

# Teaching Staff Characteristics and Spendings per Student in French Disadvantaged Schools

**Asma Benhenda**

*University College London, Institute of Education  
Paris School of Economics*

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## Introduction

Institutional Setting

Data

Middle School (Collège)

High School (Lycee general et technologique)

Vocational High School (Lycée professionnel)

Supplementary Analysis With Overtime and All Staff

Middle School After the 2015 Reform

## Research Questions

Focus on Middle Schools (Collège), High schools (lycée général et technologique) and Vocational High Schools (lycée professionnel)

- How teaching staff observable characteristics are distributed across secondary schools? In particular between disadvantaged schools (Éducation prioritaire schools) and other schools? How has it evolved since the early 2000s?
- What is the wage gap of teaching staff between Education prioritaire and other schools?
- How does the lower student to staff ratio in Education prioritaire compensate for this wage gap in terms of spending per student (approximated by gross wage cost per student)?
- What is the impact of the 2015 reform, which increased the Education prioritaire bonus by 66 %, and updated the list of Education prioritaire schools?

## Main Results – Middle Schools, Before the 2015 Reform

Before the 2015 reform :

- Teachers and Principals in Education prioritaire are more likely to be contract staff, less likely to be agrégés, and have on average 3 years of experience less than in other schools
- Thus, teachers and principals average gross wage (including the Education prioritaire bonus) is around 5-7% (depending if we include all staff + overtime) lower in RAR schools than in non Education prioritaire schools
- However, the student to staff ratio is around 22-38 % (depending if we include all staff + overtime) lower in RAR schools than in non Education prioritaire schools
- Spendings per student (approximated by gross wage costs per student) in RAR schools are around 12 - 29 % (depending if we include all staff + overtime) higher than in non Education prioritaire schools

## Main Results – Middle Schools, After the 2015 Reform

After the 2015 reform :

- Assuming that the structure of teacher characteristics remains unchanged (2014 structure), teaching staff gross wage (including overtime bonus and Education prioritaire bonus) is 3 % higher in REP + (ex RAR)
- This is thanks to the 66 % increase in the Education prioritaire bonus in REP+ (ex RAR). Without taking into account this bonus, gross wage in non Education prioritaire is 9 % higher than in REP+
- Spendings per student (approximated by gross wage costs per student) in REP + schools are around 34 % higher than in non Education prioritaire schools (keeping the ratio student to staff same as 2014's)

## Main Results – High School and Vocational High Schools

In High schools and Vocational High schools, the Education prioritaire is replaced by the Internat d'Excellence program from 2009

- Teachers and School Principals are less likely to be contract staff, equally likely to be agrégés and have on average 0.5 years of experience more in Internat d'excellence than in other schools
- This may be explained by the fact that in Internat d'excellence, teaching staff is recruited *sur profil* i.e. “hand-picked” by school principals outside of the standard centralised assignment procedure
- Thus, teaching staff average gross wage is approximately the same in Internat d'excellence and non internat d'excellence
- The student to staff ratio is approximately the same in internat d'excellence and other schools
- The spendings per student (approximated by gross wage costs per student) is also approximately the same

Introduction

## **Institutional Setting**

Data

Middle School (Collège)

High School (Lycee general et technologique)

Vocational High School (Lycée professionnel)

Supplementary Analysis With Overtime and All Staff

Middle School After the 2015 Reform

# Education Prioritaire in Middle Schools

Middle School (*Collège*), two levels :

- Réseau Ambition Réussite (RAR) : very disadvantaged schools, with the lowest achievement levels and the highest share of very low Socio economic status (SES) students
- Réseau Réussite Scolaire (RRS) : other disadvantaged schools
- Teaching staff in RAR and RRS : annual bonus of 1,156 euros
- Major reforms between 2015 and 2018 : update of the list of the RAR (not called Rep +) and RRS (now called Rep) schools and increase of the bonus : up to 1746 euros in Rep and up to 3479 euros in Rep+



# Education Prioritaire in High Schools

High Schools (*Lycée général et technologique*) and Vocational High Schools (*Lycée professionnel*) :

- Education prioritaire progressively replaced by the Internat d'Excellence program from 2009 (see [Behaghel et al., 2013](#))
- Teachers recruitment process in Internat d'Excellence : *sur profil*, i.e. “hand-picked” by the school principal outside of the standard centralised assignment system

Introduction

Institutional Setting

**Data**

Middle School (Collège)

High School (Lycee general et technologique)

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Supplementary Analysis With Overtime and All Staff

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## Data (1/3)

### Administrative Data on Teaching Staff and Students in Secondary School :

- Teaching Staff : Teachers and School Principals :
  - Middle School : 2004 - 2015
  - High School + Vocational High School : 2011 - 2015
- Students and their Schools :2008-2015
- Caveats :
  - lower bound approximation of labour costs because only gross wage (*salaire brut*, not *super brut*). Less precise than analysis of the Ministry of Education which uses different data ( *Compte de l'Education*, I dont have access to this data), see [Ministry of Education Brief on Total Labour Costs](#)
  - does not include all the bonuses : includes the Education prioritaire bonus but not overtime pay, the *indemnité de résidence* (up to 3 % ), family bonus (by number of children, up to 6 %), other ad hoc bonuses, up to 10 %, see [Ministry of Education Report on Teacher Wages](#)

## Data (2/3)

More precise data for 2014 only : Supplementary comprehensive administrative Data on Teaching Staff Hours in Secondary School :

- All Teaching Staff : Teachers, Principals, Hall Monitors (surveillants), Conseiller principal d'éducation, etc.
- Detailed information on their working hours and overtime hours
- Caveat : more precise than main analysis because includes overtime pay but still lower bound of the total labour costs + does not include all the other bonuses mentioned above

## Data (3/3)

Supplementary data available on the Ministry of Education website or Teacher unions websites :

- List of schools part of the Education prioritaire program after 2015 (REP+ and REP)
- List of schools part of the Internat d'Excellence program (High Schools and Vocational Schools)
- Teaching Staff wage scale
- Overtime hours pay scale

## Construction of the Main Variables

Labour costs = 75% of Educational Spendings. Focus on an approximation of labour costs :

