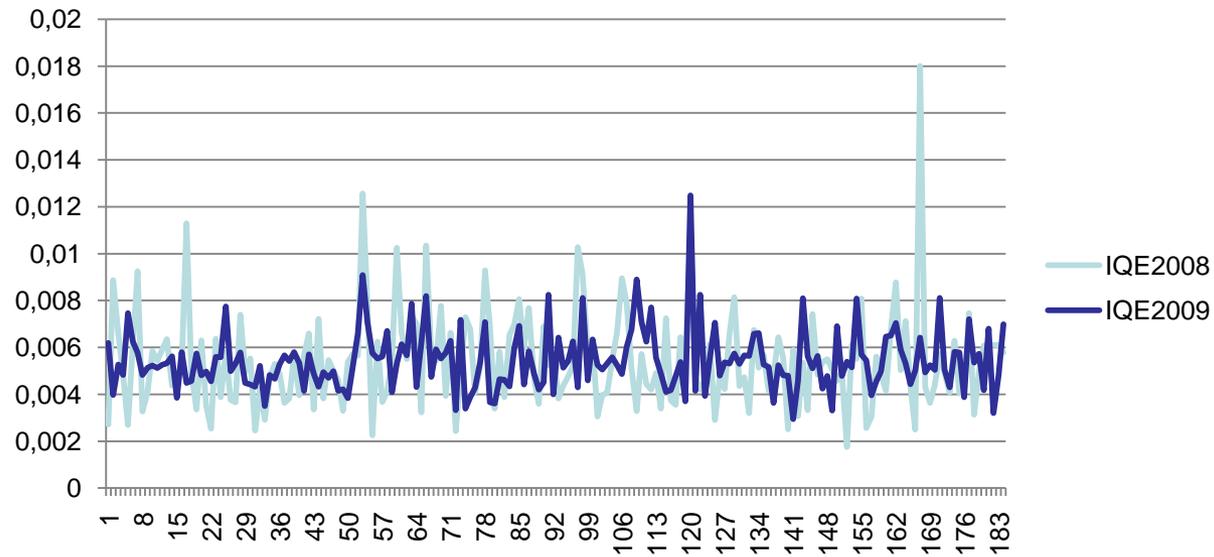
# Initial Results

## Municipalities Education Coefficients



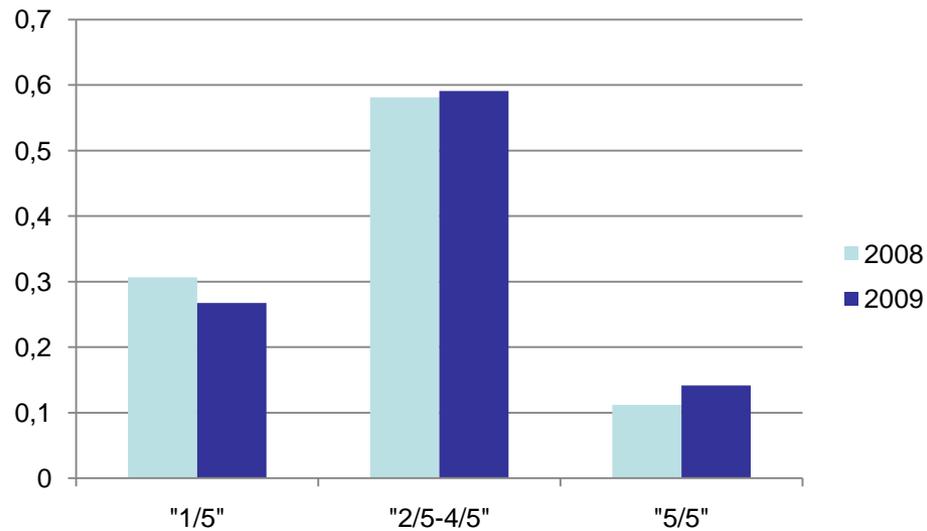
# Initial Results

## Dispersion