

How to organize the compulsory secondary school ?

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Introduction

- A new research which began in September 2015
- SNF support (n° **100019_156702 / 1**) for three years (09/2015 – 08/2018) – Research with three co-researchers: Barbara Fouquet-Chauprade (Unige), Giovanni Ferro-Luzzi (SRED) – Bruno Suchaut (URSP)
- My formation was in Sociology in France
- Now in Geneva I work and teach about Sociology of Education Policies and evaluation of school system.
- My last publications: school inequalities in France, in Switzerland, comparative studies in education,

introduction 2

- Institutionnal design of research: this point is a pivotal question.
- It's impossible to have and to use school data in different cantons without the statistics services of the cantons.
- It's necessary to have a scientific cooperation between several institutions.
- SRED – URSP and IRDP for Neuchâtel (after the official refusal of Valais)

Introduction 3

- My research in progress: how to organize the compulsory secondary school ?
 - Boudon (1973): the effects of early orientation on school careers – « primary » and « secondary » inequalities
 - Jencks (1979): unequal supply education produce inequalities of learning
 - Carroll (1963): opportunities to learn
 - Thrupp (1999); Van Ewijk et Slegers (2010): the social composition of classroom has effects on students achievement.

1. Axes of this research

- There is two different axes in this research
 - The first deal with the references of educational policies: what are the reasons to choose one kind or another kind of school organisation ? What is the place of the scientific evidences in the choice ?
 - The second axe analyse the effects of different secondary school organisation on learning and inequalities.

Background axe 1

- A main question of school and social justice: what could be a « good » school ? How can we conciliate efficacy and equity ?
- The social construction of educational reform (Felouzis et al, 2013); debate about efficacy and equity; the social role of PISA.
- Who are the actors of educational reform – social debate about school-
- The difficult question of implementation (Lessart, 2015)
- Why choose tracking ? What are the arguments ?

- Principles and arguments for and against:
 - **1. Tracking** : Give more to pupils who already have more / segregation and inequalities
 - **2. Comprehensive school** : give at all the same / difficult to teach with a heterogeneous pupils in a classroom – Best students learn least
 - **3. Cooperative school**: Mixt between 1 and 2 to adapt learning to the reality – problem of implementation

Background axe 2: what the research says

- Longitudinal studies (Gamoran and Mare, 1989; Kerkoff, 1986)
- International studies (Hanushek and Woessman, 2006)
- Experimental studies (Salvin, 1987, 1990, 1993; Duflo and Al, 2008)

Does tracking increase inequalities ?

- Gamoran and Mare (1989) conclude their studies about school tracking with this sentence : « *tracking reinforces initial differences among students assigned to college and noncollege curricula. Moreover, tracking widens the gap in achievement and in the probability of graduating between students of high – and low- SES backgrounds* » (Gamoran & Mare, 1989, pp. 1176-1177)
- Kerkoff, 1986, conclude, in the case of england and with a longitudinal studie, that tracking increase inequalities comparated to a comprehensive school.
- Debate in *Sociology of Education* (1994) about the effects of tracking in efficacy and equity

Hallinan (1994): the real problem is not tracking itself but the implementation of it:

Tracking clearly has many shortcomings. Some of them, such as its segregative aspect and its effects on students' social status, are difficult to eliminate. However, schools have a number of opportunities to reduce these negative effects of tracking by ensuring that nontracked classes and other school activities are integrated and by expanding the bases of social status to include nonacademic talents.

- « Great care is needed in making initial track assignments and in permitting students to change tracks when their original placements are not longer appropriate »

Oakes response to Hallinan (1994)

- It's more than a misapplied technology.
- Tracking itself produce inequalities and the only one solution to limit inequalities (of race, cultural and social background) is detracking.

An experimental studies: Duflo & al, 2008

- Duflo, Dupas et Kremer (2008)
- A comparative and experimental studie in Kenya between 60 schools with a comprehensive system and 61 schools with a tracking system.
- « In 61 randomly selected schools, students were assigned to classes based on prior achievement as measured by test scores. In the remaining 60 schools, students were randomly assigned to one of the two classes, without regard to their prior academic performance. »
- After students were assigned to classes, the contract teacher and the civil-service teacher were also randomly assigned to classes.