- Gross wage (not the labour cost) or *traitement indiciaire brut* computed using the certification level of the teacher (corps : Certifié, Agrégé, Contractuel) and her rank of the wage scale. We add to this the education prioritaire bonus, and for the supplementary analysis with overtime hours, the overtime bonus
- Ratio student to staff : Number of Students divided by the number of staff in the school
- Spending per student : Sum of the Gross wages in the school divided by the number of student in the school

# Analysis by Percentile Rank of the Share of High SES students in the school

Definition of High SES students ; SES of main parent

- CEOs
- Professional Occupations
- Professors, scientists
- Media and entertainment
- Engineers

Introduction

Institutional Setting

Data

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High School (Lycee general et technologique)

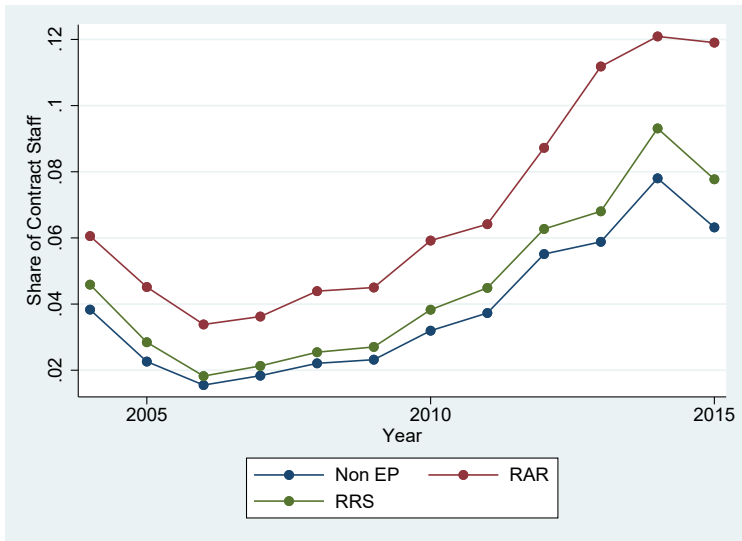
Vocational High School (Lycée professionnel)

Supplementary Analysis With Overtime and All Staff

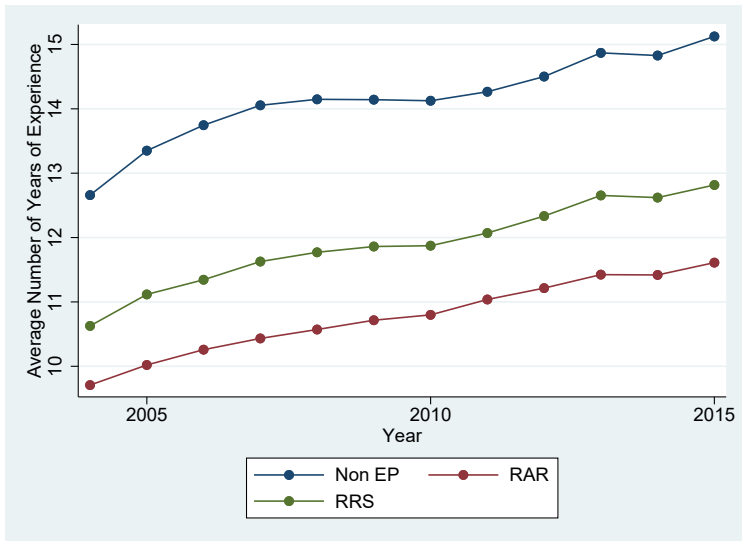
Middle School After the 2015 Reform



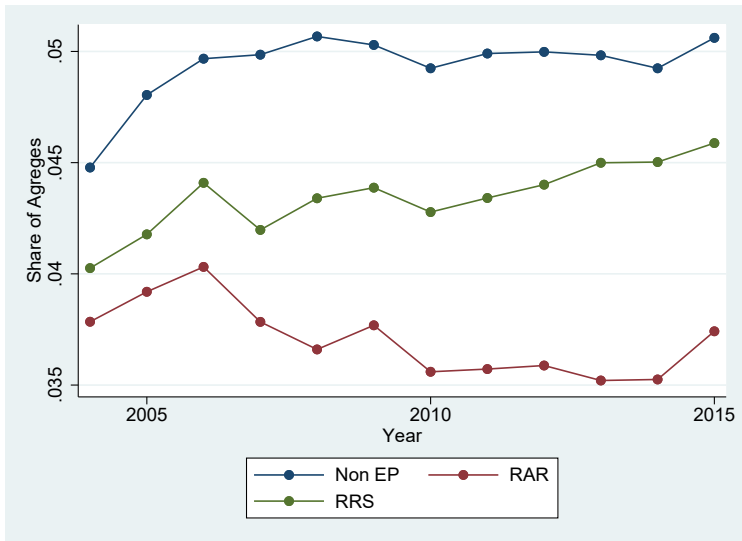
## Share of Contract Staff (Teachers & Principals) – Middle School



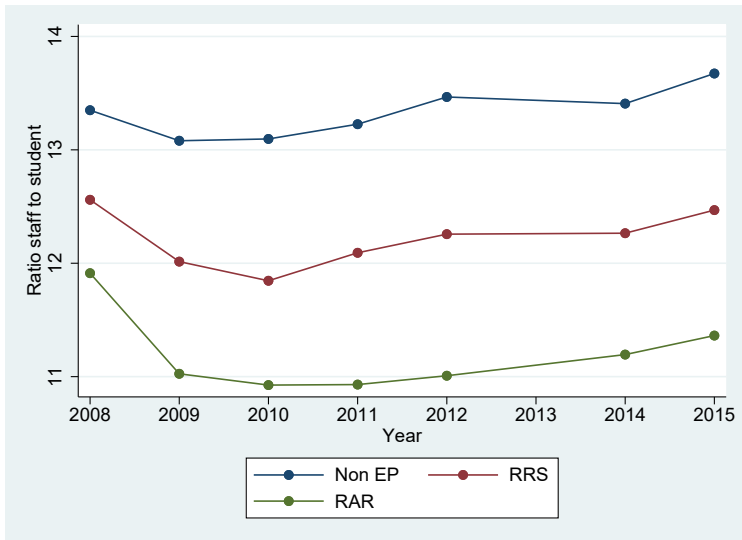
## Average Nb of Years of Experience (Teachers & Principals) – Middle School