of Municipalities Education Coefficients



# Initial Results

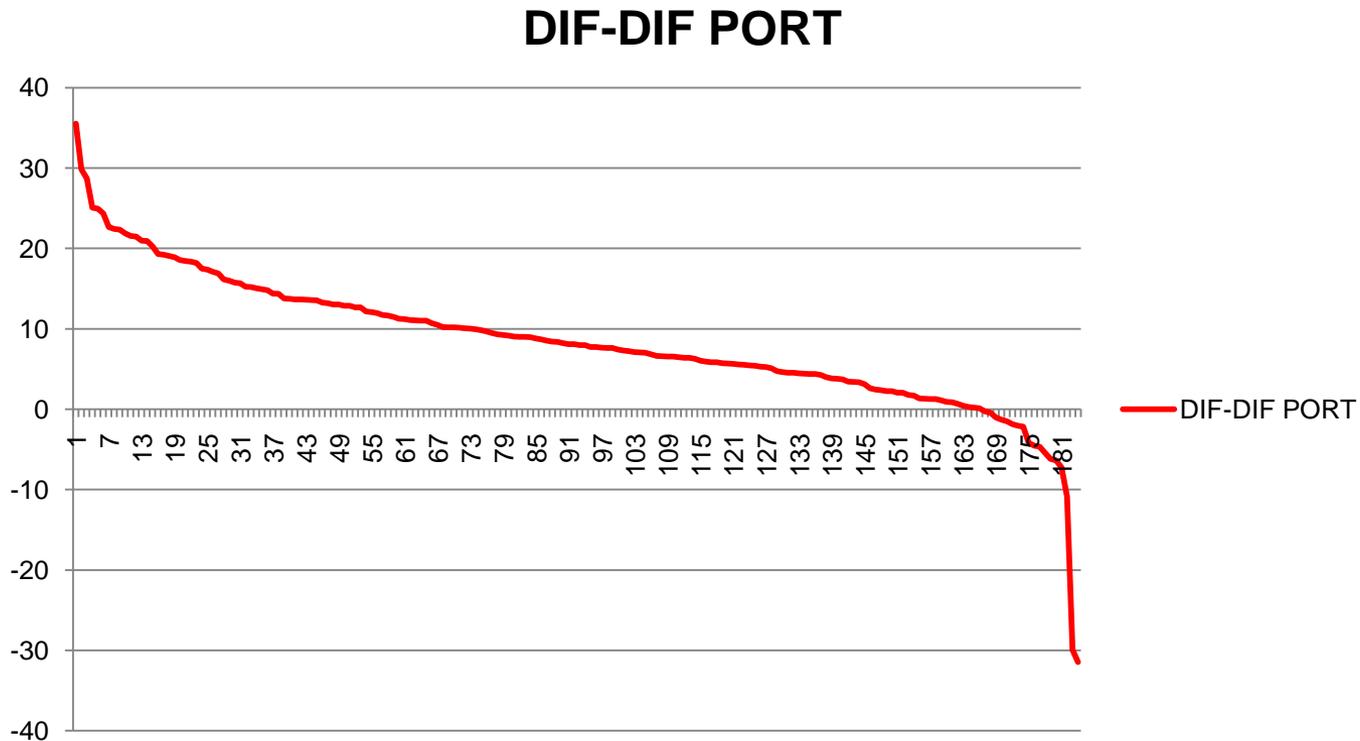
## Sums of IQE's ( Municipalities Education Coefficients)