Duflo & al, 2008

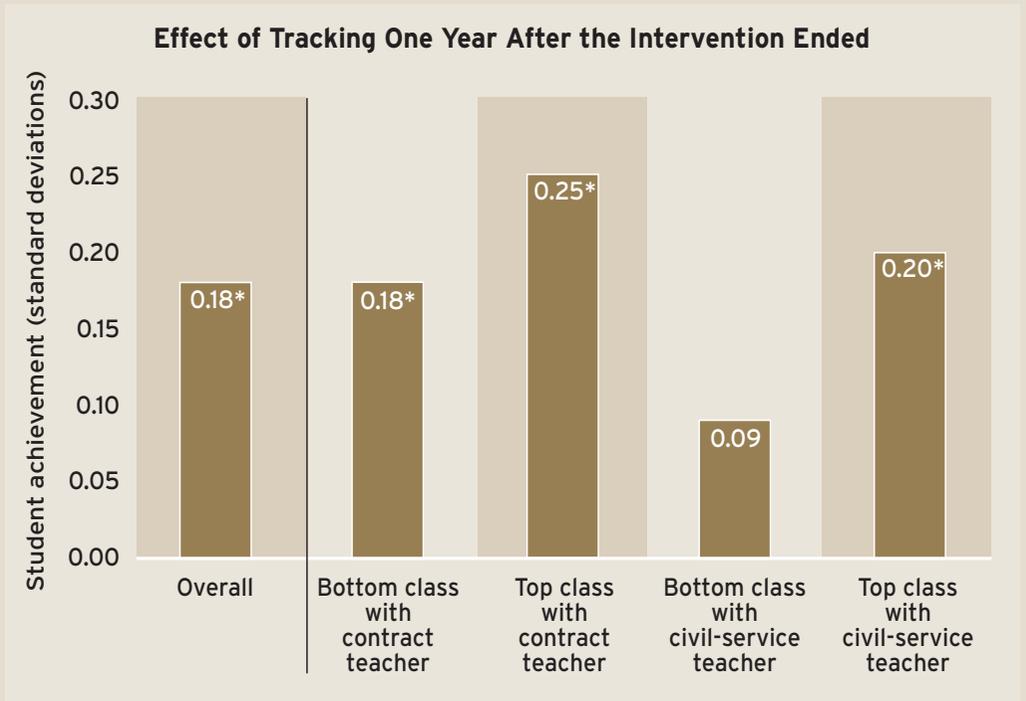
Better learning for all in the tracking school system

Top class learn more than bottom class

With « civil-service teacher » (without teaching information) only pupil on top class learn.

Tracking Gains (Figure 1)

The benefits of tracking persisted even one year after the intervention ended and students returned to regular classrooms. Among students assigned to civil-service teachers, the gains from tracking were statistically significant only for students who had been assigned to the top class.



Note: * indicates that the effect is statistically significant at the 10 percent level. All effects are measured relative to students in nontracking schools.

SOURCE: Authors' calculations

Studies with a comparative perspectives between school systems

- Others studies with a macro-social option compare school system with tracking system and others with comprehensive system.
- Mons (2007) - Gorard et Smith 2004 - Dupriez et Dumay 2006 – Monseur et Crahay (2008) – Felouzis et al (2011) –
- An example in switzerland - Felouzis 2015 -

Tracking in Switzerland

- Felouzis, Charmillot et Fouquet-Chauprade SJS, 2011.