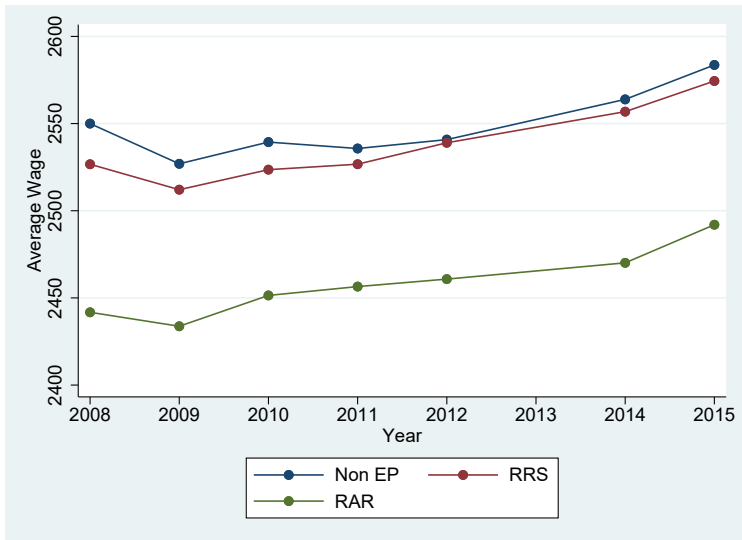
## Share of Agreges Staff (Teachers & Principals) – Middle School



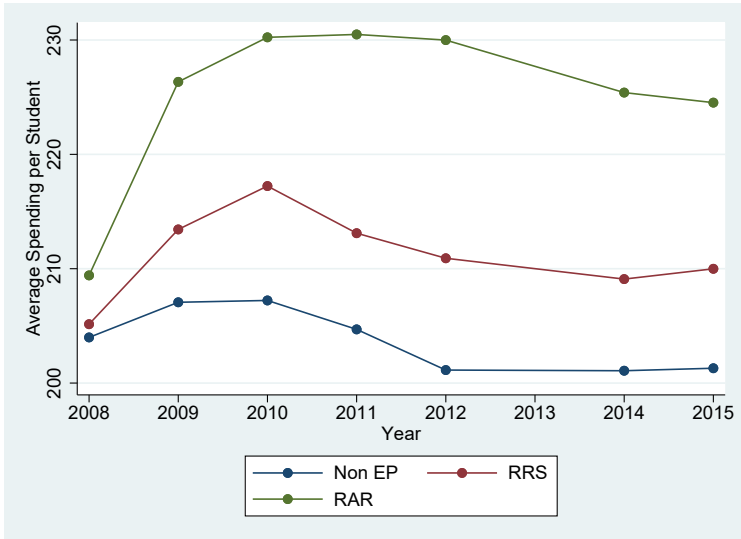
## Ratio Student to Staff (Teachers and Principals) – Middle School



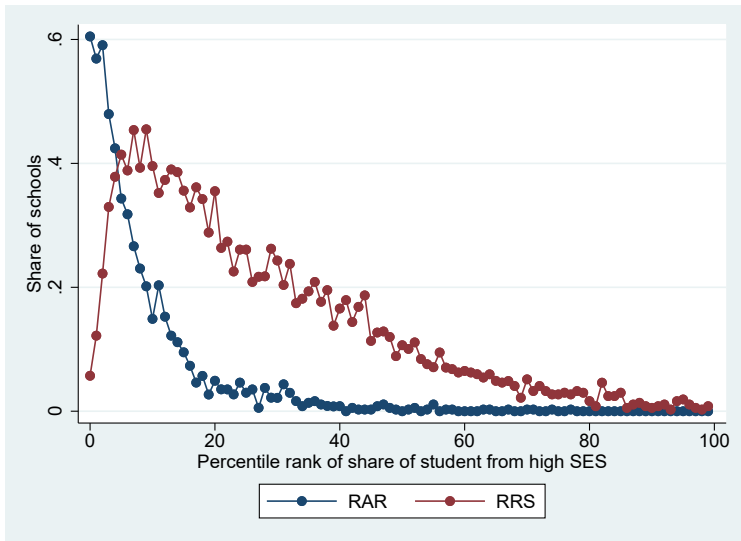
## Average Monthly Gross Wage (Teachers and Principals) – Middle School



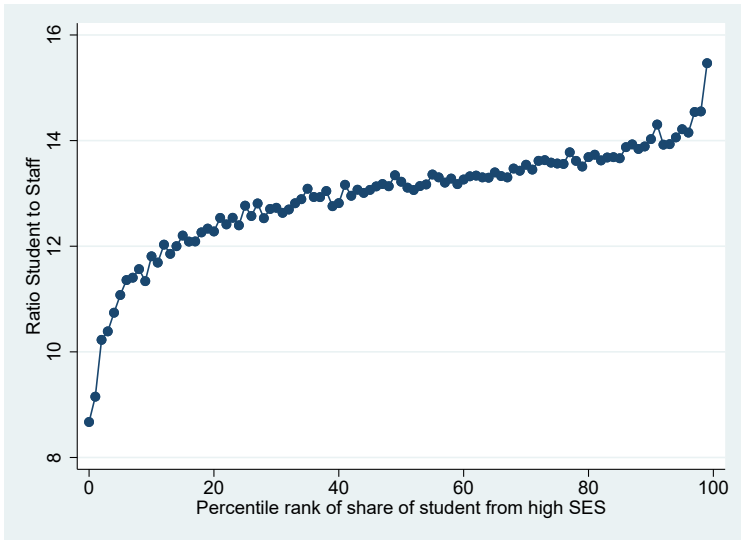
## Average Monthly Spending (Teachers and Principals) per Student – Middle School