"1/5" → Richest quintile  
"5/5" → Poorest Quintile

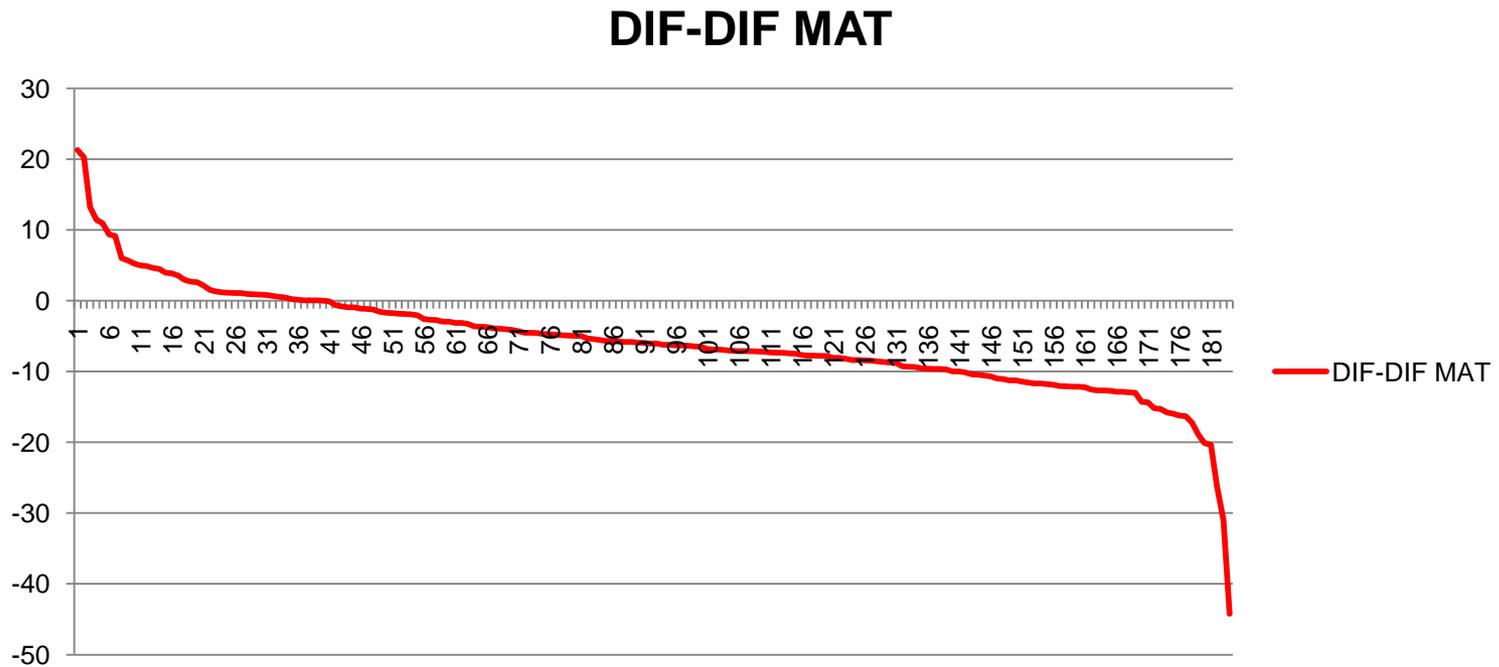
# Initial Results

The difference of the differences of Portuguese grades: 2005-2006 / 2007-2008.