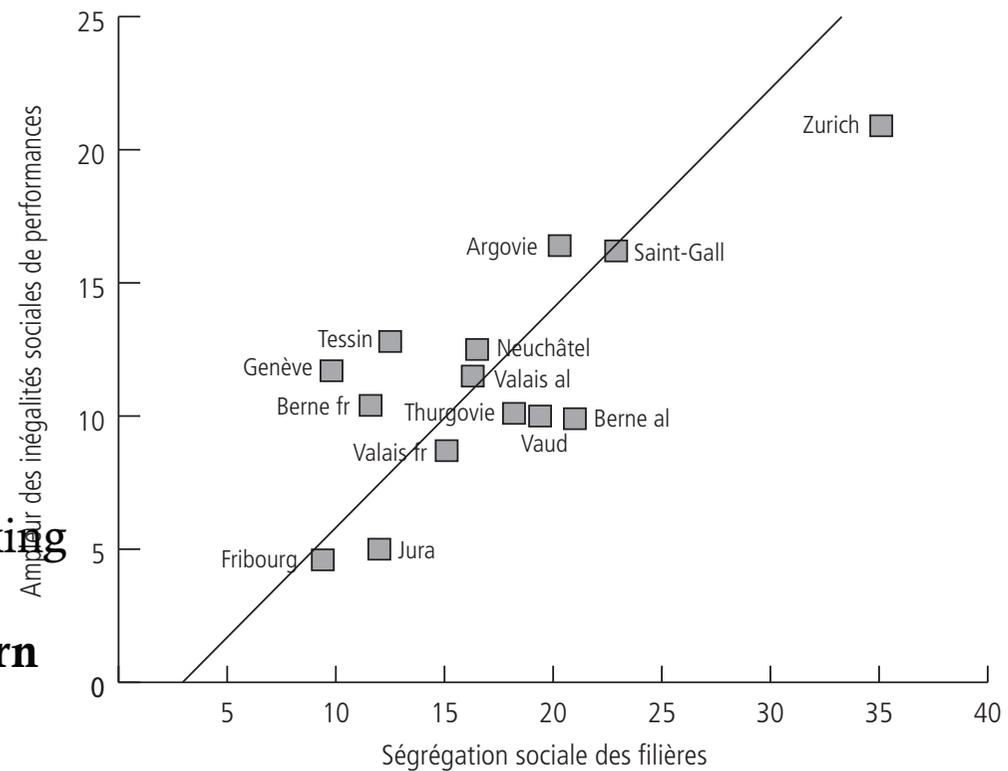
- More important is the social segregation in track system, more the social inequalities increase.

- A lot of variance between cantons with the same tracking system.

- The most important to understand the tracking effect: **segregation, quality and quantity of Education in each track, opportunities to learn For pupils.**

Graphique 5

Ségrégation sociale des filières et inégalités sociales dans les cantons suisses



Source : PISA 2003.

Conclusion about research on tracking

- Tracking – and its real implementation - increase inequalities, produce (social, racial and economic) segregation, systemic discriminations.
- The effects of tracking depend of the how they are implemented
- It's necessary to investigate this issue in a real field: Three cantons in Switzerland

2. Research design

- Axe 1: What are the referencies of the reforms in the three cantons ?
 - Debates in press, arguments in grand conseil, projects for votations, etc.
 - What are the arguments use for and against comprehensive school and segmented school ?
 - Who take position for or against comprehensive school and segmented school ?
 - How the reform is implemented ? (precise description of the reform and his implementation)
 - What are the links between scientific results about tracking and public policies about it ?
- Axe 2: What the effects of these reforms on efficacy and equity of school system ?
 - Six cohorts survey in three cantons

Three cantons

- Geneva – Vaud – Valais (Neuchâtel)
- Three cantons with a recent reform of secondary compulsory school
- Three kinds and conditions of reform:
 - Geneva: more tracking (from 2 to 3 tracks) **with strong debates and votation** in 2009 (reform implemented in 2011)
 - Vaud: less tracking (from 3 to 2 tracks) **with strong debates and votation** in 2010 (reform implemented in 2013)
 - Neuchâtel – after refusal of Valais – from 3 tracks to comprehensive school **without strong debate and votation** (reform implemented in 2014)