## Share of Education Prioritaire Schools per Pctile Rk of Share of High SES Students in the School – Middle School

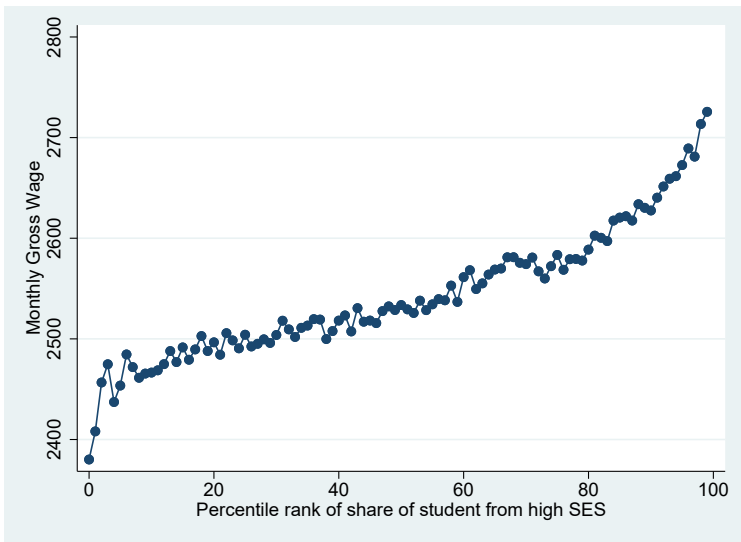


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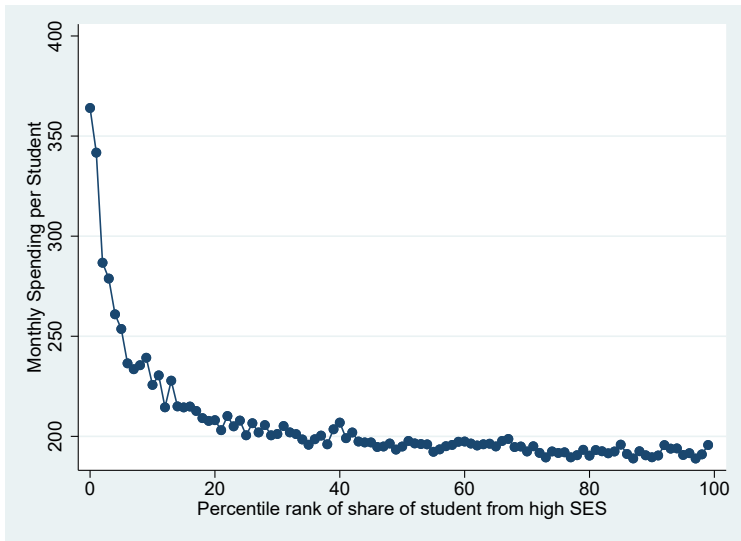




## Average Monthly Gross Wage (Teachers and Principals) per Pctile Rk of Share of High SES Students in the School – Middle School



## Average Monthly Spending (Teachers and Principals) per Student per Pctile Rk of Share of High SES Students in the School – Middle School



Introduction

Institutional Setting

Data

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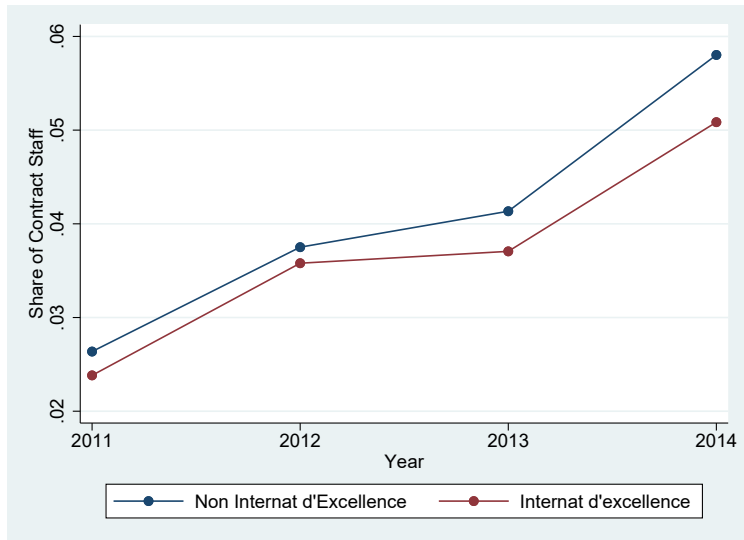
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Vocational High School (Lycée professionnel)

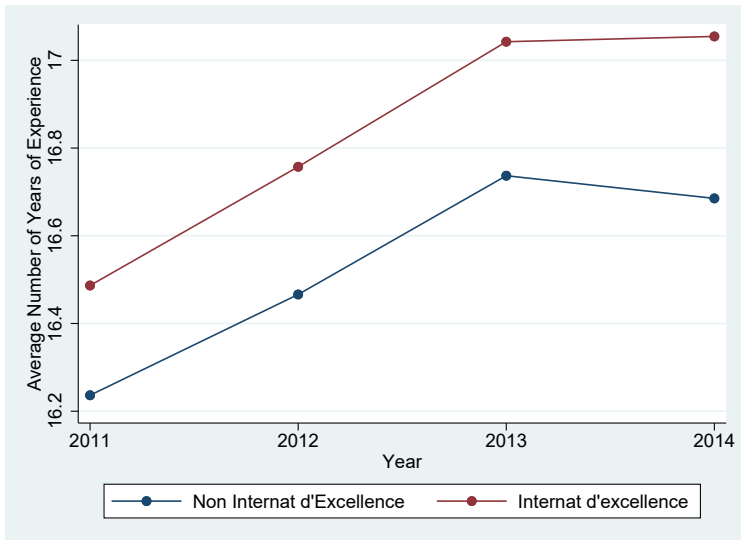
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Middle School After the 2015 Reform

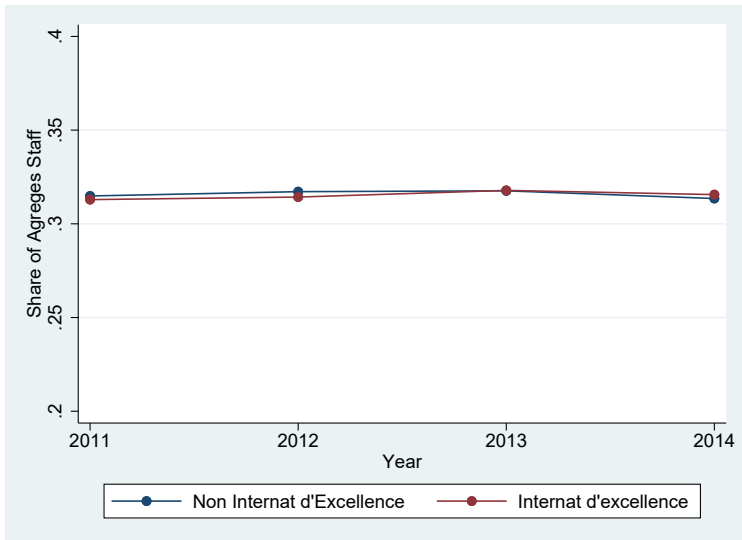
## Share of Contract Staff (Teachers & Principals) – High School