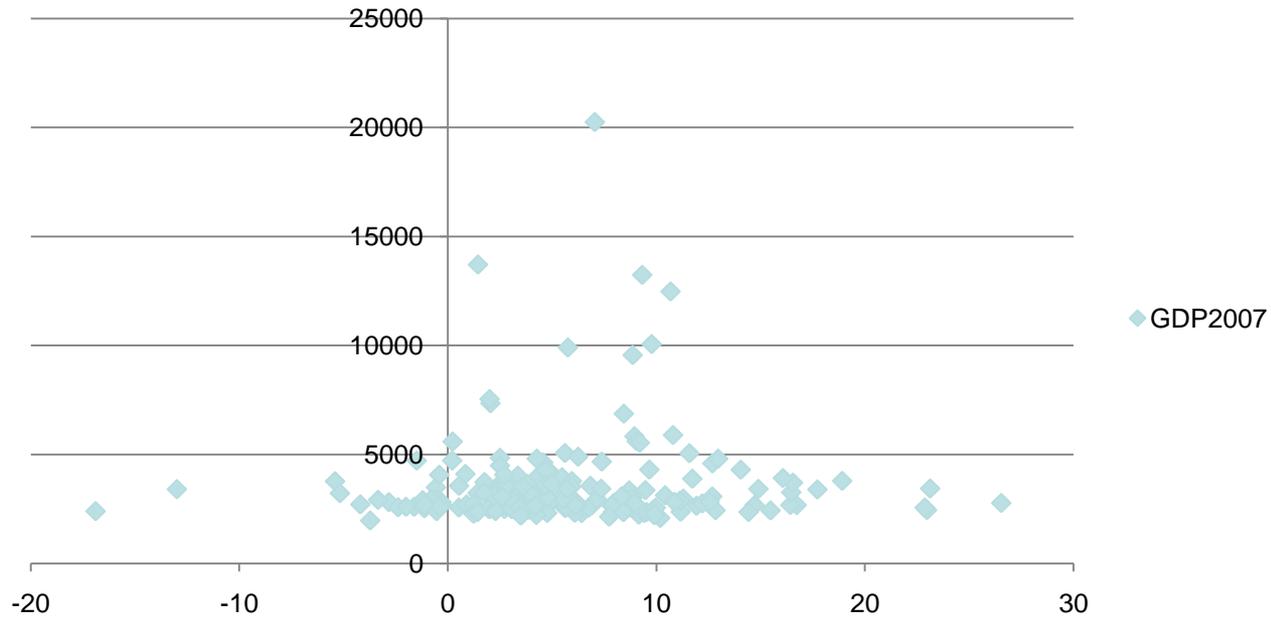
# Initial Results

The difference of the differences of Math grades : 2005-2006 / 2007-2008.



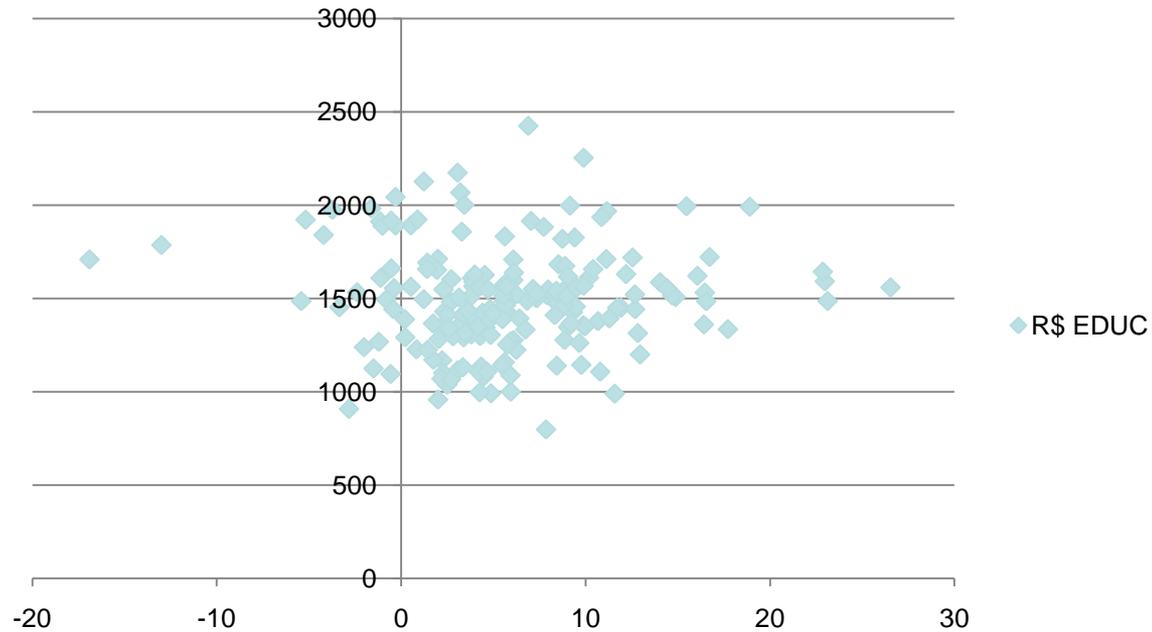
# Initial Results

## Portuguese performance x GDP



# Initial Results

## Portuguese performance X Education expenditure



# A Final Message

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**A Result Oriented Policy Must Have:**

**L**eadership

**I**nformation

**F**ocus

**E**xecution

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**THANKS!!!**

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