Geneva compulsory secondary school system

	Geneva - before 2011	Geneva after 2011
Tracking system	<ul style="list-style-type: none"> - 9th : 3 tracks <ul style="list-style-type: none"> - A : « effectif ordinaire » - B : « effectif réduit » - C : « petit effectif » - 10th and 11th : 2 tracks (A et B) + For 3 secondary school: heterogeneous class. 	<ul style="list-style-type: none"> - 9th : 3 tracks : <ul style="list-style-type: none"> - R1: low level of expectations - R2: Medium level - R3: High level - 10^{ème} et 11^{ème} : 3 tracks <ul style="list-style-type: none"> - CT* : pupils from R1 - LC* : pupils from R2 - LS* : pupils from R3
Admission criteria	<ul style="list-style-type: none"> - to track A: annual average > 4 in the 3 principal disciplines - To track B: 1 discipline > 4 and two others > 3 - To C : annual average between 3 and 4. 	<ul style="list-style-type: none"> - To R1 : annual average more than 3. - To R2: at least 11.5 points AND annual average >3.5 for the 3 disciplines - to R3 : at least 14 points for the 3 disciplines AND annual average >4 for the 3 disciplines

Vaud compulsory secondary school system

	Vaud - before 2013	Vaud after 2013
Tracking system	- 3 tracks: - VSB** : High level - VSG** : medium level - VSO** : low level	- 2 tracks - gymnasium track (VP) : heterogeneous class - General track (VG) : ability grouping in the fundamental disciplines -Niveau 1 : low expectation -Niveau 2 : high expectations
Admission criteria	Qualitative procedure based on two criteria: 1) School results 2) Work and attitude of pupil about learning	Average with cantonal tests (30%) and average of annual notes: -To VP : 19 points at least. for 3 disciplines and 9 points for history and geography. -To VG : - average > 3.5 : level 1, - average > 4 : level 2.

Neuchâtel compulsory secondary school system

	Neuchâtel - before 2015	Neuchâtel after 2015
Tracking system	<p>Three tracks</p> <p>Gymnasium : special teachers, high learning rythms</p> <p>Modern : foreign language (german, english/italian)</p> <p>Pre-vocational : generalist teachers, flexible rhythm</p>	<p>- 9th : heterogeneous class (2 levels in French and math)</p> <p>- 10th : heterogeneous class (2 levels in FR, MATH, ALL, ANG, SC)</p> <p>11th : idem</p>
Admission criteria	<p>Annual average for the most important disciplines;</p> <p>Resulats to the cantonal tests in math, french and german.</p>	<p>Average < 4,5 : niveau 1</p> <p>Average > 4,75 : niveau 2</p> <p>Between 4,5 and 4,75 : discussion.</p>

Axe1: methodology

- Collect and analyse of corpus of text:
 - Press articles about school reform and votation (cantonal press)
 - Reports of debate in grand concil about school reform
 - Public declaration of institutions about the school reform (Political parties, trade unions, Departement of Instruction, etc.)
- Methodology: Inductive analysis
 - Thematic content analyse
 - Descriptive statistical analyse, classification and cluster (ALCESTE)

Axe 2: Methodology

- Comparative studie between 3 cantons, but also between 6 secondary school systems.
- Switzerland it's a perfect field to understand the effects of tracking and to compare school systems because each canton propose a specific version of school organisation.
- Quantitative and longitudinal analysis with exhaustive cohorts (all the pupils at school in 8th degree in each canton are observe since the end of compulsory secondary school)