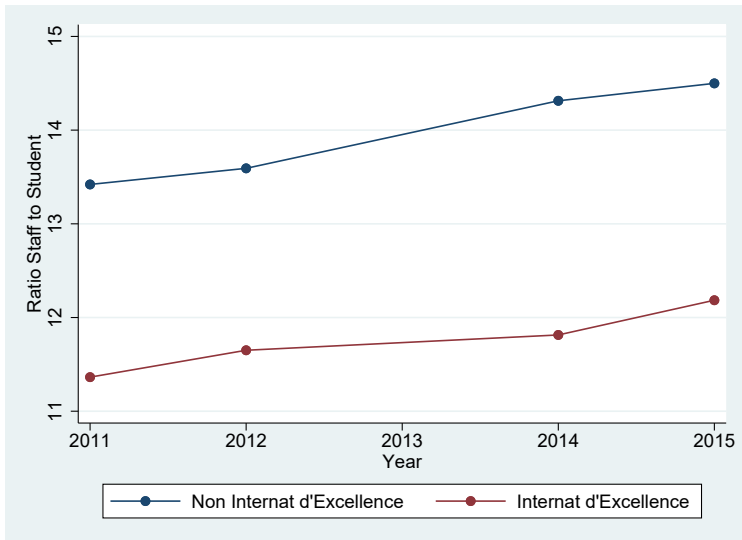
## Average Nb of Years of Experience (Teachers & Principals) – High School



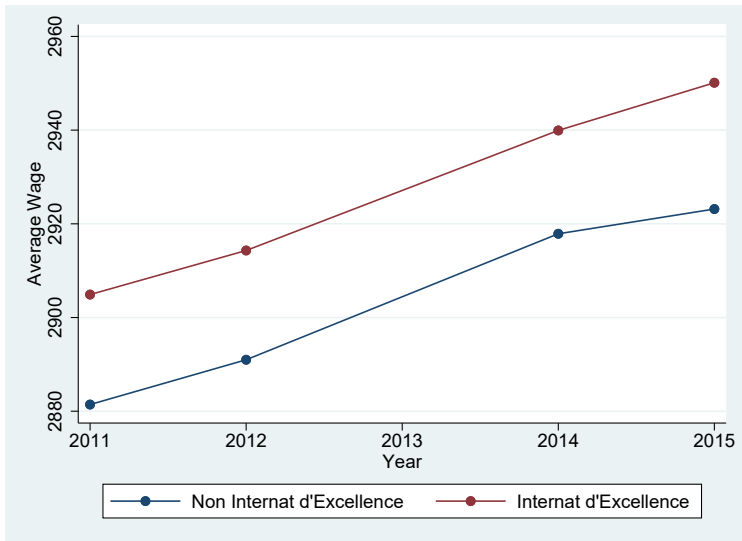
## Share of Agreges Staff (Teachers & Principals) – High School



## Ratio Student to Staff (Teachers and Principals) – High School

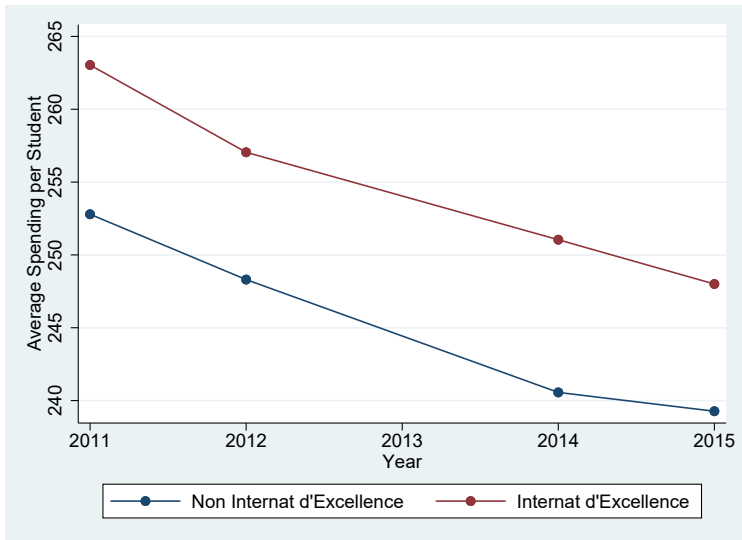


## Average Monthly Gross Wage (Teachers and Principals) – High School

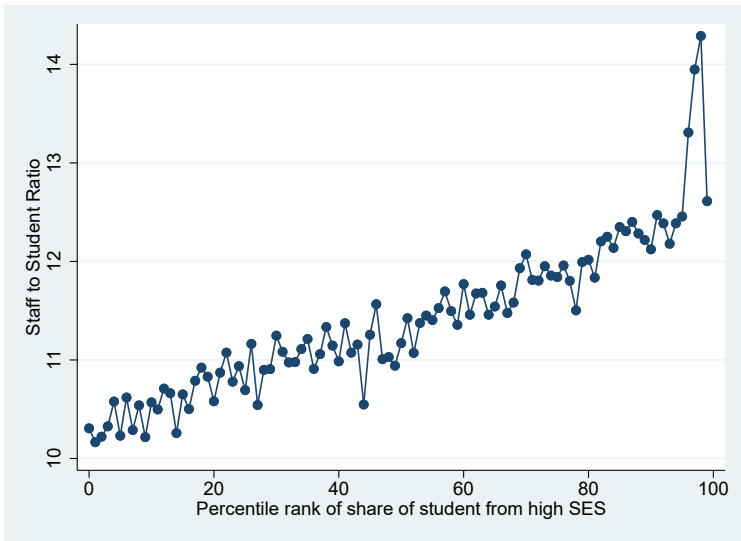




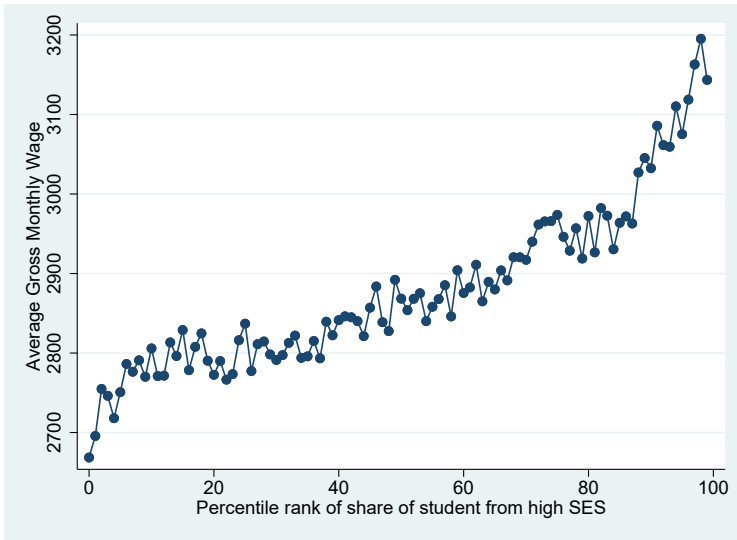
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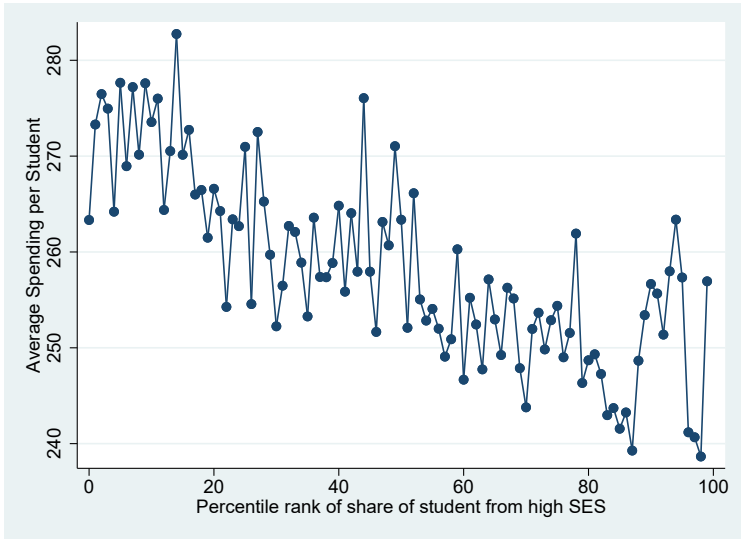
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## Average Monthly Gross Wage (Teachers and Principals) per Pctile Rk of Share of High SES Students in the School – High School



# Average Monthly Spending (Teachers and Principals) per Student per Pctile Rk of Share of High SES Students in the School – High School



Introduction

Institutional Setting

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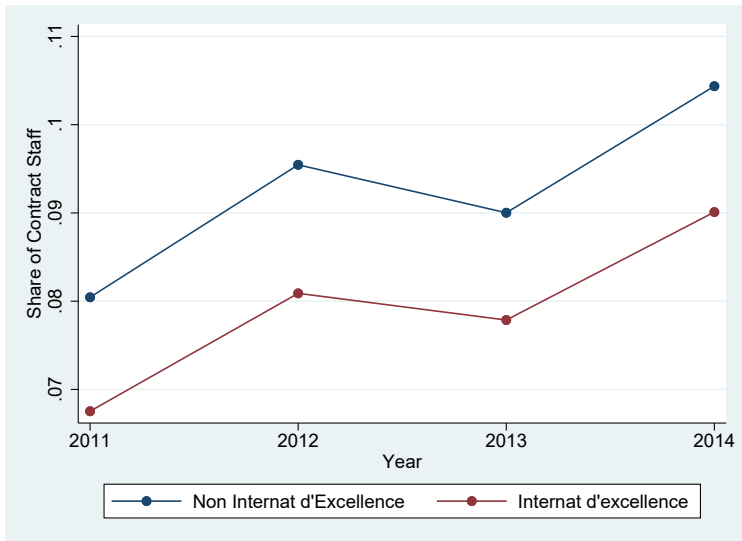
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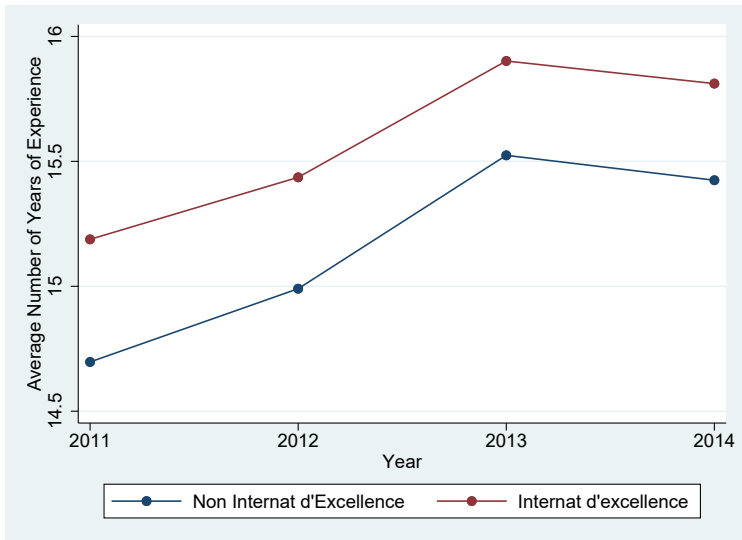
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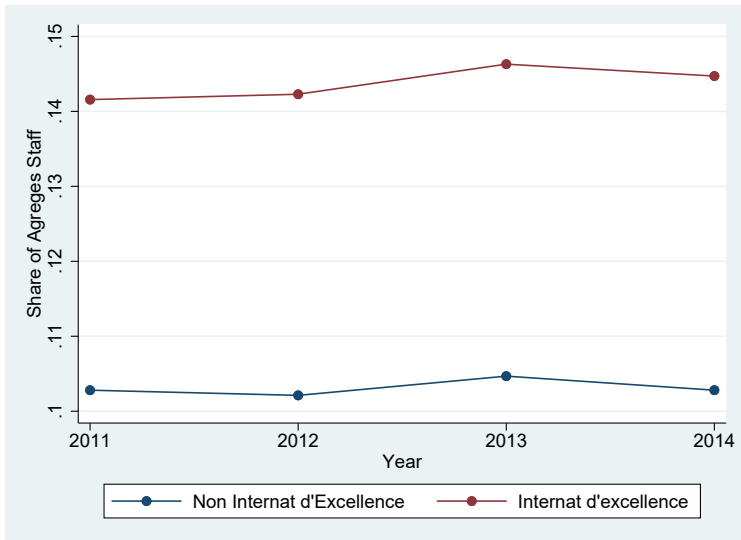
## Share of Contract Staff (Teachers & Principals) – Vocational High School