Reforme



COHORTE 1

COHORTE 2

Reforme



COHORTE 1

COHORTE 2

Reforme



COHORTE 1

COHORTE 2

Research FNS

2009

2010

2011

2012

2013

2014

2015

2016

2017

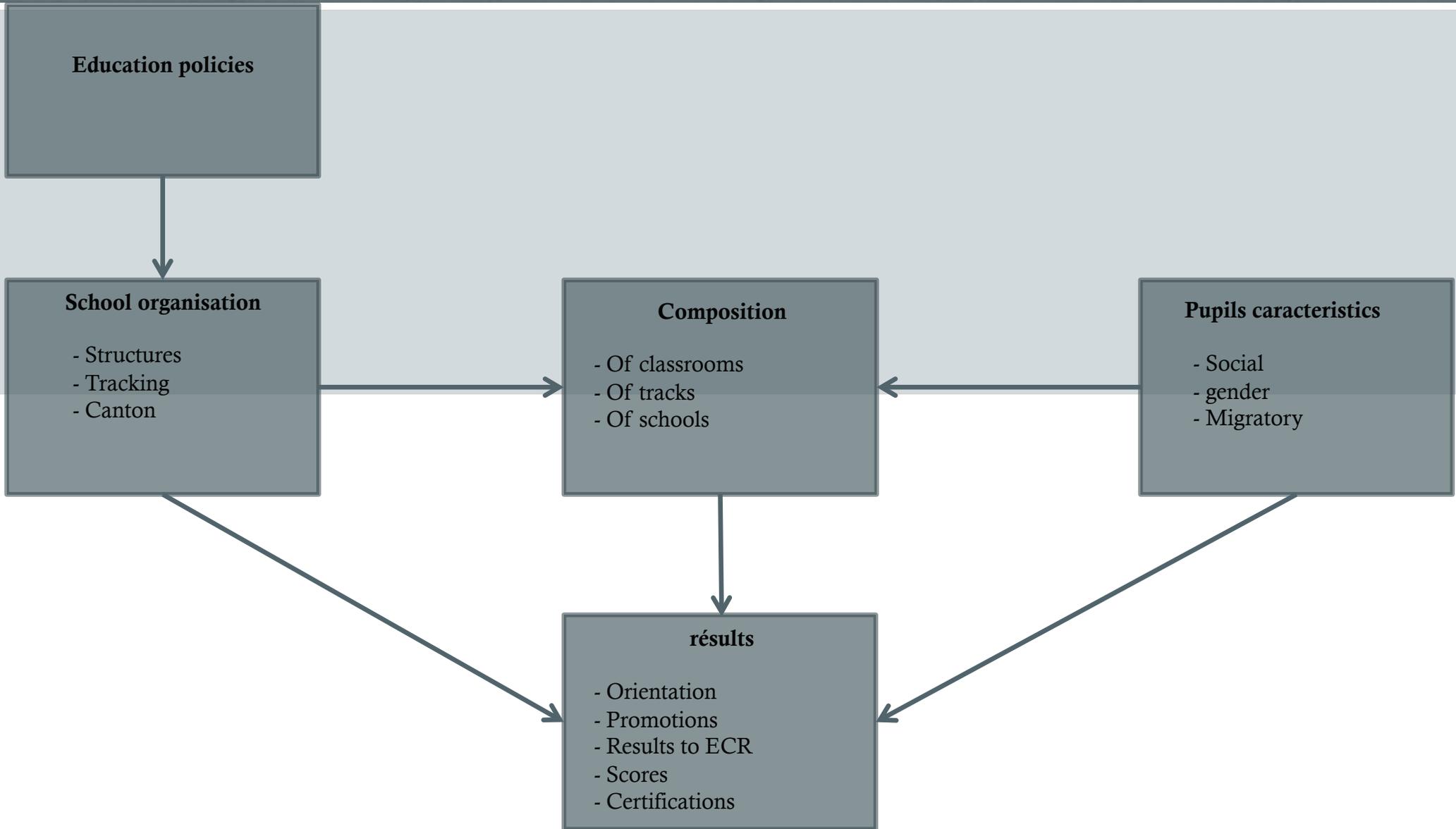
Design for each cohort (one before and one after the reform in 3 cantons = 6 cohorts)