## Average Nb of Years of Experience (Teachers & Principals) – Vocational High School

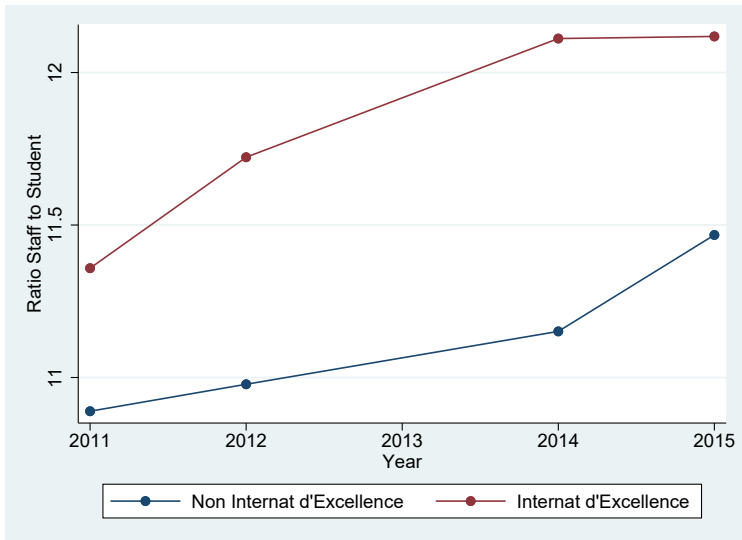


## Share of Agreges Staff (Teachers & Principals) – Vocational High School

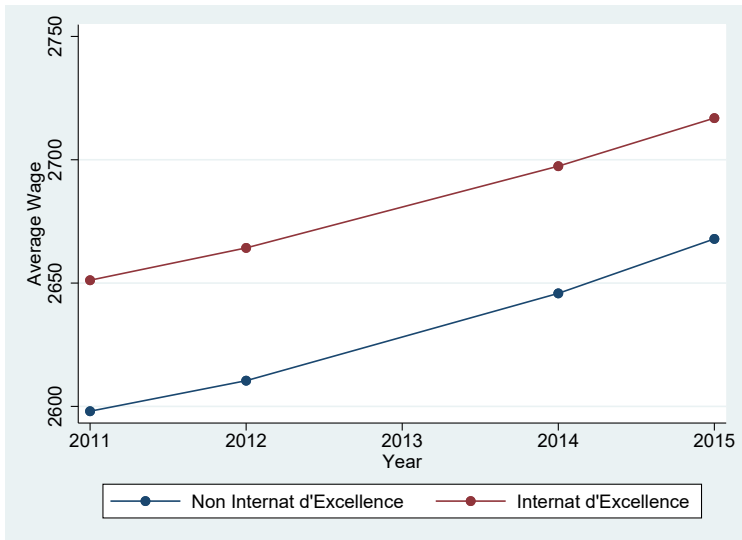




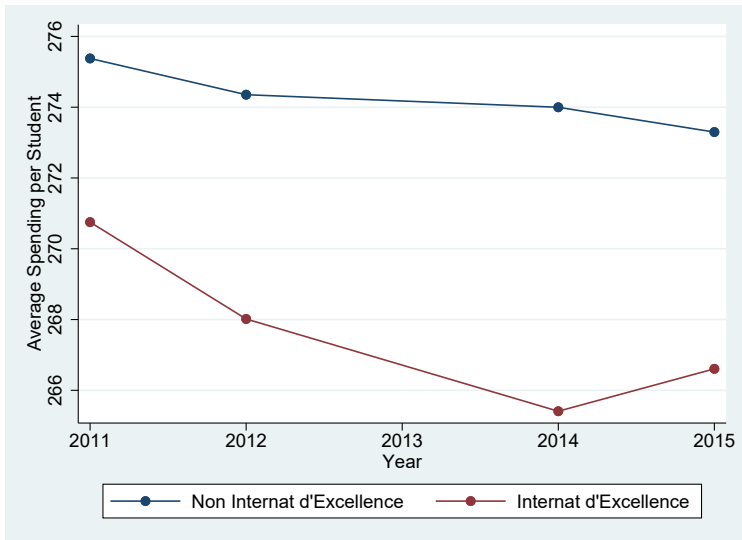
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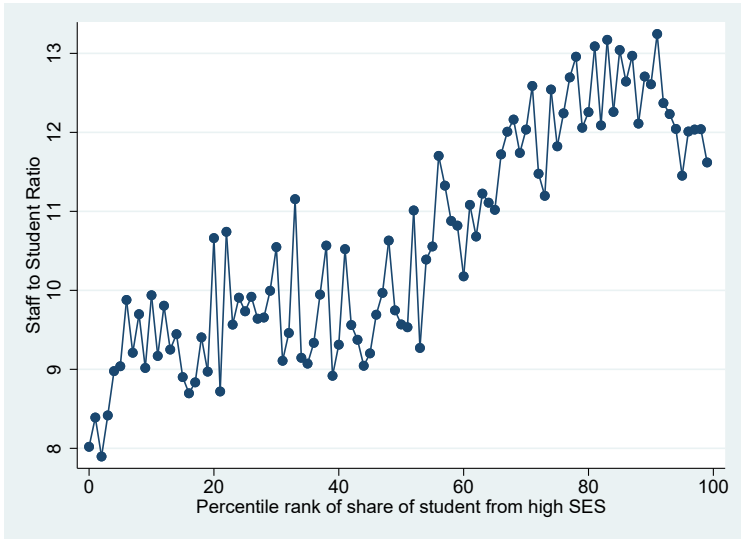
## Average Monthly Gross Wage (Teachers and Principals) to Student – Vocational High School



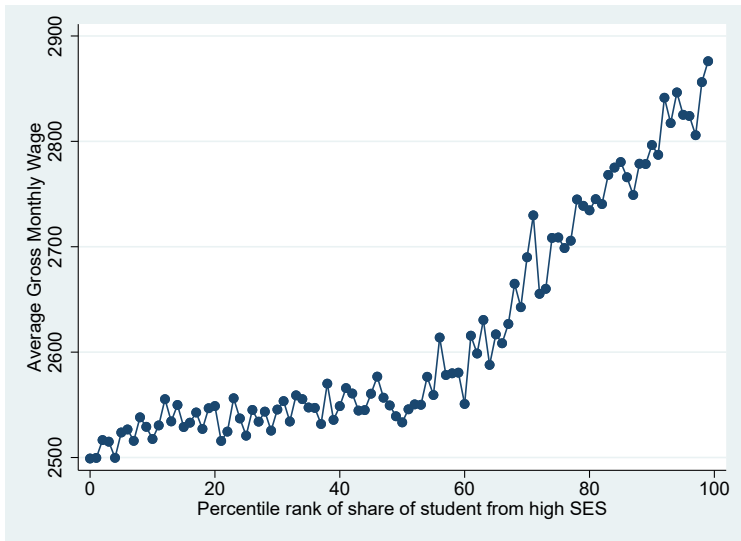
## Average Monthly Spending (Teachers and Principals) per Student – Vocational High School



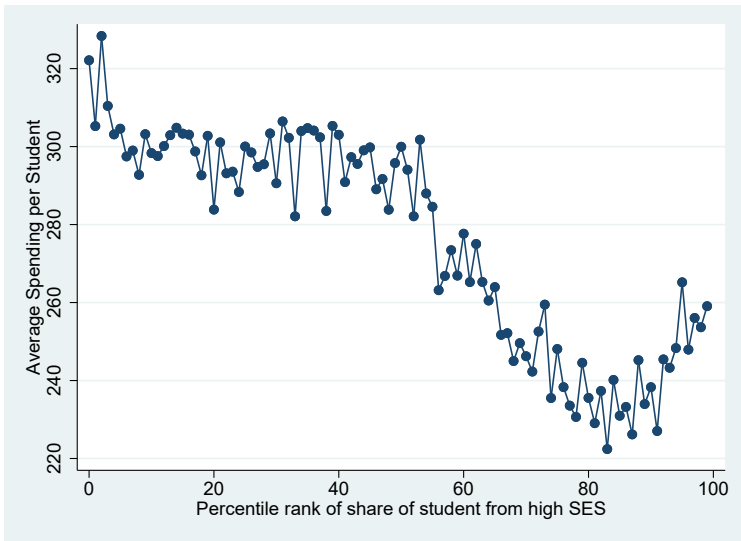
# Ratio Student to Staff (Teachers and Principals) per Pctile Rk of Share of High SES Students in the School – Vocational High School



## Average Monthly Gross Wage (Teachers and Principals) per Pctile Rk of Share of High SES Students in the School – Vocational High School



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Introduction

Institutional Setting

Data

Middle School (Collège)

High School (Lycee general et technologique)

Vocational High School (Lycée professionnel)

**Supplementary Analysis With Overtime and All Staff**

Middle School After the 2015 Reform

## Middle School (2014)

	Non EP	RRS	RAR
Ratio student to staff	9.67 (1.82)	8.44 (1.39)	7.01 (1.44)
Total Gross Monthly Wage	2,372 (142)	2,367 (132)	2,258 (133)
<i>including</i>			
<i>Wage w/o bonuses</i>	2,332 (138)	2,231 (130)	2,125 (126)
<i>EP Bonus</i>	0	96.33	96.33
<i>Overtime Bonus</i>	39.47 (20.26)	39.38 (21.07)	36.35 (23.07)
Spending per Student	258.77 (89.40)	288.49 (53.53)	335.59 (72.93)
Nb of schools	4,154	781	321



## High School (2014)

	Non Internat d'Excellence	Internat d'Excellence
Ratio student to staff	9.34 (1.72)	9.03 (1.80)
Total Gross Monthly Wage	2,718 (215)	2,721 (220)
<i>including</i>		
<i>Wage w/o bonus</i>	2,659 (200)	2,654 (196)
<i>Overtime Bonus</i>	59.50 (34.82)	67.06 (43.63)
Spending per Student	301.64 (22.69)	313.01 (72.48)
Nb of schools	733	214

## Vocational High School (2014)

	<i>Non Internat d'Excellence</i>	<i>Internat d'Excellence</i>
Ratio student to staff	7.17 (1.51)	6.82 (1.48)
Total Gross Monthly Wage	2,448 (213)	2,402 (220)
<i>including</i>		
<i>Wage w/o bonus</i>	2,383 (197)	2,347 (205)
<i>Overtime Bonus</i>	65.7 (37.48)	54.7 (36.39)
Spending per Student	356.41 (80.22)	369.48 (95.42)
Nb of schools	1,245	255

Introduction

Institutional Setting

Data

Middle School (Collège)

High School (Lycee general et technologique)

Vocational High School (Lycée professionnel)

Supplementary Analysis With Overtime and All Staff

**Middle School After the 2015 Reform**

## Middle School – After 2015 Reform, with the distribution of teacher characteristics kept equal (2014 distribution)

	Non EP	REP	REP+
Ratio student to staff	9.64 (1.79)	8.54 (1.39)	7.14 (1.31)
Total Gross Monthly Wage	2,374 (142)	2,397 (122)	2,457 (126)
<i>including</i>			
<i>Wage w/o bonuses</i>	2,334 (138)	2,215 (121)	2,132 (127.65)
<i>EP Bonus</i>	0	144.5	289.91
<i>Overtime Bonus</i>	39.29 (20.19)	38.23 (18.95)	34.82 (19.36)
Spending per Student	259.52 (89.51)	287.78 (48.45)	350.17 (72.93)
Nb of schools	4,146	712	353