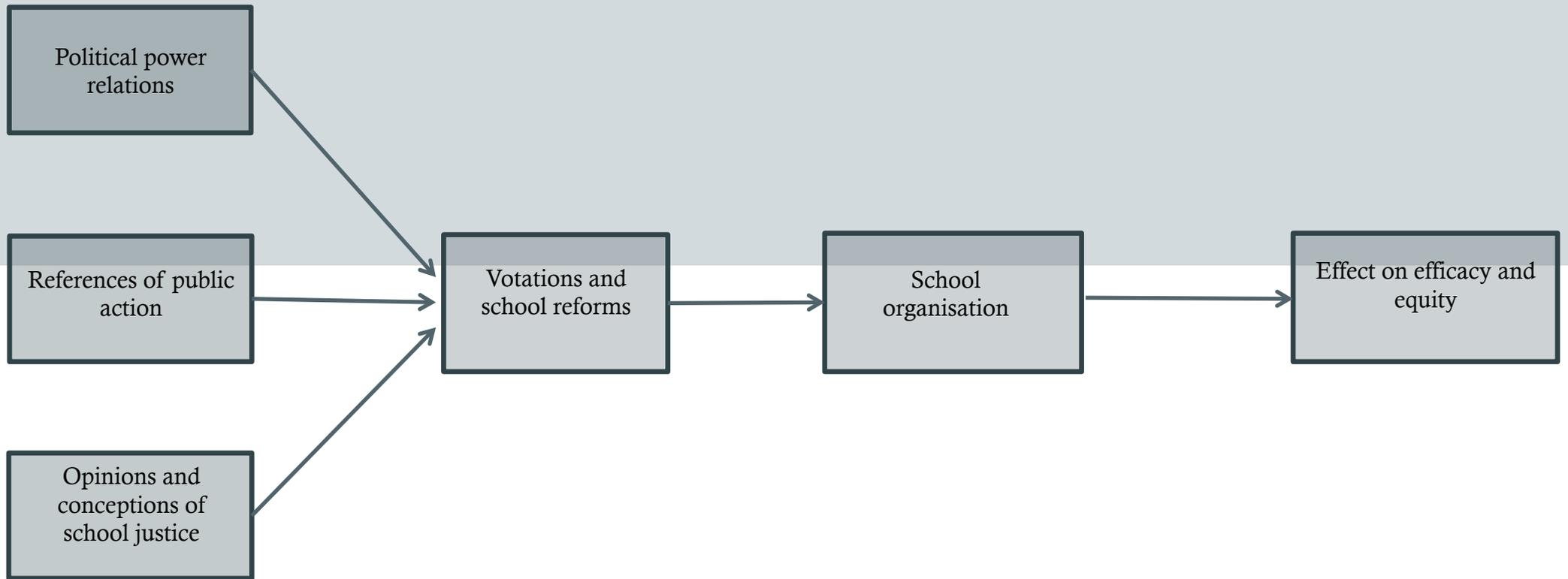
	Year 0	Year 1	Year 2	Year 3	Year 4
8th degree	N = 100%	Number 8th Year 1	Number 8th Year 2		
9th degree		Number of 9th degree after 1 year**	Number 9th Year 2	Number 9th Year 3	
10th degree			Number of 10th degree after 2 years	Number 10th Year 3	Number 10th Year 4
11th degree				Number of 11th degree after 3 years	N 411
Post-compulsory school					Orientation ?
What do we know about pupils ?	Individual, Social & Cognitive & Contextual characteristics	idem	Idem + Cantonal tests in 10th degree	Idem + Cantonal tests in 11th degree	Idem + orientation in post-compulsory school.

** Number of pupils in 9th degree for year 1 (non-repeaters)

Questions and variables

- **The main question is : what is the influence of each kind of variables on the school career of pupils in each canton before and after reform ?**
- **We can be distinguished 3 kind of variables**
 - *Individual and social characteristics* : AVS number, age, sex, profession of parents, diplôma of parents, nationality, âge of arrival in switzerland, mother tongue,
 - *Cognitive characteristics in 8th degree* : cantonal tests in french and math. Average of the year in math and french
 - *Contextual characteristics* : track, ability group, classroom, school, agregate characteristics of classrooms (average score on test, average notation, average social background, sex ratio, first generation ratio, second generation ratio), agregate characteristics of schools (idem).





Society



Policies



School

3. Empirical problems today

- Official refusal of Valais.
- The comparability of cognitive tests between cantons is not perfect.
- Some variables do not exist in some canton (profession and diploma of parents in Vaud for example)
- What are the mechanisms of production of efficacy and equity ?
- Link between schooling – learning - teaching

5. Political issues

- Can we produce a definition of a « good » (or the better possible) organisation of compulsory secondary school ?
- About the relationships between education sciences and education policies.
 - The link, when a link exist, is never direct !
 - Translation process
 - Two different worlds ?

Thank you for your attention